Appendix F1. Risk of bias assessments

Overview of this appendix

Assessments are presented by study design (parallel, cluster or cross-over trial), then in alphabetical order by study ID. Bookmarks are provided to each assessment to aid navigation.

For each study, an assessment was done for each outcome and comparison contributing to the MA (or where results could not be included in the MA but were tabulated).

For each study we report

- the comparison for the assessment,
- the outcome domain for the assessment,
- other outcomes included in MAs for the study (noting if the assessment was the same for these or other comparisons),
- the study design (parallel, cluster or cross-over).

Where the RoB assessment was the same for all outcomes, comparisons or both, only one assessment is reported.

The assessment includes

- The overall risk of bias judgement
- The judgement for each domain, with an explanation provided for each signalling questions for which the response could lead to a judgement of high risk of bias or some concerns
- The response to each signalling question (numbers, the questions are reported in full below)

We did not assess studies that were counted as 'missing results' (i.e. those studies where the result was judged to be uninterpretable or where there were major concerns about the integrity of the data such that it would be misleading to report the results). In such cases, concerns about bias leading to an under- or over-estimate of effect are inconsequential compared to the impact of major errors in reported data or the interpretation of that data.

Box F1. Signalling questions from the revised Cochrane risk of bias (ROB 2) tools for randomised trials (questions in grey cells are specific to the trial design)

Parallel (individually randomised)	**Cluster (CRT)**	**Crossover (XO)**
Domain 1. Bias arising from the randomisation process		
1.1 Was the allocation sequence random?	1a.1 Was the allocation sequence random?	1.1 Was the allocation sequence random?
1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	1a.2 Was the allocation sequence concealed until clusters were enrolled and assigned to interventions?	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?
1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?	1a.3 Did baseline differences between intervention groups suggest a problem with the randomization process?	1.3 Did baseline differences between intervention groups at the start of the first period suggest a problem with the randomization process?
Domain 1b. Timing of identification or recruitment of participants		**Domain S.** Bias arising from period and carryover effects
n/a	1b.1 Were all the individual participants identified and recruited (if appropriate) before randomization of clusters?	S.1 Was the number of participants allocated to each of the two sequences equal or nearly equal?
n/a	1b.2 If N/PN/NI to 1b.1: Is it likely that selection of individual participants was affected by knowledge of the intervention assigned to the cluster?	S.2 If N/PN/Ni to S.1 Were period effects accounted for in the analysis
n/a	1b.3 Were there baseline imbalances that suggest differential identification or recruitment of individual participants between intervention groups?	S.3 Was there sufficient time for any carryover effects to have disappeared before outcome assessment in the second period?
Domain 2. Bias due to deviations from intended interventions		
2.1 Were participants aware of their assigned intervention during the trial?	2.1a Were participants aware that they were in a trial?	2.1 Were participants aware of their assigned intervention during each period of the trial?

Parallel (individually randomised)	Cluster (CRT)	Crossover (XO)
n/a	2.1b If Y/PY/NI to 2.1a: Were participants aware of their assigned intervention during the trial?	n/a
2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during each period of the trial?
2.3 If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the trial context?	2.3 If Y/PY/NI to 2.1b or 2.2: Were there deviations from the intended intervention that arose because of the trial context?	2.3 If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the trial context?
2.4 If Y/PY to 2.3 Were these deviations likely to have affected the outcome?	2.4 If Y/PY to 2.3 Were these deviations likely to have affected the outcome?	2.4 If Y/PY to 2.3 Were these deviations likely to have affected the outcome?
2.5 If Y/PY to 2/4: Were these deviations from intended intervention balanced between groups?	2.5 If Y/PY to 2/4: Were these deviations from intended intervention balanced between groups?	2.5 If Y/PY to 2/4: Were these deviations from intended intervention balanced between groups?
2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?
2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?
Domain 3. Bias due to missing outcome data		
3.1 Were data for this outcome available for all, or nearly all, participants randomized?	3.1a Were data for this outcome available for all clusters that recruited participants?	3.1 Were data for this outcome available for all, or nearly all, participants randomized?
	3.1b Were data for this outcome available for all, or nearly all, participants within clusters?	
3.2 If N/PN/NI to 3.1a or 3.1b: Is there evidence that the result was not biased by missing data?	3.2 If N/PN/NI to 3.1a or 3.1b: Is there evidence that the result was not biased by missing data?	3.2 If N/PN/NI to 3.1a or 3.1b: Is there evidence that the result was not biased by missing data?
3.3 If N/PN to 3.2 Could missingness in the outcome depend on its true value?	3.3 If N/PN to 3.2 Could missingness in the outcome depend on its true value?	3.3 If N/PN to 3.2 Could missingness in the outcome depend on its true value?
3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?
Domain 4. Bias in the measurement of the outcome		
4.1 Was the method of measuring the outcome inappropriate?	4.1 Was the method of measuring the outcome inappropriate?	4.1 Was the method of measuring the outcome inappropriate?
4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	4.2 Could measurement or ascertainment of the outcome have differed between interventions within each sequence?
4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants?	4.3a If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware that a trial was taking place?	4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants?
[4.3]	4.3b If Y/PY/NI to 4.3a: Were outcome assessors aware of the intervention received by study participants?	[4.3]
4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	4.4 If Y/PY/NI to 4.3b: Could assessment of the outcome have been influenced by knowledge of intervention received?	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?
4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?
Domain 5. Bias from selection of the reported result		
5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?
Is the numerical results being assessed likely to have been selected, on the basis of the results from …		
5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?
5.3 ... multiple eligible analyses of the data?	5.3 ... multiple eligible analyses of the data?	5.4 Is a result based on data from both periods sought, but unavailable on the basis of carryover having been identified?

Notes regarding assessment using the cluster randomised trial tool

Of the studies assessed as cluster trials, only two were explicitly designed as cluster trials. The remainder were assessed using the cluster tool because they had clustering arising from the way in which aromatherapy was delivered, specifically because allocation to treatment group was determined in part or whole by the clinic attended by participants (location or by the day/time). In most studies, reporting of the process was insufficiently clear to determine whether participants were randomised to treatment and then asked to attend a particular clinic, or the treatment was allocated to the clinic and participant received the treatment allocated to the clinic they attended.

The following guidance elaborates on the risk of bias arising from the sequence in which clusters are randomised and individual participants identified and recruited.

Table 1. Possible orderings of the steps of randomizing clusters, identifying individual eligible participants and recruiting individual eligible participants in cluster-randomized trials

	Scenario 1	Scenario 2	Scenario 3	Scenario 4 (equivalent to 6)	Scenario 5	Scenario 6 (equivalent to 4)
Step 1	Randomization	Randomization	Identification of *potential* individual participants	Identification of individual participants	Identification of *potential* individual participants	Identification of individual participants
Step 2	Identification of *potential* individual participants	Identification of individual participants	Randomization	Randomization	Recruitment of individual participants	Participants not directly recruited
Step 3	Recruitment of individual participants	Participants not directly recruited	Recruitment of individual participants	Participants not directly recruited	Randomization	Randomization
Potential for bias	**Potential for identification/recruitment bias although this could be avoided through trial design**			**No potential for identification/recruitment bias because randomization happens after actual participants are identified/enrolled.**		

Note: In scenarios 2, 4 and 6 individual participants are not directly recruited. This also means that when individual participants are identified they become the *actual* participants in the study rather than being identified as potential participants.

Table reproduced from Eldridge SC, Marion K Campbell, Michael J Drahota, Amy K Giraudeau, Bruno Reeves, Barnaby C Siegfried, Nandi Higgins, J. P. T. Revised Cochrane risk of bias tool for randomized trials (RoB 2) Additional considerations for cluster-randomized trials (RoB 2 CRT). 2021.

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Abbasijahromi 2020	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	N				
2. Bias due to deviations from the intended intervention	Low		N	NI	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. Postop anxiety relief. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced	N	N	PY	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Abbasijahromi 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	N				
2. Bias due to deviations from the intended intervention	Low		N	NI	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. Postop pain relief. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced	N	N	PY	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Abbaszadeh 2018	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	NI	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Abbaszadeh 2018	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs	PN	PN	NI	PY	PN		

Study ID. Abbaszadeh 2018	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		about the effects of AT that would be likly to influence the outcome							
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Abo-S-haghi 2021	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	NI				
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol.	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were unlikely to be aware that they had received AT or placebo, since both groups received massage.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Adachi 2014	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	Y	PN				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and inactive control - massage (co-intervention) with no aroma/scent, so it is likely that participants and those delivering the interventions were aware of the assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 20/21 (5% missing) C: 2/22 (9% missing)	N	PN	PN	NA			

Study ID. Adachi 2014	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Analysis method did not correct for bias; no sensitivity analysis In total, 3 participants withdrew for reasons unrelated to the true value of the outcome (1 participant in both groups withdrew because the assigned intervention did not meet their preference and 1 participant in the inactive control - massage cointervention group withdrew due to concerns about potential side effects).							
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT via massage or inactive control - massage co-inventervention. Participants' knowledge of the intervention they received could have influenced their response. Given two participants withdrew due to an unmet preference, participants were likely to have had a prior belief about the benefits of AT massage compared to inactive control - massage co-intervention that were likely to influence the outcome.	PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Adachi 2014	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Imbalance in baseline pain scores and gender that seems unlikely to be due to chance and is large enough to bias the intervention effect estimate.	NI	Y	PY				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and usual care received no intervention, so participants and those delivering the interventions were aware of the assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 20/21 (5% missing) C: 20/20 (0% missing) Analysis method did not correct for bias; no sensitivity analysis 1 participant in the AT massage arm withdrew for reasons unrelated to the true value of the outcome (the assigned	N	PN	PN	NA			

Study ID. Adachi 2014	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		intervention did not meet their preference).							
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Participants' knowledge of the intervention they received could have influenced their response. Given two participants across the three study arms withdrew due to an unmet preference, participants were likely to have had a prior belief about the benefits of AT compared to usual care that were likely to influence the outcome.	PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	No information is provided about a pre-specified analysis plan	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Ahmadi 2020	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Likely that participants received the intervention soon after abdominal surgery (time NR) so probably unaware of assigned intervention due to drowsiness. The same person were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention (due to aroma/scent being present or absent). Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	N	N				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Ahmadifard 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation used, equal sized blocks. Research assistants assigned participants to groups but allocation sequence was concealed and not predictable as intervention and placebo oils were placed in identical dark bottles.	Y	Y	PN				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat analysis (ITT), where missing data have been imputed using methods that treat the imputed data as if they were observed last observation carried forward	N	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	I: 104/106 (2%) C: 34/35 (3%) Analysis method did not correct for bias; no sensitivity analysis 2 participants in the intervention arm and 1 participant in the comparison arm 'discontinued the intervention' (no further reasons provided). This could be because of migraine pain worsening/improving; however it more likely to be related to adhering to the trial requirements (daily self-administration of the intervention for 3 months and attending additional outpatient visits for data collection)	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	High	Authors have created an ordinal scale (without defining the categories) from a continuous scale, suggesting selective non-reporting of the continuous data.	NI	PN	PY				
OVERALL risk of bias	**High**								

Study ID. Akbari 2019	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	It was likely that the person enrolling participants (the first author) could not predict the allocation sequence as independent statitician created predesignated blocks	PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator placebo with no aroma/scent, so it is likely that participants were aware of their assigned intervention. The same people were involved in care for both arms and it is likely that they	Y	Y	PN	NA	NA	Y	NA

Study ID. Akbari 2019	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis							
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside standard post-surgical care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Akcan 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	PN				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	Analysis method did not correct for bias; no sensitivity analysis Participants withdrew because of withdrawal of consent, repeated procedure (a priori exclusion criteria) or contamination of control sample	NI	PN	PN	NA			
4. Bias in the measurement of the outcome	Low		NI	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	NI	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Akcan 2016	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Amini 2020	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation method was used to generate random block and allocation sequence. Sealed envolopes were used for allocation sequence concealment. There was no differences in baselines characteistics between groups.	Y	Y	PN				
2. Bias due to deviations from the intended intervention	Some concerns	The patients and the research assistants who did the intervention or assessed the outcome were blind to the intervention. No information provided on type of analyses conducted	N	PN	NA	NA	NA	NI	N
3. Bias due missing outcome data	Low	None of the patient dropped out until the end of the study	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Outcome assessors not aware of intervention received by study participants	PN	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Protocol or trial registry is not available. Selected outcome pain was assessed only after 12 hrs	NI	N	N				
OVERALL risk of bias	**Some concerns**								

Study ID. Amirhosseini 2020	**Outcome domain.** N&V		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain, N&V		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT1 27/33 (8% missing); AT2 26/33 (21% missing); C 26/34 (23% missing) Analysis method did not correct for bias; no sensitivity analysis Majority of participants were excluded due to surgery being cancelled	PN	N	PY	PN			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Amirhosseini 2020	**Outcome domain.** N&V **Assessments**. pain, N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low	The outcome measure was objective	PN	PN	NI	PN	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Amirhosseini 2020	**Outcome domain.** pain **Assessments**. pain, N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT1 27/33 (8% missing); AT2 26/33 (21% missing); C 26/34 (23% missing) Analysis method did not correct for bias; no sensitivity analysis Majority of participants were excluded due to surgery being cancelled	PN	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Amzajerdi 2019	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on alternation (after the 1st two groups were determined randomly by coin flip) It was likely that the person enrolling participants could predict the allocation sequence	N	PN	N				
2. Bias due to deviations from the intended intervention	Some concerns	Intervention group received AT inhalation and comparator placebo, so it is likely that participants were aware of their assigned intervention. 'As treated' analysis (trial participants are grouped according to the intervention that they received)	PY	PN	PN	NA	NA	PN	PN
3. Bias due missing outcome data	Low	I: 2/68 (3% missing) C: 3/69 (4% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside standard prental care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	High	There may be two ways in which the outcome could be measured, and it is unclear if the data refers to day 7 score (post-intervention), or an average of days 1 - 7 as participants completed the outcome every day for 7 days There may be two ways in which the outcome could be measured, and it is unclear if the data refers to day 7 score (post-intervention), or an average of days 1 - 7 as participants completed the outcome every day for 7 days	NI	N	PY				
OVERALL risk of bias	**High**								

Study ID. Anderson 2004	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	PN				
2. Bias due to deviations from the intended intervention	Low		PN	PN	NA	NA	NA	Y	NA

Study ID. Anderson 2004	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	The researcher (i.e. the outcome assessor) was blinded.	N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Arabfirouzjaei 2019	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	NI				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	PY	PY		NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Sleep aid during hospitalisation. AT was not the main care that participants sought, hence participant's perceived sleep quality was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Ardahan Akgül 2021	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	N	N	NA	NA	NA	Y	NA

Study ID. Ardahan Akgül 2021	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Arslan 2020	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High		PN	PN	PN				
2. Bias due to deviations from the intended intervention	Low	The same carers were involved in care for both arms and it is likely that they were aware of ther participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	High	KJ: not sure what to report here as I don't understand the results	NI	NI	PY				
OVERALL risk of bias	**High**								

Study ID. Arslan 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High		PN	PN	PN				
2. Bias due to deviations from the intended intervention	Low	The same carers were involved in care for both arms and it is likely that they were aware of ther participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Arslan 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	High	KJ: not sure what to report here as I don't understand the results	NI	NI	PY				
OVERALL risk of bias	**High**								

Study ID. Asgari 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	Y	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses.	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Ayan 2013	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Ayan 2013	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Ayik 2018	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: sleep, EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Alternate allocation was used and first participant's allocation was fixed. Subsequent allocation was predictable. Unclear whether the order of participants entering allocation queue was random.	NI	N	PN				
2. Bias due to deviations from the intended intervention	High	Participants were aware that they had received AT massage or usual care. Research staff who delivered the AT intervention was not blinded and knew the protocol. See 2.7 Naïve per protocol 15 participants (16%) were excluded from analysis because of deviation from protocols (taking participant to surgery instead of AT massage, unwillingness to continue), which is expected to have a substantial impact on the result.	Y	Y	Y	PN	NA	N	Y
3. Bias due missing outcome data	Some concerns	I: 40/49 (18% missing) C: 40/47 (15% missing) Analysis method did not correct for bias; no sensitivity analysis 16 participants were lost to follow-up for reasons unrelated to outcomes (scheduled for surgery, bleeding, unwillingness to continue).	N	N	PY	PN			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT massage or usual care. Pre-op sleep aid. AT was the main care that participants sought, hence participant's perceived anxiety was likely to be influenced.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Azima 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	PN				
2. Bias due to deviations from the intended intervention	High	Participants were not blinded. Research staff who delivered the AT intervention were also not blinded and knew the protocol. However, clinical staff delivering care for control group may not know their assigned intervention. Naïve per protocol 16 participants (24%) were excluded from analysis because of deviation from protocols (unwilling to continue, not properly doing the exercises), which is expected to have a substantial impact on the results, especially since the numbers excluded were unequal beween groups.	Y	PN	N	NA	NA	PN	PY
3. Bias due missing outcome data	High	I: 2/36 (6% missing) C: 6/40 (15% missing) Analysis method did not correct for bias; no sensitivity analysis A greater proportion of participants were missing from the control group (n=6, 9%) than AT group (n=2, 3%). Some of these participants were excluded due to high pain intensity, but no information how many, and from which group.	N	N	NI	NI			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Relief of dysmenorrhoea pain. Participants were likely to have had a prior belief about the benefits of AT compared to no intervention, hence participant's perception of pain was likely to be influenced.	N	N	Y	Y	Y		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Azizi 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Azizi 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Babaii 2015	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Participants were matched according to gender. However, gender was not presented in baseline characteritics.	NI	Y	NI				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol, as were the clinicians delivering the procedure, who were in the same ward. Full ITT	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants (i.e. the outcome assessors) were not blinded. AT was the only care participants received prior to procedure.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. BabatabarDarzi 2020	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	During randomisation: "If both intervention groups were drawn out simultaneously in the lottery in the same day, the manipulation for the intervention groups was performed in separate hospitals to avoid the interference of aromas between the two groups"	Y	PN	N				

Study ID. BabatabarDarzi 2020	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Intervention groups recieved AT inhalation and comparators no intervention or placebo, so it is likely that participants were aware of their assigned intervention. The same people were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT1/AT2: 80/90 (11% missing) C1/C2: 80/90 (11% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or placebo/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	N	N	PY	PY	PN		
5. Bias in the selection of the reported results	High	Results are only avaiable for 'state anxiety' subscale for the prioritised outcome despite it being usual to report the overall scale. Results are reported as summary statistics and it is unlikely that these were selected from other analyses.	NI	PY	PN				
OVERALL risk of bias	**High**								

Study ID. BabatabarDarzi 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	"If both intervention groups [rose, lavender] were drawn out simultaneously in the lottery in the same day, the manipulation for the intervention groups was performed in separate hospitals to avoid the interference of aromas between the two groups." It is unclear what then happened at the main site; another envelope drawn and this next patient could be assigned to intervention of one of the control groups? However, given method used for block randomisation it was unlikey that those allocating participants would have been able to	Y	PY	N				

Study ID. BabatabarDarzi 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		guess whether the next assignment was to control or intervention group.							
2. Bias due to deviations from the intended intervention	Low	Intervention groups recieved AT inhalation and comparators no intervention or placebo, so it is likely that participants were aware of their assigned intervention. The same people were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT1/AT2: 80/90 (11% missing) C1/C2: 80/90 (11% missing)	PN	PN	PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or placebo/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	N	N	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Bagheri 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, all blocks bar one equal size. One of the research team allocated participants to their intervention group. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	PN	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent. Participants recevied intervention immediately after surgery so it is unlikely they were aware of their assigned	PN	PY	PN	NA	NA	Y	NA

Study ID. Bagheri 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		intervention. Those delivering the intervention were likely aware of participants' assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)							
3. Bias due missing outcome data	Some concerns	I: 42/45 (7% missing) C: 44/45 (2% missing) Analysis method did not correct for bias; no sensitivity analysis A greater proportion of participants withdrew from the AT intervention group versus the usual care group (2/45 versus 1/45) and withdrawals could've been due to their lower pain levels in the intervention group.	N	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were not likely aware which intervention they received due to post-surgical drowsiness	N	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all timepoints measured are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**High**								

Study ID. Bahrami 2018	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	Y	N				
2. Bias due to deviations from the intended intervention	Low	People delivering the intervention were likely aware of the participants' assigned intervention because of the AT aroma. Intention-to-treat (ITT) analysis	PN	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Barclay 2006	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	There was a significant difference in % female.	Y	PY	Y				
2. Bias due to deviations from the intended intervention	Some concerns	See 2.7 I=1, C=2 Naïve per protocol 3 participants (4%) was excluded from analysis because of deviation from protocols (unwillingness to continue), which is not expected to have a substantial impact on the result.	PN	N	PY	NI	PY	N	PN
3. Bias due missing outcome data	Some concerns	I: 38/40 (4% missing) C: 4/41 (10% missing) Analysis method did not correct for bias; no sensitivity analysis 5 participants were lost to follow-up for reasons unrelated to outcomes (unwillingness to continue, pregnancy, medical problems); 1 for unknown reason	N	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo cream for massage. AT was the main care that participants sought, however both groups carried out massage which could be perceived as beneficial, hence participant's perception of wellbeing was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Beyliklioğlu 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High		PN	PN	PN				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowldege of the intervention they recieved could have influenced their response. Participants	PN	PN	Y	PY	PY		

Study ID. Beyliklioğlu 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		were likely to have had prior belief about the benefits of AT compared to usual care that were likley to influence the outcome							
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses.	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Biçer 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Bikmoradi 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those	PY	Y	PN	NA	NA	Y	NA

Study ID. Bikmoradi 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)							
3. Bias due missing outcome data	Low	I: 25/27 (7% missing) C: 25/27 (7% missing) Analysis method did not correct for bias; no sensitivity analysis In both groups, 1 participant withdrew as they were discharged from hospital, and 1 participant in the AT intervention arm withdrew due to intolerance of inhalation. 1 participant in the comparator arm withdrew due to 'lack of cooperation', which could've been for reasons related or unrelated to the outcome.	N	N	PN	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Bozkurt 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Intervention was carried out before participant was enrolled, hence allocation was known for all participants.	Y	N	N				
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	N	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Pre-op anxiety relief. AT was not the main care that participants sought, and	N	N	Y	PY	PN		

Study ID. Bozkurt 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		both groups had an infuser in the room, hence participant's perception of anxiety was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Burns 2011	**Outcome domain.** EFMH **Assessments**. EFMH, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	PN				
2. Bias due to deviations from the intended intervention	Low	Participants have Alzheimer's disease so were unlikely to be aware of intervention. Carers were not blinded. Intention-to-treat analysis (ITT), where missing data have been imputed using last observation carried forward method	PN	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	High	I: 30/38 (21% missing) C: 25/39 (36% missing) Analysis method did not correct for bias; no sensitivity analysis Overall, 9 participants (8%) were lost to follow-up due to reasons that can influence outcome (breakthrough pain); 6 for reasons unrelated to outcomes (serious adverse events); however insufficient info to determine how many from AT and placebo group. Among the two groups investigated (n=77), 22 participants (29%) were lost to follow-up by 12th week for unspecified reasons.	N	N	Y	PY			
4. Bias in the measurement of the outcome	Low		N	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Cheraghbeigi 2019	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation, fixed block size (6). Predictable allocation for 17% of participants, esp. considering convenience sampling.	Y	PN	N				

Study ID. Cheraghbeigi 2019	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group, who were in separate rooms, may not know their assigned intervention. Full ITT	Y	PN	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Sleep aid during hospitalisation. AT was not the main care that participants sought, but massage was a noticeable addition to care, hence participant's perception of sleep quality was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Cheraghbeigi 2019	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation, fixed block size (6). Predictable allocation for 17% of participants, esp. considering convenience sampling.	Y	PN	N				
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	PN	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were unlikely to be aware that they had received AT or placebo, since both groups received massage.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Cho 2017	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	Total analysed n = 94/96 (2% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants were aware that they had recieved AT or usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Choi 2016.1	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: fatigue, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	High	Participants were aware that they had received AT or placebo. Unsure whether flu medication was antihistamine. I=2, C=1 Naïve per protocol 3 participants (5%) were excluded from analysis because of deviation from protocols (missing >1 treatment, taking flu medication) which is not expected to have a substantial impact on the result.	PY	N	PY	NI	N	N	PN
3. Bias due missing outcome data	Some concerns	I: 27/31 (13% missing), C: 27/31 (13% missing) Analysis method did not correct for bias; no sensitivity analysis 1 participant (2%) were lost to follow-up for reasons likely related to outcomes (taking flu medication - unclear if antihistamine); 6 participants were lost to follow-up for reasons unrelated to	N	N	PY	PN			

Study ID. Choi 2016.1	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: fatigue, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		outcomes (family matters, travel, missing treatments)							
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Fatigue relief for rhinitis. AT was the main care that participants sought, hence participant's perceived fatigue was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Cino 2014	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. CitlikSaritas 2020	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				

Study ID. CitlikSaritas 2020	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Intervention group recieved AT inhalation and comparator usual care so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	PY	NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowldege of the intervention they recieved could have influenced their response. Participants were likely to have had prior belief about the benefits of AT compared to usual care that were likley to influence the outcome	PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	NI	PN				
OVERALL risk of bias	**High**								

Study ID. CitlikSaritas 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group recieved AT inhalation and comparator usual care so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	PY	NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowldege of the intervention they recieved could have influenced their response. Participants were likely to have had prior belief about the benefits of AT compared to usual care that were likley to influence the outcome	PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	NI	PN				
OVERALL risk of bias	**High**								

Study ID. CitlikSaritas 2020	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain, EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Corner 1995	**Outcome domain.** EFMH		**Comparison.** C2. AT(M) v (M)						
	Assessments. EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	NI				
2. Bias due to deviations from the intended intervention	Low	The same massage therapist was involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Full ITT	PN	PY	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received ___ Anxiety relief for cancer patient. Massage service was routine service provided to all participants, which both groups received, hence participant's anxiety was less likely to be influenced.	N	N	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Dagli 2019	**Outcome domain.** EFMH		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	No information provided about whether allocation sequence was concealed.	Y	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator groups received no intervention or sham with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or no intervention or sham intervention.	PN	PN	PY	PY	PY		

Study ID. Dagli 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment or sham treatment that were likely to influence the outcome.							
5. Bias in the selection of the reported results		No information is provided about a pre-specified analysis plan	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Daneshpajooh 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation. Fixed block size (4). However, the staff carrying out randomisation was blinded and opaque containers were used.	Y	PY	N				
2. Bias due to deviations from the intended intervention	Some concerns	Procedural anxiety relief. AT was not the main care that participants sought, hence participants were less likely to be aware of intervention. In addition, participants from the two groups were not in the same room. Research staff who delivered the AT intervention and instruction for relaxation were not blinded and knew the protocol. I=2, C=2 Naïve per protocol 4 participants (6%) were excluded from analysis because of unwillingness to complete the intervention, which is not likely to have a substantial impact on the result.	PN	Y	NI	NA	NA	N	PN
3. Bias due missing outcome data	Some concerns	I: 33/35 (6% missing) C: 33/35 (6% missing) Analysis method did not correct for bias; no sensitivity analysis 4 participants were lost to follow-up for reasons unrelated to outcomes (death, unwillingness to continue).	N	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Pre-procedural anxiety relief. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced.	N	N	PY	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Daneshpajooh 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Darsareh 2012	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	87/90 (3% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Darsareh 2012	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	87/90 (3% missing)	Y	NA	NA	NA			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Darsareh 2012	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Davari 2021	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation. Unsure if block size was randomised. Post-randomisation exclusion occured which matched exclusion criteria (unwilling to continue, loss of consciousness, dysrhythmias, n=4), at which point allocation had been known.	Y	PN	N				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol. See 2.7 Sedatives I=2, C=2 Naïve per protocol 4 participants (5%) were excluded from analysis because of deviation from protocols (unwillingness to continue, taking sedatives), which is not expected to have a substantial impact on the result.	PN	Y	PY	PY	Y	N	PN
3. Bias due missing outcome data	High	I: 25/28 (11% missing) C: 25/29 (14% missing) Analysis method did not correct for bias; no sensitivity analysis 2 (4%) participants were lost to follow-up for reasons related to outcomes (taking sedatives); 5 for reasons unrelated to outcomes (unwillingness to continue, complications).	N	N	PY	PY			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo.	N	N	Y	PY	PN		

Study ID. Davari 2021	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Postop sleep aid. AT was not the main care that participants sought, hence participant's perception of sleep was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. de Jong 2012	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	block randomisation used, equal sized blocks of 12. Researcher or one of multiple nurses perfoming the intervention opened numbered opaque envelope. Given the different people involved and large block size it is unlikely they could've predicted the allocation sequence.	Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and comparator no intervention, so people delivering the intervention were aware of the assigned intervention. Intention-to-treat (ITT) analysis	N	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 20/20 (0% missing) C: 19/20 (5% missing) Analysis method did not correct for bias; no sensitivity analysis In the usual care group, parents of 1 participant withdrew after randomisation because their child was allocated to standard care.	N	N	PN	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. de Jong 2012	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	block randomisation used, equal sized blocks of 12. Researcher or one of multiple nurses perfoming the	Y	PY	N				

Study ID. de Jong 2012	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		intervention opened numbered opaque envelope. Given the different people involved and large block size it is unlikely they could've predicted the allocation sequence.							
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and comparator group massage with no aroma/scent, so people delivering the intervention were aware of the assigned intervention. Intention-to-treat (ITT) analysis	N	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Deng 2021	**Outcome domain.** pain **Assessments**. same RoB all outcomes (for this comparison): pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator usual care so it is likely that participants and those delivering the intervention were aware of the assigned intervention. Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	PN	PN	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. dos Reis Lucena 2021	**Outcome domain.** sleep **Assessments**. same RoB all outcomes: sleep, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	See 2.7 mITT with imputation 1 participant was excluded from receiving intervention due to not tolerating the smell of carrier oil, but data was imputed during analysis.	N	N	Y	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Doyle 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Dunn 1995	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	Y	PN				

Study ID. Dunn 1995	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	High	See 2.7 Not receiving all 3 massage sessions as per protocol No breakdown for each group mITT 45 participants (37%) did not receive all 3 massage therapy, which is expected to have a substantial impact on the result. However they were not excluded from analysis.	PN	N	Y	PY	NI	PY	PY
3. Bias due missing outcome data	High	I: 36/41 (12% missing) C: 39/43 (9% missing) Analysis method did not correct for bias; no sensitivity analysis Some participants were excluded for reasons related to outcome (distressed condition, n unknown).	N	N	PY	PY			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo massage. AT was not the main care that participants sought, and both groups received massage, hence participant's perceived anxiety was less likely to be influenced.	N	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Dunn 1995	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	Y	PN				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or no intervention. See 2.7 Not receiving all 3 massage sessions as per protocol No breakdown for each group mITT 45 participants (37%) did not receive all 3 massage therapy, which is expected to have a substantial impact on the result. However they were not excluded from analysis.	PY	N	Y	PY	NI	PY	PY
3. Bias due missing outcome data	High	I: 36/41 (12% missing) C: 36/38 (5% missing)	N	N	PY	PY			

Study ID. Dunn 1995	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Analysis method did not correct for bias; no sensitivity analysis Some participants were excluded for reasons related to outcome (distressed condition, n unknown).							
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. AT was not the main care that participants sought, but massage was a noticeable addition to care, hence participant's perceived anxiety was likely to be influenced.	N	PN	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Ebrahimi 2021	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The particpants delivered intervention to self and were likely aware if they were receiving AT or placebo Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT1 59/61 (3% missing) AT2 60/61 (2% missing), C 59/61 (3% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT or placebo Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Efe Arslan 2020	**Outcome domain.** sleep **Assessments**. same RoB all outcomes: sleep, EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation used (5 blocks of 4, 1 block of 2), so the person allocating participants to their intervention groups were unlikely to be able to predict the allocation sequence.	Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and comparator no intervention, so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome. In addition, participants in the AT arm had an ongoing relationship with the person assessing the outcome, making it likely that they might respond more favourably in order to please the assessor.	N	PN	Y	Y	Y		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. EfeErturk 2021	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Only the allocation of the first participant was randomised. Subsequent allocations were alternated and predictable.	Y	N	N				
2. Bias due to deviations from the intended intervention	High	Participants were aware whether they received AT or no intervention. Research staff who delivered the AT intervention and usual care (including prescription of PRN antiemetic medication) were not blinded and knew the protocol. See 2.7 5 participants discontinued after first application, suggesting that the AT was causing discomfort (unsure if nausea). I=9, C=1	Y	Y	PY	NI	N	N	PN

Study ID. EfeErturk 2021	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Naïve per protocol 10 participants (11%) were excluded from analysis because of deviation from protocols (unwillingness to continue), which is expected to have a substantial impact on the result.							
3. Bias due missing outcome data	High	I: 36/45 (20% missing) C: 44/45 (2% missing) Analysis method did not correct for bias; no sensitivity analysis 3 participants (3%) were lost to follow-up for reasons related to outcomes (increased nausea).	N	N	PY	PY			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Postop N&V relief. AT was not the main care that participants sought, and both groups received antiemetics, hence participant's perception of nausea was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Eftekharsadat 2018	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT topical and comparator group placebo with no aroma/scent, so it is likely that participants, who self-administed the intervention, were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 24/26 (8% missing) C: 24/24 (0% missing) Analysis method did not correct for bias; no sensitivity analysis. 2 participants in the intervention group withdrew because of lack of time and moving cities.	N	PN	PN	NA			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Eftekharsadat 2018	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	N	N				
OVERALL risk of bias	**High**								

Study ID. El Sayed 2020	**Outcome domain.** function **Assessments**. same RoB all outcomes: pain, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	NI				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or usual care. Research staff who delivered the AT instruction and usual care (including prescription of treatment drugs) were not blinded and knew the protocol. Full ITT	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Pain relief at home. AT was the main care that participants sought, hence participant's perception of physical function was likely to be influenced.	N	N	Y	Y	PY		
5. Bias in the selection of the reported results	High	Author did not report SD when reporting means of LAI score, as well as mean difference and results from test of mean differences.	N	NI	PY				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Evans 2018	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	PN				
2. Bias due to deviations from the intended intervention	Low	Full ITT	N	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Author did not present pre- and post-scores, or change in score.	N	NI	PY				
OVERALL risk of bias	**Some concerns**								

Study ID. Fayazi 2011	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Fazlollahpour-Rokni 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation. Block number was randomised, migitaging risk of predictable allocation.	Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group, who	PN	PN	PN	NA	NA	N	N

Study ID. Fazlollahpour-Rokni 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		were in separate rooms, may not know their assigned intervention. Naïve per protocol 1 participant (2%) was excluded from analysis due to deviation from protocol (unwillingness to continue), which is not expected to have a substantial impact on the result.							
3. Bias due missing outcome data	Low	I: 33/33 (0% missing) C: 32/33 (3% missing) 1 participant was lost to follow-up for reasons unrelated to outcomes (unwillingness to continue)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	AT was not the main care that participants sought, and both groups received counselling, hence participant's perception of anxiety was less likely to be influenced.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Franco 2016	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	Both groups received oil diffusion via face masks Research staff who delivered the AT intervention were not blinded and knew the protocol. Naïve per protocol 5 participants (5%) were excluded from analysis due to deviation from protocol (prior enrolment, did not receive allocated intervention), which is unlikely to have a substantial impact on the results. Randomisation schedule were updated to accommodate these losses.	PN	Y	PN	NA	NA	N	PN
3. Bias due missing outcome data	Low	I: 43/47 (9% missing) C: 45/46 (2% missing) Analysis method did not correct for bias; no sensitivity analysis 5 participants were lost to follow-up for reasons unrelated to outcome (previously enrolled n=2, surgery started early n=1).	N	N	N	NA			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Franco 2016	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Both groups received some forms of oil diffusion in a face mask, hence participant's perception of anxiety was less likely to be influenced by knowledge of which oil was used.	PN	N	Y	PN	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Genç 2020	**Outcome domain.** sleep **Assessments**. same RoB all outcomes: sleep, fatigue		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Alloction was 'based on the randomization list on the computer', assumed to mean computer-generated random number list.	PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator no intervention, so participants were probably aware of their assigned intervention and those delivering the intervention were aware of their assigned intervention. Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were probably aware that they had received AT or no intervention. However, given the study population was nursing home residents and the intervention was administered at bedtime they may not have recalled this information. Participants' knowledge of the intervention they received could have influenced their response. Given their recall of this could've been impaired, it is unlikely to have influenced the outcome.	N	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		NI	N	N				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Gok Metin 2016	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes: pain, fatigue		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	It is unclear if the person enrolling participants had knowledge of the forthcoming allocation.	Y	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	Intervention group received AT massage and comparator received no intervention, so it is likely that participants were aware of their assigned intervention. The same person was involved in care for both arms so they would've been aware of the participants' assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	Y	NI	NA	NA	Y	NA
3. Bias due missing outcome data	High	I: 2/19 (11% missing) C: 0/17 (0% missing) Analysis method did not correct for bias; no sensitivity analysis. In the AT group, 1 participant was lost to follow up due to taking biological therapy and 1 withdrew for unknown reasons. This could be because of the outcome worsening or improving.	N	N	PY	PY			
4. Bias in the measurement of the outcome	High	There were differences in the assessment procedure between the two groups. The AT intervention group completed the self-report measure during face-to-face visits with the practitioner delivering AT treatment whereas the comparator group completed the assessment procedure over the phone.	N	PY	NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns	No information provided about a pre-specified analysis plan.	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Gok Metin 2017	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH): pain, HRQoL		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on alternation. It was likely that the person enrolling participants could predict the allocation sequence.	N	PN	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and comparator no intervention so it is likely that participants and those delivering the interventions were aware of their assigned intervention.	PY	Y	PN	NA	NA	PY	NA

Study ID. Gok Metin 2017	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH): pain, HRQoL		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Intention-to-treat (ITT) analysis							
3. Bias due missing outcome data	Low	I: 21/21 (0% missing) C: 25/25 (0% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	There were differences in the assessment timing and procedure between the two groups. The AT intervention group completed the self-report measure during face-to-face visits with the practitioner delivering AT treatment whereas the comparator group completed them at their endocrine clinic visits.	PN	PY	NA	NA	NA		
5. Bias in the selection of the reported results	High	There is only one possible way in which the outcome can be measured, and all time-points are fully reported in the paper. Summary data are reported as medians, rather than means (without explanation). This is unusual, suggesting selective non-reporting of the mean data.	NI	PN	PY				
OVERALL risk of bias	**High**								

Study ID. Goli 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Sample size was fixed for each group so last allocation was predictable. However, the risk is small if only 1 out of 150 allocation was predictable. Significant difference in mean age	PY	Y	PY				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group, who were in separate rooms, may not know their assigned intervention. Full ITT	Y	PN	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Pre-op anxiety relief. AT was not the main care that participants sought, hence participant's perception of anxiety was less likely to be influenced.	N	N	Y	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Goli 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Graham 2003	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. See 2.7 Not receiving full course of AT No breakdown Naïve per protocol Some participants did not receive full course of AT due to deviation from protocol (RA absent, failure to complete radiotherapy). 28 participants (9%) were excluded from analysis for unknown reasons.	PN	PY	Y	PY	NI	N	NI
3. Bias due missing outcome data	Some concerns	285/313 (9% missing) Analysis method did not correct for bias; no sensitivity analysis 28 participants (9%) were lost to follow-up for unknown reasons (unwillingness to continue), as well as reasons unrelated to outcome (failure to complete radiotherapy, RA absence)	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low	Assessments show participants (i.e. the outcome assessors) were less likely to be aware whether they receive AT or placebo. In addition, study arms were segregated to avoid cross-exposure.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Habibzadeh 2020	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: fatigue, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses.	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Hadi 2011	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	High	The same carers were involved in care for both arms and it is likely that they were aware of ther participants' assigned intervention	PN	PY	PN	NA	NA	NI	NI
3. Bias due missing outcome data	High	Analysis method did not correct for bias; no sensitivity analysis	NI	N	NI	NI			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	NI	PN				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Hajibagheri 2014	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Hamdamian 2018	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT: 55/58 (5% missing), C: 55/58 (5% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Hamdamian 2018	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT: 55/58 (5% missing), C: 55/58 (5% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Hamzeh 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	PN				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	N	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Han 2006	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	participants were aware whether they received AT or no intervention.	Y	PN	N	NA	NA	Y	NA

Study ID. Han 2006	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Massage therapists who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group, who were in separate rooms, may not know their assigned intervention.							
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants in no intervention group were more likely to be influenced, since AT/massage was the main care that they sought, and they received neither.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Han 2006	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Massage therapists who delivered the AT intervention were not blinded and knew the protocol.	PN	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were unlikely to be aware that they had received AT or placebo, since both groups received massage.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Hasanzadeh 2016	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Hasanzadeh 2016	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or co-intervention/ usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Hasanzadeh 2016	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or co-intervention/ usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Hawkins 2020	**Outcome domain.** fatigue **Assessments**. fatigue		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Author stated 'adaptive randomisation' but did not elaborate on the method used e.g. minimisation.	NI	Y	PY				
2. Bias due to deviations from the intended intervention	Some concerns	Naïve per protocol 2 participants (3%) were excluded from analysis because of protocol violation, which is not expected to have a substantial impact on the result.	N	N	NA	NA	NA	N	PN
3. Bias due missing outcome data	Some concerns	I: 21/34 (38% missing) C: 20/35 (43% missing) Analysis method did not correct for bias; no sensitivity analysis 25 participants (36%) were lost to follow-up for unknown reasons, among whom 15 were pre-treatment so unlikely due to outcomes, and 3 for reasons unrelated to outcomes (protocol violation, adverse events).	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	High	Data from either week 1 or week 2 was missing.	Y	Y	NI				
OVERALL risk of bias	**High**								

Study ID. HeidariGorji 2015	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	Intervention group received AT inhalation and comparator placebo (oxygen only), so it is likely that participants were aware of their assigned intervention. The same people were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Analysis methods, dropouts/missing data not reported.	PY	PY	PN	NA	NA	NI	PN
3. Bias due missing outcome data	High	The authors did not report if there were any missing data/dropouts/exclusions for the assessed outcome, although a priori reasons for exclusion given. AT delivered 2 days post-surgery, with possibility of dropouts (worsening condition, patient transferred etc). Analysis methods correcting for bias not reported.	NI	N	NI	NI			

Study ID. HeidariGorji 2015	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside presumably standard care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**High**								

Study ID. Hekmatpou 2017.1	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH)		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, block size not reported. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment). Authors report there were no differences between groups but only overall demographic data were reported.	PY	PN	NI				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator usual care, so it is likely that participants and those delivering the intervention were aware of the assigned intervention. Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care.	N	PN	PY	PY	PY		

Study ID. Hekmatpou 2017.1	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH)		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to usual care that were likely to influence the outcome.							
5. Bias in the selection of the reported results	High	Data was collected hourly for 6 hours, but outcome reported up to 4 hours only.	NI	PY	PN				
OVERALL risk of bias	**High**								

Study ID. Heydarirad 2019	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	PN				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or no intervention. Research staff who provided instruction were not blinded and knew the protocol. See 2.7 Depending on the type of medication, it could have affected outcomes. I=0, C=3 Naïve per protocol 1 participants (2%) was excluded from analysis because of deviation from protocols (taking other meds), which is not expected to have a substantial impact on the result.	Y	Y	PY	PY	N	N	PN
3. Bias due missing outcome data	High	I: 30/36 (17% missing) C: 3/18 (17% missing) Analysis method did not correct for bias; no sensitivity analysis 1 (4%) participants were lost to follow-up for reasons related to outcomes (taking sedatives); 5 for reasons unrelated to outcomes (unwillingness to continue, complications).	N	N	PY	PY			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. AT was the main care that participants sought, hence their perception of sleep was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				

Study ID. Heydarirad 2019	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
OVERALL risk of bias	**High**								

Study ID. Hodge 2014	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	NI				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator placebo, so it is likely that participants were aware of their assigned intervention. However as personal inhaler, unlikely that people delivering the intervention were aware of the participants' assigned intervention Although the nursing staff failed to implement the protocol (intervention or control) to 27 participants before giving intravenous antiemetic, it is assumed that this aligns in ways that would happen outside the trial (e.g., too busy to administer the protocol, patient vomiting before inhaler could be adminsitered) Intention-to-treat (ITT) analysis	PY	PN	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Unclear which measure was used. May have been unvalided measure devleoped for the study Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, the AT is delivered as a supportive treatment alongside standard post-surgical care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	NI	PN	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Hozumi 2017	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	PN				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT, inhalation with placebo or no intervention. The same endoscopist performed procedures for all participants, thus was aware of the assigned intervention. Naïve per protocol 3 participant were excluded from analysis due to abdominal pain, which was not deviation from protocol.	Y	Y	PN	NA	NA	N	PN
3. Bias due missing outcome data	Some concerns	I: 216/218 (0.9% missing) C: 145/146 (0.7% missing) 1 participant were lost to follow-up for reasons related to outcomes (intolerable abdominal pain).	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT, inhalation with placebo or usual care. Procedural anxiety relief. AT was not the main care that participants sought, hence participant's perception of anxiety was less likely to be influenced.	N	N	Y	Y	PN		
5. Bias in the selection of the reported results	High	Authors did not report test statistics and p-value for between-group comparison, and did not indicate mean and SE on box plots.	Y	PN	Y				
OVERALL risk of bias	**High**								

Study ID. Hu 2010	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	PN				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or placebo. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	PY	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo.	N	N	PY	PY	PN		

Study ID. Hu 2010	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Pre-procedural anxiety relief. AT was not the main care that participants sought, hence participant's perception of anxiety was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Hunt 2013	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of the assigned intervention. Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 2/152 (1% missing; AT1 + AT2) C: 73/73 (0% missing)	N	PY	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Hur 2019	**Outcome domain.** fatigue **Assessments**. fatigue		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or no intervention.	Y	Y	N	NA	NA	N	PN

Study ID. Hur 2019	**Outcome domain.** fatigue **Assessments**. fatigue		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Research staff who trained participants in AT protocol were not blinded and knew the protocol. Participants self-delivered the intervention. Naïve per protocol 3 participants were excluded due to not attending visits or discomfort with blood sampling, which was not deviation from protocol.							
3. Bias due missing outcome data	Some concerns	I: 31/34 (9% missing) C: 31/34 (no missing) Analysis method did not correct for bias; no sensitivity analysis 3 participants were lost to follow-up for reasons unrelated to outcome (not attending visits, discomfort with blood sampling)	N	N	PY	PN			
4. Bias in the measurement of the outcome	High	Fatigue relief. AT was the main care that participants sought, hence participant's perceived fatigue was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Izgu 2019a	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: pain, fatigue		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Sampling was non-random and determined by clinician working in outparticipant clinic. Alternating assignment was used so all subsequent allocations were known.	N	N	PN				
2. Bias due to deviations from the intended intervention	Some concerns	AT massage was delivered at home, so participants were likely to be aware. Research staff who delivered the AT intervention and usual care were not blinded and knew the protocol. See 2.7 Change in chemo regimen I=1, C=3 mITT 4 participants (9%) were excluded from analysis because of deviation from protocols (unwillingness to continue, change in chemo regimen), which was not expected to have a substantial impact on the result.	Y	Y	Y	PY	N	Y	NA

Study ID. Izgu 2019a	**Outcome domain.** fatigue		**Comparison.** C1. AT(M) v control (NM)						
	Assessments. same RoB all outcomes: pain, fatigue		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Some concerns	I: 20/22 (9% missing) C: 20/24 (17% missing) Analysis method did not correct for bias; no sensitivity analysis 6 participants were lost to follow-up for reasons unrelated to outcomes (infection, change in chemo regimen, unwillingness to continue).	N	N	PY	PN			
4. Bias in the measurement of the outcome	High	Participants and the PI (i.e. the outcome assessors) were aware that they had received AT massage or usual care. Fatiue relief during chemo. AT massage was delivered separately at home visits, which could influence perception of fatigue.	N	PN	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Izgu 2020	**Outcome domain.** EFMH		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. same RoB all outcomes: N&V, EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Alternate allocation was used and first participant's allocation was fixed. Subsequent allocation was predictable.	PN	N	PN				
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group, who were in separate rooms, may not know their assigned intervention. Participants lost to follow up were included in analysis, but unsure whether their data was analysed as treated or imputed. Either method is appropriate.	PN	PN	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 33/35 (6% missing) C: 33/35 (6% missing) Analysis method did not correct for bias; no sensitivity analysis 4 participants were lost to follow-up due to complications unrelated to outcome (brachycardia, convulsion, respiratory arrest).	N	N	N	NA			
4. Bias in the measurement of the outcome	Low	PN: Qn: possible floor effect The researcher (i.e. the outcome assessor) were aware of the participant's allocation. Procedural anxiety relief. AT was not the main care that participants sought, hence	N	N	Y	PN	NA		

Study ID. Izgu 2020	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: N&V, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		participant's anxiety was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Jadhav 2020	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were likely aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT 24/26 (8% missing), C 22/26 (15% missing) Missing data due to unscuccessful anaesthesia attempt prior to procedure	N	N	N	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT or placebo Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	Y	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Jadhav 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were likely aware of the participants' assigned intervention	Y	Y	PN	NA	NA	Y	NA

Study ID. Jadhav 2020	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data							
3. Bias due missing outcome data	Low	AT 24/26 (8% missing), C 22/26 (15% missing) Missing data due to unscuccessful anaesthesia attempt prior to procedure	N	N	N	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT or placebo Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	Y	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Janula 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	NI				
2. Bias due to deviations from the intended intervention	Low	Intervention group recieved AT massage and comparator usual care so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	NI	PN				

Study ID. Janula 2015	**Outcome domain.** pain		**Comparison.** C1. AT(M) v control (NM)						
	Assessments. pain		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
OVERALL risk of bias	**Some concerns**								

Study ID. Jodaki 2021	**Outcome domain.** EFMH		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. sleep, EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Jodaki 2021	**Outcome domain.** sleep		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. sleep, EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Jokar 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	N	NA	NA	NA	PY	NA
3. Bias due missing outcome data	High	AT 23/25 (8% missing), C 23/25 (8% missing) Analysis method did not correct for bias; no sensitivity analysis Reasons for participant drop out not described	PN	N	PY	NI			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Joulaeerad 2018	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation. Unsure if block size was randomised. Post-randomisation exclusion occured which matched exclusion criteria (unwilliness to continue n=6, intolerance n=2) at which point allocation had been known.	Y	PN	PN				
2. Bias due to deviations from the intended intervention	Some concerns	N&V relief during pregnancy. AT was the main care that participants sought, hence participants were likely to be aware of intervention. I=5, C=1 Naïve per protocol 6 participants (9%) were excluded from analysis because of deviation from protocols (unwillingness to continue), which is not expected to have a substantial impact on the result.	PY	N	PY	NI	N	N	N
3. Bias due missing outcome data	Some concerns	I: 28/32 (13% missing) C: 28/33 (12% missing) Analysis method did not correct for bias; no sensitivity analysis 2 participants (3%) were lost to follow-up for reasons likely related to outcome (intolerance to AT - unsure if involve N&V); 7 for reasons unrelated to outcomes (unwillingness to continue, not returning questionnaire)	N	N	PY	PN			

Study ID. Joulaeerad 2018	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. AT was the main care that participants sought, hence perceived N&V severity was likely influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Jun 2013	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Post-op pain relief. AT was not the main care that participants sought, hence participants were less likely to be aware of intervention Full ITT	PN	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Postop pain relief. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Kabiri 2018	**Outcome domain.** fatigue **Assessments**. fatigue		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation. Unsure whether block size was randomised. Some exclusion criteria were applicable after AT intervention, at which point allocation had been known; however no information on whether any exclusion occurred.	Y	NI	N				

Study ID. Kabiri 2018	**Outcome domain.** fatigue **Assessments**. fatigue		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. No information on dropouts; no sample size was provided during analysis	Y	Y	PN	NA	NA	NI	PN
3. Bias due missing outcome data	Some concerns	Analysis method did not correct for bias; no sensitivity analysis No information on dropouts; no sample size was provided during analysis	NI	N	PN	NA			
4. Bias in the measurement of the outcome	High	Participants and the researchers (i.e. the outcome assessors) were aware that they had received AT or usual care. Fatigue relief for OA participants. AT was the main care that participants sought, however all groups received TENS and Faradic, hence participants' perceived fatigue was less likely to be influenced. The same researcher involved in the study completed the questionnaires after interviewing participants.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Karadag 2017	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (D1. HIGH): sleep, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on alternation. The person enrolling participants had knowledge of the forthcoming allocation.	N	N	PN				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator no intervention, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants	PN	PN	Y	PY	PY		

Study ID. Karadag 2017	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (D1. HIGH): sleep, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.							
5. Bias in the selection of the reported results	Some concerns	No information is provided about a pre-specified analysis plan	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Karaman 2016	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 2/53 (4% missing) C: 3/53 (6% missing) Analysis method did not correct for bias; no sensitivity analysis In both groups, participants were withdrawn for reasons that are unrelated (venous cannulation took more than 1 attempt) or likely to be unrelated (refused to continue AT inhalation prior to cannulation) to the outcome.	N	N	PN	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to placebo that were likely to influence the outcome.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	Multiple measures eligible for the meta-analysis of the outcome are fully reported in the paper, at multiple time points. It is unlikely that there were other results from which these measures were selected. Results are reported as summary statistics or with minimal analysis, and it	NI	PN	PN				

Study ID. Karaman 2016	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		is unlikely that these were selected from other analyses.							
OVERALL risk of bias	**High**								

Study ID. Karaman 2016	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 2/53 (4% missing) C: 3/53 (6% missing) Analysis method did not correct for bias; no sensitivity analysis In both groups, participants were withdrawn for reasons that are unrelated (venous cannulation took more than 1 attempt) or likely to be unrelated (refused to continue AT inhalation prior to cannulation) to the outcome.	N	N	PN	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to placebo that were likely to influence the outcome.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	High	The data required to include the prioritised outcome in the meta-analysis is incomplete Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	PY	PN				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Karaman 2019	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention groups received AT inhalation (ginger, lavender or rose) and comparator received placebo (distilled water), so it is likely that participants were aware of their assigned intervention The same people were presumably involved in care for all arms and it is likely that they were aware of the participants' assigned intervention 50% of participants required antiemetic drugs, but this is standard within the trial context (i.e., this would happen outside the trial in usual care) Intention-to-treat (ITT) analysis	Y	Y	PN			Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	N	N	NA	NA		
5. Bias in the selection of the reported results	High	A result is only available for the 2nd follow-up time point (40 mins after AT intervetion) for the prioritised outcome, despite complete reporting of data for other results (i.e. both follow-up timepoints). Method also states measuring the prioritised outcome at both follow-up time points Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	PY	PN				
OVERALL risk of bias	**High**								

Study ID. Karan 2019	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH): pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on patient record numbers.	N	PN	N				
2. Bias due to deviations from the intended intervention	Low	"Intervention group received AT inhalation and comparator group likely received placebo with no aroma/scent (or no intervention), so participants and those delivering the intervention were aware of their assigned intervention.	Y	Y	PN	NA	NA	Y	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Karan 2019	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH): pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	N	Y	Y	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Karimzadeh 2021.1	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation, fixed block size (6). Predictable allocation for 17% of participants, esp. considering convenience sampling. Post-randomisation exclusions occured (n=6, use of analgesics), at which point allocation would have been known.	Y	PN	N				
2. Bias due to deviations from the intended intervention	Some concerns	Anxiety relief during hospitalisation. AT was not the main care that participants sought, hence participants were less likely to be aware of intervention No mention of blinding of research staff who delivered the AT intervention. See 2.7 Analgesics I=0, C=6 Naïve per protocol 6 participants (4%) were excluded from analysis because of deviation from protocols (receiving analgesics), which is not expected to have a substantial impact on the result.	PN	PY	PY	PN	NA	N	PN
3. Bias due missing outcome data	Low	I: 100/113 (12%) C: 50/56 (11%) Analysis method did not correct for bias; no sensitivity analysis Participants were excluded for reasons unrelated to outcome (receiving analgesics, intolerance of the smell, headache)	N	N	N	NA			

Study ID. Karimzadeh 2021.1	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Anxiety relief during hospitalisation. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced.	N	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Kasar 2020	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	N				
2. Bias due to deviations from the intended intervention	Low		PN	NI	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT, inhalation with placebo or no intervention. Procedural anxiety relief. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced	N	N	PY	PN	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Kawabata 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Kawabata 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	AT 27/38 (25% missing), C 30/38 (21% missing) Participant data is missing due to reasons unlikely related to true vaue and similar across intervention and control arms	PN	PN	PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	Y	Y	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Keshavarz Afshar 2015	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. Postpartum sleep aid. AT was the main care that participants sought, hence participant's perception of sleep were more likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Kheirkhah 2014	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Unclear description of randomisation	NI	NI	PN				
2. Bias due to deviations from the intended intervention	High	Participants were aware that they had received AT or usual care. Midwives who delivered the AT intervention were not blinded and knew the protocol. See 2.7 Numbers excluded were not provided for each group. Naïve per protocol 3 participants (3%) were excluded from analysis because of deviation from protocols (lack of cooperation), which is not expected to have a substantial impact on the result.	PY	PY	PY	NI	NI	N	PN
3. Bias due missing outcome data	Some concerns	Author described 8 exclusions (7%), but did not confirm any data imputation was conducted. Analysis method did not correct for bias; no sensitivity analysis 8 participants were lost to follow-up for reasons unrelated to outcomes (lack of cooperation, low foetal HR, suspected abruption, use of oxytocin)	N	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Anxiety relief duringg labour. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Khiewkhern 2013	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation, fixed block size (4). Predictable allocation for 25% of participants, esp. considering sampling method (using recruitment ad).	Y	PN	N				
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol. No indication of blinding for clinical staff delivering care for C group. mITT	PN	PY	PN	NA	NA	PY	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Khiewkhern 2013	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	High	Unclear from the article whether outcome was measured across all participants, or within the subset of participants reporting pain as the presenting outcome. No The subsets of participants corresponding to each presenting symptom were selected based on the value of that presenting symptom.	NI	N	PY	Y			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Post-chemo pain relief. AT was not the main care that participants sought, but massage was a noticeable addition to care, hence participant's anxiety was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Kianpour 2018	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or no intervention. Researchers only provided training for participants and were likely blinded to their assigned intervention. See 2.7 I=1, C=0 Naïve per protocol (participant who swapped intervention was excluded from analysis) 1 participant (1%) was excluded from analysis because of deviation from protocols (unwillingness to continue), which is not expected to have a substantial impact on the result.	Y	PN	PY	NI	N	N	N
3. Bias due missing outcome data	Some concerns	I: 34/35 (1% missing) C: 34/35 (1% missing) Analysis method did not correct for bias; no sensitivity analysis	N	N	PY	PN			

Study ID. Kianpour 2018	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		3 participants were lost to follow-up for reasons unrelated to outcomes (migration, lack of cooperation).							
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. AT was the main care that participants sought, hence participant's perception was likely to be influenced.	N	PN	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Kiberd 2016	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	PN				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT: 21/22 (5% missing), C: 18/19 (5% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured	NI	PN	N				
OVERALL risk of bias	**Some concerns**								

Study ID. Kılıç Akça 2021	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	PN				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group may not know their assigned intervention. Naïve per protocol 6 participant were excluded due to changing centres (for unknown reasons), which was not deviation from protocol.	PN	PN	NA	NA	NA	N	PN

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Kılıç Akça 2021	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Some concerns	I: 21/25 (16% missing) C: 23/25 (8% missing) Analysis method did not correct for bias; no sensitivity analysis All 6 participants were lost to follow-up for reasons unrelated to outcomes (discomfort at AT smell, changing centre for unknown reasons)	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT, massage with placebo or no intervention. Procedural pain relief. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced.	N	N	PN	PN	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Kim 2007	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were likely aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	53/54 (2% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT or placebo Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Kim 2014	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of the assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	High	I: 16/16 (0% missing) C: 15/16 (6% missing) Analysis method did not correct for bias; no sensitivity analysis 1 participants in the comparator arm withdrew because for unknown reasons.	N	PN	NI	NI			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Küçük Alemdar 2019	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol, as were the clinician(s) who treated the control group, who were in the same unit. Naïve per protocol 8 participants (9%) were excluded from analysis, but no info to determine whether it were deviation from protocol.	PN	Y	PN	NA	NA	N	NI
3. Bias due missing outcome data	High	I: 39/42 (7% missing) C: 39/44 (11% missing) Analysis method did not correct for bias; no sensitivity analysis	N	N	PY	NI			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Küçük Alemdar 2019	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		8 participants (9%) were lost to follow-up for unknown reasons.							
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants were children who were less likely to be influenced of the knowledge of the intervention.	N	N	Y	PN	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Kyle 2006	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	unclear - report states 60% attrition Analysis method did not correct for bias; no sensitivity analysis Participant data is missing due to reasons unlikely related to true vaue and similar across intervention and control arms	N	N	N	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Lane 2012	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	Number randomised not reported, but attrition descibed Analysis method did not correct for bias; no sensitivity analysis Participant data is missing due to administrative errors, or participants unhappy with group allocation	NI	N	PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or placebo/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Lee 2017	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	At 47/52 (10% missing), C 44/52 (15% missing) Analysis method did not correct for bias; no sensitivity analysis	N	N	PY	NI			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowldege of the intervention they recieved could have influenced their response. Participants were likely to have had prior belief about	PN	PN	Y	PY	PY		

Study ID. Lee 2017	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		the benefits of AT and/or massage compared to usual care that were likley to influence the outcome							
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Lehrner 2000	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High		NI	PN	PN				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	High	Data reported in male/female subgroups only	NI	PN	PY				
OVERALL risk of bias	**High**								

Study ID. Lemon 2004	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Imbalance in the severity of anxiety and depression between groups that is unlikely to be due to chance and large enough to bias the intervention effect estimate.	NI	NI	PY				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and comparator group massage with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of the assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	High	I: 16/16 (0% missing) C: 10/16 (38% missing)	N	N	PY	PY			

Study ID. Lemon 2004	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Analysis method did not correct for bias; no sensitivity analysis In the comparatory group, 6 participants withdrew after the first massage session for unknown reasons (compared with none in the AT massage arm). This could be because of their mental health worsening however it more likely because they were not allocated to the AT arm.							
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had received AT massage or massage as a co-intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to massage as a co-intervention that were likely to influence the outcome. In addition, participants had an ongoing relationship with the person assessing the outcome, making it likely that they might respond more favourably in order to please the assessor.	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Lillehei 2015	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	Y	N				
2. Bias due to deviations from the intended intervention	Low	Participants were told that the control group contained a non-detectable amount of EO. Naïve per protocol 7 participants were excluded from analysis due to illness or loss to follow-up, which was not deviation from protocol.	PN	N	NA	NA	NA	N	PN
3. Bias due missing outcome data	Some concerns	I: 37/39 (5% missing) C: 35/40 (13% missing) Analysis method did not correct for bias; no sensitivity analysis 3 were lost to follow-up for reasons unrelated to outcome (illness, illness in family); 4 for unknown reasons	N	N	PY	PN			

Study ID. Lillehei 2015	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were told that the control group contained a non-detectable amount of EO.	N	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Lotfi 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol. Participants lost to follow up were included in analysis, but unsure whether their data was analysed as treated or imputed. Either method is appropriate.	PY	Y	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 45/47 (4% missing) C: 47/47 (0% missing) 2 participants were lost to follow-up for cardiac complications unrelated to outcomes but still included for final analysis.	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. AT was not the main care that participants sought, and both groups received other treatment for CAD, hence participant's perception of anxiety was less likely to be influenced.	N	PN	Y	PY	PN		
5. Bias in the selection of the reported results	High	STAI state and trait was measured separately but only STAI overall was reported.	Y	PY	NI				
OVERALL risk of bias	**High**								

Study ID. Lytle 2014	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	PN				

Study ID. Lytle 2014	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	Y	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Maghami 2020	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	High	Research staff who delivered the AT intervention and usual care (including prescription of PRN antiemetic medication) were not blinded and knew the protocol. See 2.7 I=0, C=4 Naïve per protocol 4 participants (7%) were excluded but no info to determine whether it were deviation from protocol.	PN	Y	NI	NA	NA	N	PN
3. Bias due missing outcome data	High	I: 30/30 (0% missing) C: 26/30 (13% missing) Analysis method did not correct for bias; no sensitivity analysis 4 participants (13%) were lost to follow-up with unknown reasons, all from placebo group.	N	N	NI	NI			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. PN: Postop N&V relief. AT was not the main care that participants sought, hence	N	PN	PN	NA	NA		

Study ID. Maghami 2020	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		participant's perception of nausea was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Marofi 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low		PN	NI	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	The researcher (i.e. the outcome assessor) was aware whether participant received AT or inhalation with placebo. Procedural pain relief. The outcome assessor's (the researcher's) knowledge of the intervention received could have influenced evaluation of pain.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Mascherona 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation, fixed block size (4) but there were 6 block configuration to randomise from. Some exclusion criteria were applicable after AT intervention, at which point allocation had been known. However, diagram shows that no post-randomisation exclusion occurred. Disproportionate in % of female	Y	Y	Y				
2. Bias due to deviations from the intended intervention	Low	Participants have Alzheimer's disease so were unlikely to be aware of intervention. Carers were not blinded. Intention-to-treat analysis (ITT)	PN	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Mascherona 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	High	T2 was not reported	N	PY	NI				
OVERALL risk of bias	**High**								

Study ID. Mirhosseini 2021.1	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation. Described as "quadruple blocking", which likely mean 4 configuration of blocks were used i.e. block size was not randomised.	Y	PN	N				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol. No information on dropouts; no sample size was provided during analysis	PN	Y	NI	NA	NA	NI	PN
3. Bias due missing outcome data	Some concerns	Analysis method did not correct for bias; no sensitivity analysis No information on dropouts; no sample size was provided during analysis	NI	N	PN	NA			
4. Bias in the measurement of the outcome	Low	Researcjer (i.e. the outcome assessor) was blinded to participant's allocation.	N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Mohammadpourhodki 2021	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	N	N				

Study ID. Mohammadpourhodki 2021	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
OVERALL risk of bias	**Some concerns**								

Study ID. Moradi 2021	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were likely aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT 40/46 (13% missing), C40/46 (13% missing) Analysis method did not correct for bias; no sensitivity analysis reasons for participant drop out described as unwillingness to continue studying and absenteeism in more than 1 intervention session	N	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Moslemi 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation. Allocation (and presumably block size) was concealed from research staff, migitaging risk of predictable allocation.	Y	Y	N				

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Moslemi 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Anxiety relief after hospitalisation. AT was not the main care that participants sought, hence participants were less likely to be aware of intervention Full ITT	PN	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT, inhalation with placebo or no intervention. Anxiety relief after hospitalisation. AT was not the main care that participants sought, hence participant's perception of anxiety was less likely to be influenced.	N	N	PY	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Motilal 2013	**Outcome domain.** function **Assessments**. same RoB all outcomes: pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Full ITT	N	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were blinded.	N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Baseline pain and interference scores were measured but not presented.	N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Muzzarelli 2006	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention	PN	Y	PN	NA	NA	Y	NA

Study ID. Muzzarelli 2006	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Intention-to-treat (ITT) analysis							
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	High	Summary statistics only reported for AT and C groups combined, only t-test of score change reported for each arm	NI	NI	PY				
OVERALL risk of bias	**High**								

Study ID. Nagata 2014	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group co-intervention/no intervention with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT1 55/56 (2% missing); AT2 52/56 (7% missing); C1 54/56 (4% missing); C2 53/56 (5%missing) Analysis method did not correct for bias; no sensitivity analysis	N	PN	PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or co-intervention/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Najafi 2014	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation. Unsure if block size was randomised. Some exclusion criteria were applicable after AT intervention, at which point allocation had been known. However, unclear from diagram whether any post-randomisation exclusion occurred.	NI	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT massage or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. See 2.7 I=2, C=0 Naïve per protocol 2 participants were excluded due to unknown reasons, which was not deviation from protocol.	PY	Y	Y	NI	N	N	PN
3. Bias due missing outcome data	Low	I: 33/35 (6% missing) C: 35/35 (0% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants and the researcher (i.e. the outcome assessors) were aware that they had received AT or usual care. 2 participants were lost to follow-up for reasons unrelated to outcomes (unwillingness to continue)	N	N	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Nasiri 2016	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Random sampling; 1 card per participant with intervention group written on it, participant selected card from bag and were thus allocated to the group on the card	PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	Smell of lavender oil different to sweet almond oil (inactive control); researcher gave the participants the containers of oil and taught them massage techniques appears to be a mITT analysis excluding participants with missing outcome data	Y	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 27/30 (10% missing) C: 27/30 (10% missing)	Y	NA	NA	NA			

Study ID. Nasiri 2016	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	High	although data collectors were unaware of group allocation, study participants were aware of group allocation due to difference in smell of the essential oil	N	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	Measures eligible for the meta-analysis appear fully reported in the paper Results are reported as summary statistics with minimal analysis and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Nasiri 2016	**Outcome domain.** pain **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Random sampling; 1 card per participant with intervention group written on it, participant selected card from bag and were thus allocated to the group on the card	PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	Smell of lavender oil different to sweet almond oil (inactive control); researcher gave the participants the containers of oil and taught them massage techniques appears to be a mITT analysis excluding participants with missing outcome data	Y	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 27/30 (10% missing) C: 27/30 (10% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	although data collectors were unaware of group allocation, study participants were aware of group allocation due to difference in smell of the essential oil	N	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	Measures eligible for the meta-analysis appear fully reported in the paper Results are reported as summary statistics with minimal analysis and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Nasiri 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Nasiri 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Some concerns	Procedural pain relief. AT was not the main care that participants sought, hence participants were less likely to be aware of intervention Naïve per protocol 3 participants (6%) were excluded due to failure to complete the intervention, which is unlikely to have substantial impact on the result.	PN	PN	NA	NA	NA	N	PN
3. Bias due missing outcome data	Some concerns	I: 24/25 (4% missing) C: 23/25 (8% missing) Analysis method did not correct for bias; no sensitivity analysis 3 participants were lost to follow-up for reasons unrelated to outcomes (participant's desire to withdraw)	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Procedural pain relief. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced.	N	N	Y	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Nazari 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	NI				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. However, clinical staff delivering care for control group, who were in separate rooms, may not know their assigned intervention. Full ITT	Y	PN	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Postop pain relief. AT was not the main care that participants sought, hence	N	N	Y	PY	PN		

Study ID. Nazari 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		participant's perception of pain was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Ndao 2012	**Outcome domain.** EFMH **Assessments**. pain, N&V, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	N	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Ndao 2012	**Outcome domain.** N&V **Assessments**. pain, N&V, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	N	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	High	dichotomised outcome is reported from a continuous scale but the cut point (0) is unusual, suggesting selective non-reporting of usual cut-point	NI	PN	PY				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Ndao 2012	**Outcome domain.** pain **Assessments**. pain, N&V, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	N	N	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	dichotomised outcome is reported from a continuous scale but the cut point (0) is unusual, however, the reported result is not statistically significant so selective non-reported unlikley.	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Ni 2013	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of the assigned intervention. Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		PY	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN	PY	PY	PY		
5. Bias in the selection of the reported results	High	Summary statistics are only presented for each arm stratified by surgical experience, suggesting selective non-reporting of the results for the total participants in each arm	NI	N	Y				
OVERALL risk of bias	**High**								

Study ID. Nikjou 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	intervention group received AT inhalation and comparator received diluted milk placebo, so it is likely that participants were aware of their assigned intervention. number randomised, dropouts/missing data not reported	PY	N	PN	NA	NA	NI	PN
3. Bias due missing outcome data	High	The authors did not report if there were any missing data/dropouts/exclusions for the assessed outcome. AT self-delivered over two months, with possibility of dropouts (worsening condition, loss of motivation/interest to participate).	NI	N	NI	NI			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention Participants' knowledge of the intervention they received could have influenced their response. There is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**High**								

Study ID. Noruzi Zamenjani 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation used, block size not reported. A person independent of the research team allocated participants to their intervention group. While they may have known block size (needed to predict the allocation sequence) they were unaware of the study aim so likely had little motivation to change the allocation.	PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention groups received AT inhalation and comparator group placebo with no aroma/scent. It is that those delivering the intervention were aware of the assigned intervention, however, participants were likely drowsy	PN	Y	N	NA	NA	Y	NA

Study ID. Noruzi Zamenjani 2020	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		in the immediate post-operative period so may not have noticed or be able to recall any aromas. Intention-to-treat (ITT) analysis							
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assesors) were likely unaware of their allocated intervention due to receiving it in the immediate post-operative period.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Olapour 2013	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	No info on whether loss to follow-up or post-randomisation exclusion occured	N	N	NA	NA	NA	NI	PN
3. Bias due missing outcome data	Low	No info on whether loss to follow-up or post-randomisation exclusion occured No evidence suggesting otherwise	NI	Y	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Postop pain relief. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced.	N	N	Y	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Oshvandi 2021	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation. Unsure if block size was randomised. Some exclusion criteria were applicable after AT intervention, at which point allocation had been known.	Y	NI	NI				

Study ID. Oshvandi 2021	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		However, diagram shows that no post-randomisation exclusion occurred.							
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention and placebo massage were not blinded and knew the protocol. Full ITT	PN	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were unlikely to be aware that they had received AT or placebo, since both groups received massage.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	High	Total PSQI score was not reported.	Y	PY	NI				
OVERALL risk of bias	**High**								

Study ID. Otaghi 2007	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Ou 2012	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	Use of synthetic fragrance masked allocation	N	N	NA	NA	NA	NI	PN

Study ID. Ou 2012	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Analysis methods, dropouts/missing data not reported.							
3. Bias due missing outcome data	High	The authors did not report if there were any missing data/dropouts/exclusions for the assessed outcome, although a priori reasons for exclusion given. AT delivered over one month, with possibility of dropouts (worsening condition, loss of motivation/interest to participate).	NI	N	NI	NI			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were adequately blinded, Use of synthetic fragrance masked allocation	PN	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**High**								

Study ID. Ou 2014	**Outcome domain.** function **Assessments**. same RoB all outcomes: pain, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Randomization procedure not described	NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage with scent and comparator received AT massage without scent, so it is likely that participants were aware of their assigned intervention. Although participant administered massage, the same people were involved in the safety and allergy pre-testing and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, the placebo group still recieved self-massage and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		

Study ID. Ou 2014	**Outcome domain.** function **Assessments**. same RoB all outcomes: pain, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Ovayolu 2014	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Allocation sequence was predictable. Participants were assigned intervention in sequence, but unclear what was used to generate that sequence.	NI	N	PN				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants and the researchers (i.e. the outcome assessors) were aware that they had received AT or no intervention. HRQoL improvement during cancer treatment. AT was not the main care that participants sought, hence participant's perceived QoL was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Ovayolu 2014	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Allocation sequence was predictable. Participants were assigned intervention in sequence, but unclear what was used to generate that sequence.	NI	N	PN				

Study ID. Ovayolu 2014	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants and the researchers (i.e. the outcome assessors) were aware that they had received AT or no intervention. HRQoL improvement during cancer treatment. AT was not the main care that participants sought, but massage was a noticeable addition to care, hence participant's perceived QoL was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Ovayolu 2014	**Outcome domain.** HRQoL **Assessments**. HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Allocation sequence was predictable. Participants were assigned intervention in sequence, but unclear what was used to generate that sequence.	NI	N	PN				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants and the researchers (i.e. the outcome assessors) were aware that they had received AT or no intervention. HRQoL improvement during cancer treatment. AT was not the main care that participants sought, and both groups received massage, hence participant's perceived QoL was less likely to be influenced.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Ovayolu 2014	**Outcome domain.** HRQoL		**Comparison.** C2. AT(M) v (M)						
	Assessments. HRQoL		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Ozel 2021	**Outcome domain.** EFMH		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. same RoB all outcomes: pain, EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	Clinical staff who delivered the AT intervention were not blinded and knew the protocol. Naïve per protocol 2 participants (3%) were excluded due to missing data sheets, which can be considered deviation from protocol.	PN	Y	PN	NA	NA	N	PN
3. Bias due missing outcome data	Low	I: 40/40 (0% missing) C: 38/40 (5% missing) 2 participants were missing data for reasons unrelated to outcomes (missing data sheets).	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Procedural anxiety relief. AT was not the main care that participants sought, hence participant's perception of anxiety was less likely to be influenced.	N	N	Y	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Pasha 2012	**Outcome domain.** N&V		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. N&V		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	High	AT: 30/33 (9% missing), C: 30/34 (12% missing) Analysis method did not correct for bias; no sensitivity analysis In both groups, participants withdrew because of using other medication for	N	N	PY	PY			

Study ID. Pasha 2012	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		nausea. This is likley because of nausea worsening							
4. Bias in the measurement of the outcome	Low		NI	PN	PN	NA	NA		
5. Bias in the selection of the reported results	High		NI	NI	PY				
OVERALL risk of bias	**High**								

Study ID. Pasyar 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Two stages of randomization 1. random selection of participants to invite to enrol in study 2. randomization into intervention/control - block randomisation used, equal sized blocks, to allocate by week. A person independent of the research team and blinded to to the trial interventions allocated participants to their intervention group and they were unlikely to know the block size (needed to predict the allocation sequence) or motivation to change the allocation	PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The intervention group received AT inhalation and comparator unscented placebo so it is likely that participants were aware of their assigned intervention. Two people (nurses) delivering the intervention and control (one for each group) were blind to the study objectives, outcomes, and groups. Intention-to-treat (ITT) analysis	PY	PN	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside presumably standard pre-surgery care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Pasyar 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Pehlivan 2019	**Outcome domain.** function **Assessments**. pain, function, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same carers were involved in care for both arms and it is likely that they were aware of ther participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or placebo/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Pehlivan 2019	**Outcome domain.** HRQoL **Assessments**. pain, function, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same carers were involved in care for both arms and it is likely that they	PY	PY	PN	NA	NA	Y	NA

Study ID. Pehlivan 2019	**Outcome domain.** HRQoL **Assessments**. pain, function, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		were aware of ther participants' assigned intervention Intention-to-treat (ITT) analysis							
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or placebo/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		NI	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Pehlivan 2019	**Outcome domain.** pain **Assessments**. pain, function, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	The same carers were involved in care for both arms and it is likely that they were aware of ther participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or placebo/ no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Petramfar 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	New participants were recruited to substitute those lost to follow up. These participants were potentially not subjected to randomisation.	PN	NI	NI				
2. Bias due to deviations from the intended intervention	Low		N	N	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 41/46 (11% missing) C: 40/46 (13% missing). Note: LTFU were substituted with new participants There were a disproportionate number of diabetic participants among those lost to follow up between intervention and control group. However, if that could affect the results, the author would have addressed it by making sure the new participants had the same diabetic status as the original participants.	N	PY	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were unlikely to be aware that they had received AT or placebo, since placebo was designed to mimick interventions (including fake scent).	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Pimenta 2016	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The same carers were involved in care for both arms and it is likely that they were aware of ther participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT or placebo Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Pimenta 2016	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	Medians (IQR) are reported. Unclear why, but no reason to suspect that the results were selected from multiple analyses.	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Potter 2014	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group recieved AT inhalation and comparator usual care so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or usual care Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Rafi 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Rafi 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Rashidi Fakari 2015.1	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High		NI	NI	N				
2. Bias due to deviations from the intended intervention	High	Intrapartum anxiety relief. AT was not the main care that participants sought, hence participants were less likely to be aware of intervention Research staff who delivered the AT intervention were not blinded and knew the protocol. Naïve per protocol 3 participants (3%) were excluded from analysis because of deviation from protocols (unwillingness to continue), plus 12 post-randomisation exclusions (11%), which is expected to have a substantial impact on the result.	PN	Y	PN	NA	NA	N	PY
3. Bias due missing outcome data	Low	I: 48/50 (4%) C: 48/50 (4%) 4 participants were lost to follow-up for reasons unrelated to outcomes (use of analgesics, unwillingness to continue).	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Intrapartum anxiety relief. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced.	N	N	PY	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Rashidi Fakari 2015.1	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	High	Authors reported results for one AT group in median(IQR) while reporting results for other groups as mean(SD).	N	NI	Y				
OVERALL risk of bias	**High**								

Study ID. Rivaz 2021	**Outcome domain.** pain **Assessments**. same RoB all outcomes (for this comparison): pain, fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PN	NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT: 26/26 (0% missing); C1: 1/26 (3.8% missing) Analysis method did not correct for bias; no sensitivity analysis 1 participant in the C1 group withdrew as they did not participate in the intervention which was probably unrelated to the outcome improving or worsening.	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low		N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Rivaz 2021	**Outcome domain.** pain **Assessments**. same RoB all outcomes (for this comparison): pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage and comparator no intervention so it is likely that participants were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	NI	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	AT: 26/26 (0% missing), C2: 2/26 (8% missing) Analysis method did not correct for bias; no sensitivity analysis The 2 participants lost to follow up in C2 usual care group withdrew for reasons unrelated to the trial.	N	N	N	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**High**								

Study ID. Sadeghi 2020	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Unclear how the allocation sequence was generated (described as 'simple random')	NI	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	PY	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Sadeghi 2020	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT, placebo or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. SadeghiAvalShahr 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Intervention was self-delivered, participants likely knew whether they were receiving AT or unscented oil Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	AT: 22/25 (12% missing), C: 24/25 (4% missing) Analysis method did not correct for bias; no sensitivity analysis Participants withdrew because of use of medication due to pain	N	N	Y	Y			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Safajou 2020	**Outcome domain.** fatigue **Assessments**. same RoB all outcomes: N&V, fatigue		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	Naïve per protocol	N	N	NA	NA	NA	PN	N
3. Bias due missing outcome data	Low	I: 45/45 (0% missing) C: 44/45 (2% missing) No reason provided for missing data. Since this represents only 1%, risk of bias is unlikely.	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were blinded.	N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Sahin 2021b	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	High	Research staff who delivered AT and usual care (including analgesics) were not blinded and knew the protocol. Analgesics I=2, C=0 There were losses to follow-up, but authors noted no participants were excluded from analysis, implying mITT. However, there is conflicting information suggesting 2 participants being excluded from final analysis (see Notes). 2 participants (7%) were excluded from analysis due to deviation from protocol (early analgesics use), which is not expected to have a substantial impact on the result. 3 participants were excluded due to delayed operation, which was not deviation from protocol.	PN	PY	PY	Y	N	NI	PN
3. Bias due missing outcome data	High	I: 11/15 (27% missing), C: 14/15 (7% missing) No sensitivity analysis 2 participants (7%) were for reasons possibly related to outcome (early analgesics use); 6 for reasons unrelated to outcomes (operational delay)	N	N	PY	PY			

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Sahin 2021b	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT, massage with placebo or no intervention. Postop pain relief. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced.	N	N	Y	PN	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Sahin 2021b	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol. Analgesics I=2, C=0 There were losses to follow-up, but authors noted no participants were excluded from analysis, implying mITT. However, there is conflicting information suggesting 2 participants being excluded from final analysis (see Notes). 2 participants (7%) were excluded from analysis due to deviation from protocol (early analgesics use), which is not expected to have a substantial impact on the result. 1 participant was excluded due to delayed operation, which was not deviation from protocol.	PN	PY	PN	Y	N	NI	PN
3. Bias due missing outcome data	High	I: 11/15 (27% missing), C: 12/15 (20% missing) No sensitivity analysis 2 participants (7%) were for reasons possibly related to outcome (early analgesics use); 6 for reasons unrelated to outcomes (operational delay)	N	N	PY	PY			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were unlikely to be aware that they had received AT or placebo, since both groups received massage.	N	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Sahin 2021b	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
OVERALL risk of bias	**Some concerns**								

Study ID. Saiyudthong 2009	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	NI				
2. Bias due to deviations from the intended intervention	High	The same person were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention (due to the aroma).	PN	Y	PN	NA	NA	NI	NI
3. Bias due missing outcome data	High		NI	PN	NI	NI			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	High	The data required to include the prioritised outcome (mental distress) in the meta-analysis is incomplete	NI	Y	PN				
OVERALL risk of bias	**High**								

Study ID. Sakamoto 2012	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or placebo. Full ITT 45 participants were excluded from analysis due to death or transfer to other institutions, which was not deviation from protocol.	Y	N	PN	PN	NA	Y	NA
3. Bias due missing outcome data	High	I: 51/73 (30% missing) C: 49/72 (32% missing) Analysis method did not correct for bias; no sensitivity analysis 28 participants (19%) were lost to follow-up for reasons likely related to outcome (transfer to acute hospitals); 17 for reasons unrelated to outcome (death, transfer to other nursing homes)	N	N	PY	PY			

Study ID. Sakamoto 2012	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	Low	Researchers (i.e. the outcome assessors) were blinded to participant's allocated treatment.	N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Samadi 2021	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation. Block number was randomised, migitaging risk of predictable allocation.	Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or placebo. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. AT was the main care that participants sought, hence participant's perception of anxiety was likely to be influenced.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Sapmaz 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PN	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Sapmaz 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Seddighi-Khavidak 2020	**Outcome domain.** function **Assessments**. same RoB all outcomes: HRQoL, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation, fixed block size (4) but there were 6 block configuration to randomise from. Post-randomisation exclusion occured which matched exclusion criteria (MS relapse, n unknown), at which point allocation had been known; however this is not a controllable factor.	Y	PY	N				
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or not during exercise. Physiotherapist was not blinded and knew the protocol. Naïve per protocol 10 participants were excluded due to relapse, not attending follow-up, or long distance to MS centre, which was not deviation from protocol.	Y	Y	PN	NA	NA	N	PN
3. Bias due missing outcome data	High	I: 15/20 (25% missing) C: 15/20 (25% missing) Analysis method did not correct for bias; no sensitivity analysis Some participants were lost to follow-up for reasons likely related to outcomes (MS relapse, n unknown); some for unknown reasons (min 6)	N	N	PY	PY			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT+exercise or exercise alone. AT was the main care that participants sought, hence participant's perceived physical function was likely to be influenced. However both groups received exercise, which might lessen such influence.	N	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Seifi 2014	**Outcome domain.** pain **Assessments**. same overall RoB all outcomes (D1. HIGH): pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	Y	PN	PN				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 30/35 (14% missing) C: 30/25 (14% missing) Analysis method did not correct for bias; no sensitivity analysis In both groups, participants withdrew due to being discharged before the study end (3 in the intervention group, 4 in the control group), they did not tolerate aromatherapy (2 in the intervention group) or lack of cooperation (1 in the control group).	N	N	PN	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Shahnazi 2012	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation. Block size was randomised, migitaging risk of predictable allocation.	Y	Y	N				

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Shahnazi 2012	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	AT was the only care beside the procedure, hence participants were likely to be aware of intervention.	PY	PN	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. Procedural anxiety relief. AT was not the main care that participants sought, hence participant's anxiety was less likely to be influenced.	N	N	PY	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Shin 2007	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Medians (95% CI) are reported. Unclear why, but no reason to suspect that the results were selected from multiple analyses.	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Shirazi 2017	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				

Study ID. Shirazi 2017	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	AT 37/40 (7% missing), C1 38/40 (5% missing), C2 39/40 (2% missing) Analysis method did not correct for bias; no sensitivity analysis Three participants AT and two in placebo discontinued the intervention, one participant in no intervention group used analgesic medication. This could be due to worsening pain	N	N	PY	PY			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Shirazi 2017	**Outcome domain.** pain **Assessments**. pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	AT 37/40 (7% missing), C1 38/40 (5% missing), C2 39/40 (2% missing) Analysis method did not correct for bias; no sensitivity analysis Three participants AT and two in placebo discontinued the intervention, one participant in no intervention group used analgesic medication. This could be due to worsening pain	N	N	PY	PY			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Shoara 2015	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	block randomisation list generated by computer as a non-stratified list with the same block lengths At baseline no significant differences in demographic or clinical parameters between arms	Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Paraffin used as placebo and packed in same containers as chamomile oil; Participants may have been able to detect chamomile/sesame oil or paraffin that was used and I am not sure how they blinded the group using diclofenac mITT analysis (excluding participants with missing outcome data)	PY	N	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 28/33 (15% missing) C: 28/33 (15% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High		PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Low	Measures eligible for the meta-analysis appear fully reported in the paper, at multiple time points. It is unlikely tht there were other results from which these measures were selected Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Shoara 2015	**Outcome domain.** pain **Assessments**. pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	block randomisation list generated by computer as a non-stratified list with the same block lengths At baseline no significant differences in demographic or clinical parameters between arms	Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Paraffin used as placebo and packed in same containers as chamomile oil; Participants may have been able to detect chamomile/sesame oil or paraffin that was used and I am not sure how they blinded the group using diclofenac mITT analysis (excluding participants with missing outcome data)	PY	N	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 28/33 (15% missing) C: 28/33 (15% missing)	Y	NA	NA	NA			

Study ID. Shoara 2015	**Outcome domain.** pain **Assessments**. pain, function		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	High		PN	PN	PY	PY	PY		
5. Bias in the selection of the reported results	Low	Measures eligible for the meta-analysis appear fully reported in the paper, at multiple time points. It is unlikely tht there were other results from which these measures were selected Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Singh 2021	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Assumed envelopes adequately concealed allocation sequence from person enrolling participants	Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator placebo with no aroma/scent, so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	Y	PN	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside presumably standard care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Smallwood 2001	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	PY	NI				
2. Bias due to deviations from the intended intervention	Low	Participants would've been unaware of their assigned intervention (due to dementia) but those delivering the intervention were likely aware of allocation due to aroma/scent. Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	N	NA	NA		
5. Bias in the selection of the reported results	High	The data required to include the prioritised outcome (behavioural and psyschological symptoms of dementia and period 4 in the meta-analysis is incomplete	NI	PY	PN				
OVERALL risk of bias	**High**								

Study ID. Stanley 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on enrollment (odd numbers assigned to AT, even numbers assigned to C). The person enrolling participants had knowledge of the forthcoming allocation	N	N	PY				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PN	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Stevensen 1994	**Outcome domain.** EFMH **Assessments**. same RoB all comparisons: EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	NI				
2. Bias due to deviations from the intended intervention	Low	Participants unlikely to be aware of whether they were receiving AT (massage) or massage co-intervention as they were day 1 post-cardiac surgery. Those delivering the intervention were likely aware of allocation due to aroma/scent in AT (massage) arm Intention-to-treat (ITT) analysis	PN	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	Drop outs not reported but given outcome was measured immediately after the intervention drop outs are unlikely	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	High	The outcome measure was modified to include a pain indicator, which is not validated, and appears inappropriate for an anxiety measure	PY	PN	NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Tahmasebi 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT1 33/35 (6% missing) AT2 35/35, C 33/35 (6% missing) Analysis method did not correct for bias; no sensitivity analysis Two participants in the control group were excluded due to using analgesic medicationfor chest pain, in AT1 group, one participant failed to complete the questionnaire and another withdrew (reason NR).	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Tahmasebi 2019	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Tanvisut 2018	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	block randomisation used, random sized blocks so the person allocating participants to their intervention groups were unlikely to be able to predict the allocation sequence."Sequentially numbered, sealed opaque envelopes were used to provide allocation concealment."	PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT: 52/53 (2% missing), C: 52/53 (2% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	High		NI	NI	PY				
OVERALL risk of bias	**High**								

Study ID. Taşan 2019	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	PN				

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Taşan 2019	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Tosun 2017	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Allocation sequence not described; allocation process/concealment not described; "patients were allocated to groups by block randomisation" "There was no clinically relevant difference in the demographics between the two groups (Table 1)"	NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	50ml of ginger oil was provided to the intervention group to use during each massage session (mITT) 35 participants allocated to intervention; 1 excluded as left study; 34 analysed; 37 participants allocated to control; 2 participants excluded post allocation as they couldn't be reached; 1 participant excluded as needed IA steroid injection; 34 participants analysed	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 34/35 (3% missing) C: 34/37 (8% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants knowledge of the intervention received could have influenced their response; it is not clear if the outcome assessors were aware of which intervention the participants received	PN	NI	NI	Y	PY		

Study ID. Tosun 2017	**Outcome domain.** function **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Low	Measures eligible for the meta-analysis appear fully reported in the paper, at multiple time points. It is unlikely that there were other results from which these measures were selected Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Tosun 2017	**Outcome domain.** pain **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Allocation sequence not described; allocation process/concealment not described; "patients were allocated to groups by block randomisation" "There was no clinically relevant difference in the demographics between the two groups (Table 1)"	NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	50ml of ginger oil was provided to the intervention group to use during each massage session (mITT) 35 participants allocated to intervention; 1 excluded as left study; 34 analysed; 37 participants allocated to control; 2 participants excluded post allocation as they couldn't be reached; 1 participant excluded as needed IA steroid injection; 34 participants analysed	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 34/35 (3% missing) C: 34/37 (8% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants knowledge of the intervention received could have influenced their response; it is not clear if the outcome assessors were aware of which intervention the participants received	PN	NI	NI	Y	PY		
5. Bias in the selection of the reported results	Low	Measures eligible for the meta-analysis appear fully reported in the paper, at multiple time points. It is unlikely that there were other results from which these measures were selected Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses	NI	PN	PN				

Study ID. Tosun 2017	**Outcome domain.** pain **Assessments**. pain, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
OVERALL risk of bias	**Some concerns**								

Study ID. Trambert 2017	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	I: 60/60 (0% missing) C: 27/28 (4% missing). However, authors separately report total participants was 87/89. Analysis method did not correct for bias; no sensitivity analysis 2 participants across the study were excluded as they did not complete the surveys (1 was from the placebo arm and it is likely the second was too). This could be due to outcome worsening but it is more likely from the lack of engagement because this did not receive any intervention.	N	N	PY	PY			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	N	PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Tugut 2017	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that	NI	PY	PN	NA	NA	Y	NA

Study ID. Tugut 2017	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis							
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Tugut 2017	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	NI	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	AT: 35/78 (55% missing) C: 51/78 (35% missing) Analysis methods did not correct for bias; no sensitivity analysis	N	N	PY	Y			
4. Bias in the measurement of the outcome	Some concerns	Participants were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Tugut 2017	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain, EFMH		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Usta 2021	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	PN				
2. Bias due to deviations from the intended intervention	Low	Nurses who delivered the AT intervention were not blinded and knew the protocol. ITT	N	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 31/39 (21% missing) C: 30/37 (20% missing) Analysis method did not correct for bias; no sensitivity analysis 15 participants were lost to follow-up for reasons unrelated to outcome (poor recording quality).	N	N	N	NA			
4. Bias in the measurement of the outcome	High	15/76 (20%) of participants were excluded from analysis because of poor recording quality, suggesting that the measurement was inappropriate.	PY	N	NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Uysal 2016	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	PN	NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT: 50/52 (4% missing), C: 50/53 (6% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	NI	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Uysal 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics, and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Vakilian 2018	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low	Block randomisation, fixed block size (6). Predictable allocation for 17% of participants, esp. considering convenience sampling.	Y	PN	N				
2. Bias due to deviations from the intended intervention	Low	The same midwife was involved in care for both arms and it is likely that they were aware of the participants' assigned intervention	PN	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 59/60 (2% missing) C: 60/60 (0% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that they had received AT or inhalation with placebo. Pain relief during labour. AT was not the main care that participants sought, hence participant's perception of pain was less likely to be influenced.	N	N	PY	PN	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Van dijk 2018	**Outcome domain.** pain **Assessments**. same RoB for both comparisons: pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Participants were children (aged under 5 years). Intervention group received AT massage with no aroma so it is likely that those delivering the intervention were aware of the assigned intervention. Modified intention-to-treat (mITT) analysis	PN	Y	PN	NA	NA	PY	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Van dijk 2018	**Outcome domain.** pain **Assessments**. same RoB for both comparisons: pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	I: 84/110 (24% missing) C: 75/91 (18% missing) Analysis method did not correct for bias; no sensitivity analysis Given the age of participants, it is unlikely they refused to participate for reasons related to the true value of the outcome	N	N	PN	NA			
4. Bias in the measurement of the outcome	Low		N	PN	N	NA	NA		
5. Bias in the selection of the reported results	High	The data required to include the prioritised outcome (pain) in the meta-analysis is incomplete	NI	PY	PN				
OVERALL risk of bias	**High**								

Study ID. Vaziri 2017	**Outcome domain.** pain **Assessments**. same RoB all comparisons (D1. HIGH): pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, block size not reported. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	PN	NI				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator unscented placebo, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I + C: 56/62 (10% missing, total numbers reported only) Analysis method did not correct for bias; no sensitivity analysis Across the study, 6 participants withdrew because they were discharged from hospital.	N	N	PN	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or unscented placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief	N	PN	PY	PY	PY		

Study ID. Vaziri 2017	**Outcome domain.** pain **Assessments**. same RoB all comparisons (D1. HIGH): pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		about the benefits of AT compared to no treatment that were likely to influence the outcome.							
5. Bias in the selection of the reported results	Some concerns	Multiple measures eligible for the meta-analysis of pain are fully reported in the paper, at multiple time points. It is unlikely that there were other results from which these measures were selected. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Veiskaramian 2021	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes: pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Some concerns	See 2.7 I=0, C=2 Naïve per protocol 2 participants (3%) were excluded from analysis because of deviation from protocols (unwillingness to continue), which is not expected to have a substantial impact on the result.	PY	N	PY	NI	N	N	N
3. Bias due missing outcome data	Some concerns	I: 36/36 (0% missing) C: 34/36 (6% missing) Analysis method did not correct for bias; no sensitivity analysis 2 participants were lost to follow-up for reasons unrelated to outcomes (unwillingness to continue)	N	PN	PY	PN			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Wiebe 2000	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		PY	PY	N				
2. Bias due to deviations from the intended intervention	Low	Intention-to-treat (ITT) analysis	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Wilcock 2004	**Outcome domain.** EFMH **Assessments**. Same RoB all outcomes: EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation. Unsure if block size was randomised. Post-randomisation exclusion occured which matched exclusion criteria (too frail n=4), at which point allocation had been known.	Y	PN	N				
2. Bias due to deviations from the intended intervention	High	1 participant requested for AT so it was likely that they were aware of the intervention. The same aromatherist delivered care to all participants. See 2.7 One participant from C group requested AT. I=1, C=5 (including 1 who requested AT) Naïve per protocol 5 participants (11%) were excluded from analysis due to deviations from protocol (commencing procedure, not completing questionnaire, requesting AT), which were likely to have a substantial impact on the result.	PN	Y	Y	PY	N	N	PN
3. Bias due missing outcome data	High	I: 11/23 (52% missing) C: 18/23 (22% missing) Analysis method did not correct for bias; no sensitivity analysis 10 participants (22%) were lost to follow-up for reasons related to outcomes (too unwell); 7 participants were lost to follow-up for reasons unrelated to outcomes	N	N	PY	PY			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placbo massage.	N	N	Y	PY	PN		

Study ID. Wilcock 2004	**Outcome domain.** EFMH **Assessments**. Same RoB all outcomes: EFMH		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		AT was not the main care that participants sought, and both groups received massage, hence participant's distress was less likely to be influenced.							
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Study ID. Wilkinson 1995.1	**Outcome domain.** EFMH **Assessments**. EFMH, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The same people were involved in delivering the massage for both arms and it is likely that they were aware of the participants' assigned intervention (due to aroma) Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PN	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	High	I: 23/26 (12% missing) C: 23/25 (8% missing) Analysis method did not correct for bias; no sensitivity analysis	N	N	NI	NI			
4. Bias in the measurement of the outcome	Low		N	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Wilkinson 1995.1	**Outcome domain.** HRQoL **Assessments**. EFMH, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	PN				
2. Bias due to deviations from the intended intervention	Low	The same people were involved in delivering the massage for both arms and it is likely that they were aware of the participants' assigned intervention (due to aroma) Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PN	PY	PN	NA	NA	PY	NA

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Wilkinson 1995.1	**Outcome domain.** HRQoL **Assessments**. EFMH, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	High	I: 22/25 (12% missing) C: 21/25 (16% missing) Analysis method did not correct for bias; no sensitivity analysis	N	N	NI	NI			
4. Bias in the measurement of the outcome	Low		N	PN	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Wilkinson 1999	**Outcome domain.** EFMH **Assessments**. Same RoB all outcomes: EFMH, HRQoL		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	NI				
2. Bias due to deviations from the intended intervention	Some concerns	Research staff who delivered the AT intervention were not blinded and knew the protocol. Naïve per protocol 16 participants were excluded from analysis due to death or severe illness, which was not deviation from protocol.	PN	Y	PN	NA	NA	N	PN
3. Bias due missing outcome data	High	I: 43/46 (7% missing) C: 44/57 (23% missing) Analysis method did not correct for bias; no sensitivity analysis 16 participants were lost to follow-up for reasons likely influencing outcome (too ill to continue or death).	N	N	PY	PY			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo massage. Anxiety relief for palliative care. AT was the main care that participants sought; however both groups received massage and in the context of palliative care, participant's anxiety was less likely to be influenced.	N	PN	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Wilkinson 2007	**Outcome domain.** EFMH **Assessments**. Same RoB all outcomes: pain, N&V, EFMH, fatigue, HRQoL		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT massage or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. See 2.7 I=0, C=4 ITT with imputation	Y	Y	Y	NI	PN	Y	NA
3. Bias due missing outcome data	High	I: 106/144 (26% missing) C: 115/144 (20% missing) Analysis method did not correct for bias; no sensitivity analysis Author stated that attrition was mainly due to participants' poor physical health, which could have affected outcome.	N	N	PY	PY			
4. Bias in the measurement of the outcome	Low	Researchers (i.e. the outcome assessors) were blinded to participant's treatment status.	N	N	N	NA	PN		
5. Bias in the selection of the reported results	Low		Y	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Xiong 2018	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likly to influence the outcome	PN	PN	Y	PY	PN		

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Xiong 2018	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Yadegari 2021	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	block randomisation used, but unclear how many blocks were used and of what size. Unclear who allocated participants to their intervention group. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	NI	NI	N				
2. Bias due to deviations from the intended intervention	Low	Although authors state "the patients did not know which group received JEO", the intervention group received AT inhalation and comparator unscented placebo (distilled water) so it is likely that participants were aware of their assigned intervention The same people were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside presumably standard pre-surgery care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it	NI	N	PN				

Study ID. Yadegari 2021	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		is unlikely that these were selected from other analyses.							
OVERALL risk of bias	**Some concerns**								

Study ID. Yang 2016	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomisation. Unsure if block size was randomised.	Y	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	Participants had dementia so unlikely to be aware of intervention. Researchers who delivered the massage were aware of the intervention. See 2.7 I=2, C=0 Naïve per protocol (participant who swapped intervention was excluded from analysis) 2 participants (3%) were excluded from analysis due to deviations from protocol (unwillingness to continue), which were unlikely to have a substantial impact on the result.	N	Y	PY	NI	N	N	PN
3. Bias due missing outcome data	Some concerns	I: 27/29 (7%) 29/30 (3%) Analysis method did not correct for bias; no sensitivity analysis 3 participants were lost to follow-up for reasons unrelated to outcomes (early discharge, unwillingness to continue).	N	N	PY	PN			
4. Bias in the measurement of the outcome	Low		N	PN	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI				
OVERALL risk of bias	**High**								

Study ID. Yayla 2019	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (D1. HIGH): EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on alternation The person enrolling participants had knowledge of the forthcoming allocation	N	N	N				

Study ID. Yayla 2019	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (D1. HIGH): EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator no intervention, so it is likely that participants were aware of their assigned intervention. Intention-to-treat (ITT) analysis	Y	NI	PN	NA	NA	Y	
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside standard procedural care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	N	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**High**								

Study ID. Yazdkhasti 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator placebo with no aroma/scent (distilled water), so it is likely that participants were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PN/ NI	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 60/60 (0% missing); C: 59/60 (2% missing)	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo Participants' knowledge of the intervention they received could have	PN	N	Y	PY	PN		

Study ID. Yazdkhasti 2016	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		influenced their response. However, AT is delivered as a supportive treatment alongside presumably standard care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.							
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured, and all follow-up timepoints are reported. Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	N	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Yildirim 2020	**Outcome domain.** sleep **Assessments**. sleep		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT1 34/38 (11% missing), C 34/37 (8% missing) Analysis method did not correct for bias; no sensitivity analysis Participant data is missing due to reasons unlikely related to true vaue and similar across intervention and control arms	N	N	PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN	PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Ying 2019	**Outcome domain.** pain **Assessments**. same RoB all outcomes: pain		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PN	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 3/35 (9% missing) C: 1/35 (3% missing) Analysis method did not correct for bias; no sensitivity analysis In the AT group, 2 participants withdrew for reasons unrelated to the outcome (skin reaction). In both groups, 1 participant was lost to follow up for reasons that may be related to the outcome (lost contact), however it could've been related to the burden of the intervention and was the same in both groups.	N	N	PN	NA			
4. Bias in the measurement of the outcome	Low	The essential oil was described as odorless and a pilot study demonstrated sucessful blinding	PN	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	No information is provided about a pre-specified analysis plan	N	N	N				
OVERALL risk of bias	**Some concerns**								

Study ID. Yip 2008	**Outcome domain.** fatigue **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Randomly drawing envelope; participants allocated based on letter on the envelope on analgesia (AT 8/19 42%, C 4/17 24%)	PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however oils different smells (ginger and orange vs olive oil). Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C1: 17/20 (15% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected	NI	PN	PN				

Study ID. Yip 2008	**Outcome domain.** fatigue **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;							
OVERALL risk of bias	**Some concerns**								

Study ID. Yip 2008	**Outcome domain.** fatigue **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Randomly drawing envelope; participants allocated based on letter on the envelope pg 135 Results section: Among the participants, the control group suffered greater pain (p = 0.01) and reported poorer in fulfilling the physical role (p = 0.02) than placebo control and intervention groups (refer to Table 2, first column i.e. baseline measure). There were no significant differences among control, placebo control and intervention groups for use of oral analgesic, NSAIDs and other outcome measures (p = 0.07—0.97).	PY	NI	Y				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however the control group received conventional treatment only, which did not involve massage or essential oil; Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C2: 17/18 (6% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Yip 2008	**Outcome domain.** function **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Randomly drawing envelope; participants allocated based on letter on the envelope on analgesia (AT 8/19 42%, C 4/17 24%)	PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however oils different smells (ginger and orange vs olive oil). Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C1: 17/20 (15% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Yip 2008	**Outcome domain.** function **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Randomly drawing envelope; participants allocated based on letter on the envelope pg 135 Results section: Among the participants, the control group suffered greater pain (p = 0.01) and reported poorer in fulfilling the physical role (p = 0.02) than placebo control and intervention groups (refer to Table 2, first column i.e. baseline measure). There were no significant differences among control, placebo control and intervention groups for use of oral analgesic, NSAIDs and other outcome measures (p = 0.07—0.97).	PY	NI	Y				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however the control group received conventional treatment only, which did not involve massage or	PY	Y	PN	NA	NA	Y	NA

Study ID. Yip 2008	**Outcome domain.** function **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		essential oil; Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)							
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C2: 17/18 (6% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Yip 2008	**Outcome domain.** HRQoL **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Randomly drawing envelope; participants allocated based on letter on the envelope on analgesia (AT 8/19 42%, C 4/17 24%)	PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however oils different smells (ginger and orange vs olive oil). Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C1: 17/20 (15% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Yip 2008	**Outcome domain.** HRQoL		**Comparison.** C2. AT(M) v (M)						
	Assessments. pain, fatigue, HRQoL, function		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Yip 2008	**Outcome domain.** HRQoL		**Comparison.** C1. AT(M) v control (NM)						
	Assessments. pain, fatigue, HRQoL, function		**Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Randomly drawing envelope; participants allocated based on letter on the envelope pg 135 Results section: Among the participants, the control group suffered greater pain (p = 0.01) and reported poorer in fulfilling the physical role (p = 0.02) than placebo control and intervention groups (refer to Table 2, first column i.e. baseline measure). There were no significant differences among control, placebo control and intervention groups for use of oral analgesic, NSAIDs and other outcome measures (p = 0.07—0.97).	PY	NI	Y				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however the control group received conventional treatment only, which did not involve massage or essential oil; Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)	PY	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C2: 17/18 (6% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Yip 2008	**Outcome domain.** pain **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C2. AT(M) v (M) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Randomly drawing envelope; participants allocated based on letter on the envelope on analgesia (AT 8/19 42%, C 4/17 24%)	PY	NI	PN				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however oils different smells (ginger and orange vs olive oil). Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)	PY	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C1: 17/20 (15% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Yip 2008	**Outcome domain.** pain **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Randomly drawing envelope; participants allocated based on letter on the envelope pg 135 Results section: Among the participants, the control group suffered greater pain (p = 0.01) and reported poorer in fulfilling the physical role (p = 0.02) than placebo control and intervention groups (refer to Table 2, first column i.e. baseline measure). There were no significant differences among control, placebo control and intervention groups for use of oral analgesic, NSAIDs and other outcome measures (p = 0.07—0.97).	PY	NI	Y				
2. Bias due to deviations from the intended intervention	Low	Study authors say that data collector and all participants were blinded to the group allocation; however the control group received conventional treatment only, which did not involve massage or	PY	Y	PN	NA	NA	Y	NA

Study ID. Yip 2008	**Outcome domain.** pain **Assessments**. pain, fatigue, HRQoL, function		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		essential oil; Massage therapist was not involved in data collection mITT analysis (excluding participants with missing outcome data)							
3. Bias due missing outcome data	Low	I: 19/21 (10% missing), C2: 17/18 (6% missing)	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low		N	N	N	NA	NA		
5. Bias in the selection of the reported results	Low	Measures eligible for the MA appear fully reported at multiple timepoints. It is unlikely that there were other results from which these were selected study authors report that data was not normally distributed and used appropriate stats tests to analyse the data;	NI	PN	PN				
OVERALL risk of bias	**Some concerns**								

Study ID. Yu 2017	**Outcome domain.** HRQoL **Assessments**. pain, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Low	Although the intervention group received AT inhalation and comparator placebo/linalyl acetate, all subjects were not informed about the types, concentrations, and efficacy of aroma oils, so it is unlikely that participants were aware of their assigned intervention. Although, the same people were involved in care for both arms, it is unlikely that they were aware of the participants' assigned intervention as the researcher was not involved in formulating the inhaled oils Although analysis methods, dropouts/missing data not reported, based on sample size in table 3, seems like Modified intention-to-treat (mITT) analysis has been used	PN	PN	NA	NA	NA	PY	PN
3. Bias due missing outcome data	High	I: 4/22 (18% missing); C1: 1/22 (5% missing); C2: 3/22 = (14% missing)	PN	NI	NI	NI			
4. Bias in the measurement of the outcome	Low	Although participants were the outcome assessors, unlikely to be aware that they had received AT or placebo/active control, as subjects were not informed	PN	N	PN	NA	NA		

Study ID. Yu 2017	**Outcome domain.** HRQoL **Assessments**. pain, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		about the types, concentrations, and efficacy of aroma oils							
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint) Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Yu 2017	**Outcome domain.** pain **Assessments**. pain, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		Y	NI	N				
2. Bias due to deviations from the intended intervention	Some concerns	Although the intervention group received AT inhalation and comparator placebo/linalyl acetate, all subjects were not informed about the types, concentrations, and efficacy of aroma oils, so it is unlikely that participants were aware of their assigned intervention. Although, the same people were involved in care for both arms, it is unlikely that they were aware of the participants' assigned intervention as the researcher was not involved in formulating the inhaled oils Analysis methods, dropouts/missing data not reported.	PN	PN	NA	NA	NA	NI	PN
3. Bias due missing outcome data	Low	Although did not report if there were any missing data/dropouts/exclusions for the assessed outcome, as outcome assessed 30mins after AT intervention, seems unlikely that there would be any possibility of dropouts (worsening condition). Assume no missing data	PY	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Although participants were the outcome assessors, unlikely to be aware that they had received AT or placebo/active control, as subjects were not informed about the types, concentrations, and efficacy of aroma oils	PN	N	PN	NA	NA		
5. Bias in the selection of the reported results	Some concerns	There is only one possible way in which the outcome can be measured (and at a single timepoint) Results are reported as summary statistics or with minimal analysis, and it	NI	PN	PN				

Study ID. Yu 2017	**Outcome domain.** pain **Assessments**. pain, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		is unlikely that these were selected from other analyses.							
OVERALL risk of bias	**Some concerns**								

Study ID. Zardosht 2021	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, equal sized blocks. One of the research team allocated participants to their intervention group. Unclear if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	Y	PN	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator unscented placebo, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis (excluding participants with missing outcome data)	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	High	I: 10/66 (85% missing), C: 27/62 (56% missing) Analysis method did not correct for bias; no sensitivity analysis Authors reported only 2 withdrawals from control group (unwilling to continue). Reasons for substantial missing data not explained, and large imbalance of missing data between groups.	N	N	Y	PY			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or unscented placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN	PY	Y	PY		
5. Bias in the selection of the reported results	High	Trial registry entry indicates pain also measured with McGill pain questionnaire (short-form), however results not reported.	NI	PY	PN				

Study ID. Zardosht 2021	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.							
OVERALL risk of bias	**High**								

Study ID. Zayeri 2019	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		NI	Y	N				
2. Bias due to deviations from the intended intervention	Low		N	N	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA	NA	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were blinded.	N	N	N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI				
OVERALL risk of bias	**Some concerns**								

Study ID. Ziyaeifard 2017.1	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT inhalation or odorless placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no	N	N	Y	PY	PY		

Study ID. Ziyaeifard 2017.1	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
		treatment that were likely to influence the outcome.							
5. Bias in the selection of the reported results	High	A dichotomised outcome is reported from a continuous scale which is unusual, suggesting selective non-reporting of the continuous data.	NI	N	PY				
OVERALL risk of bias	**High**								

Study ID. Ziyaeifard 2017.1	**Outcome domain.** pain **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	N				
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Intention-to-treat (ITT) analysis	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT inhalation or odorless placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	N	Y	PY	PY		
5. Bias in the selection of the reported results	High	Results are only available for one time-point but it was collected it at two time-points (which time-point is reported is unclear). An ordinal outcome has been created from a continuous scale but the cateogories are unusal and the cut points not reported, suggesting selective non-reporting of the continuous data.	NI	PY	PY				
OVERALL risk of bias	**High**								

Appendix F. Risk of bias assessments – parallel randomised trials

Study ID. Zorba 2018	**Outcome domain.** N&V **Assessments**. N&V		**Comparison.** C1. AT(M) v control (NM) **Design.** parallel (individually randomised)						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High		N	N	PN				
2. Bias due to deviations from the intended intervention	Low	The researchers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) analysis excluding participants with missing outcome data	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT1 25/28 (11% missing); AT2 25/28 (11% missing); C 25/28 (11% missing) Analysis method did not correct for bias; no sensitivity analysis Reasons for participant drop out not described	N	N	PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had recieved AT Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	N	PN	Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN				
OVERALL risk of bias	**High**								

Study ID. Adib-Hajbaghery 2015	**Outcome domain.** N&V **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low	Patients would have been scheduled prior to sampling, and therefore their enrolment into clusters (i.e. date of chemotherapy) would be determined without knowledge of allocation sequence.	Y	PY		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low	It was unclear when randomisation was conducted, but it is unlikely that scheduled date for chemotherapy could be changed to purposely select participants into clusters.	NI	PN	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or placebo. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data at cluster-level No missing data on participant level	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo. Participants were reassured that they would be given antiemetics for N&V if needed. Hence, participants' perceived N&V was less likely to be influenced.	N	PN		PY PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI					
OVERALL risk of bias	**Some concerns**									

Study ID. Ahmady 2019	**Outcome domain.** fatigue **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High		PY	PN		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Some concerns		PN	NI	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								

Study ID. Ahmady 2019	**Outcome domain.** fatigue **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Low	The researchers and care providers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN		Y PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Alavi 2017 169-S	**Outcome domain.** pain **Assessments**.				**Comparison.** C1. AT(M) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		NI	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Some concerns		NI	NI	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	High	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention	Y	PY	PY	PN	NA	NA	NI	NI
3. Bias due missing outcome data	Some concerns		Y	N		NI	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention	PN	PN		Y PY	PY	PN		

Study ID. Alavi 2017 169-S	**Outcome domain.** pain				**Comparison.** C1. AT(M) v control (NM)						
	Assessments.				**Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT								
5. Bias in the selection of the reported results	Some concerns		NI	NI	NI					
OVERALL risk of bias	**Some concerns**									

Study ID. Ballard 2002	**Outcome domain.** EFMH				**Comparison.** C2. AT(M) v (M)						
	Assessments.				**Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		Y	NI		NI				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low	All participants residing in a nursing home received the allocated intervention.	NI	N	NI					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants had severe dementia so were unlikely to be aware they were in a trial People delivering the intervention were unaware of the nature of either active or placebo oils and only one of the oils was used at each facility.	PN	NA	PN	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low		PY	NA		NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN		Y N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Ballard 2002	**Outcome domain.** HRQoL **Assessments**.		**Comparison.** C2. AT(M) v (M) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		Y	NI		NI				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low	All participants residing in a nursing home received the allocated intervention.	NI	N	NI					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants had severe dementia so were unlikely to be aware they were in a trial People delivering the intervention were unaware of the nature of either active or placebo oils and only one of the oils was used at each facility.	PN	NA	PN	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low		PY	NA		NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN		Y PN	NA	NA		
5. Bias in the selection of the reported results	High	Authors only report change scores (baseline and follow up scores are not reported).	NI	PN	PY					
OVERALL risk of bias	**High**									

Study ID. Dehkordi 2017	**Outcome domain.** EFMH **Assessments**.		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low	Allocation for each shift was predictable.	Y	PY		PN				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Participants were randomised and allocated to group, and then each group was assigned a date/shift. However, some post-randomisation exclusion occured, at which point the assigned intervention has been known.	PN	PY	PN					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. See 2.7 No breakdown by group Naïve per protocol	Y	Y	Y	Y	NI	NI	N	PN

Study ID. Dehkordi 2017	**Outcome domain.** EFMH **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		Some participants were excluded due to deviation from protocol (missing HD sessions, n unknown); some due to other reasons (being hospitalisation, transfer to other centres), which was not deviation from protocol. Total n=4 (7%)								
3. Bias due missing outcome data	Some concerns	56/60 (7% missing) 56/60 (7% missing) Analysis method did not correct for bias; no sensitivity analysis 4 participants were lost to follow-up for reasons unrelated to outcomes or unknown (missing 3 HD sessions, hospitalisation, transfer to other centres)	N	N		PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT, or usual care. Procedural anxiety relief. AT was not the main care that patients sought, hence patient's anxiety was less likely to be influenced.	N	N		Y Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI					
OVERALL risk of bias	**High**									

Study ID. Emami-Sigaroudi 2021	**Outcome domain.** sleep **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low	Block randomisation of clusters. Unsure whether block size was randomised. No exclusion criteria were applicable after AT intervention, and diagram shows that no post-randomisation exclusion occurred	NI	PY		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		NI	PN	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or no intervention. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	Y	N	NA	NA	Y	NA

Study ID. Emami-Sigaroudi 2021	**Outcome domain.** sleep **Assessments**.					**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	No missing data on cluster-level No missing data on participant level	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Low	Research staff and the participants (i.e. the outcome assessors) were aware of the intervention. Sleep aid post-surgery. AT was not the main care that patients sought, hence patient's perceived sleep quality was less likely to be influenced. Research staff only completed follow-up assessment for illerate participants. However, the study concluded with no improvement, which reduces the possibility of bias during outcome measurement.	N	N		Y PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI					
OVERALL risk of bias	**Some concerns**									

Study ID. Hassanzadeh 2018	**Outcome domain.** fatigue **Assessments**.					**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low	Patients were likely already scheduled for their date and shifts before allocation of intervention to the respective date/shift was done. Hence allocation sequence was not known until after enrolment completed.	Y	PY		PN				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Patients were likely already scheduled for their date and shifts before randomisation was done. Post-randomisation exclusion could possibly occur (changing dialysis programme)	NI	PY	PN					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data on cluster-level No missing data on individual level	Y	NA		NA	NA			

Study ID. Hassanzadeh 2018	**Outcome domain.** fatigue **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. AT was the main care that patients sought and took place mostly at patient's home, hence patient's perceived fatigue was likely to be influenced.	N	N		Y Y	Y	PY		
5. Bias in the selection of the reported results	Some concerns	Retrospective registration	N	NI	NI					
OVERALL risk of bias	**High**									

Study ID. Hawkins 2019	**Outcome domain.** EFMH **Assessments**.				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High	Adaptive randomisation used. However, the person enrolling participants had knowledge of the forthcoming allocation.	PY	N		NI				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Participants were identified prospectively, with those enrolling participants aware that all participants on a particular day would be enrolled in either the AT or inactive arm.	PN	PY	NI					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalationand comparator no so it is likely that participants and those delivering the intervention were aware of their assigned intervention. Modified intention-to-treat (mITT) analysis	Y	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	I + C: 19/25 (24% missing; total participant numbers reported only) Analysis method did not correct for bias; no sensitivity analysis 3 patients could not complete the outcome assessment as they were non-verbal (i.e. reasons unrelated to the trial) and 3 participants declined to complete the post-test outcome for unknown reasons, which could've been related to the outcome worsening or improving but was more likely to be related to	NI	N		PY	PN			

Study ID. Hawkins 2019	**Outcome domain.** EFMH **Assessments**.		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		the fact that participants were aged 6 to 11 years.								
4. Bias in the measurement of the outcome	High	Participants either read the questions themselves or they were read the questions by their parents.	PN	PY		NA NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Karadag 2019	**Outcome domain.** EFMH **Assessments**.		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		PY	NI		PN				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		PY	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	PN	Y	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN		Y PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Karadag 2019	**Outcome domain.** fatigue **Assessments**. EFMH, fatigue				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		PY	NI		PN				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		PY	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The same researchers were involved in care for both arms and it is likely that they were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	PN	Y	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN		Y PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Kaviani 2014	**Outcome domain.** pain **Assessments**. pain				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low		Y	PY		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Patients could be excluded on the day itself, on entering the operating room and their assigned intervention would have been known by then.	PN	PY	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								

Study ID. Kaviani 2014	**Outcome domain.** pain			**Comparison.** C1. AT(NM) v control (NM)							
	Assessments. pain			**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware that they had received AT or placebo. Research staff who delivered the AT intervention were not blinded and knew the protocol.	PY	Y	Y	NI	NA	NA	NI	NI
3. Bias due missing outcome data	Some concerns	No missing data on cluster-level	Y	N		NI	NI			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or placebo inhalation. Labour pain relief. AT was not the main care that patients sought and patients were in labour, hence patient's perception of pain was less likely to be influenced.	N	N		Y Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	PN	NI					
OVERALL risk of bias	**Some concerns**									

Study ID. Kritsidima 2010	**Outcome domain.** EFMH			**Comparison.** C1. AT(NM) v control (NM)							
	Assessments. EFMH			**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		NI	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	It was likely that the person enrolling participants had knowledge of the allocation sequence	N	PY	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	"Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that those delivering the intervention were aware of the assigned intervention.	N	NA	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Low		N	N		N NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Muz 2018	**Outcome domain.** fatigue **Assessments**. sleep, fatigue				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		PY	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		Y	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The researchers and care providers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) excluding missing data	Y	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	AT 27/41(24% missing) , C 35/39 (10% missing)	Y	N		PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN		Y Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Muz 2017	**Outcome domain.** sleep **Assessments**. sleep, fatigue				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		PY	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		Y	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The researchers and care providers were aware of the participants' assigned intervention	Y	PY	PY	PN	NA	NA	Y	NA

Study ID. Muz 2017	**Outcome domain.** sleep **Assessments**. sleep, fatigue		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		Modified intention-to-treat (mITT) excluding missing data								
3. Bias due missing outcome data	Some concerns	AT 27/41(24% missing) , C 35/39 (10% missing)	Y	N		PY	PN			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT	PN	PN		Y Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Namazi 2014.2 S	**Outcome domain.** EFMH **Assessments**. pain, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		PY	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		PY	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The researchers and care providers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) excluding missing data	Y	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT 57/61 (7% missing), C 56/61 (8% missing) reasons provided not related to true value	Y	N		PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place	PN	PN		Y PY	PY	PN		

Study ID. Namazi 2014.2 S	**Outcome domain.** EFMH **Assessments**. pain, EFMH				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would have prior beliefs about the effects of AT								
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Namazi 2014.1 S	**Outcome domain.** pain **Assessments**. pain, EFMH				**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		PY	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		PY	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The researchers and care providers were aware of the participants' assigned intervention Modified intention-to-treat (mITT) excluding missing data	Y	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	AT 57/61 (7% missing), C 56/61 (7% missing) reasons provided not related to true value	Y	N		PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that the trial was taking place Participants (i.e. the outcome assessors) were aware that they had recieved AT or no intervention Participants' knowledge of the intervention they recieved could have influenced their response. However, there is no reason to assume that participants would	PN	PN		Y PY	PY	PN		

Study ID. Namazi 2014.1 S	**Outcome domain.** pain			**Comparison.** C1. AT(NM) v control (NM)							
	Assessments. pain, EFMH			**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		have prior beliefs about the effects of AT								
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Rafii 2020	**Outcome domain.** EFMH			**Comparison.** C2. AT(M) v (M)							
	Assessments. same RoB all outcomes (for this comparison): sleep, EFMH			**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		Y	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		NI	PN	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage (with an aroma) and the comparator groups received massage only (no aroma), so it is likely that participants and people delivering the intervention were aware of the assigned intervention.	Y	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 34/35 (97%) C1: 33/35 (94%) Analysis method did not correct for bias; no sensitivity analysis In both groups, loss to follow up occured because their healthy skin was used for a skin graft or they were discharged from hospital.	PY	N		N	NA			
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were aware that a trial was taking place Participants (i.e. the outcome assessors) were likely aware that they had received AT or massage (without an aroma). Participants' knowledge of the intervention they received could have influenced their response. However, AT with massage was compared to massage and it is unlikely that participants would have prior beliefs about which intervention was more beneficial.	N	PN		PY PY	PN	NA		

Study ID. Rafii 2020	**Outcome domain.** EFMH **Assessments**. same RoB all outcomes (for this comparison): sleep, EFMH		**Comparison.** C2. AT(M) v (M) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Rafii 2020	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (for this comparison): sleep, EFMH		**Comparison.** C1. AT(M) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		Y	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		NI	PN	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT massage (with an aroma) and the comparator groups received usual care, so it is likely that participants and people delivering the intervention were aware of the assigned intervention.	Y	PY	PY	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I: 34/35 (97%) C2: 33/35 (94%) Analysis method did not correct for bias; no sensitivity analysis In both groups, loss to follow up occured because their healthy skin was used for a skin graft or they were discharged from hospital.		N		N	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that a trial was taking place Participants (i.e. the outcome assessors) were likely aware that they had received AT or usual care Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment/usual care that were likely to influence the outcome.	PN	PN		PY PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Rafii 2020	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (for this comparison): sleep, EFMH		**Comparison.** C1. AT(M) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Rambod 2020	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low	block randomisation used, equal sized blocks. A person independent of the research team (who was blind to the study) allocated participants to their intervention group and they were unlikely to have a motivation to change the allocation.	Y	PY		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Some concerns		NI	NI	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of their assigned intervention.	Y	PY	PY	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		PY	NA		NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or placebo. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN		Y PY	PY	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Razaghi 2020	**Outcome domain.** pain				**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain				**Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns	Sequence generation by a lottery but it was unclear when this occured in relation to enrolment of clusters	Y	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low	Participants recruited over the course of the week	N	PN	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator no intervention, so people delivering the intervention were aware of the assigned intervention.	N	NA	Y	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low		Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Low		N	PN		N NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Sadathosseini 2013	**Outcome domain.** pain				**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain				**Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High	Allocation by alternation between the three groups in a predictable sequence	N	N		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low	Participants recruited into known allocation groups	N	PN	PN					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention groups received AT inhalation (different timing) and comparator no intervention, so those delivering the intervention were aware of the assigned intervention.	N	NA	Y	PN	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I (AT1 + AT2): 90/90 C: 45/45 An additional 27 participants were excluded after randomisation (numbers per intervention group not reported) Analysis method did not correct for bias; no sensitivity analysis	PY	N		PN	NA			

Study ID. Sadathosseini 2013	**Outcome domain.** pain **Assessments**. pain					**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		Across groups, 13 participants were excluded because arterial puncture unsuccessful on first attempt, 6 because they were crying at before the procedure and 8 becuase they needed venous puncture for blood sampling.								
4. Bias in the measurement of the outcome	Low		PN	PN		Y N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Şentürk 2018	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (D1. HIGH): sleep, EFMH					**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High	The sequence for allocating participants to groups was based on days of dialysis. The person enrolling participants had knowledge of the forthcoming allocation.	N	N		PN				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Those recruiting participants were likely aware of cluster allocation	NI	PY	PN					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator no intervention, so participants and those delivering the intervention were aware of the assigned intervention.	Y	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 17/22 (23% missing) C: 17/19 (11% missing) Analysis method did not correct for bias; no sensitivity analysis In the AT arm, 5 participants withdrew for reasons unrelated to the true value of the outcome (physical side effects (n = 2), they didn't like the scent (n = 2), and family reasons (n = 1)). In the comparator arm, 2 participants withdrew after consenting because they did not want to continue. This could be because of the outcome worsening or improving; however,	PY	N		PN	NA			

Study ID. Şentürk 2018	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes (D1. HIGH): sleep, EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		it more likely because they did not receive any intervention.								
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware a trial was taking place Participants (i.e. the outcome assessors) were aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	PN	PN		Y Y	Y	PY		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**High**									

Study ID. Tuzun Ozdemir	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns	Appears that participants within the first site were randomised to a day sequence, but method not described, only describe that the clusters were randomised using the lottery method	NI	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Some concerns	Assume all participants were identified after site randomization No information provided on whether recruiting individuals individuals or participants were aware of the cluster allocation	PN	NI	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator no intervention (routine care), so it is likely that participants were aware of their assigned intervention People delivering the intervention were likely aware of the participants' assigned intervention as sites were randomised as clusters (and unclear if allocation was concealed)	NI	PY	PY	PN	`		Y	NA

Study ID. Tuzun Ozdemir	**Outcome domain.** pain				**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. pain				**Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		Intention-to-treat (ITT) analysis								
3. Bias due missing outcome data	Low	No missing data	Y							
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or routine care Participants' knowledge of the intervention they received could have influenced their response. However, AT is delivered as a supportive treatment alongside presumably standard care and there is no reason to assume that participants would have prior beliefs about the effects of AT that would be likely to influence the outcome.	PN	PN		NI PY	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Although the description of 'timing' in text/figure is conflicting, we are assuming that treatments are 72 hours apart, and assuming that there is only one possible way in which the outcome can be measured (and at a single timepoint). Results are reported as summary statistics or with minimal analysis, and it is unlikely that these were selected from other analyses.	NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Varaei 2020	**Outcome domain.** fatigue				**Comparison.** C1. AT(NM) v control (NM)						
	Assessments. fatigue				**Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High	Allocation for each shift was predictable.	Y	N		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Each shift was allocated an intervention prior to patient recruitment.	N	PY	PN					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT massage or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	Y	N	NA	NA	Y	NA

Study ID. Varaei 2020	**Outcome domain.** fatigue **Assessments**. fatigue					**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	No missing data at cluster-level No missing data on participant level	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Fatigue relief during HD. AT was not the main care that participants sought, hence participant's perceived fatigue was less likely to be influenced.	N	PN		Y Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns	Retrospective registration	N	NI	NI					
OVERALL risk of bias	**High**									

Study ID. Varaei 2020	**Outcome domain.** fatigue **Assessments**. fatigue					**Comparison.** C1. AT(M) v control (NM) **Design**. cluster by design / clustering by delivery				
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High	Allocation for each shift was predictable.	Y	N		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	Each shift was allocated an intervention prior to patient recruitment.	N	PY	PN					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants were aware that they had received AT massage or usual care. Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	Y	Y	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data at cluster-level No missing data on participant level	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were aware that they had received AT or usual care. Fatigue relief during HD. AT was not the main care that participants sought, but massage is a noticeable addition to care, hence participant's perceived fatigue was likely to be influenced.	N	PN		Y Y	PY	PY		
5. Bias in the selection of the reported results	Some concerns	Retrospective registration	N	NI	NI					

Study ID. Varaei 2020	**Outcome domain.** fatigue		**Comparison.** C1. AT(M) v control (NM)							
	Assessments. fatigue		**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
OVERALL risk of bias	**High**									

Study ID. Vaziri 2019	**Outcome domain.** pain		**Comparison.** C1. AT(NM) v control (NM)							
	Assessments. pain		**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	High	Exclusion was possible just before vaccination, and at that point, allocation sequence would have been known based on the date.	Y	PN		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	High	It is likely that parents were interviewed for enrolment upon attending the clinic. The randomisation would have been done at the start of each day, prior to patients' arrival. Possible for participants to be excluded based on knowledge of the intervention assigned to that day.	PN	PY	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Research staff who delivered the AT intervention were not blinded and knew the protocol. Full ITT	N	NA	Y	N	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data at cluster-level No missing data on participant level	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Low	The researcher (i.e. the outcome assessor) was blinded.	N	N		Y N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		Y	PN	NI					
OVERALL risk of bias	**High**									

Study ID. Yang 2015	**Outcome domain.** EFMH		**Comparison.** C1. AT(NM) v control (NM)							
	Assessments. EFMH		**Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low		NI	PY		PN				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		NI	PN	N					

Study ID. Yang 2015	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	The researchers and care providers were aware of the participants' assigned intervention Intention-to-treat (ITT) analysis	Y	Y	Y	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low	No missing data	Y	NA		NA	NA			
4. Bias in the measurement of the outcome	Low		PN	PN		N NA	NA	NA		
5. Bias in the selection of the reported results	Some concerns	Results are reported as summary statistics and it is unlikely that these were selected from other analyses	NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Leach 2021	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes: EFMH, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Low		Y	Y		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low		PN	N	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Low	Participants had dementia Intention-to-treat (ITT) analysis where missing data have been imputed using the multiple imputation method	PN	NA	PN	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Low	I: 20/21 (5%) C: 15/17 (12%) Analysis method did not correct for bias; no sensitivity analysis In both groups, 3 participants (1 in AT arm, 2 in control arm) were lost to follow up because the died.	Y	N		N	NA			
4. Bias in the measurement of the outcome	Low		N	PN		Y N	NA	NA		
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	**Some concerns**									

Study ID. Leach 2021	**Outcome domain.** EFMH **Assessments**. same overall RoB all outcomes: EFMH, HRQoL		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**						
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7

Study ID. Sahin 2021	**Outcome domain.** pain **Assessments**.		**Comparison.** C1. AT(NM) v control (NM) **Design**. cluster by design / clustering by delivery							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1a. Bias arising from the randomisation process	Some concerns		Y	NI		N				
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	Low	Recruitment was conducted before randomisation of clusters.	PY	NA	N					
Bias arising from period and carryover effects (XO only)	n/a	n/a								
2. Bias due to deviations from the intended intervention	Some concerns	Participants were aware whether they received AT or placebo. Researchers who delivered the AT intervention were aware of the protocol and no evidence of blinding. See 2.7 I=3, C=2 Naïve per protocol 5 participants (6%) were excluded from analysis due to deviation from protocol (unwillingness to continue, not attending follow-up)	Y	PY	PY	PY	PY	Y	N	PN
3. Bias due missing outcome data	Low	I: 36/38 (5%) C: 38/41 (7%) Analysis method did not correct for bias; no sensitivity analysis 5 participants were lost to follow-up for reasons unrelated to outcome (unwillingness to continue, not attending follow-up)	Y	N		PN	NA			
4. Bias in the measurement of the outcome	Some concerns	Participants (the outcome assessors) were aware whether they received AT or placebo. Procedural pain relief. AT was not the main care that participants sought, so perception of pain was not likely to be influenced.	N	N		Y Y	PY	PN		
5. Bias in the selection of the reported results	Some concerns		N	NI	NI					
OVERALL risk of bias	**Some concerns**									

Appendix F. Risk of bias assessments - crossover trials

Study ID. Ghaderi 2020	**Outcome domain.** pain **Assessments**. pain				**Comparison.** C1. AT(NM) v control (NM) **Design.** crossover trial						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	Y	PN	NI					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	Low		Y	NA	Y					
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants and those delivering the intervention were aware of the assigned intervention.	PY	PY	n/a	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA				
4. Bias in the measurement of the outcome	Low	Participants (i.e. the outcome assessors) were likely aware that they had received AT or placebo. As participants were aged between 7 to 9 years it is unlikely that they had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	N	PN	PY	PN				
5. Bias in the selection of the reported results	High		NI	PN	PN					
OVERALL risk of bias	High									

Study ID. Nasiri Lari 2020	**Outcome domain.** sleep **Assessments**. same RoB all outcomes: sleep, HRQoL				**Comparison.** C1. AT(NM) v control (NM) **Design.** crossover trial						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	PY	N					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								

Appendix F. Risk of bias assessments - crossover trials

Study ID.	**Outcome domain.** sleep			**Comparison.** C1. AT(NM) v control (NM)							
Nasiri Lari 2020	**Assessments**. same RoB all outcomes: sleep, HRQoL			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
S. Bias arising from period and carryover effects (XO only)	Low	AT (P1): 31 participants, C (P1): 21 participants	N	Y	Y					
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator group placebo with no aroma/scent, so it is likely that participants were aware of their assigned intervention (but not trialists who provided the education for self-administered intervention).	PY	PN	n/a	PN	NA	NA	PY	NA
3. Bias due missing outcome data	High	AT (P1)/C (P2): 26/31 (16% missing) C (P1) / AT (P2): 11/21 (48% missing) Analysis method did not correct for bias; no sensitivity analysis 5 participants in the intervention arm (AT (P1)) withdrew due to side effects. 8 participants in the control arm (C (P1)) withdrew for personal reasons (which could've been due to outcome worsening/improving or due to lack of engagement as they received the placebo) and a further 2 participants withdrew due to travelling.	N	N	PY	PY				
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT or no intervention. Participants' knowledge of the intervention they received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	PN	PN	PY	PY				
5. Bias in the selection of the reported results	High		NI	PN	PN					
OVERALL risk of bias	High									

Study ID.	**Outcome domain.** pain			**Comparison.** C2. AT(M) v (M)							
Marzouk 2013	**Assessments**. pain			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have	PY	PN	PN					

Study ID. Marzouk 2013	**Outcome domain.** pain **Assessments**. pain				**Comparison.** C2. AT(M) v (M) **Design.** crossover trial						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant).								
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	Low		Y	NA	PY					
2. Bias due to deviations from the intended intervention	Low		PN	PN	n/a	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA				
4. Bias in the measurement of the outcome	Low		PN	PN	PN	NA				
5. Bias in the selection of the reported results	High		NI	PN	PN					
OVERALL risk of bias	High									

Study ID. Lua 2015	**Outcome domain.** N&V **Assessments**. same overall RoB all outcomes (D1. HIGH): N&V, fatigue, EFMH, function				**Comparison.** C1. AT(NM) v control (NM) **Design.** crossover trial						
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**								
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Block randomisation used, equal sized blocks. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	PY	PN	N					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	Low		Y	NA	PY					
2. Bias due to deviations from the intended intervention	Low		PN	PN	n/a	NA	NA	NA	Y	NA
3. Bias due missing outcome data	Some concerns	I: 30/38 (21%) C: 30/37 (19% missing) (intervention and control	N	PN	PY	PN				

Study ID.	**Outcome domain.** N&V			**Comparison.** C1. AT(NM) v control (NM)							
Lua 2015	**Assessments**. same overall RoB all outcomes (D1. HIGH): N&V, fatigue, EFMH, function			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)		**Response to signalling questions**							
				SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		groups included 30 participants in the analysis for P1 and P2) Analysis method did not correct for bias; no sensitivity analysis In both groups, 3 participants withdrew as their chemotherapy was delayed. In the AT (P1) arm 1 participant withdrew with mild dizziness and 4 declined further participation. In the C (P1) arm, 1 participant withdrew due to a 'time problem' and 3 declined further participation. Withdrawals may have been due to outcome worsening / improving but may be more likely to relate to repeated self-administration of intervention.									
4. Bias in the measurement of the outcome	Low	Placebo oil had similar aroma and 93% of participants (i.e. outcome assessors) were unable to detect a difference.		PN	PN	PN	NA				
5. Bias in the selection of the reported results	High			NI	PN	PN					
OVERALL risk of bias	High										

Study ID.	**Outcome domain.** pain			**Comparison.** C1. AT(NM) v control (NM)							
Blackburn 2017	**Assessments**. same overall RoB all outcomes (D1. HIGH): pain, N&V, sleep, fatigue, EFMH			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)		**Response to signalling questions**							
				SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	High	Enrolment process not explicitly described but aromatherapy bottle labels were obscured by tape, meaning the allocation sequence could've been broken.		Y	PN	NI					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a									
S. Bias arising from period and carryover effects (XO only)	Low			Y	NA	PY					
2. Bias due to deviations from the intended intervention	Low	Participants selected their preferred essential oil (for AT inhalation) which had a different scent to the placebo, so it is likely that participants and those		PY	PY	n/a	PN	NA	NA	Y	NA

Appendix F. Risk of bias assessments - crossover trials

Study ID.	**Outcome domain.** pain			**Comparison.** C1. AT(NM) v control (NM)							
Blackburn 2017	**Assessments**. same overall RoB all outcomes (D1. HIGH): pain, N&V, sleep, fatigue, EFMH			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
		delivering the intervention were aware of the assigned intervention.								
3. Bias due missing outcome data	High	I + C: 50/53 (losses to follow up by intervention group and time period NR) Analysis method did not correct for bias; no sensitivity analysis 2 participants withdrew for reasons unrelated to the outcome (transfered off the ward; diffuser broke). 1 participant withdrew due to side effects but it unknown which group this participant was enrolled in.	N	N	Y	Y				
4. Bias in the measurement of the outcome	High	Participants (i.e. the outcome assessors) were likely aware that they had received AT inhalation or placebo inhalation. The outcome assessor's knowledge of the intervention received could have influenced their response. Participants were likely to have had a prior belief about the benefits of AT compared to no treatment that were likely to influence the outcome.	PN	PN	PY	PY				
5. Bias in the selection of the reported results	High	Outcome measured daily over 7 days but only average weekly result recorded	NI	PY	PN					
OVERALL risk of bias	High									

Study ID.	**Outcome domain.** EFMH			**Comparison.** C1. AT(NM) v control (NM)							
O'Connor 2013	**Assessments**. EFMH			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	NI					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	Low	AT (P1): 38 participants; C (P1): 28 participants	N	Y	PY					
2. Bias due to deviations from the intended intervention	Low		PN	PN	n/a	NA	NA	NA	PY	NA

Study ID. O'Connor 2013	**Outcome domain.** EFMH **Assessments**. EFMH				**Comparison.** C1. AT(NM) v control (NM) **Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
3. Bias due missing outcome data	Low	AT (P1) / C (P2): 37/38 (3% missing); C (P1) / AT (P2): 27/28 (4% missing) Analysis method did not correct for bias; no sensitivity analysis In both groups 1 participant was lost to follow up for reasons unrelated to the outcome (1 refused and 1 did)	N	N	PN	NA				
4. Bias in the measurement of the outcome	Low		PN	N	N	NA				
5. Bias in the selection of the reported results	Some concerns		NI	PN	PN					
OVERALL risk of bias	Some concerns									

Study ID. Lin 2007	**Outcome domain.** EFMH **Assessments**. EFMH				**Comparison.** C1. AT(NM) v control (NM) **Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns	Block randomised, block size not reported. No information to determine if the person allocating participants to groups could have predicted the allocation sequence, or if they had motivation to change the allocation (excluding participant or delaying enrolment).	Y	NI	N					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	Low		Y	NA	PY					
2. Bias due to deviations from the intended intervention	Low	Intervention group received AT inhalation and comparator placebo, so it is likely that people delivering the intervention were aware of the assigned intervention due to the aroma/scent whereas participants had dementia and were therefore likely unaware. Intention-to-treat (ITT) analysis	PN	PY	n/a	PN	NA	NA	Y	NA
3. Bias due missing outcome data	Low		Y	NA	NA	NA				
4. Bias in the measurement of the outcome	High		PN	PN	NI	PY				

Appendix F. Risk of bias assessments - crossover trials

Study ID. Lin 2007	**Outcome domain.** EFMH **Assessments**. EFMH		**Comparison.** C1. AT(NM) v control (NM) **Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
5. Bias in the selection of the reported results	High	Change scores only are reported. Unclear why, but no reason to suspect that the results were selected from multiple analyses.	NI	N	PN					
OVERALL risk of bias	High									

Study ID. Bakhtshirin 2015	**Outcome domain.** pain **Assessments**. pain		**Comparison.** C2. AT(M) v (M) **Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Some concerns		NI	NI	NI					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	Some concerns		NI	PN	Y					
2. Bias due to deviations from the intended intervention	Some concerns	Participants and those delivering the intervention were likely aware of the assigned intervention because of differences in the aroma at period 1 versus period 2	PY	PY	n/a	PN	NA	NA	NI	PN
3. Bias due missing outcome data	High	Analysis method did not correct for bias; no sensitivity analysis	NI	N	NI	NI				
4. Bias in the measurement of the outcome	Some concerns	Participants (i.e. the outcome assessors) were likely aware that they had received AT (massage) or massage (co-intervention). Participants' knowledge of the intervention they received could have influenced their response. However, AT was compared to massage and it is unlikely that participants would have prior beliefs about which intervention was more beneficial.	N	PN	PY	Y				
5. Bias in the selection of the reported results	High		NI	PN	PN					
OVERALL risk of bias	High									

Appendix F. Risk of bias assessments - crossover trials

Study ID.	**Outcome domain.** EFMH			**Comparison.** C1. AT(NM) v control (NM)							
Watson 2019	**Assessments**. EFMH			**Design.** crossover trial							
Domain	**Judgment**	**Explanation** (for concerns that lead to high or some concerns about RoB)	**Response to signalling questions**							
			SQ1	SQ2	SQ2b	SQ3	SQ4	SQ5	SQ6	SQ7
1. Bias arising from the randomisation process	Low		Y	Y	NI					
1b. Bias due to timing of identification or recruitment of participants (CRTs only)	n/a	n/a								
S. Bias arising from period and carryover effects (XO only)	High		NI	PN	PY					
2. Bias due to deviations from the intended intervention	Low	Participants were nursing home residents (39/49 had dementia). Modified intention-to-treat (mITT) analysis	PN	N	n/a	NA	NA	NA	PY	NA
3. Bias due missing outcome data	Low	I + C: 49/75 (35% missing) Analysis method did not correct for bias; no sensitivity analysis Across the study, participants were discharged for reasons unrelated to the trial (e.g. hospitalised, discharged, unwell). Several participants refused treatment but owing to their likely poor cognition this is unlikely to be related to the outcome worsening/improving.	N	N	PN	NA				
4. Bias in the measurement of the outcome	Low		N	PN	N	NA				
5. Bias in the selection of the reported results	High	The data required to include the prioritised outcome <(measure, timepoint)> in the meta-analysis is incomplete,	NI	PY	PN					
OVERALL risk of bias	High									