



Medicare Benefits Schedule Review Taskforce

Report from the Vascular Clinical Committee

2018



Important note

The views and recommendations in this review report from the clinical committee have been released for the purpose of seeking the views of stakeholders.

This report does not constitute the final position on these items, which is subject to:

- Consideration by the MBS Review Taskforce;

Then *if endorsed*, consideration by

- The Minister for Health; and

- Government.

Stakeholders should provide comment on the recommendations via MBSReviews@health.gov.au.

Confidentiality of comments:

If you want your feedback to remain confidential please mark it as such. It is important to be aware that confidential feedback may still be subject to access under freedom of information law.



Table of contents

Important note	ii
1. Executive summary	10
1.1 Key recommendations.....	11
2. Preamble	21
2.1 Foreword from the co-chairs.....	21
3. About the Medicare Benefits Schedule (MBS) Review	24
3.1 Medicare	24
3.1.1 What is Medicare?	24
3.2 What is the MBS?	24
3.3 What is the MBS Review Taskforce?	24
3.3.1 What are the goals of the Taskforce?	25
3.4 The Taskforce’s approach.....	25
4. About the Vascular Clinical Committee	29
4.1 Vascular Clinical Committee members	29
4.2 Conflicts of interest	30
4.3 Areas of responsibility of the Committee.....	31
4.4 Summary of the Committee’s review approach	32
5. Recommendations: Vascular ultrasound items	33
5.1 Duplex scanning for the analysis arteries of the abdomen and lower limbs	33
5.1.1 Recommendation 1.....	33
5.1.2 Rationale for Recommendation 1.....	35
5.2 Duplex examination of the carotid arteries	36
5.2.1 Recommendation 2.....	36
5.2.2 Rationale for Recommendation 2.....	37
5.3 Duplex examination of the renal and visceral arteries	39
5.3.1 Recommendation 3.....	39
5.3.2 Rationale for Recommendation 3.....	40
5.4 Vascular ultrasound: Ankle brachial index	42
5.4.1 Recommendation 4.....	42
5.4.2 Rationale for Recommendation 4.....	43



5.5	Vascular ultrasound: Continuous wave Doppler for investigation of venous valve insufficiency	45
5.5.1	Recommendation 5	45
5.5.2	Rationale for Recommendation 5	46
6.	Recommendations: Digital subtraction angiography items	48
6.1.1	Recommendation 6	50
6.1.2	Rationale for Recommendation 6	50
6.2	New angiographic items linked to relevant procedural items	51
6.2.1	Recommendation 7	51
6.2.2	Rationale for Recommendation 7	52
6.3	Angiographic item compliance with the Diagnostic Imaging Accreditation Scheme	54
6.3.1	Recommendation 8	54
6.3.2	Rationale for Recommendation 8	55
6.4	Tiering of items by number of contrast runs	55
6.4.1	Recommendation 9	55
6.4.2	Rationale for Recommendation 9	55
6.5	Diagnostic use of DSA items	56
6.5.1	Recommendation 10	56
6.5.2	Rationale for Recommendation 10	56
6.6	Alternative imaging modalities to angiography	57
6.6.1	Recommendation 11	57
6.6.2	Rationale for Recommendation 11	57
6.7	Vascular Working Group recommendations for Digital Subtraction Angiography items	58
7.	Recommendations: Vascular surgery items	60
7.1	Repair of arterial vessels	60
7.1.1	Recommendation 12	62
7.1.2	Rationale for Recommendation 12	62
7.2	Endovascular interventional procedures	64
7.2.1	Recommendation 13	65
7.2.2	Rationale for Recommendation 13	65
7.3	Operations to restore venous valve competency	66
7.3.1	Recommendation 14	66
7.3.2	Rationale for Recommendation 14	66
7.4	Repair of wounds of veins or arteries by lateral suture	67



7.4.1	Recommendation 15.....	67
7.4.2	Rationale for Recommendation 15.....	68
8.	Recommendations: Varicose vein items.....	69
8.1	Cross-cutting varicose vein recommendation.....	69
8.1.1	Recommendation 16.....	69
8.1.2	Rationale for Recommendation 16.....	70
8.2	Sclerotherapy.....	71
8.2.1	Recommendation 17.....	71
8.2.2	Rationale for Recommendation 17.....	72
8.3	Ultrasound-guided foam sclerotherapy for the treatment of truncal reflux	73
8.3.1	Recommendation 18.....	73
8.3.2	Rationale for Recommendation 18.....	73
8.4	Endovenous laser therapy for varicose veins.....	75
8.4.1	Recommendation 19.....	75
8.4.2	Rationale for Recommendation 19.....	76
8.5	Radio frequency ablation for varicose veins.....	77
8.5.1	Recommendation 20.....	77
8.5.2	Rationale for Recommendation 20.....	78
8.6	Surgical treatment of varicose veins.....	79
8.6.1	Recommendation 21.....	80
8.6.2	Rationale for Recommendation 21.....	80
8.7	Varicose vein surgical stripping procedures.....	81
8.7.1	Recommendation 22.....	81
8.7.2	Rationale for Recommendation 22.....	81
9.	Other recommendations.....	83
9.1	Percutaneous embolisation splitting.....	83
9.1.1	Recommendation 23.....	83
9.1.2	Rationale for Recommendation 23.....	84
9.2	Uterine embolisation.....	85
9.2.1	Recommendation 24.....	85
9.2.2	Rationale for Recommendation 24.....	85
9.3	Transluminal balloon angioplasty.....	86
9.3.1	Recommendation 25.....	86
9.3.2	Rationale for Recommendation 25.....	87



9.4	Aortic bypass	87
9.4.1	Recommendation 26.....	87
9.4.2	Rationale for Recommendation 26.....	87
9.5	Femoral artery bypass	88
9.5.1	Recommendation 27.....	88
9.5.2	Rationale for Recommendation 27.....	88
9.6	Abdominal venous thrombectomy	89
9.6.1	Recommendation 28.....	89
9.6.2	Rationale for Recommendation 28.....	89
9.7	Aorto-duodenal fistula repair by covered stent	90
9.7.1	Recommendation 29.....	90
9.7.2	Rationale for Recommendation 29.....	90
9.8	Aorto-duodenal fistula repair by endovascular technique	91
9.8.1	Recommendation 30.....	91
9.8.2	Rationale for Recommendation 30.....	91
9.9	Intra-abdominal vessel cannulation	92
9.9.1	Recommendation 31.....	92
9.9.2	Rationale for Recommendation 31.....	92
9.10	Central vein catheterisation	93
9.10.1	Recommendation 32.....	94
9.10.2	Rationale for Recommendation 32.....	94
9.11	Intracranial aneurysm	95
9.11.1	Recommendation 33.....	95
9.11.2	Rationale for Recommendation 33.....	95
9.12	Other MSAC referrals	96
9.12.1	Recommendation 34.....	96
9.12.2	Rationale for Recommendation 34.....	96
9.12.3	Recommendation 35.....	96
9.12.4	Rationale for Recommendation 35.....	97
9.12.5	Recommendation 36.....	97
9.12.6	Rationale for Recommendation 36:.....	97
9.12.7	Recommendation 37.....	98
9.12.8	Rationale for Recommendation 37.....	99
9.12.9	Recommendation 38.....	99
9.12.10	Rationale for Recommendation 38.....	99



9.13 Referred and out-of-scope recommendations100

 9.13.1 Recommendation 39.....100

 9.13.2 Rationale for Recommendation 39.....100

 9.13.3 Recommendation 40.....100

 9.13.4 Rationale for Recommendation 40.....101

 9.13.5 Recommendation 41.....102

 9.13.6 Rationale for Recommendation 41.....102

10. Other no change items.....103

11. Impact statement120

12. Glossary121

Appendix A Summary for consumers124



List of tables

Table 1: Vascular Clinical Committee members	29
Table 2: Item introduction table for items 55276 and 55238	33
Table 3: Item introduction table for item 55274	36
Table 4: Item introduction table for item 55278	39
Table 5: Item introduction table for item 11610	42
Table 6: Item introduction table for item 11602	45
Table 7: Item introduction table for items 60000–60078 (excluding all NK items) (i.e. 60000, 60003, 60006, 60009, 60012, 60015, 60018, 60021, 60024, 60027, 60030, 60033, 60036, 60039, 60042, 60045, 60048, 60051, 60054, 60057, 60060, 60063, 60066, 60069, 60072, 60075, 60078)	48
Table 8: Item introduction table for items 33050–33112 and 33121–33181 (i.e. 33050, 33055, 33070, 33075, 33080, 33100, 33103, 33109, 33112, 33115, 33116, 33118, 33119, 33121, 33124, 33127, 33130, 33133, 33136, 33139, 33142, 33145, 33148, 33151, 33154, 33157, 33160, 33163, 33166, 33169, 33172, 33175, 33178, 33181)	60
Table 9: Item introduction table for items 35300–35315	64
Table 10: Item introduction table for items 34818–34833	66
Table 11: Item introduction table for items 33815, 33824 and 33833	67
Table 12: Item introduction table for items 32500	71
Table 13: Item introduction table for items 32520 and 32522	75
Table 14: Item introduction table for items 32523 and 32526	77
Table 15: Item introduction table for items 32507, 32508, 32511, 32514 and 3251779	
Table 16: Item introduction table for item 35321	83
Table 17: Item introduction table for item 35410	85
Table 18: Item introduction table for item 35303	86
Table 19: Item introduction table for item 32711	87
Table 20: Item introduction table for item 32748	88
Table 21: Item introduction table for item 33810	89
Table 22: Item introduction table for item 34160	90
Table 23: Item introduction table for item 34163	91
Table 24: Item introduction table for item 34521	92
Table 25: Item introduction table for items 34527–34540 (i.e. 34527, 34528, 34529, 34530, 34533, 34534, 34538, 34539 and 34540)	93
Table 26: Item introduction table for item 35412	95
Table 27: Item introduction table for items 18270 and 18272	100
Table 28: Item introduction table for item 18282	101
Table 299: Item introduction table for items which remain unchanged	103



List of figures

Figure 1: Prioritisation matrix	28
Figure 2: Drivers of vascular item growth, FY2011/12 to FY2016/17	31



1. Executive summary

The Medicare Benefits Schedule (MBS) Review Taskforce (the Taskforce) is undertaking a program of work that considers how more than 5,700 items on the MBS can be aligned with contemporary clinical evidence and practice and improve health outcomes for patients. The Taskforce will also seek to identify any services that may be unnecessary, outdated or potentially unsafe.

The Taskforce is committed to providing recommendations to the Minister for Health (the Minister) that will allow the MBS to deliver on each of these four key goals:

- Affordable and universal access.
- Best-practice health services.
- Value for the individual patient.
- Value for the health system.

The Taskforce has endorsed a methodology whereby the necessary clinical review of MBS items is undertaken by clinical committees and working groups. The Vascular Clinical Committee (the Committee) was established in 2018 to make recommendations to the Taskforce on MBS items in its area of responsibility, based on rapid evidence review and clinical expertise.

The recommendations from the clinical committees are released for stakeholder consultation. The clinical committees consider feedback from stakeholders then provide recommendations to the Taskforce in a review report. The Taskforce considers the review reports from clinical committees and stakeholder feedback before making recommendations to the Minister for consideration by Government.



1.1 Key recommendations

Vascular ultrasound

Recommendation 1: Improve diagnostic options for duplex examination of aortoiliac and lower limb vasculature.

The Committee recommends changing the item descriptors for duplex examination of arteries of the lower limb to include the aortoiliac region where warranted. This will reduce the need to co-claim two items and encourage a more comprehensive examination.

Recommendation 2: Prevent low-value over-servicing of carotid duplex examinations.

The Committee recommends restricting duplex examination of the carotid arteries to ensure appropriate use in symptomatic and high-risk patients. Referrals would be restricted to specialists for asymptomatic patients.

Recommendation 3: Prevent low-value over-servicing of renal duplex examinations.

The Committee recommends restricting referrals to specialists to encourage clinically appropriate use. The Committee also recommends that obstetrics and gynaecology (O&G) provider use should be referred for further departmental compliance investigation to reduce low-value and inappropriate use.

Recommendation 4: Reduce the use of ankle brachial index (ABI) for screening and improve access for podiatrists and nurse practitioners.

The Committee recommends adding a restriction to prevent the item from being used for screening. This will encourage clinically indicated use. It also recommends allowing nurse practitioners and podiatrists to access the item on referral from a medical practitioner to improve access for patients.

Recommendation 5: Remove low-value continuous wave (CW) Doppler investigation of venous insufficiency and obstruction.

The Committee recommends changing the descriptor for item 11602 and creating a new non-referred item 116XX. It recommends changing the reference to CW Doppler to duplex ultrasound only, and adding co-claiming restrictions with any other duplex ultrasound of the lower limb to reduce low-value use.



Angiography

Recommendation 6: Remove current run-based tiering and anatomical classifications of digital subtraction angiography (DSA) from the Diagnostic Imaging Schedule Table (DIST).

The Committee recommends removing run-based tiering and anatomical classification of DSA items (item 60000 – 60078, excluding NK items) from the DIST. This will encourage appropriate use of runs, maintain patient safety and ensure imaging guidance is used.

Recommendation 7: Link procedural items with new angiographic items and bundle item numbers for selective catheterisation of vessels into new angiographic items.

The Committee recommends that DSA items should be prospectively linked to procedural items where they are considered integral to performing the routine procedure (contingent on any future review of all affected procedures). The purpose is to reduce low-value use and incentivise appropriate use of angiography. The Committee noted that this recommendation is conditional on Recommendation 6.

Recommendation 8: Retain angiographic components as tiered items within the Diagnostic Imaging Schedule Table (DIST).

The Committee initially recommended that the linked angiographic items should be prospectively tiered by a measure of complexity, and retained within the DIST to ensure compliance with the Diagnostic Imaging Accreditation Scheme (DIAS). The Committee noted that this recommendation is conditional on Recommendation 7. Due to the bundling of items in Recommendation 7, the Vascular Working Group found that this recommendation is no longer required.

Recommendation 9: Replace references to “digital subtraction angiography” with “angiography and fluoroscopy”.

The Committee recommends replacing all references to “digital subtraction angiography” with “angiography and fluoroscopy” to encompass non-subtraction techniques that have the same diagnostic efficacy as digital subtraction but are not currently described in the angiography sections of the MBS. This will future-proof the definition. The Committee recognised the intent of this recommendation was to include any imaging needed to complete the procedure into the relevant items.

**Recommendation 10: Create a single separate diagnostic catheter angiogram item.**

The Committee recommends creating a single separate diagnostic catheter angiogram item on the DIST to ensure that the option of diagnostic angiogram remains available on the MBS.

Recommendation 11: Create a new item to support minimally invasive diagnostic alternatives to DSA.

The Committee supports the submission of an MSAC application for an MRA item for examination of the peripheral limbs. This will allow patient access to non-invasive diagnostic imaging, which is supported by good evidence and is part of contemporary practice.



Vascular surgery

Recommendation 12: Add new endovascular aneurysm repair (EVAR) items to the MBS.

The Committee recommends adding new EVAR items to the MBS and considered that this can be achieved by amending peripheral and thoracic aneurysm items to include open or endovascular techniques, mirroring current open repair items (excluding the angiography component). This will reflect contemporary practice.

Recommendation 13: Change the descriptors for items to make reference to the use of embolic protection devices (EPDs) in transluminal stenting and balloon angioplasty.

The Committee recommends that the use of EPDs for lower limb interventions is technically possible. The Committee strongly affirms the current descriptor for its use in carotid stenting in all cases where deployment of an EPD is technically possible.

Recommendation 14: Delete low-value venous valvular surgical reconstruction items from the MBS.

The Committee recommends removing items 34818–34833 (surgical reconstruction for venous valvular competency) due to low item use and limited clinical evidence.

Recommendation 15: Restrict co-claiming for vascular wound repair where this is considered part of the procedure.

The Committee recommends placing co-claiming restrictions on items 33815, 33824 and 33833 to reduce inappropriate claiming where vessel closure is considered part of the routine procedure.

Varicose veins

Recommendation 16: Require a referral from a general practitioner (GP) for all varicose vein services.

The Committee recommends that all varicose vein treatment items require referral from a GP to promote patient-informed consent and GP stewardship of venous disease management.

**Recommendation 17: Reduce low value use of sclerotherapy.**

The Committee recommends excluding truncal reflux from item 32500 and restricting co-claiming of ultrasounds but not other imaging items to reduce low-value discretionary use.

Recommendation 18: Create a new item for ultrasound-guided foam sclerotherapy (UGFS).

The Committee recommends submitting a new UGFS item to the MSAC for consideration to reflect contemporary practice.

Other in-scope recommendations**Recommendation 19: Include accessory vein in endovenous laser therapy (ELT) item descriptors.**

The Committee agreed to change the item descriptor to detail the great and small saphenous veins and tributaries, and the anterior accessory vein, to reflect current practice. The Committee recommends that no additional restrictions should be added to ELT items to maintain practitioner and patient choice in the location of service delivery.

Recommendation 20: Include accessory vein in radiofrequency ablation (RFA) item items.

The Committee agreed to change the item descriptor to detail the great and small saphenous veins and tributaries, and the anterior accessory vein, to reflect current practice. The Committee recommends that no additional restrictions should be placed on RFA items to maintain practitioner and patient choice in the location of service delivery.

Recommendation 21: Change item 32507 to reflect contemporary practice, remove out-of-hospital benefits and exclude co-claiming with any venography items.

The Committee recommends changing the sub-fascial exploration item (32507) to describe sub-fascial ligation and remove out-of-hospital benefits. This will reflect contemporary clinical practice and remove low-value and inappropriate use.

**Recommendation 22: No additional change to varicose vein surgical ligation and dissection items.**

The Committee recommends retaining surgical dissection and ligation items. The Committee agreed that surgical management is not inappropriate and still has a role to play when endovenous treatments are inappropriate or unavailable. It should therefore continue to see active use.

Recommendation 23: Percutaneous embolisation splitting

The Committee recommends splitting item 35321 into anatomically relevant indication-specific embolisation items, to reflect the added complexity of these procedures not adequately covered by the current item number.”

Recommendation 24: Remove restrictions on uterine artery embolisation referral from obstetrics and gynaecology (O&G) providers

The Committee recommends that the referral restriction to O&G uterine artery embolisation be removed, with a requirement for the patient to have been reviewed by an O&G specialist. This will encourage higher utilisation of the technique.

Recommendation 25: Amend transluminal balloon angioplasty anatomical descriptors

The Committee recommends adding iliac arteries to the anatomical descriptor of item 35303 to reflect contemporary clinical practice.

Recommendation 26: Amend aortic bypass anatomical descriptors

The Committee recommends replacing “common femoral or profunda femoris arteries” with “femoral arteries” to reflect contemporary nomenclature.

Recommendation 27: Amend femoral artery bypass anatomical descriptors

The Committee recommends replacing the anatomical descriptor of the anastomosis with a functional descriptor, to reflect contemporary clinical practice.

Recommendation 28: Clarify endovenous techniques for abdominal venous thrombectomy

The Committee recommends replacing references to “by catheter” with “by endovenous technique” for 33810 to ensure consistency across the MBS.

**Recommendation 29: Include covered stents in aorto-duodenal fistula repair**

The Committee recommends adding “covered stents” to the item descriptor for 34160 to reflect contemporary clinical practice.

Recommendation 30: The item for aorto-duodenal fistula repair remains unchanged

The Committee recommends that the item descriptor for 34163 remains unchanged, noting that this service was not claimed in the previous financial year.

Recommendation 31: Delete intra-abdominal vessel cannulation

The Committee recommends the deletion of item 34521, as it is considered obsolete as it does not have a place in contemporary clinical practice.

Recommendation 32: Change the item descriptors for central venous catheterisation (CVC) items to ensure fluoroscopy is performed appropriately

The Committee recommends that the item descriptors for CVC items (34527, 34528, 34529, 34530, 34533, 34534 and 34538) should include “with appropriate fluoroscopy, if required” to ensure best practice. The Committee recommends that the item descriptors for items 34539 and 34540 should include “with appropriate fluoroscopy, if required” because the Committee recognises that these items may not require fluoroscopy but it may be used in some circumstances.

Recommendation 33: Include endovascular techniques for intracranial aneurysm treatment

The Committee recommends adding “by endovascular technique” to the item descriptor for 35412 to reflect contemporary clinical practice.

MSAC referral recommendations**Recommendation 34: Refer transarterial chemoembolization (TACE) to the MSAC**

The Committee recommends referral of TACE to the MSAC, to provide access for patients requiring treatment of inoperable hepatocellular carcinoma (HCC) and metastatic liver disease.

Recommendation 35: Refer prostate artery embolisation to the MSAC

The Committee recommends referral of prostate artery embolisation to the MSAC, to provide access for patients requiring treatment

**Recommendation 36: Refer endovenous sampling to the MSAC**

The Committee recommends endovenous sampling to the MSAC to reflect contemporary practice.

Recommendation 37: Refer percutaneous ablation of tumours to the MSAC

The Committee recommended developing an item for percutaneous ablation of inoperable tumours to reflect contemporary practice.

Recommendation 38: Refer transvenous biopsy by endovascular approach to the MSAC

The Committee recommends the referral of percutaneous transvenous biopsy by endovascular approach to the MSAC, to provide access for patients to a safe and appropriate technique to live biopsy.

Out-of-scope or referred recommendations**Recommendation 39: Change the name of Subgroup 3 to “Vascular, Endovascular and Interventional Radiology”**

The Committee recommends that Subgroup 3 of the MBS be changed from “Vascular” to “Vascular, Endovascular and Interventional Radiology” to reflect the contemporary practice.

Recommendation 40: No changes to lower limb nerve block items

The Committee recommends no changes to femoral, saphenous, sural, popliteal or posterior tibial nerve block items (18270, 18272) as they are considered appropriate and in active use.

Recommendation 41: Delete item 18282 for carotid sinus blocks

The Committee recommends deleting item 18282 for carotid sinus blocks.

Additional recommendations from the Vascular Working Group

Recommendation 42: The number of runs should cease to be a tiering system within the MBS.



Recommendation 43: The MBS should remunerate services performed by an appropriately accredited individual in an appropriately accredited institution.

Recommendation 44: There should be types of angiography:

1. Diagnostic only
2. Angiography (and indeed all vascular imaging) that is integral to an intervention
3. Angiography intended for intervention but abandoned for documented clinical reasons.

Recommendation 45: For DSA items where the imaging is integral to the procedure, the items should be bundled.

Recommendation 46: Future changes should be based on available data and be patient centred.



Consumer impact

All recommendations have been summarised for consumers in Appendix A – Summary for Consumers. The summary describes the medical services, the recommendations of the clinical experts and the rationale behind the recommendations. A consumer impact statement is provided in Section 10.

The Committee believes it is important to find out from consumers if they will be helped or disadvantaged by the recommendations—and how and why. Following public consultation, the Committee will assess the advice from consumers to make sure that all the important concerns are addressed. The Taskforce will then provide the recommendations to Government.

Both patients and clinicians are expected to benefit from these recommendations because they address concerns regarding patient safety and quality of care, and because they take steps to simplify the MBS and make it easier to use and understand. The Committee's recommendations also promote the provision of higher value medical care, which can reduce unnecessary procedures and related out-of-pocket fees for patients, while supporting improved access to modern procedures and the responsible operation of the health care system.



2. Preamble

2.1 Foreword from the co-chairs

In submitting this report, the Committee acknowledges the trust and confidence placed in it and notes that it has responded with open-mindedness, diligence and focus. The report is not comprehensive, reflecting the tight timeframe for reviewing MBS items, analysing data and developing recommendations. With this in mind, the Committee has focused on updating MBS items that have become obsolete, recognising and reducing low-value use of items, and making items more relevant to current high-quality practice.

While the Committee has made recommendations to modernise the MBS, we anticipate that this task will become an even greater challenge in the future, as new technologies (such as artificial intelligence and machine learning) require new capital investment in equipment and potentially change the roles of medical specialists. The decentralisation of radiology into many sub-specialties, and its integration or absorption into other clinical disciplines, gives some insight into how disruptive this change will be. Similarly, the rapid evolution of endovascular interventions in the treatment of vascular surgical conditions highlights the disruptive impact of technological advancement in medical care. Such examples emphasise why a review of this sort must occur more frequently and rely more heavily on evidence-based clinical input. The data must be current and must be used to identify important trends. For item restrictions to be effective, audit of compliance must also be strengthened.

Maintaining appropriate use of the MBS affects the affordability of care, both for the patient and for Government. Schedule fees in imaging have remained unchanged for more than 10 years, reducing private imaging services' capacity to survive without patient out-of-pocket charges. Recommending computed tomography angiography



(CTA) and MRA has a large financial impact on the system. There has been a recent dramatic increase in the capability of computed tomography (CT) machines, allowing flow dynamics to be assessed and reconstructed in both 3D and 4D, but this has associated costs.

The Committee is also concerned about the expanding use of varicose vein services, particularly self-referral services. There is a wide spectrum of disorders within venous disease, some of which are purely cosmetic. The Committee has made several recommendations to restrict use of the MBS in treating cosmetic conditions, limiting imaging costs and encouraging out-of-hospital therapies. While some countries have ceased reimbursement for operative vein treatments, the Committee recognises that surgical treatment still has an important role in appropriate treatment choices. In all cases, the Committee's recommendations emphasise GP referral to qualify for a Medicare benefit.

The MBS also contains a facilities fee for angiography. This fee was designed to compensate the provider of the equipment and operating staff for the incurred costs of the procedure. Over time, providers have changed from radiological groups to private and public hospitals and day surgery, where theatre fees are also claimed. The remuneration is significant, and there is a need to ensure that the appropriate number of runs is used in order to minimise unnecessary exposure to contrast and radiation and remove any incentive to do more than necessary.

The Committee has made recommendations on how to address this, acknowledging that any decisions are at the discretion of the Taskforce, the Minister and the Department of Health. It recommends pre-determining the angiographic fee associated with various endovascular procedures with that being pre-determined based on tiers of complexity. The Committee remains keen to contribute to any discussion around such a change. Finding a surrogate for complexity has not proven an easy task, due to the cross-cutting nature and limited timeframe of the Committee.



The Committee strongly endorses the role of non-invasive, out-patient techniques for the diagnosis of vascular disease, such as CTA and MRA. Catheter angiography, in some cases, has limited superiority over these new techniques, except in neuro-interventional radiology and in the management of below-the-knee tibial disease in patients with diabetes. This is recognised in the recommendations. The Committee acknowledges that maintaining high standards requires compliance, and that this will restrict the impact of some changes to items outside of the DIST.

Many procedures in current clinical practice are also being billed under item numbers that are not specific to the procedure. This applies to many endovascular procedures that have developed over the last two decades. The Committee's recommendations address this.

The Committee's success in conducting its review and developing its recommendations is due to the indefatigable assistance of our secretariat. We are grateful for the insightful comments from our consumer representatives, the allied health professionals and colleagues from other committees.

We, the co-chairpersons, have enjoyed a dynamic and respectful interaction and take considerable pleasure in presenting this report within the imposed time constraints.

Dr Peter Subramaniam

Co-Chair, Vascular Clinical Committee

Dr Ronald Meikle

Co-Chair, Vascular Clinical Committee



3. About the Medicare Benefits Schedule (MBS) Review

3.1 Medicare

3.1.1 What is Medicare?

Medicare is Australia's universal health scheme that enables all Australian residents (and some overseas visitors) to have access to a wide range of health services and medicines at little or no cost.

Introduced in 1984, Medicare has three components:

- Free public hospital services for public patients.
- Subsidised drugs covered by the Pharmaceutical Benefits Scheme (PBS).
- Subsidised health professional services listed on the MBS.

3.2 What is the MBS?

The MBS is a listing of the health professional services subsidised by the Australian Government. There are more than 5,700 MBS items that provide benefits to patients for a comprehensive range of services, including consultations, diagnostic tests and operations.

3.3 What is the MBS Review Taskforce?

The Government established the Taskforce as an advisory body to review all of the 5,700 MBS items to ensure they are aligned with contemporary clinical evidence and practice and improve health outcomes for patients. The Taskforce will also modernise the MBS by identifying any services that may be unnecessary, outdated or potentially unsafe. The MBS Review is clinician-led, and there are no targets for savings attached to the review.



3.3.1 What are the goals of the Taskforce?

The Taskforce is committed to providing recommendations to the Minister that will allow the MBS to deliver on each of these four key goals.

- **Affordable and universal access**—the evidence demonstrates that the MBS supports very good access to primary care services for most Australians, particularly in urban Australia. However, despite increases in the specialist workforce over the last decade, access to many specialist services remains problematic, with some rural patients being particularly under-served.
- **Best practice health services**—one of the core objectives of the MBS Review is to modernise the MBS, ensuring that individual items and their descriptors are consistent with contemporary best practice and the evidence base when possible. Although the MSAC plays a crucial role in thoroughly evaluating new services, the vast majority of existing MBS items pre-date this process and have never been reviewed.
- **Value for the individual patient**—another core objective of the review is to have an MBS that supports the delivery of services that are appropriate to the patient's needs, provide real clinical value and do not expose the patient to unnecessary risk or expense.
- **Value for the health system**—achieving the above elements will go a long way to achieving improved value for the health system overall. Reducing the volume of services that provide little or no clinical benefit will enable resources to be redirected to new and existing services that have proven benefit and are underused, particularly for patients who cannot readily access those services currently.

3.4 The Taskforce's approach

The Taskforce is reviewing existing MBS items, with a primary focus on ensuring that individual items and usage meet the definition of best practice. Within the Taskforce's brief, there is considerable scope to review and provide advice on all aspects that would contribute to a modern, transparent and responsive system. This includes not only making recommendations about adding new items or services to



the MBS, but also about an MBS structure that could better accommodate changing health service models.

The Taskforce has made a conscious decision to be ambitious in its approach, and to seize this unique opportunity to recommend changes to modernise the MBS at all levels, from the clinical detail of individual items, to administrative rules and mechanisms, to structural, whole-of-MBS issues. The Taskforce will also develop a mechanism for an ongoing review of the MBS once the current review has concluded.

As the MBS Review is to be clinician-led, the Taskforce decided that clinical committees should conduct the detailed review of MBS items. The committees are broad-based in their membership, and members have been appointed in an individual capacity, rather than as representatives of any organisation.

The Taskforce asked the committees to review MBS items using a framework based on Professor Adam Elshaug's appropriate use criteria. The framework consists of seven steps:

- 1.** Develop an initial fact base for all items under consideration, drawing on the relevant data and literature.
- 2.** Identify items that are obsolete, are of questionable clinical value,¹ are misused² and/or pose a risk to patient safety. This step includes prioritising items as “priority 1”, “priority 2” or “priority 3”, using a prioritisation methodology (described in more detail below).
- 3.** Identify any issues, develop hypotheses for recommendations and create a work plan (including establishing working groups, when required) to arrive at recommendations for each item.

¹ The use of an intervention that evidence suggests confers no or very little benefit on patients; or where the risk of harm exceeds the likely benefit; or, more broadly, where the added costs of the intervention do not provide proportional added benefits.

² The use of MBS services for purposes other than those intended. This includes a range of behaviours, from failing to adhere to particular item descriptors or rules through to deliberate fraud.



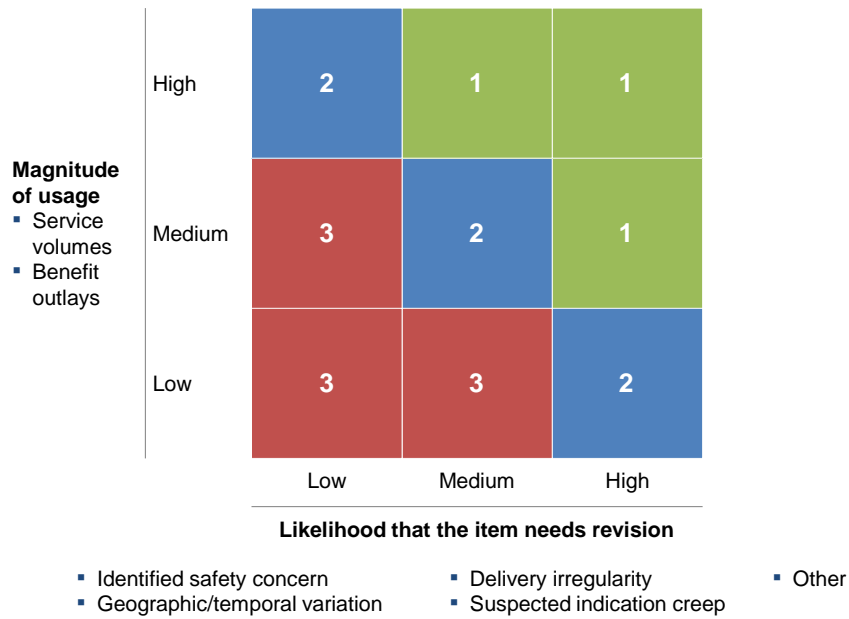
4. Gather further data, clinical guidelines and relevant literature to make provisional recommendations and draft accompanying rationales, as per the work plan. This process begins with priority 1 items, continues with priority 2 items and concludes with priority 3 items. This step also involves consultation with relevant stakeholders within the committee, working groups, and relevant colleagues or Colleges. For complex cases, full appropriate use criteria were developed for the item's explanatory notes.
5. Review the provisional recommendations and the accompanying rationales, and gather further evidence as required.
6. Finalise the recommendations in preparation for broader stakeholder consultation.
7. Incorporate feedback gathered during stakeholder consultation and finalise the review report, which provides recommendations for the Taskforce.

All MBS items will be reviewed during the course of the MBS Review. However, given the breadth of the review, and its timeframe, each clinical committee has to develop a work plan and assign priorities, keeping in mind the objectives of the review. Committees use a robust prioritisation methodology to focus their attention and resources on the most important items requiring review. This was determined based on a combination of two standard metrics, derived from the appropriate use criteria:

- Service volume.
- The likelihood that the item needs to be revised, determined by indicators such as identified safety concerns, geographic or temporal variation, delivery irregularity, the potential misuse of indications or other concerns raised by the clinical committee (such as inappropriate co-claiming).



Figure 1: Prioritisation matrix



For each item, these two metrics were ranked high, medium or low. These rankings were then combined to generate a priority ranking ranging from one to three (where priority 1 items are the highest priority and priority 3 items are the lowest priority for review), using a prioritisation matrix (Figure 1). Clinical committees use this priority ranking to organise their review of item numbers and apportion the amount of time spent on each item.



4. About the Vascular Clinical Committee

The Committee was established in January 2018 to make recommendations to the Taskforce on MBS items within its area of responsibility, based on rapid evidence review and clinical expertise.

4.1 Vascular Clinical Committee members

The Committee consists of 12 members, whose names, positions/organisations and declared conflicts of interest are listed in Table 1.

Table 1: Vascular Clinical Committee members

Name	Position/organisation	Declared conflict of interest
Dr Ron Meikle	Interventional Radiologist (retired); Former President of the Australian Diagnostic Imaging Association	None
Dr Peter Subramaniam	Director and Reporting Surgeon, Adelaide Vascular; Chair of the Australian and New Zealand Society of Vascular Surgeons (ANZSVS) Executive – Relationships and Advocacy Portfolio Chair; Member of ANZSVS MBS Review group; Senior Visiting Medical Specialist in Vascular Surgery, Royal Adelaide Hospital	Claims in-scope MBS items
Assoc. Prof. Peter Thursby OAM	Vascular Surgeon (retired); Surgical Lecturer and Examiner, Concord Hospital, Central Clinical School, University of Sydney	Member of the ANZSVS MBS Review group; Affiliation with Avant Indemnity Insurance; Chair of the Vascular Prostheses Clinical Advisory Group
Dr Noel Atkinson	Practising Vascular Surgeon, Royal Melbourne Hospital	Claims in-scope MBS items
Dr Tom Snow	Practising Interventional Radiologist, Queensland Diagnostic Imaging	Claims in-scope MBS items
Dr Nick Brown	Interventional Radiologist; Uniting Care Medical Imaging, The Prince Charles Hospital	Claims in-scope MBS items
Dr Stephen May	Senior Consultant, Visiting Medical Officer (VMO) Physician, Interventional Nephrologist, Tamworth Base Hospital New South Wales; Medical Director, Renal Unit – New England Area Health Service (NEAHS); Medical Director, Diabetic Clinical – NEAHS	Rents visiting rooms to vascular surgeons
Dr David Jenkins	Phlebologist, Burwood, New South Wales; Chair and Director of Training, New South	Claims in-scope MBS items



Name	Position/organisation	Declared conflict of interest
	Wales Faculty, Australasian College of Phlebology	
Dr Andrew Kellie	General Practitioner, East Adelaide Healthcare; Medical Director/Owner, OPIS Healthcare; Medical Director/Owner, Firma Technologies	Used to rent rooms to Adelaide Vascular
Professor Michael Besser AM	Neurosurgeon, Taskforce <i>ex-officio</i>	None
Ms Wendy McInnes	Vascular Nurse Practitioner, Division of Medicine, Northern Adelaide Local Health Network (NALHN), The Lyell McEwin Hospital; Adjunct Clinical Lecturer, University of South Australia, Division of Health Sciences	None
Ms Eileen Jerga	Consumer Representative; Past CEO of the Heart Foundation in the Australian Capital Territory (ACT); Member of the MSAC; Member of the Vascular CAG; Past member of the MSAC PICO Advisory Sub-Committee (PASC); Member of the MBS Intensive Care & Emergency Medicine Clinical Committee and multiple other MBS Review working groups; Member of the Nursing and Midwifery Board of Australia for ACT	None
Ms Kerri Cassidy	Consumer Representative; Executive Officer at the Disability Resources Centre; Director and founding member of Chronic CerebroSpinal Venous Insufficiency (CCSVI) Australia	Works for CCVSI Australia, a not-for-profit organisation that funds research of venous abnormalities in multiple sclerosis at the Alfred Hospital

4.2 Conflicts of interest

All members of the Taskforce, clinical committees and working groups are asked to declare any conflicts of interest at the start of their involvement and reminded to update their declarations periodically. A complete list of declared conflicts of interest can be viewed in Table 1.

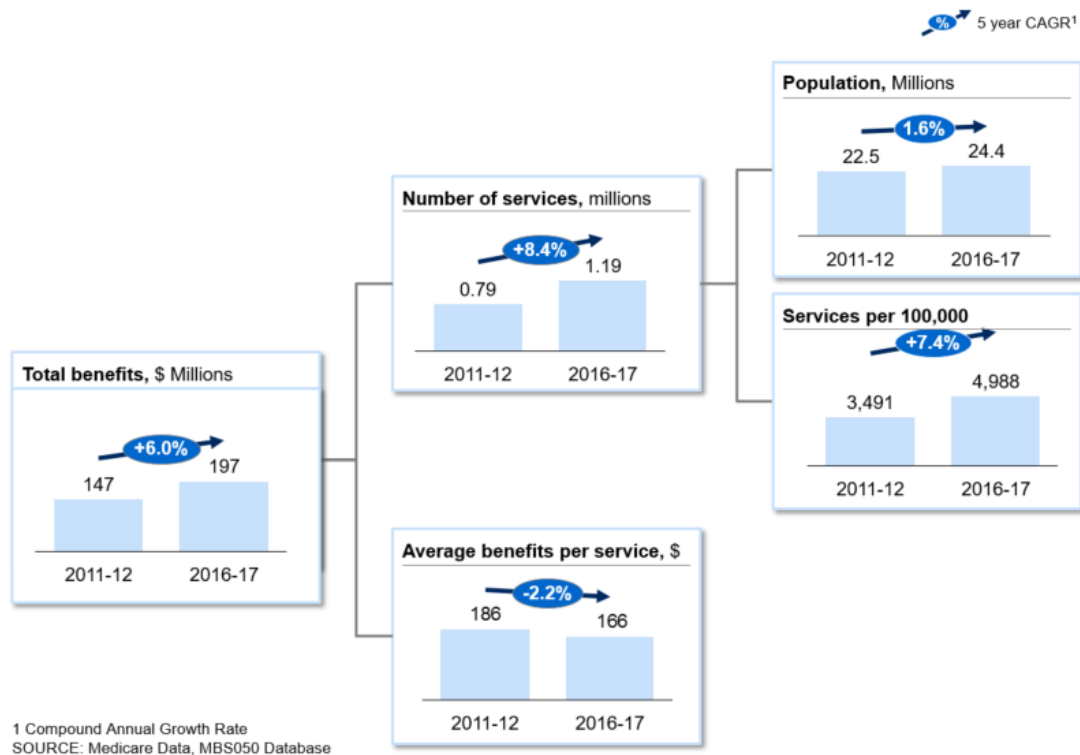
It is noted that most Committee members share a common conflict of interest in reviewing items that are a source of revenue for them (i.e. Committee members claim the items under review). This conflict is inherent in a clinician-led process and, having been acknowledged by the Committee and the Taskforce, it was agreed that this should not prevent a clinician from participating in the review.



4.3 Areas of responsibility of the Committee

The Committee considered 290 MBS items. The Committee was originally assigned 287 vascular and interventional radiology MBS items. A further three additional MBS items (items 18270, 18272 and 18282) were referred to the Committee to review. The Taskforce established a Vascular Working Group (VWG) in August 2019 to advise on recommendations for digital subtraction angiography items. In the 2016/17 financial year (FY), the 287 vascular and interventional radiology items accounted for approximately 1.2 million services and \$197 million in benefits. Over the past five years, service volumes for these items have grown at 8.4 per cent per year, and the cost of benefits has increased by 6.0 per cent per year. This growth is largely explained by an increase in the number of services per capita (Figure 2). Diagnostic items, including vascular ultrasound and angiography items, account for 77 per cent of total services and 88 per cent of benefits.

Figure 2: Drivers of vascular item growth, FY2011/12 to FY2016/17





4.4 Summary of the Committee's review approach

The Committee first convened on 3 May 2018 and formally completed its review on 21 August 2018. In that time, the Committee completed a review of items within its remit during four full committee meetings (two teleconferences and two in-person meetings) and four item-specific subgroup meetings (subgroups examining prioritised angiography, vascular ultrasound, and vascular surgery and varicose veins, with two-hour teleconferences for each). The Committee developed the recommendations and rationales contained in this report during these meetings and off-line subgroup activities, supervised by the co-chairs.

The review drew on various types of MBS data, including data on utilisation of items (services, benefits, patients, clinicians and growth rates); service provision (type of clinician, geography of service provision); patients (demographics and services per patient); co-claiming or episodes of services (same-day claiming and claiming with specific items over time); and additional clinician and patient-level data, when required.

The review also drew on data presented in the relevant literature and clinical guidelines, all of which are referenced in the report. Guidelines and literature were identified through medical journals and other sources, such as professional societies.



5. Recommendations: Vascular ultrasound items

5.1 Duplex scanning for the analysis arteries of the abdomen and lower limbs

Table 2: Item introduction table for items 55276 and 55238

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
55276	Duplex scanning involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of intra-abdominal, aorta and iliac arteries or inferior vena cava and iliac veins or of intra-abdominal, aorta and iliac arteries and inferior vena cava and iliac veins, excluding pregnancy related studies, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R)	\$169.50	132,134	\$15,328,211	10.7%
55238	Duplex scanning, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or bypass grafts in the lower limb or of arteries and bypass grafts in the lower limb, below the inguinal ligament, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R)	\$169.50	231,000	\$29,558,743	8.5%

5.1.1 Recommendation 1

- Items 55238 and 55276: Improve diagnostic options for duplex examination of aorto-iliac and lower limb vasculature.
 - The Committee recommends including aortoiliac vasculature in the item descriptor.
- The proposed item descriptor for 55238 (with changes highlighted in bold) is as follows:
 - Duplex scanning, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or bypass grafts in the lower limb or of arteries and bypass grafts in the



lower limb, **with or without the aorto-iliac segment**, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R)

- The proposed item descriptor for 55276 (with changes highlighted in bold) is as follows:
 - “Duplex scanning involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of intra-abdominal, aorta and iliac arteries or inferior vena cava and iliac veins or of intra-abdominal aorta and iliac arteries and inferior vena cava and iliac veins, excluding pregnancy related studies, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies, **or with 55238 unless examination of the inferior vena cava and iliac veins is warranted (R)**”
- The Committee recommends adjusting the Schedule fee to reflect the additional examination, and to reduce the incentive to perform item 55276 and item 55238 on separate days.
- The Committee recommends restricting co-claiming 55238 with 55276, unless specifically examining the inferior vena cava or iliac veins for a clinically indicated reason.

Following consultation:

- The Committee agreed to add ‘vena cava’ to the proposed descriptor.
- The Committee noted that additional work will be undertaken in the implementation stage to maintain the intent of the co-claiming restriction.
- The Committee recommended nurse practitioner (NP) access to vascular items is outside the scope of the Committee’s review. The Committee recommended that NP access is within the remit of the Nurse Practitioner Reference Group (NPRG) under the General Practice and Primary Care Clinical Committee (GPPCCC) for consideration as this issue.



5.1.2 Rationale for Recommendation 1

This recommendation focuses on improving the efficacy of care, reducing the risk of missed diagnoses, reducing unnecessary referrals and removing incentives for separate claiming. It is based on the following:

- The Committee agreed that having two separate duplex items (55238 and 55276) with exclusive anatomical descriptors may incentivise subsequent-day claims.
 - Currently, the Multiple Services Rule (MSR) stipulates that if both examinations are co-claimed, the provider will receive 60 per cent of the second Schedule fee. The Committee expressed concern that the reduced benefits could incentivise clinicians to delay the second examination to a subsequent day in order to receive the full schedule fee. This could also occur for examination of the opposite limb.
 - The Committee agreed that allowing examination of the aorto-bi-iliac region (where clinically necessary) as part of the examination of the lower limb—with an appropriately adjusted schedule fee (greater than both items on the same day with the MSR reduction)—would reduce subsequent-day claiming.
- The Committee agreed that having two mutually exclusive duplex examination items increases the administrative burden by requiring two separate referrals.
 - In order to examine the entire aorto-bi-ilio-femoro-popliteal tree, two separate referrals for items 55238 and 55276 are required.
 - The Committee expressed concern that should the patient not be referred for both examinations in the first instance, they may be required to return to their referrer to obtain an additional formal request, which is an additional administrative and logistical burden.
- The Committee agreed that having two separate duplex ultrasound examination items increases the risk of missing multi-level disease.
 - Clinically, examination of the lower limb for peripheral occlusive disease should include an examination of the entire tract where multi-level disease is suspected. The Committee agreed that the aorto-bi-ilio-femoro-popliteal tree should be viewed as clinically continuous. (1)



- MBS data demonstrated that co-claiming of item 55238 with item 55726 accounted for 51 per cent of total 55238 services (231,000 services). This has remained constant over the last five years, indicating a consistent need for both regions to be examined when investigating peripheral arterial disease. (2)
- The Committee considered the option of bundling both items but noted that examination of the entire tract is not necessary in every case and, given the difficulties of abdominal imaging, may result in a high volume of repeat examinations. It also considered reframing duplex examination to be directed at the clinical problem (i.e. duplex examination of lower limb ischaemia) rather than anatomy, but it decided to remain aligned with other MBS ultrasound items on appropriate anatomical classification.

5.2 Duplex examination of the carotid arteries

Table 3: Item introduction table for item 55274

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
55274	Duplex scanning, bilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of extra-cranial bilateral carotid and vertebral vessels, with or without subclavian and innominate vessels, with or without oculoplethysmography or peri-orbital Doppler examination, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R)	\$169.50	159,660	\$23,411,847	2.6%

5.2.1 Recommendation 2

- Item 55274: Prevent low-value over-servicing of carotid duplex examinations.
 - The Committee recommends adding referral restrictions for asymptomatic patients.
- The proposed item descriptor (with changes highlighted in bold) is as follows:



- Duplex scanning, bilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of extra-cranial bilateral carotid and vertebral vessels, with or without subclavian and innominate vessels, with or without oculoplethysmography or peri-orbital Doppler examination, **not for screening or examination of asymptomatic patients except when referred by a specialist, with a maximum of two services per 12 months**, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R), excluding patients who have no neurological symptoms.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

5.2.2 Rationale for Recommendation 2

This recommendation focuses on improving the appropriateness of care and reducing unnecessary examinations. It is based on the following:

- The Committee agreed that there is low-value use of this item, and that this is most likely driven by ambiguity in the item descriptor, which allows for screening and examination of asymptomatic patients.
 - The item descriptor currently allows use for a wide range of indications with low efficacy, which may include asymptomatic patients without a significant stenosis (narrowing of the vessels). Despite compliance action on corporate entities conducting population screening, the Committee remains concerned that the item is experiencing overuse.
 - The Committee is concerned that screening for asymptomatic disease may be harmful where it leads to unnecessary investigations and/or interventions. There is currently no formal MBS guidance on screening for patients with asymptomatic carotid stenosis.
- The Committee agreed that the item should align with best-practice guidelines to reduce low-value care.



- International literature suggests that use of carotid ultrasound in screening asymptomatic patients is not effective at changing management, including screening of intimo-medial thickness. (3)
- Choosing Wisely guidelines from both Canada and the United States specify that carotid duplex ultrasound should not be performed in cases of syncope where neurological examinations are normal, or where patients are otherwise asymptomatic neurologically. (4, 5) The American Institute of Ultrasound in Medicine and Society for Vascular Surgery states that carotid duplex ultrasound should only be performed in high-risk asymptomatic patients and those with proven disease. (6)
- The Committee supports alignment with best-practice guidelines to encourage high-value care.
 - Carotid ultrasound represents high-value care for specific indications, particularly for patients who are neurologically symptomatic and patients who have been referred for pre-operative confirmation of patency for certain cardiac procedures or post-operative surveillance. The Committee has not provided recommendations on a clinical pathway to determine which symptoms are required for carotid duplex examination.
 - Patients with no neurological symptoms should be excluded, unless the patient has been evaluated by a specialist who considers the examination necessary for rare asymptomatic indications.
 - Examination of the carotid arteries for post-operative surveillance should be limited to two per 12-month period for all patients, as there is limited additional benefit of more frequent examination in the absence of emerging symptoms.



5.3 Duplex examination of the renal and visceral arteries

Table 4: Item introduction table for item 55278

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
55278	Duplex scanning involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of renal or visceral vessels or of renal and visceral vessels, including aorta, inferior vena cava and iliac vessels as required excluding pregnancy related studies, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R)	\$169.50	85,410	\$12,088,370	7.7%

5.3.1 Recommendation 3

- Item 55278: Prevent low-value over-servicing of renal duplex examinations.
 - The Committee recommends introducing new restrictions to this item so that it can only be requested by specialists in the fields of hypertension, nephrology, vascular surgery, interventional radiology and rheumatology.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Duplex scanning involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of renal or visceral vessels or of renal and visceral vessels, including aorta, inferior vena cava and iliac vessels as required excluding pregnancy related studies, **on referral by consultant physician or specialist only, excluding Obstetrics and Gynaecology specialists**, not being a service associated with a service to which an item in Subgroup 1 (with the exception of item 55054) or 4 applies (R)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.



5.3.2 Rationale for Recommendation 3

This recommendation focuses on reducing inappropriate screening of asymptomatic patients, while still allowing for the appropriate investigation of a wide range of clinical indications. It is based on the following:

- The Committee agreed that the use of renal duplex ultrasound for diagnosis and management is specialised and typically occurs only in specific circumstances. Use of this examination in the screening of atherosclerotic renal artery stenosis represents low-value care, as it is unlikely to lead to a change in management or an effective intervention. (7)
- Contemporary literature does not support the use of renal duplex ultrasound in the diagnosis and management of renal artery stenosis.
 - The technical difficulty of renal artery sonography is widely acknowledged, and only experienced operators should perform the study. (8, 9) Other available modalities, particularly CTA, represent best practice.
 - The Society for Vascular Medicine does not recommend the use of renal duplex ultrasound for the assessment of renal artery stenosis without resistant hypertension and normal renal function, even if known atherosclerosis is present. (10)
 - Of the services provided by diagnostic radiologists, 98.1 per cent did not have subsequent vascular intervention (by any provider). This suggests that the search for renal artery stenosis has limited value in the management of patients with hypertension. (11)
- The Committee agreed that renal and visceral duplex examinations are used for low-value indications. This is likely driven by ambiguity in the item descriptor, which allows for the screening and examination of asymptomatic patients.
 - MBS data indicated that O&G providers account for over 75 per cent of claims in the New South Wales regions with the highest use per capita.¹² The Committee, in consultation with the Chair of the Obstetrics and Gynaecology Clinical Committee, believes that there are no common O&G-specific indications that explain the high service volumes, and that there is no explanation for the geographical concentration of use, especially where the item descriptor excludes pregnancy scans.



- There are rare clinical scenarios where duplex ultrasound of the renal and visceral vessels is appropriate, which supports retaining the item on the MBS.
 - Renal artery duplex ultrasound is necessary in the post-operative monitoring of stents for atherosclerotic and non-atherosclerotic disease (for example, fibromuscular dysplasia), as well as the monitoring of renal artery aneurysms where future intervention may be considered.
 - Duplex examination may also be appropriate for uncontrolled or refractory hypertension and impaired renal function. However, the Committee concluded that this assessment should be made by the relevant specialist, who would have the ability to then refer for examination.
- The Committee recommends restricting referral to specialists who may conduct relevant procedural interventions or renal, rheumatological and cardiovascular management. This includes all specialists, with the exception of O&G providers. While the Committee recognised that there may be circumstances where the specialist may delegate ongoing surveillance of renal artery disease to a GP, particularly in rural and remote areas, it still recommends that a specialist initiates referral for the required imaging.



5.4 Vascular ultrasound: Ankle brachial index

Table 5: Item introduction table for item 11610

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
11610	Measurement of ankle — brachial indices and arterial waveform analysis, measurement of posterior tibial and dorsalis pedis (or toe) and brachial arterial pressures bilaterally using Doppler or plethysmographic techniques, the calculation of ankle (or toe) brachial systolic pressure indices and assessment of arterial waveforms for the evaluation of lower extremity arterial disease — examination, hard copy trace and report	\$63.75	123,166	\$6,679,496	15.4%

5.4.1 Recommendation 4

- Item 11610: Reduce the use of ABI for screening and increase access through allied health practitioners.
 - The Committee recommends changing the item descriptor to clarify that ABI should not be used for screening asymptomatic patients, and to incentivise appropriate use.
 - The Committee recommends changing the item descriptor to:
 - Clarify that ABI should not be used for screening asymptomatic patients.
 - Incentivise appropriate use.
 - Limit the item to two services per year.
 - The Committee recommends the monitoring of utilisation by nurse practitioners and podiatrists during implementation.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Measurement of ankle — brachial indices and arterial waveform analysis, measurement of posterior tibial and dorsalis pedis (or toe) and brachial arterial pressures bilaterally using Doppler or plethysmographic techniques, the calculation of ankle (or toe) brachial systolic pressure indices and assessment of arterial waveforms by a medical practitioner, or on referral of a medical practitioner to a podiatrist or nurse



practitioner, for the evaluation of lower extremity arterial disease **where there are documented signs and symptoms, for monitoring of established disease, and for the exclusion of arterial disease to enable compression therapy in venous disease excluding asymptomatic screening** — examination, hard or electronic copy and report, **maximum of 2 medical practitioner-referred examinations per 12 months unless there is a significant documented change to the patient's condition warranting additional urgent evaluation.**

Following consultation:

- The Committee considered nurse practitioner access to ABI should be referred to the Nurse Practitioner Reference Group for further consideration.

5.4.2 Rationale for Recommendation 4

This recommendation focuses on reducing low-value care whilst improving access to care through allied health practitioners. It is based on the following:

- The Committee agreed that there is low-value use of ABI. This is due to a lack of clarification in the item descriptor, which allows for general population screening and examination of asymptomatic patients. The Committee agreed that the item should not be used for screening purposes.
- The Committee agreed that use of ABI in general practice is appropriate for the targeted diagnosis and monitoring of peripheral vascular disease (PVD).
 - The Committee discussed the increasing use of ABI as part of the routine examination of patients with PVD, particularly in general practice and allied health settings. It agreed that there is no evidence to suggest that this represents low-value care.
 - There is literature to support the use of ABI in general practice as an assessment tool, to correlate with other signs and symptoms.¹³ The Committee agreed that ABI is a non-invasive, inexpensive assessment tool for PVD (14), despite the acknowledged limitations in the presence of severe mural calcification.



- The Committee discussed the high variability of operator efficacy but concluded that provider restrictions should not be put in place.
- The Committee is concerned about the encouragement of ABI screening through financial incentives, as evidenced in the marketing practices of medical device companies. The Committee opposes financial incentives of this nature, where patients may be subjected to low-value routine examinations.
- The Committee was referred the question of podiatrist-performed ABI on referral from GPs, for which they are currently not rebated.
- The Allied Health Reference Group asked the Committee to consider whether podiatrists and nurse practitioners should have access to ABI, when referred by a medical practitioner and for the following clinical indications:
 - To support the diagnosis of PVD, where the patient has documented signs and symptoms.
 - For ongoing management of a confirmed diagnosis of PVD.
 - For the management of patients with diabetes.
 - Not for screening of asymptomatic patients.
- The Committee agreed that appropriately trained podiatrists and nurse practitioners should have access to the item, as they are already currently performing the examination without access to the schedule fee. The Committee agreed that there should be a limit of two services per 12 months unless there is a significant, documented change to the patient's condition, to prevent overuse.



5.5 Vascular ultrasound: Continuous wave Doppler for investigation of venous valve insufficiency

Table 6: Item introduction table for item 11602

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
11602	Investigation of venous reflux or obstruction in one or more limbs at rest by cw Doppler or pulsed Doppler involving examination at multiple sites along each limb using intermittent limb compression or Valsalva manoeuvres, to detect prograde and retrograde flow, other than a service associated with a service to which item 32500 or 32501 applies - hard copy trace and written report, the report component of which must be performed by a medical practitioner, maximum of two examinations in a 12 month period, not to be used in conjunction with sclerotherapy.	\$57.75	118,634	\$7,111,203	32.7%

5.5.1 Recommendation 5

- Item 11602: Remove low-value CW Doppler investigation of venous insufficiency and obstruction.
 - The Committee recommends:
 - Changing the item descriptor to replace “Continuous Wave (CW) Doppler” with “duplex ultrasound”.
 - Restricting the ability to co-claim this item with other duplex ultrasound examinations of the lower limb.
 - Splitting the item to referred and non-referred items
 - Having a lower fee for the non-referred item
- The proposed item descriptor for the referred item 11602 (with changes highlighted in bold) is as follows:
 - Investigation of venous reflux or obstruction at rest by **duplex ultrasound**, to detect **antegrade** and retrograde flow, - hard **or digital** copy and report, the report component of which must be performed by a medical practitioner, maximum of two examinations (including 11602) in a 12-month period, **not being a service associated with a service to which an item in Subgroup 1 or 4 applies (R)**



- The proposed item descriptor for the new non-referred item 116XX (with changes highlighted in bold) is as follows:
 - Investigation of venous reflux or obstruction at rest by **duplex ultrasound**, to detect **antegrade** and retrograde flow, hard **or digital** copy and report, the report component of which must be performed by a medical practitioner, maximum of two examinations (including 116XX) in a 12-month period, **not being a service associated with a service to which an item in Subgroup 1 or 4 applies (NR)**

Following consultation:

- The Committee agreed to remove *'other than a service associated with a service to which item 32500 or 32501 applies'* from the item descriptors. The Committee also agreed to amend the wording to include *'ultrasound'*.

5.5.2 Rationale for Recommendation 5

This recommendation focuses on preventing low-value care. It is based on the following:

- The CW component of the examination should be considered obsolete, given the longstanding availability of pulsed and colour modalities. (15)
- The Committee agreed that CW Doppler as a single modality no longer plays an effective role in vascular insufficiency imaging, and that current use reflects low-value care and a lack of co-claiming restrictions. This was corroborated in the available literature. (16)
- The Committee agreed that the item should be split to have a non-referred duplex ultrasound examination option to reduce the need to send patients to another professional for referral where a follow-up ultrasound is otherwise clinically indicated.
- Co-claiming this item with other ultrasound items, particularly duplex items, is inappropriate, especially if performed by radiologists (who provide 89 per cent of services). (17)



- The potential effect of removing this item from the MBS was unclear, given the high volume of use. The item could be used for a valid indication requiring a non-referred duplex examination.



6. Recommendations: Digital subtraction angiography items

Tiering of items by number of contrast runs

Table 7: Item introduction table for items 60000–60078 (excluding all NK items) (i.e. 60000, 60003, 60006, 60009, 60012, 60015, 60018, 60021, 60024, 60027, 60030, 60033, 60036, 60039, 60042, 60045, 60048, 60051, 60054, 60057, 60060, 60063, 60066, 60069, 60072, 60075, 60078)

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
60000	Digital subtraction angiography, examination of head and neck with or without arch aortography - 1 to 3 data acquisition runs (R) (K) (Anaes.)	\$564.00	508	\$218,716	31.1%
60003	Digital subtraction angiography, examination of head and neck with or without arch aortography - 4 to 6 data acquisition runs (R) (K) (Anaes.)	\$827.10	361	\$231,232	3.0%
60006	Digital subtraction angiography, examination of head and neck with or without arch aortography - 7 to 9 data acquisition runs (R) (K) (Anaes.)	\$1,176.10	279	\$260,307	0.0%
60009	Digital subtraction angiography, examination of head and neck with or without arch aortography - 10 or more data acquisition runs (R) (K) (Anaes.)	\$1,376.30	3,201	\$3,476,390	7.0%
60012	Digital subtraction angiography, examination of thorax - 1 to 3 data acquisition runs (R) (K) (Anaes.)	\$564.00	8,194	\$3,554,225	9.5%
60015	Digital subtraction angiography, examination of thorax - 4 to 6 data acquisition runs (R) (K) (Anaes.)	\$827.10	466	\$292,097	5.8%
60018	Digital subtraction angiography, examination of thorax - 7 to 9 data acquisition runs (R) (K) (Anaes.)	\$1,176.10	123	\$110,005	1.0%
60021	Digital subtraction angiography, examination of thorax - 10 or more data acquisition runs (R) (K) (Anaes.)	\$1,376.30	423	\$443,903	10.2%
60024	Digital subtraction angiography, examination of abdomen - 1 to 3 data acquisition runs (R) (K) (Anaes.)	\$564.00	2,214	\$924,164	6.9%
60027	Digital subtraction angiography, examination of abdomen - 4 to 6 data acquisition runs (R) (K) (Anaes.)	\$827.10	954	\$611,991	3.0%
60030	Digital subtraction angiography, examination of abdomen - 7 to 9 data acquisition runs (R) (K) (Anaes.)	\$1,176.10	805	\$740,468	3.8%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
60033	Digital subtraction angiography, examination of abdomen - 10 or more data acquisition runs (R) (K) (Anaes.)	\$1,376.30	4,607	\$4,937,890	6.7%
60036	Digital subtraction angiography, examination of upper limb or limbs - 1 to 3 data acquisition runs (R) (K) (Anaes.)	\$564.00	1,212	\$499,645	27.6%
60039	Digital subtraction angiography, examination of upper limb or limbs - 4 to 6 data acquisition runs (R) (K) (Anaes.)	\$827.10	396	\$274,966	4.2%
60042	Digital subtraction angiography, examination of upper limb or limbs - 7 to 9 data acquisition runs (R) (K) (Anaes.)	\$1,176.10	452	\$429,762	7.1%
60045	Digital subtraction angiography, examination of upper limb or limbs - 10 or more data acquisition runs (R) (K) (Anaes.)	\$1,376.30	1,506	\$1,629,189	9.2%
60048	Digital subtraction angiography, examination of lower limb or limbs - 1 to 3 data acquisition runs (R) (K) (Anaes.)	\$564.00	4,275	\$1,781,711	35.8%
60051	Digital subtraction angiography, examination of lower limb or limbs - 4 to 6 data acquisition runs (R) (K) (Anaes.)	\$827.10	420	\$265,001	8.1%
60054	Digital subtraction angiography, examination of lower limb or limbs - 7 to 9 data acquisition runs (R) (K) (Anaes.)	\$1,176.10	658	\$588,400	3.5%
60057	Digital subtraction angiography, examination of lower limb or limbs - 10 or more data acquisition runs (R) (K) (Anaes.)	\$1,376.30	6,391	\$6,702,643	7.7%
60060	Digital subtraction angiography, examination of aorta and lower limb or limbs - 1 to 3 data acquisition runs (R) (K) (Anaes.)	\$564.00	847	\$353,439	49.3%
60063	Digital subtraction angiography, examination of aorta and lower limb or limbs - 4 to 6 data acquisition runs (R) (K) (Anaes.)	\$827.10	152	\$95,173	3.3%
60066	Digital subtraction angiography, examination of aorta and lower limb or limbs - 7 to 9 data acquisition runs (R) (K) (Anaes.)	\$1,176.10	437	\$401,918	-0.1%
60069	Digital subtraction angiography, examination of aorta and lower limb or limbs - 10 or more data acquisition runs (R) (K) (Anaes.)	\$1,376.30	5,922	\$6,347,008	-0.6%
60072	Selective arteriography or selective venography by digital subtraction angiography technique - 1 vessel (NR) (K) (Anaes.)	\$48.10	6,449	\$217,791	-3.4%
60075	Selective arteriography or selective venography by digital subtraction	\$96.10	3,862	\$276,168	-1.1%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	angiography technique - 2 vessels (NR) (K) (Anaes.)				
60078	Selective arteriography or selective venography by digital subtraction angiography technique - 3 or more vessels (NR) (K) (Anaes.)	\$144.25	14,170	\$1,553,636	11.7%

6.1.1 Recommendation 6

- Items 60000–60078: Remove current run-based³ tiering and anatomical classifications of DSA.

Following consultation:

- The Committee agreed to replace the phrase “low-value” with “current run-based”.

In August 2019, the Taskforce recommended forming a vascular working group to refine the DSA recommendations further. The working group’s recommendations can be found in section 11 of this report.

6.1.2 Rationale for Recommendation 6

This recommendation reduces patient exposure to additional radiation and contrast for marginal to no clinical benefit by removing financial incentives to maximise the number of runs. It is based on the following:

- Currently, DSA items are tiered into brackets by the number of runs (one to three, four to six, seven to nine, and 10 or more), with correspondingly higher Schedule fees for higher tiers. The Committee agreed that this structure was originally developed to account for the high cost and time-consuming nature of early digital subtraction equipment and techniques, both of which have been greatly reduced thanks to technological improvements. The schedule fees no longer reflect the marginal expense of increased runs.

³ Notes on DSA, Medicare Benefits Schedule, Note IN.0.17: A run is the injection of contrast, data acquisition, and the generation of a hard copy record.



- There is no evidence on the recommended number of runs for DSA to obtain the best clinical outcomes for any region or procedure. Clinicians should be conducting as few runs as possible to complete a procedure or to achieve an accurate diagnosis. International comparisons do not support the use of tiers for the number of runs. (18)
- Higher runs have a safety trade-off, with increased patient exposure to contrast and radiation. Abdominal and/or aortic angiography has a typical radiation dose of 12 mSv (19), which increases as more runs are performed. Contrast-induced nephrotoxicity risk is increased with more runs.
- A Schedule fee based on the number of runs may result in additional runs being performed with little to no added clinical benefit.
- The frequent use of low-run DSA items to examine closure devices in routine procedures or in routine central venous catheter insertions may be opportunistic. It does not represent high-value care nor does it reflect the Schedule fee and the intention of the item.
- The Committee provided this recommendation along with Recommendation 7 noting not to cause significant change to the procedures patients receive or the out-of-pocket costs associated with procedures but rather to more fairly and consistently remunerate for angiography services provided in conjunction with a procedure.
- The Committee considered stakeholder feedback on the consultation report and agreed to remove current run based tiering and anatomical classifications of DSA and updated its recommendation to reflect this.

6.2 New angiographic items linked to relevant procedural items

6.2.1 Recommendation 7

- Items 60072–60078: Link procedural items with new angiographic items and bundle item numbers for selective catheterisation of vessels into new angiographic items (conditional on Recommendation 6).
 - The Committee recommends that:
 - New angiography items be prospectively linked to procedural items where angiography is considered integral to performing the procedure. These new items should have fixed Schedule fees.



- Selective angiography be bundled into these new angiographic items.
- This recommendation is contingent on any future review of all affected procedures, with the following requirements:
 - The process of adjusting schedule fees should be cost neutral, once inappropriate use is removed.
 - Where necessary, adjustments to linked procedural items should correctly reflect procedural complexity.
 - Adjustments to linked angiographic items should correctly reflect the average angiographic complexity.
 - Consultation with affected clinician groups is required, including vascular and general surgery, cardiology and interventional neuroradiology.
 - Developing a complexity schedule with procedural complexity as the basis.

Following consultation:

- The Committee supported forming a working group to refine this recommendation.

6.2.2 Rationale for Recommendation 7

- This recommendation focuses on promoting appropriate practice. It is based on the following:
- This recommendation proposes a major shift away from the current categorisation of angiographic complexity (based on the number of runs), which is assessed after each case (retrospectively) by the clinician. The Committee agreed that this creates a potential incentive to increase the amount of imaging and contrast used, as this increases the billable schedule fee.
- The Committee agreed that where DSA is integral to an interventional procedure, both items should be re-evaluated together, to ensure that the correct schedule fee is set for the sum of both components.



- These procedural and angiographic items should be linked prospectively to promote run-agnostic practice, while also eliminating incentives for “drive-by”⁴ angiography (which is currently permissible within the system).
- The Committee agreed that linking items and adjusting schedule fees is conditional on the following:
 - The process of adjusting schedule fees should be cost neutral, once inappropriate use is removed.
 - Schedule fee adjustments for procedures and imaging should be acceptable to the average clinician and average consumer.
 - Clinicians practising appropriately should not be financially penalised due to changes to the MBS.
 - Cost savings should only occur from clearly inappropriate use, and where possible should be reinvested into radiological services.
 - Adjustments to linked procedural items should correctly reflect procedural complexity.
 - The schedule fees for procedural items that are currently under-remunerated should be adjusted upward to accurately reflect procedural complexity—for example, with selective angiography.
 - Adjustments to linked angiographic items should correctly reflect the average angiographic complexity.
 - Angiographic item schedule fees should take into consideration the average fluoroscopy item and any other special requirements that affect the clinician.
 - Consultation with affected clinician groups is required, including vascular and general surgery, cardiology and interventional neuro-radiology.
 - For affected angiogram items performed by clinicians other than interventional radiologists and vascular and general surgeons, targeted consultation should be conducted with the relevant specialty to ensure that the correct adjustments are made.



- There should be a review of all other items with an angiographic component, such as interventional neurology and cardiac procedures, to ensure consistency across the MBS.

The VWG agreed that appropriate angiographic items and relevant procedural items should be bundled together with an appropriate schedule fee.

The VWG noted that work will be required to identify the relevant procedural items which required to be bundled with DSA items; and to determine an appropriate schedule fee. The VWG agreed that the maximum number of runs remunerated would rely on the associated procedure rather than the 'type' of angiogram. The purpose is to reduce low-value use and incentivise appropriate use of angiography.

6.3 Angiographic item compliance with the Diagnostic Imaging Accreditation Scheme

6.3.1 Recommendation 8

- Retain angiographic components as tiered items within the DIST (conditional on Recommendation 7).
 - The Committee recommends that the linked angiographic items are:
 - Tiered by a measure of complexity.
 - Retained within the DIST to ensure compliance with the DIAS (rather than moving to the General Medical Services Table [GMST]).
- The Committee recommends that procedural items should only be claimed with the corresponding angiographic item, and that this should be detailed within both item descriptors.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.



6.3.2 Rationale for Recommendation 8

- This recommendation focuses on ensuring diagnostic imaging items adhere to the appropriate safety and accreditation standards. It is based on the following:
- The Committee understands that items within the DIST are subject to the DIAS. Initial recommendations to bundle angiographic items into procedural items were proposed by the Committee, however moving items from the DIST to the GMST would lose the assurance of compliance with DIAS standards. The Committee was advised that changing the DIAS to encompass the GMST would require extensive legislative and administrative revision.
- The Committee agreed that the loss of DIAS standards would be an unacceptable outcome of bundling the procedural and angiographic items and therefore recommends that the angiographic component be retained within the DIST.

6.4 Tiering of items by number of contrast runs

6.4.1 Recommendation 9

Replace references to “digital subtraction angiography” with “angiography and fluoroscopy”.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

6.4.2 Rationale for Recommendation 9

- This recommendation focuses on broadening the definition of angiography. It is based on the following:
- References to digital subtraction in MBS items exclude other modalities of angiography, such as fluoroscopy and non-subtraction digital angiography.
- This recommendation will remove distinctions between fixed fluoroscopy, digital angiography and subtraction angiography in the new angiography suite of items. This will allow modalities with lower radiation doses to be used where appropriate, and will enable more inclusive and accurate assessments of the



imaging requirements for certain procedures. The Committee considered that fluoroscopy did not specifically feature as an imaging component of endovascular procedures. The Committee Chair noted that if the bundling of the imaging component of endovascular procedures into a single item number becomes the final Taskforce recommendation, then the difference between angiography and fluoroscopy (or any other Imaging modality used e.g. IVUS or any future imaging modality) will have little impact. If it does not, it is an important change to the schedule.

6.5 Diagnostic use of DSA items

6.5.1 Recommendation 10

- Create a separate diagnostic catheter angiogram item.
 - The Committee recommends that the new item:
 - Is guided by clinical pathways.
 - Cannot be co-claimed in the same episode as any angiographic item linked with a procedural (as per Recommendations 7 and 8).
 - Has a schedule fee in the same range as a lower tier of angiographic items.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

6.5.2 Rationale for Recommendation 10

This recommendation focuses on promoting appropriate use of diagnostic catheter-based angiography. It is based on the following:

- Noting the varying availability of appropriate equipment and the diagnostic effectiveness of MRA and CTA in the community, the Committee agreed that diagnostic catheter angiography may be the most appropriate modality in a wide range of clinical scenarios—for example, for the planning of infra-popliteal interventions for patients with diabetic foot.



- The Committee recognised the appropriateness of catheter-based diagnostic angiography in interventional neuroradiological investigations and agreed that the item should remain on the MBS for this purpose.

6.6 Alternative imaging modalities to angiography

6.6.1 Recommendation 11

- Support minimally invasive diagnostic alternatives to DSA.

The Committee supports the submission of an MSAC application to add an MRA item to the MBS for investigation of the lower limb.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

6.6.2 Rationale for Recommendation 11

This recommendation focuses on promoting newer alternatives to diagnostic catheter-based angiography. It is based on the following:

- The Committee agreed that catheter-based angiography should not be used as a primary diagnostic tool where less invasive modalities with lower risk profiles are available and appropriate—for example, MRA (not yet available on the MBS) or CTA for investigation of PVD.
- MRA is a high-value, minimally invasive diagnostic alternative to DSA and should be made available on the MBS for vascular use.
 - MRA represents high-value care in aiding the diagnosis of PVD, with comparable or adequate diagnostic efficacy for common indications supported in the literature. (20, 21, 22, 23)
 - CTA and MRA examinations provide options that may have lower radiation and contrast exposures, as well as better patient experiences. (24)
 - National Institute for Health and Care Excellence (NICE) guidelines recommend a step-wise approach to investigating revascularisation of peripheral disease, with non-invasive modalities preferred to DSA. (25)



- Western Australian state guidelines on imaging already specify CTA and MRA for urgent investigation of stage I and II acute leg ischaemia. (26)
- The Committee's clinical opinion is that access to MRA and CTA in non-metropolitan regions will increase as machines and expertise become more readily available. (27)
- The Committee acknowledged that for below-knee investigations, catheter-based angiography still plays an important role where CTA and MRA cannot produce sufficient diagnostic imaging detail.

6.7 Vascular Working Group recommendations for Digital

Subtraction Angiography items

The Taskforce formed a Vascular Working Group (VWG) in August 2019 to provide advice on digital subtraction angiography (DSA) items. The VWG included the following members:

- Professor Michael Grigg (VWG Chair) - Vascular Surgeon and Taskforce member
- Professor Michael Besser - Retired Neurosurgeon and Taskforce Ex-officio member
- Dr Matthew Andrews - Radiologist and Taskforce member
- Dr Peter Subramaniam - Vascular Surgeon and VCC Co-Chair
- Dr Ron Meikle – Interventional radiologist and VCC Co-Chair

The VWG developed a position on DSA items that aligns with the intent of the VCC recommendations. The VWG position is as follows:

1. The number of runs should cease to be a tiering system within the MBS.
2. The MBS should remunerate services performed by an appropriately accredited individual in an appropriately accredited institution.
3. There are three clinical circumstances in which angiography is to be used:
 - Diagnostic only
 - Angiography (and indeed all vascular imaging) that is integral to an intervention



- Angiography commenced as part of an intervention but the intervention was abandoned for documented clinical reasons.
4. For DSA items where the imaging is integral to the procedure, the items should be bundled.
 5. Future changes should be based on available data and be patient centred.



7. Recommendations: Vascular surgery items

7.1 Repair of arterial vessels

Table 8: Item introduction table for items 33050–33112 and 33121–33181 (i.e. 33050, 33055, 33070, 33075, 33080, 33100, 33103, 33109, 33112, 33115, 33116, 33118, 33119, 33121, 33124, 33127, 33130, 33133, 33136, 33139, 33142, 33145, 33148, 33151, 33154, 33157, 33160, 33163, 33166, 33169, 33172, 33175, 33178, 33181)

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
33050	Bypass grafting to replace a popliteal aneurysm using a synthetic graft (Anaes.) (Assist.)	\$1,455.30	80	\$85,883	4.2%
33055	Aneurysm in the extremities, ligation, suture closure or excision of, without bypass grafting (Anaes.) (Assist.)	\$1,167.05	48	\$42,006	4.2%
33070	Aneurysm in the neck, ligation, suture closure or excision of, without bypass grafting (Anaes.) (Assist.)	\$842.00	107	\$53,905	8.9%
33075	Intra-abdominal or pelvic aneurysm, ligation, suture closure or excision of, without bypass grafting (Anaes.) (Assist.)	\$1,071.05	5	\$3,341	-20.8%
33080	Aneurysm of common or internal carotid artery, or both, replacement by graft of vein or synthetic material (Anaes.) (Assist.)	\$1,307.45	15	\$12,993	1.4%
33100	Thoracic aneurysm, replacement by graft (Anaes.) (Assist.)	\$1,436.30	9	\$4,040	2.4%
33103	Thoraco-abdominal aneurysm, replacement by graft including re-implantation of arteries (Anaes.) (Assist.)	\$2,015.30	54	\$79,254	-1.4%
33109	Suprarenal abdominal aortic aneurysm, replacement by graft including re-implantation of arteries (Anaes.) (Assist.)	\$2,436.50	15	\$26,743	-4.6%
33112	Bypass grafting to replace a popliteal aneurysm using a synthetic graft (Anaes.) (Assist.)	\$2,113.10	36	\$55,633	-6.0%
33115	Infrarenal abdominal aortic aneurysm, replacement by tube graft, not being a service associated with a service to which item 33116 applies	\$1,421.35	52	\$53,835	-14.8%
33116	Infrarenal abdominal aortic aneurysm, replacement by tube graft using endovascular repair procedure, excluding associated radiological services	\$1,399.00	68	\$69,359	2.9%
33118	Infrarenal abdominal aortic aneurysm, replacement by bifurcation graft to iliac arteries (with or without excision of common iliac aneurysms) not being a service associated with a service to which item 33119 applies	\$1,579.30	63	\$73,008	-9.5%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
33119	Infrarenal abdominal aortic aneurysm, replacement by bifurcation graft to one or both iliac arteries using endovascular repair procedure, excluding associated radiological services	\$1,554.55	788	\$905,684	0.3%
33121	Infrarenal abdominal aortic aneurysm, replacement by bifurcation graft to 1 or both femoral arteries (with or without excision or bypass of common iliac aneurysms) (Anaes.) (Assist.)	\$1,737.25	10	\$12,969	-6.5%
33124	Aneurysm of iliac artery (common, external or internal), replacement by graft - unilateral (Anaes.) (Assist.)	\$1,210.80	68	\$47,462	6.3%
33127	Aneurysms of iliac arteries (common, external or internal), replacement by graft - bilateral (Anaes.) (Assist.)	\$1,586.75	15	\$15,201	-8.2%
33130	Aneurysm of visceral artery, excision and repair by direct anastomosis or replacement by graft (Anaes.) (Assist.)	\$1,383.65	12	\$11,412	0.0%
33133	Aneurysm of visceral artery, dissection and ligation of arteries without restoration of continuity (Anaes.) (Assist.)	\$1,037.65	3	\$1,946	0.0%
33136	False aneurysm, repair of, at aortic anastomosis following previous aortic surgery (Anaes.) (Assist.)	\$2,616.75	15	\$28,457	2.9%
33139	False aneurysm, repair of, in iliac artery and restoration of arterial continuity (Anaes.) (Assist.)	\$1,586.75	24	\$26,773	4.8%
33142	False aneurysm, repair of, in femoral artery and restoration of arterial continuity (Anaes.) (Assist.)	\$1,481.50	142	\$154,763	-1.7%
33145	Ruptured thoracic aortic aneurysm, replacement by graft (Anaes.) (Assist.)	\$2,549.20	11	\$21,023	9.5%
33148	Ruptured thoraco-abdominal aortic aneurysm, replacement by graft (Anaes.) (Assist.)	\$3,165.80	-	-	-100.0%
33151	Ruptured suprarenal abdominal aortic aneurysm, replacement by graft (Anaes.) (Assist.)	\$3,007.90	5	\$11,280	-6.5%
33154	Ruptured infrarenal abdominal aortic aneurysm, replacement by tube graft (Anaes.) (Assist.)	\$2,225.90	16	\$26,705	-7.0%
33157	Ruptured infrarenal abdominal aortic aneurysm, replacement by bifurcation graft to iliac arteries (with or without excision or bypass of common iliac aneurysms) (Anaes.) (Assist.)	\$2,481.50	31	\$57,680	14.1%
33160	Ruptured infrarenal abdominal aortic aneurysm, replacement by bifurcation graft to 1 or both femoral arteries (Anaes.) (Assist.)	\$2,481.50	2	\$2,792	-12.9%
33163	Ruptured iliac artery aneurysm, replacement by graft (Anaes.) (Assist.)	\$2,105.70	5	\$7,897	-6.5%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
33166	Ruptured aneurysm of visceral artery, replacement by anastomosis or graft (Anaes.) (Assist.)	\$2,105.70	2	\$3,159	N/A
33169	Ruptured aneurysm of visceral artery, simple ligation of (Anaes.) (Assist.)	\$1,639.35	1	\$1,226	-19.7%
33172	Aneurysm of major artery, replacement by graft, not being a service to which another item in this Sub-group applies (Anaes.) (Assist.)	\$1,278.35	38	\$32,004	4.8%
33175	Ruptured aneurysm in the extremities, ligation, suture closure or excision of, without bypass grafting (Anaes.) (Assist.)	\$1,178.10	23	\$19,050	6.2%
33178	Ruptured aneurysm in the neck, ligation, suture closure or excision of, without bypass grafting (Anaes.) (Assist.)	\$1,498.20	1	\$1,124	N/A
33181	Ruptured intra-abdominal or pelvic aneurysm, ligation, suture closure or excision of, without bypass grafting (Anaes.) (Assist.)	\$1,831.70	2	\$2,061	0.0%

7.1.1 Recommendation 12

- Add new EVAR items to the MBS.
- The Committee recommends creating new items to provide schedule fees for peripheral and thoracic aneurysm repair to include open or endovascular techniques (excluding the angiography component). This is not currently covered on the MBS.

These new items would mirror current open repair items, with the descriptors specifying “by endovascular techniques”.

Following consultation:

- The Committee recommended that the current item be amended to encompass an endovascular approach (assuming it is appropriate for the fee for the respective open and endovascular procedures to be equal).
- The Committee also agreed to create a new recommendation to combine item 33118 and item 33119.

7.1.2 Rationale for Recommendation 12

- This recommendation focuses on modernising the MBS to reflect current clinical practice, and creating consistency where such items already exist.



It is based on the following:

- Aligning with contemporary practice.
 - EVAR may be safer in the peri-operative period than open aneurysm repair, particularly for patients with high-risk profiles. There is currently no long-term disadvantage to endovascular techniques (compared to open techniques) for certain populations (28), although long-term evidence on the efficacy of EVAR is limited.
 - Adding endovascular repair to the MBS may improve access for regional and remote areas, especially where endovascular modalities are becoming more accessible and preferred to open techniques.
- Maintaining consistency across the MBS.
 - The Committee noted that an item already exists for the repair of infrarenal abdominal aortic aneurysms by endovascular techniques (item 33119). MBS data showed that this item accounted for more than 90 per cent of services for the repair of these aneurysms.
 - The Committee is aware that the repair of aneurysms by endovascular techniques is currently permitted and claimed under open repair item numbers as a temporary measure (for example, common or internal iliac aneurysm repair). It agreed that endovascular items should be added separately to all existing open repair items to avoid legal vulnerabilities.



7.2 Endovascular interventional procedures

Table 9: Item introduction table for items 35300–35315

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
35300	Transluminal balloon angioplasty of 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$515.35	3,061	\$1,079,115	3.2%
35303	Transluminal balloon angioplasty of aortic arch branches, aortic visceral branches, or more than 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$660.80	4,535	\$2,001,075	6.2%
35306	TRASLUMINA STENT INSERTION, 1 or more stents, including associated balloon dilatation for 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare. (Anaes.) (Assist.)	\$609.90	2,375	\$940,912	2.9%
35307	Transluminal stent insertion, 1 or more stents (not drug-eluting), with or without associated balloon dilatation, for 1 carotid artery, percutaneous (not direct), with or without the use of an embolic protection device, in patients who: - meet the indications for carotid endarterectomy; and - have medical or surgical comorbidities that would make them at high risk of perioperative complications from carotid endarterectomy, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$1,121.15	210	\$169,150	-2.0%
35309	TRANSLUMINAL STENT INSERTION, 1 or more stents, including associated balloon dilatation for visceral arteries or veins, or more than 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare. (Anaes.) (Assist.)	\$762.35	4,079	\$2,085,001	8.0%
35312	Peripheral arterial atherectomy including associated balloon dilatation of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$864.05	196	\$124,936	67.2%
35315	Peripheral laser angioplasty including associated balloon dilatation of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$864.05	5	\$3,240	N/A



7.2.1 Recommendation 13

- Items 35300–35315: Change the descriptors to make reference to embolic protective devices (EPDs) in transluminal stenting and balloon angioplasties.
 - The Committee recommends that the use of EPDs should not be mandated, as they may not improve outcomes in every clinical scenario, and may be technically difficult to deploy even when clinically indicated.

Following consultation:

- The Committee agreed to add the words “technically possible” to replace the word “mandatory” in the relevant descriptors.

7.2.2 Rationale for Recommendation 13

- This recommendation focuses on considering best practice regarding EPDs. It is based on the following:
- Endovascular interventional procedures involve the manipulation of diseased blood vessels, which can cause the development of emboli that can block downstream vessels.
- The Committee initially considered that mandating the use of EPDs would minimise risks for patients.
- Having considered the available literature on the indications and efficacy of EPDs, the Committee agreed to add the words “technically possible” to replace the word “mandatory” in the relevant descriptors.
 - The Committee noted that many manufacturers of stents recommend the use of EPDs, and that surgeons should follow the advice of manufacturers in these cases.
 - The Committee also noted that the evidence is not yet strong enough to suggest that EPDs should be used in all endoluminal stent insertions and balloon angioplasties. It agreed that mandating the use of EPDs may be detrimental to patients when it is not clinically indicated.
 - The Committee has considered stakeholder feedback to the report and noted stakeholder views that EPDs are critical and should be mandated.



7.3 Operations to restore venous valve competency

Table 10: Item introduction table for items 34818–34833

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34818	Venous valve, plication or repair to restore valve competency (Anaes.) (Assist.)	\$1,067.80	-	-	-100.0%
34821	Vein transplant to restore valvular function (Anaes.) (Assist.)	\$1,451.45	-	-	N/A
34824	External stent, application of, to restore venous valve competency to superficial vein - 1 stent (Anaes.) (Assist.)	\$496.30	35	\$4,952	-12.9%
34827	External stents, application of, to restore venous valve competency to superficial vein or veins - more than 1 stent (Anaes.) (Assist.)	\$601.65	14	\$5,731	-27.3%
34830	External stent, application of, to restore venous valve competency to deep vein (1 stent) (Anaes.) (Assist.)	\$707.00	-	-	N/A
34833	External stents, application of, to restore venous valve competency to deep vein or veins (more than 1 stent) (Anaes.) (Assist.)	\$917.40	11	\$344	N/A

7.3.1 Recommendation 14

- Items 34818–34833: Delete items.
 - The Committee has recommended deleting low-value venous valve restoration items due to low levels of use and insufficient evidence of clinical efficacy.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

7.3.2 Rationale for Recommendation 14

This recommendation focuses on ensuring that the MBS supports clinically relevant services that improve health outcomes for patients. It is based on the following:

- The Committee agreed that venous valve restoration procedures by surgical techniques should not be available on the MBS.
 - Venous restoration surgery is a niche procedure performed by a limited number of clinicians, and only in certain circumstances.



- Surgical management of superficial venous incompetency has largely been replaced with sclerotherapy, endovenous ablation, ligation and stripping.
- A Cochrane review of randomised control trials (29) found no evidence of benefit or harm for venous valve repair.
- The Committee acknowledged that this procedure may mature in the future but agreed that it is not currently supported by robust evidence and does not represent high-value care.

7.4 Repair of wounds of veins or arteries by lateral suture

Table 11: Item introduction table for items 33815, 33824 and 33833

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
33815	Major artery or vein of extremity, repair of wound of, with restoration of continuity, by lateral suture (Anaes.) (Assist.)	\$857.30	2,904	\$1,267,110	26.6%
33824	Major artery or vein of neck, repair of wound of, with restoration of continuity, by lateral suture (Anaes.) (Assist.)	\$1,090.35	175	\$79,974	25.2%
33833	Major artery or vein of abdomen, repair of wound of, with restoration of continuity by lateral suture (Anaes.) (Assist.)	\$1,331.15	1,563	\$1,069,706	15.3%

7.4.1 Recommendation 15

- Items 33815, 33824 and 33833: Restrict co-claiming for vascular wound repair where this is considered part of the procedure.
 - The Committee recommends adding restrictions to items 33815, 33824 and 33833 so they cannot be co-claimed on the same day, for the same patient, with percutaneously performed vascular procedures, except where an open procedure is performed on the same day.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Repair of wound of, with restoration of continuity, by lateral suture, **not being a service associated with percutaneous procedures, or where arterial closure is considered integral to the procedure** (Anaes.) (Assist.)
- The Committee agreed that the descriptors will be refined to highlight that it is inappropriate for the provider to claim a vascular wound repair item where the



relevant wound has been created by the provider for the purpose of performing the procedure.

Following consultation:

- The Committee agreed to refine the descriptor to highlight that it is inappropriate for the provider to claim a vascular wound repair item where the relevant wound has been created by the provider for the purpose of performing the procedure.

7.4.2 Rationale for Recommendation 15

This recommendation focuses on reducing inappropriate claiming of items. It is based on the following:

- The Committee agreed that appropriate use of vessel repair items includes unexpected cut-downs or repairs where the vessel is unintentionally damaged.
- It recommended excluding claims for items where the vessel has been routinely opened as part of another procedure.
- The Committee noted there has been loose interpretation of the existing items and this recommendation was developed to better clarify the descriptor and ensure more appropriate use of the item.
- The Committee agreed to revise the recommendation to refine the descriptor to highlight that it is inappropriate for the provider to claim a vascular wound repair item where the relevant wound has been created by the provider for the purpose of performing the procedure.



8. Recommendations: Varicose vein items

8.1 Cross-cutting varicose vein recommendation

8.1.1 Recommendation 16

- Items 32500–32529: Require a referral from a GP for all varicose vein services.
 - The Committee recommends that all varicose vein items require a referral from a GP for management of venous disease.
 - The following restriction would be added to the item descriptors:
 - Requiring referral for management of venous disease by a medical practitioner who is not a member of a group of practitioners of which the providing practitioner is a member.
- The Committee also recommends changes to the explanatory notes for all varicose vein items to explicitly require that all clinicians are appropriately qualified and have received the necessary training in ultrasonography for the management of venous disease.
- The proposed explanatory notes (with changes highlighted in bold) are as follows:
 - TN.8.33 – **Sclerotherapy (32500 and new items), Surgical Dissection and Ligation (Items 32507, 32508, 32511, 32514, 32517), Cyanoacrylate adhesive (Items 32528 and 32529), Endovenous Laser Therapy (Items 32520 and 32522) and Radiofrequency Ablation (Items 32523 and 32526). It is required** that medical practitioner performing cyanoacrylate **adhesive**, endovenous laser therapy (ELT) or radiofrequency ablation (RFA) has successfully completed a substantial course of study and **training in duplex ultrasound** and the management of venous disease, which has been endorsed by their relevant professional organisation **and has received a valid referral for management of venous disease from a medical practitioner**. Medicare-funded cyanoacrylate adhesive, ELT and RFA can only be performed in cases where it is documented by duplex ultrasound that the great or



small saphenous vein (and major tributaries of saphenous veins as necessary) demonstrates reflux of 0.5 seconds or longer.

Following consultation:

- The Committee agreed to refer nurse practitioner access to MBS services to the Taskforce for consideration.

8.1.2 Rationale for Recommendation 16

- This recommendation focuses on ensuring consistency and appropriateness across all varicose veins items. It is based on the following:
- The Committee agreed that patients should be initially assessed by a medical practitioner (ideally, their usual GP) who is not the clinician performing the procedure, and is not from the same group of practitioners from whom the referral was received.
- Patient informed consent and education.
 - Patients should be independently informed about the available modalities as part of the informed consent process, as well as available providers and the internationally recognised hierarchy of treatment options for venous disease (i.e. first-line endothermal ablation, then second-line sclerotherapy, then third-line surgical stripping).
 - The Committee acknowledged the need for better public information regarding the available options, particularly given international evidence on the limited awareness of different treatment modalities. (30)
- Appropriate care coordination.
 - Having an initial GP review prior to referral to a treating specialist will remove patient self-referred presentations, which may be discretionary, of low clinical value or cosmetic.
 - GPs will have greater involvement in the co-ordination of chronic venous disease management, which supports the Taskforce's aim of strengthening the role of GP stewardship.
 - Standing referrals for the management of venous disease (rather than for the specific procedure) will ensure that the provider is able to



choose to either perform the most appropriate procedure or refer the patient onwards to a more appropriate provider.

- The Committee agreed that there are situations where specialist-to-specialist referrals are still necessary, such as referrals from haematologists or vascular physicians. Concern was raised about requiring patients to re-attend GPs for referrals. The Committee agreed to allow specialist-to-specialist referrals to occur, acknowledging that such referrals are valid for three months, while GP referrals are valid for 12 months.
- The Committee agreed that there should be an explicit requirement that clinicians providing varicose vein treatments are appropriately qualified and recognised through the relevant professional organisation. The Committee agreed that clinicians must have the necessary training in ultrasonography for managing venous disease.
- The Committee agreed that the correct term for cyanoacrylate embolisation is cyanoacrylate glue or adhesive, and that all references in the MBS should be changed to reflect this.

8.2 Sclerotherapy

Table 12: Item introduction table for item 32500

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32500	Varicose veins where varicosity measures 2.5mm or greater in diameter, multiple injections of sclerosant using continuous compression techniques, including associated consultation - 1 or both legs - not being a service associated with any other varicose vein operation on the same leg (excluding aftercare) - to a maximum of 6 treatments in a 12-month period (Anaes.)	\$109.80	47,168	\$5,576,048	-3.3%

8.2.1 Recommendation 17

- Item 32500: Reduce cosmetic and low-value use of sclerotherapy.
 - The Committee recommends changing the item descriptor to require previous treatment or confirmed truncal reflux, and to remove references to varicosities measuring 2.5 millimetres or greater.



- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - VARICOSE VEINS, multiple injections of sclerosant using continuous compression techniques, including associated consultation, **where proximal reflux > 0.5 seconds has been excluded and the treatment is not for cosmetic purposes**, 1 or both legs - not being a service associated with any other varicose vein operation on the same leg, **or venography or fluoroscopy** (excluding after-care) - to a maximum of 6 treatments in a 12-month period.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

8.2.2 Rationale for Recommendation 17

This recommendation acknowledges the integral role of ultrasound in identifying clinically significant varicose veins that require treatment. It is based on the following:

- The Committee agreed that it is difficult to determine the precise definition of “cosmetic” for the purposes of ensuring clinically appropriate treatment. It agreed that reflux of more than 0.5 seconds alone does not demonstrate the presence of venous disease requiring intervention.
- The Committee agreed that the current requirement for varicosities to measure 2.5 millimetres or more should be removed from all item descriptors referencing varicose veins, acknowledging that this is no longer an appropriate criterion to define clinically relevant varicosities (due to clinical variability). In addition, the severity of symptoms (pain, bleeding) from varicose veins does not correlate well with vein size.
- Evidence of treatment or confirmed truncal reflux on ultrasound will improve the likelihood of appropriate and durable treatment of prominent surface veins.
- Venography, fluoroscopy or angiography during sclerotherapy is inappropriate and unsafe and should be restricted.



8.3 Ultrasound-guided foam sclerotherapy for the treatment of truncal reflux

8.3.1 Recommendation 18

- Create a new item for ultrasound-guided foam sclerotherapy (UGFS).
 - The Committee recommends submitting a new UGFS item to the MSAC for consideration.
- The proposed item descriptor is as follows:
 - Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great or small saphenous vein of one leg or major tributaries of saphenous veins as necessary, using ultrasound guided foam sclerotherapy and compression garments, if it is documented by duplex ultrasound that the great or small saphenous veins or their major tributaries, or the anterior accessory veins demonstrate reflux of 0.5 seconds or longer, 1 or both legs - not being a service associated with any other varicose vein operation on the same leg, or venography, angiography or fluoroscopy (excluding after-care) - to a maximum of 6 treatments in a 12-month period”.
- The item should have a limit of six treatments over a 12-month period.
- The item cannot be co-claimed with any other ultrasound item (for example, item 55054, item 11602).
- Foaming of sclerosants should be recommended as on-label use within the PBS.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

8.3.2 Rationale for Recommendation 18

This recommendation focuses on providing options for appropriate care that are not explicitly available on the MBS. It is based on the following:

- Bundling ultrasound is necessary to accurately diagnose and treat clinically significant truncal reflux with foam sclerotherapy, which is considered effective.



- Foam sclerotherapy is an effective modality of sclerotherapy with ultrasound guidance (31, 32) and should be included on the MBS.
 - The Committee agreed that UGFS is appropriate for post-surgical recurrences and venous ulcer patients unsuitable for thermal ablation or surgery, and that it has similar efficacy when compared to liquid sclerotherapy of varicosities of the lower limb. (33)
- The item should have the same service number cap as item 32500 (a maximum of six treatments per 12 months). This acknowledges that UGFS has a relatively high recurrence rate after a single treatment, and that a series of treat-and-review visits is necessary to achieve adequate sclerosis.
- The Committee recognises that the foaming of sclerosant is an off-label use of agents available on the PBS, and a request for revision of the PBS is recommended.
- The Committee agreed that venography, fluoroscopy or angiography during sclerotherapy is inappropriate and unsafe and should be restricted.



8.4 Endovenous laser therapy for varicose veins

Table 13: Item introduction table for items 32520 and 32522

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32520	Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great (long) or small (short) saphenous vein of one leg (and major tributaries of saphenous veins as necessary), using a laser probe introduced by an endovenous catheter, where it is documented by duplex ultrasound that the great or small saphenous vein (whichever is to be treated) demonstrates reflux of 0.5 seconds or longer, including all preparation and immediate clinical aftercare (including excision or injection of either tributaries or incompetent perforating veins, or both) but not including radiofrequency diathermy or radiofrequency ablation, and not provided on the same occasion as a service described in any of items 32500, 32501, 32504 or 32507. (Anaes.)	\$533.60	5,844	\$2,726,165	15.9%
32522	Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great (long) and small (short) saphenous vein of one leg (and major tributaries of saphenous veins as necessary), using a laser probe introduced by an endovenous catheter, where it is documented by duplex ultrasound that the great and small saphenous veins demonstrate reflux of 0.5 seconds or longer, including all preparation and immediate clinical aftercare (including excision or injection of either tributaries or incompetent perforating veins, or both) but not including radiofrequency diathermy or radiofrequency ablation, and not provided on the same occasion as a service described in any of items 32500, 32501, 32504 or 32507 (Anaes.)	\$793.30	1,048	\$713,148	23.3%

8.4.1 Recommendation 19

- Items 32520 and 32522: Include the accessory vein in the ELT item descriptors.
- The proposed item descriptors (with changes highlighted in bold) are as follows:
 - Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great and/or small saphenous vein, **or anterior accessory vein** of one leg (and major tributaries of saphenous veins as necessary), using a laser probe introduced by an endovenous catheter where it is documented by duplex ultrasound that the great or small saphenous vein (whichever is to be treated) demonstrates reflux of 0.5 seconds or



longer, including all preparation and immediate clinical aftercare (including excision or injection of either tributaries or incompetent perforating veins, or both) but not including radiofrequency diathermy or radiofrequency ablation, not including venography, angiography or fluoroscopy and not provided on the same occasion as a service described in any of items 32500, 32501, 32504 or 32507. (Anaes.)

- The Committee agreed not to add any restrictions to the items beyond those outlined in Recommendation 16.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

8.4.2 Rationale for Recommendation 19

This recommendation focuses on preserving consumer and clinician choice. It is based on the following:

- The Committee discussed the role of ELT and RFA as first-line treatments in the hierarchy of venous disease management options in international guidelines. (34)
- It agreed that although the procedure is designed for out-of-hospital use, placing restrictions on locality could have the following unintended effects:
 - Patients with rare indications that require the use of general anaesthesia (such as allergies to tumescent anaesthesia, severe anxiety) would be excluded.
 - Out-of-pocket costs for patients would likely increase, as private health funds cannot cover out-of-hospital treatments.
- The Committee agreed that there will be a natural shift to out-of-hospital use over time, and that no changes to the item were appropriate for further incentivising out-of-hospital use.
- The anterior accessory vein has been explicitly included in the item descriptors because there are clinical situations where the main axial vein is incompetent. In the current item descriptors—which reference only the great and small



saphenous veins and tributaries—treatment of the anterior accessory vein attracts no schedule fee.

- Venography, fluoroscopy or angiography during ELT is inappropriate and unsafe and should be restricted.

8.5 Radio frequency ablation for varicose veins

Table 14: Item introduction table for items 32523 and 32526

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32523	Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great (long) or small (short) saphenous vein of one leg (and major tributaries of saphenous veins as necessary), using a radiofrequency catheter introduced by an endovenous catheter, where it is documented by duplex ultrasound that the great or small saphenous vein (whichever is to be treated) demonstrates reflux of 0.5 seconds or longer, including all preparation and immediate clinical aftercare (including excision or injection of either tributaries or incompetent perforating veins, or both), but not including endovenous laser therapy, and not provided on the same occasion as a service described in any of items 32500, 32501, 32504 or 32507 (Anaes.)	\$533.60	4,562	\$1,658,210	N/A
32526	Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great (long) and small (short) saphenous vein of one leg (and major tributaries of saphenous veins as necessary), using a radiofrequency catheter introduced by an endovenous catheter, where it is documented by duplex ultrasound that the great and small saphenous veins demonstrate reflux of 0.5 seconds or longer, including all preparation and immediate clinical aftercare (including excision or injection of either tributaries or incompetent perforating veins, or both), but not including endovenous laser therapy, and not provided on the same occasion as a service described in any of items 32500, 32501, 32504 or 32507 (Anaes.)	\$793.30	700	\$408,966	N/A

8.5.1 Recommendation 20

- Items 32523 and 32526: Include the accessory vein in the RFA therapy item descriptors.
- The proposed item descriptor is as follows (with changes in bold):



- Varicose veins, abolition of venous reflux by occlusion of a primary or recurrent great or small saphenous vein, **or anterior accessory vein** of one leg (and major tributaries of saphenous veins as necessary), using a radiofrequency catheter introduced by an endovenous catheter, where it is documented by duplex ultrasound that the great and small saphenous veins demonstrate reflux of 0.5 seconds or longer, including all preparation and immediate clinical aftercare (including excision or injection of either tributaries or incompetent perforating veins, or both), but not including endovenous laser therapy, not including venography, angiography or fluoroscopy and not provided on the same occasion as a service described in any of items 32500, 32501, 32504 or 32507 (Anaes.)
- The Committee agreed not to add any restrictions to the items beyond those outlined in Recommendation 16.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

8.5.2 Rationale for Recommendation 20

This recommendation focuses on preserving consumer and clinician choice. It is based on the following:

- The Committee discussed the role of ELT and RFA as first-line treatments in the hierarchy of varicose vein management in international guidelines. (35)
- It agreed that although the procedure is designed for out-of-hospital use, placing restrictions on locality could have the following unintended effects:
 - Patients with rare indications that require the use of general anaesthesia (such as allergies to tumescent anaesthesia, severe anxiety) would be excluded.
 - Out-of-pocket costs for patients would likely increase, as private health funds cannot cover out-of-hospital treatments.
- The Committee agreed that there will be a natural shift to out-of-hospital use over time, and that no changes to the item were appropriate for further incentivising out-of-hospital use.



- The anterior accessory vein has been explicitly included in the item descriptors because there are clinical situations where the main axial vein is incompetent. In the current item descriptors—which reference only the great and small saphenous veins and tributaries—treatment of the anterior accessory vein attracts no schedule fee.
- Venography, fluoroscopy or angiography during RFA is inappropriate and unsafe and should be restricted.

8.6 Surgical treatment of varicose veins

Table 15: Item introduction table for items 32507, 32508, 32511, 32514 and 32517

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32507	Varicose veins, sub-fascial surgical exploration of one or more incompetent perforating veins - 1 leg - not being a service associated with a service to which item 32508, 32511, 32514 or 32517 applies on the same leg (Anaes.) (Assist.)	\$533.60	1,461	\$583,173	4.0%
32508	Varicose veins, complete dissection at the sapheno-femoral or sapheno-popliteal junction -1 leg - with or without either ligation or stripping, or both, of the long or short saphenous veins, for the first time on the same leg, including excision or injection of either tributaries or incompetent perforating veins, or both (Anaes.) (Assist.)	\$533.60	4,514	\$1,578,583	-9.2%
32511	Varicose veins, complete dissection at the sapheno-femoral and sapheno-popliteal junction -1 leg - with or without either ligation or stripping, or both, of the long or short saphenous veins, for the first time on the same leg, including excision or injection of either tributaries or incompetent perforating veins, or both (Anaes.) (Assist.)	\$793.30	541	\$300,519	-4.9%
32514	Varicose veins, ligation of the long or short saphenous vein on the same leg, with or without stripping, by re-operation for recurrent veins in the same territory - 1 leg - including excision or injection of either tributaries or incompetent perforating veins, or both (Anaes.) (Assist.)	\$926.80	1,219	\$767,135	-2.9%
32517	Varicose veins, ligation of the long and short saphenous vein on the same leg, with or without stripping, by re-operation for recurrent veins in either territory - 1 leg - including excision or injection of either tributaries or incompetent perforating veins, or both (Anaes.) (Assist.)	\$1,193.40	422	\$348,403	-3.9%



8.6.1 Recommendation 21

- Item 32507: Change the item descriptor to reflect contemporary practice, remove out-of-hospital benefits and exclude co-claiming with any venography items.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - VARICOSE VEINS, **sub-fascial ligation** of one or more incompetent perforating veins – 1 leg, performed by open surgical technique, **not including endoscopic ligation** – not being a service associated with a service **to which any other varicose vein treatment** applies on the same leg, **not to be performed out-of-hospital** (Anaes,) (Assist.)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

8.6.2 Rationale for Recommendation 21

This recommendation focuses on reducing low-value care, while ensuring that the item remains accessible for rare clinical indications. It is based on the following:

- The current item descriptor references obsolete or inappropriate techniques.
 - Sub-fascial exploration (including endoscopic ligation) is an obsolete technique and should not be experiencing an increase in use while all other surgical items for the treatment of varicose veins are experiencing a decline.
 - The Committee agreed that the item should be limited to sub-fascial ligation, given the high diagnostic value of duplex ultrasound examination to locate incompetent perforators without the need for exploration.
 - Sub-fascial exploration is inappropriate and represents low-value care, especially in an out-of-hospital setting and where co-claimed with venous ultrasound and venography.
- The item is still currently used for appropriate procedures and should remain on the MBS.



- The Committee has heard that item 32507 may be used in complex varicose vein surgical ligation with very specific techniques (i.e. Cockets or Linton's procedures).

8.7 Varicose vein surgical stripping procedures

8.7.1 Recommendation 22

- Items 32508–32517
 - Do not place additional restrictions on surgical dissection or ligation items (beyond those outlined in Recommendation 16).
 - Change the item descriptors to remove references to “long” and “short” saphenous veins, and use only “great” and “small” for consistency across varicose vein item descriptors.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

8.7.2 Rationale for Recommendation 22

This recommendation focuses on retaining active, adequate and appropriate surgical procedures on the MBS. It is based on the following:

- The Committee agreed that surgical ligation and dissection continue to be valid modalities and should remain on the MBS.
 - International guidelines recognise the role of surgical management in contemporary care. The NICE guidelines rank surgical stripping third in order of preference, after endovenous ablation (ELT and RFA) and ultrasound-guided sclerotherapy. (36)
 - The Committee recognises that surgical ligation and dissection continues to play a role despite the evolution of endovenous techniques and should not be considered inappropriate or made unavailable for patients at this stage.
 - Surgical dissection and ligation items are already experiencing a decline in use as minimally invasive methods become increasingly popular.





9. Other recommendations

9.1 Percutaneous embolisation splitting

Table 16: Item introduction table for item 35321

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
35321	Peripheral arterial or venous catheterisation to administer agents to occlude arteries, veins or arterio-venous fistulae or to arrest haemorrhage, (but not for the treatment of uterine fibroids or varicose veins) percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare, not being a service associated with photodynamic therapy with verteporfin (Anaes.) (Assist.)	\$813.30	4,586	\$2,740,568	11.5%

9.1.1 Recommendation 23

- Item 35321: The Committee recommends changing the item descriptor to include ‘vascular malformations’ and also to split the item to accommodate the creation of an additional tier of embolisation procedures, above the existing level, to reflect the added complexity of these procedures not adequately covered by the current item number.
 - The proposed item descriptor (with changes highlighted in bold) is as follows:

Peripheral arterial or venous catheterisation to administer agents to occlude arteries, veins or **vascular malformations** to arrest haemorrhage, (but not for the treatment of uterine fibroids or varicose veins) percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare, not being a service associated with photodynamic therapy with verteporfin (Anaes.) (Assist.)

Following consultation:



- The Committee agreed to include “vascular malformations” and to split the item into anatomically relevant indication-specific embolisation items.

9.1.2 Rationale for Recommendation 23

- This recommendation focuses on improving appropriate treatment options. It is based on the following:
- Item 35321 is currently being used for a wide range of clinical indications, such as varicocele embolisation and gastrointestinal haemorrhage, which vary greatly in complexity, time required and risk to the patient.
- The Committee is concerned that the schedule fee for this item under-remunerates certain complex procedures, disincentivising use; and over-remunerates other procedures, creating an incentive for low-value use.
- The recommendation would allow the procedures to be tiered, based on complexity. This would support appropriate levels of imaging and remuneration, in line with Recommendations 6 to 11.
- This recommendation recognises the heterogeneous nature of these procedures which may require any amount of time from three minutes to four hours; and a two tiered system which defines complex or simple procedures may be appropriate.
- The Committee recognises this recommendation relates to the proposed angiography complexity schedule and that the complexity of the procedures would be mirrored by the angiography complexity schedule.
- The Committee initially recommended splitting the item into anatomically relevant items. The initial interim measure was that the current item descriptor should be changed to include more encompassing terminology. The Committee initially agreed to refer a proposal to the MSAC that item 35321 (peripheral arterial or venous catheterisation embolisation) be broken down into a suite of new indication-specific embolisation items. After further consideration of the existing service and stakeholders’ feedback, the Committee agreed that a referral to the MSAC is not required. Instead of recommending a referral to MSAC, the Committee recommended changing the item descriptor for an existing item (35321).



9.2 Uterine embolisation

Table 17: Item introduction table for item 35410

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
35410	Uterine artery catheterisation with percutaneous administration of occlusive agents, for the treatment of symptomatic uterine fibroids in a patient who has been referred for uterine artery embolisation by a specialist gynaecologist, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$813.30	133	\$80,158	14.7%

9.2.1 Recommendation 24

- Item 35410: Allow non-gynaecologist-referred uterine embolisation.
 - The Committee agreed to remove the need for referral by a gynaecologist, and to instead specify the need for specialist gynaecology review prior to performing the procedure.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Uterine artery catheterisation with percutaneous administration of occlusive agents, for the treatment of symptomatic uterine fibroids in a patient **who has been reviewed by a gynaecologist**, excluding associated radiological services or preparation, and excluding aftercare (Anaes) (Assist).
- The Committee recommended that explanatory notes are to be included for items for myomectomy and hysterectomy for uterine fibroids to align with the Committee's recommendations.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.2.2 Rationale for Recommendation 24

- This recommendation focuses on encouraging utilisation of an appropriate, minimally invasive technique. It is based on the following:



- Uterine embolisation has a growing role as a minimally invasive alternative to hysterectomies in certain clinical situations. (37)
- The Committee noted relatively low use of this item, compared with the number of hysterectomies performed in the previous financial year. This recommendation will ensure that patients have greater access to less invasive procedures, where clinically appropriate and under review by a specialist gynaecologist.
- The Committee acknowledges that further consultation with the Gynaecology sectors and RANZCR regarding items for myomectomy and hysterectomy for uterine fibroids would be required to keep the intent of this recommendation.

9.3 Transluminal balloon angioplasty

Table 18: Item introduction table for item 35303

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
35303	Transluminal balloon angioplasty of aortic arch branches, aortic visceral branches, or more than 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)	\$660.80	4,535	\$2,001,075	6.2%

9.3.1 Recommendation 25

- Item 35303: Change the anatomical descriptor to include iliac arteries for consistency across the MBS.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Transluminal balloon angioplasty of aortic arch branches, aortic visceral branches, **iliac arteries**, or more than 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare (Anaes.) (Assist.)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.



9.3.2 Rationale for Recommendation 25

- This recommendation focuses on ensuring the item reflects contemporary clinical practice. It is based on the following:
- It is currently unclear whether this item can be used for transluminal balloon angioplasties of the iliac arteries. This change offers clarity to clinicians about which item to use.

9.4 Aortic bypass

Table 19: Item introduction table for item 32711

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32711	Aortic bypass for occlusive disease using a bifurcated graft with 1 or both anastomoses to the common femoral or profunda femoris arteries (Anaes.) (Assist.)	\$1,737.25	25	\$30,945	-10.7%

9.4.1 Recommendation 26

- Item 32711: Change the anatomical descriptor of femoral arteries for consistency across the MBS.
 - The Committee recommends replacing “common femoral or profunda femoris arteries” with “femoral arteries” in the item descriptor.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.4.2 Rationale for Recommendation 26

This recommendation keeps requirements consistent across similar items on the MBS (items 32715 and 32712).



9.5 Femoral artery bypass

Table 20: Item introduction table for item 32748

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32748	Femoral artery bypass grafting using vein, including harvesting of vein (when it is the ipsilateral long saphenous vein) with distal anastomosis within 5cms of the ankle joint (Anaes.) (Assist.)	\$1,834.80	44	\$60,541	-2.9%

9.5.1 Recommendation 27

- Item 32748: Change the anatomical descriptor of anastomosis location.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Femoral or popliteal artery to distal bypass graft using vein, including harvesting of vein (when it is the ipsilateral long saphenous vein), **where the distal anastomosis is above the ankle without muscle coverage** (Anaes.)(Assist.)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.5.2 Rationale for Recommendation 27

- This recommendation focuses on ensuring the item reflects contemporary clinical practice. It is based on the following:
- The Committee agreed that requiring the distal anastomosis to be within 5 centimetres of the ankle is arbitrary. Patient anatomy may vary beyond 5 centimetres.
- The Committee agreed to make the item descriptor more accurate by redefining the anastomosis by functional anatomy.



9.6 Abdominal venous thrombectomy

Table 21: Item introduction table for item 33810

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
33810	Inferior vena cava or iliac vein, closed thrombectomy by catheter via the femoral vein (Anaes.) (Assist.)	\$592.45	21	\$8,345	28.5%

9.6.1 Recommendation 28

- Item 33810: Change the item descriptor to specify “by endovenous technique”, rather than “by catheter”.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Inferior vena cava or iliac vein, closed **thrombectomy by endovenous technique** via the femoral vein (Anaes.) (Assist.)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.6.2 Rationale for Recommendation 28

- This recommendation focuses on ensuring the item reflects contemporary clinical practice. It is based on the following:
- The Committee agreed that specifying “by endovenous technique” in the item descriptor would ensure consistency in terminology across the vascular segment of the MBS.



9.7 Aorto-duodenal fistula repair by covered stent

Table 22: Item introduction table for item 34160

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34160	Aorto-duodenal fistula, repair of, by suture of aorta and repair of duodenum (Anaes.) (Assist.)	\$2,225.90	11	\$1,669	-12.9%

9.7.1 Recommendation 29

- Item 34160: Change the item descriptor to clarify that repair of aorto-duodenal fistula can be by suture or endovascular technique to reline the aorta.
- The Committee initially recommended changing the item descriptor to clarify that repair of an aorto-duodenal fistula can be by suture or insertion of a covered stent to reline the aorta. After further consideration of stakeholders' feedback and the existing items, the Committee noted stakeholders' suggestions that the stent referenced in the descriptor may need to be listed on the Prostheses List.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Aorto-duodenal fistula, repair of, by suture or **endovascular technique** of aorta and repair of duodenum (Anaes.) (Assist.)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.7.2 Rationale for Recommendation 29

- This recommendation focuses on ensuring the item reflects contemporary clinical practice. It is based on the following:
- The Committee agreed that this change will align the MBS with appropriate practice by including aorto-duodenal fistula repair by insertion of a covered stent. (38)



9.8 Aorto-duodenal fistula repair by endovascular technique

Table 23: Item introduction table for item 34163

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34163	Aorto-duodenal fistula, repair of, by insertion of aortic graft and repair of duodenum (Anaes.) (Assist.)	\$2,857.55	-	-	-100.0%

9.8.1 Recommendation 30

- Item 34163: No Change.
- The Committee initially considered changing the item descriptor to clarify that repair of aorto-duodenal fistula can be performed by endovascular technique.

Following consultation:

- The Committee agreed to retain the original descriptor for item 34163.

9.8.2 Rationale for Recommendation 30

- This recommendation focuses on ensuring the item reflects contemporary clinical practice. It is based on the following:
 - The Committee initially agreed that changing item 34163 would align the MBS with current practice by including aorto-duodenal fistula repair by endovascular technique in the item descriptor.
 - Initially, the Committee recommended the proposed item descriptor (with changes highlighted in bold) is as follows:
 - Aorto-duodenal fistula, repair of, by suture **or endovascular technique** of aorta and repair of duodenum (Anaes.) (Assist.)
- Following stakeholder consultation and further consideration of this item, the Committee recommended this item to remain unchanged, noting that this item was not claimed in the previous financial year.



9.9 Intra-abdominal vessel cannulation

Table 24: Item introduction table for item 34521

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34521	Intra-abdominal artery or vein, cannulation of, for infusion chemotherapy, by open operation (excluding aftercare) (Anaes.) (Assist.)	\$789.95	44	\$1,481	5.9%

9.9.1 Recommendation 31

- Item 34521: Delete item.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.9.2 Rationale for Recommendation 31

- This recommendation focuses on removing items that no longer reflect appropriate contemporary clinical practice. It is based on the following:
- The Committee agreed that item 34521 is obsolete. It does not reflect current accepted practice, where minimally invasive treatment options are available.



9.10 Central vein catheterisation

Table 25: Item introduction table for items 34527–34540 (i.e. 34527, 34528, 34529, 34530, 34533, 34534, 34538, 34539 and 34540)

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34527	Central vein catheterisation by open technique, using subcutaneous tunnel with pump or access port as with central venous line catheter or other chemotherapy delivery device, including any associated percutaneous central vein catheterization, on a person 10 years of age or over (Anaes.)	\$551.60	7,273	\$3,044,227	10.1%
34528	Central vein catheterisation by percutaneous technique, using subcutaneous tunnel with pump or access port as with central venous line catheter or other chemotherapy delivery device, on a person 10 years of age or over (Anaes.)	\$272.40	11,315	\$2,355,370	0.8%
34529	Central vein catheterisation by open technique, using subcutaneous tunnel with pump or access port as with central venous line catheter or other chemotherapy delivery device, including any associated percutaneous central vein catheterization, on a person under 10 years of age (Anaes.)	\$717.10	121	\$60,637	N/A
34530	Central venous line, or other chemotherapy device, removal of, by open surgical procedure in the operating theatre of a hospital on a person 10 years of age or over (Anaes.)	\$204.25	4,115	\$598,210	8.4%
34533	Isolated limb perfusion, including cannulation of artery and vein at commencement of procedure, regional perfusion for chemotherapy, or other therapy, repair of arteriotomy and venotomy at conclusion of procedure (excluding aftercare) (Anaes.) (Assist.)	\$1,240.65	5	\$4,295	-16.1%
34534	Central vein catheterisation by percutaneous technique, using subcutaneous tunnel with pump or access port as with central venous line catheter or other chemotherapy delivery device, on a person under 10 years of age (Anaes.)	\$354.10	67	\$16,928	N/A
34538	Central vein catheterisation by percutaneous technique, using subcutaneous tunnelled cuffed catheter or similar device, for the administration of haemodialysis parenteral or nutrition (Anaes.)	\$272.40	1,020	\$211,656	1.7%
34539	Tunnelled cuffed catheter, or similar device, removal of, by open surgical procedure (Anaes.)	\$204.25	562	\$86,203	8.7%
34540	Central venous line, or other chemotherapy device, removal of, by open surgical procedure in the operating theatre of a hospital, on a person under 10 years of age (Anaes.)	\$265.50	139	\$24,894	N/A



9.10.1 Recommendation 32

- Items 34527, 34528, 34529, 34530, 34533, 34534 and 34538: Ensure that central vein catheterisation (CVC) is performed with appropriate imaging.
 - The Committee recommends changing the item descriptors to include “with appropriate fluoroscopy” to clarify that appropriate fluoroscopy, either using fixed or mobile equipment, should be used in CVC procedures.
- Items 34539 and 34540: The Committee proposed the following descriptors:
 - For item 34539: Tunnelled cuffed catheter, or similar device, removal of, by open surgical procedure, **with appropriate fluoroscopy if required** (Anaes.)
 - For item 34540: Central venous line, or other chemotherapy device, removal of, by open surgical procedure in the operating theatre of a hospital, **with appropriate fluoroscopy if required**, on a person under 10 years of age (Anaes.)

Following consultation:

- The Committee agreed to add the words “with appropriate fluoroscopy, if required” to the descriptor for items 34539 and 34540.
- Members agreed to add the words “with appropriate fluoroscopy” to items 34527, 34528, 34529, 34530, 34533, 34534 and 34538.

9.10.2 Rationale for Recommendation 32

- This recommendation focuses on ensuring safe and appropriate clinical practice. It is based on the following:
 - Ensuring that these items are performed with appropriate fluoroscopy aligns the MBS with best practice.
 - Adding the words “with appropriate fluoroscopy, if required” to the descriptors for items 34539 and 34540 to allow unrestricted use for these items.



9.11 Intracranial aneurysm

Table 26: Item introduction table for item 35412

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
35412	Intracranial aneurysm, ruptured or unruptured, endovascular occlusion with detachable coils, and assisted coiling if performed, with parent artery preservation, not for use with liquid embolics only, including aftercare, including intra-operative imaging, but in association with the following pre-operative diagnostic imaging items: - either 60009 or 60010; and - either 60072, 60073, 60075, 60076, 60078 or 60079 (Anaes.) (Assist.)	\$2857.55	420	\$908,069.80	14.8%

9.11.1 Recommendation 33

- Item 35412: Change the item descriptor to allow for current and future endovascular techniques in the treatment for intracranial aneurysms.
- The proposed item descriptor (with changes highlighted in bold) is as follows:
 - Intracranial aneurysm, ruptured or unruptured, **treatment by endovascular technique**, with parent artery preservation, not for use with liquid embolics only, including aftercare, including intra-operative imaging, but in association with the following pre-operative diagnostic imaging items: - either 60009 or 60010; and - either 60072, 60073, 60075, 60076, 60078 or 60079 (Anaes.) (Assist.)

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.11.2 Rationale for Recommendation 33

This recommendation focuses on ensuring the item reflects contemporary clinical practice. It is based on the following:

- Specifying only endovascular occlusion with detachable coils precludes other current and future aneurysm treatment procedures.



- The Committee agreed that this item should be considered as part of the any future review of angiography co-claiming, as per Recommendation 16.

9.12 Other MSAC referrals

9.12.1 Recommendation 34

- Refer transarterial chemoembolisation (TACE) to the MSAC.
 - The Committee agreed to refer TACE to the MSAC, with a recommendation to create an item for its use in the treatment of inoperable hepatocellular carcinoma (HCC) and metastatic liver disease.
 - The item should reflect the complexity of the procedure.
- The Committees noted that this recommendation may not be required once the angiography complexity schedule is developed.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.12.2 Rationale for Recommendation 34

- This recommendation focuses on promoting access to appropriate and high-value care. It is based on the following:
- TACE is performed widely by interventional radiologists, both in Australia and globally. It has been included in the evidence-based Barcelona Criteria clinical pathway for treating primary and metastatic HCC for many years. There is also strong evidence supporting its use in the treatment of inoperable metastatic disease.

9.12.3 Recommendation 35

- Refer prostate artery embolisation to the MSAC.
 - The Committee agreed to refer prostate artery embolisation to the MSAC, with a recommendation to create a specific item number for its use.



- The Committee noted that this recommendation may not be required once the angiography complexity schedule is developed.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.

9.12.4 Rationale for Recommendation 35

- This recommendation focuses on promoting access to appropriate and high-value care. It is based on the following:
- The Committee supports the creation of a specific item number for prostate artery embolisation to reflect current practice. There is evidence to support public funding of this procedure, as recently recommended by NICE for the UK's National Health Service.

9.12.5 Recommendation 36

- Refer endovenous sampling to the MSAC.
- The Committee agreed to refer endovenous sampling to the MSAC for consideration.

Following consultation:

- The Committee agreed to remove reference for a requirement for consideration by MSAC from the recommendation.

9.12.6 Rationale for Recommendation 36:

- This recommendation focuses on promoting access to appropriate and high-value care. It is based on the following:
- Venous sampling of thyroid, adrenal and sphenoidal veins is currently performed in specialised centres. It guides the need for further surgical intervention. (39)
- The Committee noted that this item may be encompassed in the complexity schedule; however, it does not currently have a procedural item number and one would need to be created so that it can be encompassed in the complexity



schedule. The Committee recommended that the new item would need to be reflected in the higher end of the complexity schedule.

9.12.7 Recommendation 37

- The Committee recommends developing an item for the referral of percutaneous ablation of inoperable tumours to reflect contemporary practice.
- The Committee suggested that the following descriptor could be used: “Malignant tumour, destruction of, with percutaneous ablation by any technique excluding associated imaging services), other than a service associated with a service to which item 30419 or 50952 applies.”
- The Committee initially referred percutaneous ablation of primary and metastatic tumours to the MSAC. Subsequently, the Committee noted that item 50950 could be updated to reflect contemporary practice.
- The Committee initially agreed to refer percutaneous ablation of inoperable primary kidney and metastatic liver, lung and bone tumours to the MSAC for consideration. Subsequent to this agreement and further consideration, the Committee noted that there is currently one existing item for percutaneous ablation (50952) and one item for the open procedure (50950); however these items do not encompass the breadth of procedures performed under these item numbers. The Committee considered that these items were not within the remit of the VCC, however suggested that item 50952 should be left unchanged and that item 50950 could be revised.

Following consultation:

- The Committee agreed that item 50950 was not within the remit of the VCC as it was originally assigned to the General Surgery Clinical Committee for review.
- The Committee noted that the Taskforce will make the ultimate decision on whether a MSAC referral is required.



9.12.8 Rationale for Recommendation 37

- This recommendation focuses on promoting access to appropriate and high-value care. It is based on the following:
- These procedures are currently performed for a wide variety of tumours, including renal cell carcinoma, colorectal cancer and liver metastases, and skeletal metastases. However, they are mostly performed in the public hospital system as there is no MBS schedule fee. The lack of an MBS item number is creating differences in the treatment of public versus private patients.
- Updating the existing item 50950 may allow access without the need for creating a new item. However, this item is not within the VCC's remit.

9.12.9 Recommendation 38

- Refer transvenous biopsy by endovascular approach to the MSAC.
 - The Committee agreed to refer percutaneous transvenous biopsy by endovascular approach to the MSAC for consideration.

Following consultation:

- The Committee agreed to refer percutaneous transvenous biopsy by endovascular approach to the MSAC for consideration

9.12.10 Rationale for Recommendation 38

- This recommendation focuses on promoting access to appropriate and high-value care. It is based on the following:
- The Committee agreed that this item should be available on the MBS. The procedure is recognised as a safe, appropriate technique to obtain biopsy specimens, particularly in patients with diffuse liver disease. (40)



9.13 Referred and out-of-scope recommendations

9.13.1 Recommendation 39

- Change the name of Subgroup 3 from “Vascular” to “Vascular, Endovascular and Interventional Radiology”.

Following consultation:

- The Committee agreed to change the Subgroup name to “Vascular, Endovascular and Interventional Radiology” to better reflect the Subgroup.

9.13.2 Rationale for Recommendation 39

- This recommendation focuses on developing a distinct place for endovascular and interventional radiology items. It is based on the following:
- Currently, interventional radiology items are spread throughout different sections of the MBS.
- Creating a distinct section will properly reflect the growing number of interventional services provided, many of which are mainly performed by interventional radiologists.

Table 27: Item introduction table for items 18270 and 18272

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
18270	Femoral nerve, injection of an anaesthetic agent	\$88.65	5,399	\$982,702	N/A
18272	Saphenous, sural, popliteal or posterior tibial nerve, main trunk of, 1 or more of, injection of an anaesthetic agent	\$62.50	16,778	\$2,388,884	5.50%

9.13.3 Recommendation 40

- Items 18270 and 18272: No change.

Following consultation:

- The Committee agreed to retain this recommendation without any changes.



9.13.4 Rationale for Recommendation 40

- This recommendation for items 18270 and 18272 focuses on maintaining appropriate practice. It is based on the following:
- The Pain Management Clinical Committee referred items 18270 and 18272 to the Committee for review.
- The Committee recognises that these items are most commonly used by orthopaedic clinicians. However, as the Orthopaedic Clinical Committee noted, vascular and general surgery clinicians are the second-highest users of these items.
- The Committee agreed that, currently, the items are appropriately used during thermal ablation and ultrasound-guided sclerotherapy, particularly where there is a contraindication to a general anaesthetic.
- The Committee agreed that any changes could have unintended consequences for other clinicians, such as plastic and reconstructive surgeons and orthopaedic surgeons.

Table 28: Item introduction table for item 18282

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
18282	Carotid sinus, injection of an anaesthetic agent, as an independent percutaneous procedure	\$100.80	26	\$2,016	N/A



9.13.5 Recommendation 41

- Item 18282: Delete.

Following consultation:

- The Committee agreed to change this recommendation and delete item 18282.

9.13.6 Rationale for Recommendation 41

This recommendation focuses on reducing low-value use. It is based on the following:

- The Pain Management Clinical Committee referred item 18282 to the Committee for review.
- The Committee recognises that these items are most commonly used by vascular and general surgery clinicians.
- The Committee agreed that carotid sinus anaesthetic injections during mobilisation of the carotid open surgery of the neck (i.e. during endarterectomy) should be considered integral to that procedure, and co-claiming with any type of open surgery of the neck should be considered inappropriate.
- The Committee initially recommended introducing co-claiming restrictions with an open operation on the neck.
- The Committee noted that item 18282 may be used with a carotid endarterectomy.
- The Committee agreed to delete item 18282 on the basis of obsolescence and lack of clinical evidence for its efficacy in contemporary clinical practice.



10. Other no change items

No change was recommended for a further 174 items due to one of the following:

- These items are used in a small number of cases, but as no other item number provides for these procedures, the items should remain unchanged.
- The Committee considered that these items are appropriately used.
- The descriptors remain relevant and describe current best practice.
- The item was not identified as a priority area requiring change.

Table 299: Item introduction table for items which remain unchanged

Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
11600	BLOOD PRESSURE MONITORING (central venous, pulmonary arterial, systemic arterial or cardiac intracavity), by indwelling catheter - once only for each type of pressure on any calendar day up to a maximum of 4 pressures (not being a service to which item 13876 applies and where not performed in association with the administration of general anaesthesia)	\$69.30	\$277,146	5,087	-1.8%
11604	Investigation of chronic venous disease in the upper and lower extremities, one or more limbs, by plethysmography (excluding photoplethysmography)—examination, hard copy trace and written report, not being a service associated with a service to which item 32500 applies	\$75.70	\$2,225	35	18.5%
11605	Investigation of complex chronic lower limb reflux or obstruction, in one or more limbs, by infrared photoplethysmography, during and following exercise to determine surgical intervention or the conservative management of deep venous thrombotic disease—hard copy trace, calculation of 90% recovery time and written report, not being a service associated with a service to which item 32500 applies	\$75.70	\$1,908	30	-19.5%
11611	MEASUREMENT OF WRIST: BRACHIAL INDICES AND ARTERIAL WAVEFORM ANALYSIS, measurement of radial and ulnar (or finger) and brachial arterial pressures bilaterally using Doppler or plethysmographic techniques, the calculation of the wrist (or finger) brachial systolic pressure indices and assessment of arterial waveforms for the evaluation of upper	\$63.75	\$281,941	5,201	32.2%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	extremity arterial disease, examination, hard copy trace and report.				
11612	EXERCISE STUDY FOR THE EVALUATION OF LOWER EXTREMITY ARTERIAL DISEASE, measurement of posterior tibial and dorsalis pedis (or toe) and brachial arterial pressures bilaterally using Doppler or plethysmographic techniques, the calculation of ankle (or toe) brachial systolic pressure indices for the evaluation of lower extremity arterial disease at rest and following exercise using a treadmill or bicycle ergometer or other such equipment where the exercise workload is quantifiably documented, examination and report.	\$112.40	\$1,607,202	16,810	-0.1%
11614	TRANSCRANIAL DOPPLER, examination of the intracranial arterial circulation using CW Doppler or pulsed Doppler with hard copy recording of waveforms, examination and report, not associated with a service to which item 55280 applies.	\$75.70	\$1,573	26	-4.7%
11615	MEASUREMENT OF DIGITAL TEMPERATURE, 1 or more digits, (unilateral or bilateral) and report, with hard copy recording of temperature before and for 10 minutes or more after cold stress testing.	\$75.90	\$1,573	24	-14.0%
11627	PULMONARY ARTERY pressure monitoring during open heart surgery, in a person under 12 years of age	\$228.65	-	-	N/A
32700	ARTERY OF NECK, bypass using vein or synthetic material	\$1,436.30	\$49,030	61	-1.9%
32703	INTERNAL CAROTID ARTERY, transection and reanastomosis of, or resection of small length and reanastomosis of - with or without endarterectomy	\$1,188.20	\$102,991	117	2.4%
32708	AORTIC BYPASS for occlusive disease using a straight non-bifurcated graft	\$1,421.35	\$3,191	3	-5.6%
32710	AORTIC BYPASS for occlusive disease using a bifurcated graft with 1 or both anastomoses to the iliac arteries	\$1,579.30	\$13,029	12	-9.7%
32712	ILIO-FEMORAL BYPASS GRAFTING	\$1,255.80	\$35,786	47	-3.4%
32715	AXILLARY or SUBCLAVIAN TO FEMORAL BYPASS GRAFTING to 1 or both FEMORAL ARTERIES	\$1,255.80	\$20,669	28	-2.6%
32718	FEMORO-FEMORAL OR ILIO-FEMORAL CROSS-OVER BYPASS GRAFTING	\$1,188.20	\$48,883	69	-8.1%
32721	RENAL ARTERY, bypass grafting to	\$1,887.35	\$12,386	10	7.4%
32724	RENAL ARTERIES (both), bypass grafting to	\$2,143.10	\$3,215	2	-12.9%
32730	MESENTERIC VESSEL (single), bypass grafting to	\$1,624.30	\$14,924	13	5.4%
32733	MESENTERIC VESSELS (multiple), bypass grafting to	\$1,887.35	\$4,954	4	-7.8%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
32736	INFERIOR MESENTERIC ARTERY, operation on, when performed in conjunction with another intra-abdominal vascular operation	\$413.55	\$2,869	23	-8.1%
32739	FEMORAL ARTERY BYPASS GRAFTING using vein, including harvesting of vein (when it is the ipsilateral long saphenous vein) with above knee anastomosis	\$1,293.40	\$95,865	109	-7.5%
32742	FEMORAL ARTERY BYPASS GRAFTING using vein, including harvesting of vein (when it is the ipsilateral long saphenous vein) with distal anastomosis to below knee popliteal artery	\$1,481.50	\$154,318	141	-5.6%
32745	FEMORAL ARTERY BYPASS GRAFTING using vein, including harvesting of vein (when it is the ipsilateral long saphenous vein) with distal anastomosis to tibio peroneal trunk or tibial or peroneal artery	\$1,691.95	\$202,482	160	-3.4%
32751	FEMORAL ARTERY BYPASS GRAFTING using synthetic graft, with lower anastomosis above or below the knee	\$1,188.20	\$86,835	109	-3.3%
32754	FEMORAL ARTERY BYPASS GRAFTING, using a composite graft (synthetic material and vein) with lower anastomosis above or below the knee, including use of a cuff or sleeve of vein at 1 or both anastomoses	\$1,481.50	\$52,211	47	-5.4%
32757	FEMORAL ARTERY SEQUENTIAL BYPASS GRAFTING, (using a vein or synthetic material) where an additional anastomosis is made to separately revascularise more than 1 artery - each additional artery revascularised beyond a femoral bypass	\$413.55	\$1,396	13	16.7%
32760	VEIN, HARVESTING OF, FROM LEG OR ARM for bypass or replacement graft when not performed on the limb which is the subject of the bypass or graft - each vein	\$406.05	\$14,003	135	-6.8%
32763	ARTERIAL BYPASS GRAFTING, using vein or synthetic material, not being a service to which another item in this Sub-group applies	\$1,188.20	\$31,571	43	-5.8%
32766	ARTERIAL OR VENOUS ANASTOMOSIS, not being a service to which another item in this Sub-group applies, as an independent procedure	\$789.65	\$2110	6	0.0%
32769	ARTERIAL OR VENOUS ANASTOMOSIS not being a service to which another item in this Sub-group applies, when performed in combination with another vascular operation (including graft to graft anastomosis)	\$273.65	\$14,245	215	-12.4%
33500	ARTERY OR ARTERIES OF NECK, endarterectomy of, including closure by suture (where endarterectomy of 1 or more arteries is undertaken through 1 arteriotomy incision)	\$1,135.40	\$772,477	934	-1.9%
33506	INNOMINATE OR SUBCLAVIAN ARTERY, endarterectomy of, including closure by suture	\$1,270.90	\$8,340	14	14.9%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
33509	AORTIC ENDARTERECTOMY, including closure by suture, not being a service associated with another procedure on the aorta	\$1,421.35	\$18,146	43	-11.7%
33512	AORTO-ILIAC ENDARTERECTOMY (1 or both iliac arteries), including closure by suture not being a service associated with a service to which item 33515 applies	\$1,579.30	\$15,181	16	12.2%
33515	AORTO-FEMORAL ENDARTERECTOMY (1 or both femoral arteries) or BILATERAL ILIO-FEMORAL ENDARTERECTOMY, including closure by suture, not being a service associated with a service to which item 33512 applies	\$1,737.25	\$10,745	9	12.5%
33518	ILIAC ENDARTERECTOMY, including closure by suture, not being a service associated with another procedure on the iliac artery	\$1,270.90	\$13,813	17	-1.1%
33521	ILIO-FEMORAL ENDARTERECTOMY (1 side), including closure by suture	\$1,376.10	\$441,080	473	3.0%
33524	RENAL ARTERY, endarterectomy of	\$1,624.30	\$4,873	5	-14.6%
33527	RENAL ARTERIES (both), endarterectomy of	\$1,887.35	-	-	-100.0%
33530	COELIAC OR SUPERIOR MESENTERIC ARTERY, endarterectomy of	\$1,624.30	\$1,218	1	N/A
33533	COELIAC AND SUPERIOR MESENTERIC ARTERY, endarterectomy of	\$1,887.35	-	-	-100.0%
33536	INFERIOR MESENTERIC ARTERY, endarterectomy of, not being a service associated with a service to which another item in this Sub-group applies	\$1,346.10	-	-	N/A
33539	ARTERY OF EXTREMITIES, endarterectomy of, including closure by suture	\$970.05	\$149,851	271	0.8%
33542	EXTENDED DEEP FEMORAL ENDARTERECTOMY where the endarterectomy is at least 7cms long	\$1,383.65	\$106,467	111	-3.3%
33545	ARTERY, VEIN OR BYPASS GRAFT, patch grafting to by vein or synthetic material where patch is less than 3cm long	\$273.65	\$5,014	79	-4.2%
33548	ARTERY, VEIN OR BYPASS GRAFT, patch grafting to by vein or synthetic material where patch is 3cm long or greater	\$556.60	\$263,942	1,515	-0.5%
33551	VEIN, harvesting of from leg or arm for patch when not performed through same incision as operation	\$273.65	\$8,254	145	-8.7%
33554	ENDARTERECTOMY, in conjunction with an arterial bypass operation to prepare the site for anastomosis - each site	\$272.40	\$33,637	547	-6.2%
33800	EMBOLUS, removal of, from artery of neck	\$1,180.60	\$178,552	192	58.8%
33803	EMBOLECTOMY or THROMBECTOMY, by abdominal approach, of an artery or bypass graft of trunk	\$1,128.05	\$36,758	73	3.0%
33806	Embolectomy or thrombectomy (including the infusion of thrombolytic or other agents) from an artery or bypass graft of extremities, or	\$812.15	\$411,819	1090	3.3%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	embolectomy of abdominal artery via the femoral artery, item to be claimed once per extremity, regardless of the number of incisions required to access the artery or bypass graft				
33811	INFERIOR VENA CAVA OR ILIAC VEIN, open removal of thrombus or tumour	\$1,763.80	\$61,552	54	13.2%
33812	THROMBUS, removal of, from femoral or other similar large vein	\$932.45	\$50,967	90	2.1%
33818	MAJOR ARTERY OR VEIN OF EXTREMITY, repair of wound of, with restoration of continuity, by direct anastomosis	\$1,000.15	\$56,032	101	5.3%
33821	MAJOR ARTERY OR VEIN OF EXTREMITY, repair of wound of, with restoration of continuity, by interposition graft of synthetic material or vein	\$1,143.00	\$31,998	50	8.7%
33827	MAJOR ARTERY OR VEIN OF NECK, repair of wound of, with restoration of continuity, by direct anastomosis	\$1,278.35	\$30,747	36	16.2%
33830	MAJOR ARTERY OR VEIN OF NECK, repair of wound of, with restoration of continuity, by interposition graft of synthetic material or vein	\$1,466.30	\$2,837	7	7.0%
33836	MAJOR ARTERY OR VEIN OF ABDOMEN, repair of wound of, with restoration of continuity by direct anastomosis	\$1586.75	\$71,059	85	6.2%
33839	MAJOR ARTERY OR VEIN OF ABDOMEN, repair of wound of, with restoration of continuity by means of interposition graft	\$1,857.40	\$29,250	24	-6.2%
33842	ARTERY OF NECK, re-operation for bleeding or thrombosis after carotid or vertebral artery surgery	\$917.40	\$12,867	21	-11.2%
33845	LAPAROTOMY for control of post-operative bleeding or thrombosis after intra-abdominal vascular procedure, where no other procedure is performed	\$639.20	\$7,191	15	-9.7%
33848	EXTREMITY, re-operation on, for control of bleeding or thrombosis after vascular procedure, where no other procedure is performed	\$639.20	\$28,492	63	3.1%
34100	MAJOR ARTERY OF NECK, elective ligation or exploration of, not being a service associated with any other vascular procedure	\$707.00	\$20,513	68	8.6%
34103	Great artery (aorta or pulmonary artery) or great vein (superior or inferior vena cava), ligation or exploration of immediate branches or tributaries, or ligation or exploration of the subclavian, axillary, iliac, femoral or popliteal arteries or veins, if the service is not associated with item 32508, 32511, 32520, 32522, 32523, 32526, 32528 or 32529 - for a maximum of 2 services provided to the same patient on the same occasion (H)	\$413.55	\$368,531	2,877	-5.3%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34106	ARTERY OR VEIN (including brachial, radial, ulnar or tibial), ligation of, by elective operation, or exploration of, not being a service associated with any other vascular procedure except those services to which items 32508, 32511, 32514 or 32517 apply	\$291.70	\$80,833	662	5.1%
34109	TEMPORAL ARTERY, biopsy of	\$338.35	\$298,296	1,233	5.3%
34112	ARTERIO-VENOUS FISTULA OF AN EXTREMITY, dissection and ligation	\$857.30	\$42,869	79	7.5%
34115	ARTERIO-VENOUS FISTULA OF THE NECK, dissection and ligation	\$970.05	\$728	1	-12.9%
34118	ARTERIO-VENOUS FISTULA OF THE ABDOMEN, dissection and ligation	\$1,383.65	\$1,038	1	0.0%
34121	ARTERIO-VENOUS FISTULA OF AN EXTREMITY, dissection and repair of, with restoration of continuity	\$1,105.35	\$31,296	41	7.9%
34124	ARTERIO-VENOUS FISTULA OF THE NECK, dissection and repair of, with restoration of continuity	\$1,210.80	\$2,497	4	N/A
34127	ARTERIO-VENOUS FISTULA OF THE ABDOMEN, dissection and repair of, with restoration of continuity	\$1,586.75	\$1,190	2	14.9%
34130	SURGICALLY CREATED ARTERIO-VENOUS FISTULA OF AN EXTREMITY, closure of	\$496.30	\$32,837	176	17.1%
34133	SCALENOTOMY	\$556.60	\$34,391	136	12.6%
34136	FIRST RIB, resection of portion of	\$894.75	\$77,216	129	11.8%
34139	CERVICAL RIB, removal of, or other operation for removal of thoracic outlet compression, not being a service to which another item in this Sub-group applies	\$894.75	\$16,517	28	8.1%
34142	COELIAC ARTERY, decompression of, for coeliac artery compression syndrome, as an independent procedure	\$1,105.35	\$9,534	12	8.4%
34145	POPLITEAL ARTERY, exploration of, for popliteal entrapment, with or without division of fibrous tissue and muscle	\$804.65	\$74,341	153	9.5%
34148	CAROTID ASSOCIATED TUMOUR, resection of, with or without repair or reconstruction of internal or common carotid arteries, when tumour is 4cm or less in maximum diameter	\$1,436.30	\$13,459	14	4.9%
34151	CAROTID ASSOCIATED TUMOUR, resection of, with or without repair or reconstruction of internal or common carotid arteries, when tumour is greater than 4cm in maximum diameter	\$1,962.65	\$35,113	24	9.9%
34154	RECURRENT CAROTID ASSOCIATED TUMOUR, resection of, with or without repair or replacement of portion of internal or common carotid arteries	\$2,338.75	\$11,401	7	11.8%
34157	NECK, excision of infected bypass graft, including closure of vessel or vessels	\$1,188.20	\$891	1	0.0%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
34166	AORTO-DUODENAL FISTULA, repair of, by oversewing of abdominal aorta, repair of duodenum and axillo-bifemoral grafting	\$2,857.55	\$8,573	4	32.0%
34169	INFECTED BYPASS GRAFT FROM TRUNK, excision of, including closure of arteries	\$1,586.75	\$7,735	7	11.8%
34172	INFECTED AXILLO-FEMORAL OR FEMORO-FEMORAL GRAFT, excision of, including closure of arteries	\$1,293.40	\$2,421	3	-9.7%
34175	INFECTED BYPASS GRAFT FROM EXTREMITIES, excision of including closure of arteries	\$1,188.20	\$33,867	43	-5.1%
34500	ARTERIOVENOUS SHUNT, EXTERNAL, insertion of	\$308.40	\$2,298	9	-20.9%
34503	ARTERIOVENOUS ANASTOMOSIS OF UPPER OR LOWER LIMB, in conjunction with another venous or arterial operation	\$413.55	\$5,506	45	0.5%
34506	ARTERIOVENOUS SHUNT, EXTERNAL, removal of	\$210.45	\$-	-	-100.0%
34509	ARTERIOVENOUS ANASTOMOSIS OF UPPER OR LOWER LIMB, not in conjunction with another venous or arterial operation	\$977.55	\$551,424	755	2.1%
34512	ARTERIOVENOUS ACCESS DEVICE, insertion of	\$1,075.40	\$83,273	107	-9.4%
34515	ARTERIOVENOUS ACCESS DEVICE, thrombectomy of	\$767.00	\$36,825	120	1.9%
34518	STENOSIS OF ARTERIOVENOUS FISTULA OR PROSTHETIC ARTERIOVENOUS ACCESS DEVICE, correction of	\$1,285.75	\$773,030	802	8.2%
34524	ARTERIAL CANNULATION for infusion chemotherapy by open operation, not being a service to which item 34521 applies (excluding after-care)	\$413.55	\$2,323	9	0.0%
34800	INFERIOR VENA CAVA, plication, ligation, or application of caval clip	\$812.15	\$1,675	10	4.6%
34803	INFERIOR VENA CAVA, reconstruction of or bypass by vein or synthetic material	\$1,789.85	\$36,176	30	16.5%
34806	CROSS LEG BYPASS GRAFTING, saphenous to iliac or femoral vein	\$970.05	\$728	1	0.0%
34809	SAPHENOUS VEIN ANASTOMOSIS to femoral or popliteal vein for femoral vein bypass	\$970.05	\$334	1	0.0%
34812	VENOUS STENOSIS OR OCCLUSION, vein bypass for, using vein or synthetic material, not being a service associated with a service to which item 34806 or 34809 applies	\$1,173.05	\$6,928	10	4.6%
34815	VEIN STENOSIS, patch angioplasty for, (excluding vein graft stenosis)-using vein or synthetic material	\$970.05	\$2,906	5	0.0%
35000	LUMBAR SYMPATHECTOMY	\$707.00	\$10,798	23	-7.0%
35003	CERVICAL OR UPPER THORACIC SYMPATHECTOMY by any surgical approach	\$917.40	\$118,287	221	-13.9%
35006	CERVICAL OR UPPER THORACIC SYMPATHECTOMY, where operation is a	\$1,150.55	\$4,315	6	-14.3%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	reoperation for previous incomplete sympathectomy by any surgical approach				
35009	LUMBAR SYMPATHECTOMY, where operation is following chemical sympathectomy or for previous incomplete surgical sympathectomy	\$894.75	\$7,047	11	29.7%
35012	SACRAL or PRE-SACRAL SYMPATHECTOMY	\$707.00	\$795	2	0.0%
35100	ISCHAEMIC LIMB, debridement of necrotic material, gangrenous tissue, or slough in, in the operating theatre of a hospital, when debridement includes muscle, tendon or bone	\$368.55	\$451,088	1,994	9.8%
35103	ISCHAEMIC LIMB, debridement of necrotic material, gangrenous tissue, or slough in, in the operating theatre of a hospital, superficial tissue only	\$234.55	\$16,056	131	-7.6%
35200	OPERATIVE ARTERIOGRAPHY OR VENOGRAPHY, 1 or more of, performed during the course of an operative procedure on an artery or vein, 1 site	\$171.50	\$123,378	2,799	10.3%
35202	MAJOR ARTERIES OR VEINS IN THE NECK, ABDOMEN OR EXTREMITIES, access to, as part of RE-OPERATION after prior surgery on these vessels	\$817.10	\$652,610	1,965	5.1%
35317	PERIPHERAL ARTERIAL OR VENOUS CATHETERISATION with administration of thrombolytic or chemotherapeutic agents, BY CONTINUOUS INFUSION, using percutaneous approach, excluding associated radiological services or preparation, and excluding aftercare (not being a service associated with a service to which another item in Subgroup 11 of Group T1 or items 35319 or 35320 applies and not being a service associated with photodynamic therapy with verteporfin)	\$355.80	\$211,095	816	-7.3%
35319	PERIPHERAL ARTERIAL OR VENOUS CATHETERISATION with administration of thrombolytic or chemotherapeutic agents, BY PULSE SPRAY TECHNIQUE, using percutaneous approach, excluding associated radiological services or preparation, and excluding aftercare (not being a service associated with a service to which another item in Subgroup 11 of Group T1 or items 35317 or 35320 applies and not being a service associated with photodynamic therapy with verteporfin)	\$637.80	\$187,222	492	14.0%
35320	PERIPHERAL ARTERIAL OR VENOUS CATHETERISATION with administration of thrombolytic or chemotherapeutic agents, BY OPEN EXPOSURE, excluding associated radiological services or preparation, and excluding aftercare (not being a service associated with a service to which another item in Subgroup 11 of Group T1 or items 35317 or 35319 applies and not being a service associated with photodynamic therapy with verteporfin)	\$856.70	\$13,426	23	-20.0%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
35324	ANGIOSCOPY not combined with any other procedure, excluding associated radiological services or preparation, and excluding aftercare	\$304.95	\$686	3	8.4%
35327	ANGIOSCOPY combined with any other procedure, excluding associated radiological services or preparation, and excluding aftercare	\$408.70	\$843	7	7.0%
35330	INSERTION of INFERIOR VENA CAVAL FILTER, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare	\$515.35	\$202,584	540	1.8%
35331	RETRIEVAL OF INFERIOR VENA CAVAL FILTER, percutaneous or by open exposure, not including associated radiological services or preparation, and not including aftercare	\$592.45	\$126,514	294	8.8%
35360	Retrieval of foreign body in PULMONARY ARTERY, percutaneous or by open exposure, not including associated radiological services or preparation, and not including aftercare	\$828.20	\$8,134	15	2.9%
35361	Retrieval of foreign body in RIGHT ATRIUM, percutaneous or by open exposure, not including associated radiological services or preparation, and not including aftercare	\$710.30	\$13,147	27	9.7%
35362	Retrieval of foreign body in INFERIOR VENA CAVA or AORTA, percutaneous or by open exposure, not including associated radiological services or preparation, and not including aftercare	\$592.45	\$3,440	16	21.7%
35363	Retrieval of foreign body in PERIPHERAL VEIN or PERIPHERAL ARTERY, percutaneous or by open exposure, not including associated radiological services or preparation, and not including aftercare	\$474.65	\$9,832	60	22.2%
35404	DOSIMETRY, HANDLING AND INJECTION OF SIR-SPHERES for selective internal radiation therapy of hepatic metastases which are secondary to colorectal cancer and are not suitable for resection or ablation, used in combination with systemic chemotherapy using 5-fluorouracil (5FU) and leucovorin, not being a service to which item 35317, 35319, 35320 or 35321 applies The procedure must be performed by a specialist or consultant physician recognised in the specialties of nuclear medicine or radiation oncology on an admitted patient in a hospital. To be claimed once in the patient's lifetime only.	\$346.60	\$46,857	195	5.0%
35406	Trans-femoral catheterisation of the hepatic artery to administer SIR-Spheres to embolise the microvasculature of hepatic metastases which are secondary to colorectal cancer and are not suitable for resection or ablation, for	\$813.30	\$121,105	217	4.9%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	selective internal radiation therapy used in combination with systemic chemotherapy using 5-fluorouracil (5FU) and leucovorin, not being a service to which item 35317, 35319, 35320 or 35321 applies excluding associated radiological services or preparation, and excluding aftercare				
35408	Catheterisation of the hepatic artery via a permanently implanted hepatic artery port to administer SIR-Spheres to embolise the microvasculature of hepatic metastases which are secondary to colorectal cancer and are not suitable for resection or ablation, for selective internal radiation therapy used in combination with systemic chemotherapy using 5-fluorouracil (5FU) and leucovorin, not being a service to which item 35317, 35319, 35320 or 35321 applies excluding associated radiological services or preparation, and excluding aftercare	\$610.10	\$-	-	N/A
55220	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or bypass grafts in the lower limb OR of arteries and bypass grafts in the lower limb, below the inguinal ligament, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$15,335	267	166.1%
55223	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or bypass grafts in the upper limb OR of arteries and bypass grafts in the upper limb, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$1,542	27	46.5%
55224	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of veins in the upper limb, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$5,904	72	-4.8%
55226	DUPLEX SCANNING, bilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of extra-cranial bilateral carotid and vertebral vessels, with or without subclavian and innominate vessels, with or without oculoplethysmography or peri-orbital Doppler	\$84.75	\$4,993	76	53.2%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	examination, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Groups applies (R) (NK)				
55227	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of intra-abdominal, aorta and iliac arteries or inferior vena cava and iliac veins OR of intra-abdominal, aorta and iliac arteries and inferior vena cava and iliac veins, excluding pregnancy related studies, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$29,435	633	94.1%
55228	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of renal or visceral vessels OR of renal and visceral vessels, including aorta, inferior vena cava and iliac vessels as required excluding pregnancy related studies, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$208	4	-15.0%
55229	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of intra-cranial vessels, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$433	8	N/A
55230	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of cavernosal artery of the penis following intracavernosal administration of a vasoactive agent, performed during the period of pharmacological activity of the injected agent, to confirm a diagnosis of vascular aetiology for impotence, where a specialist in diagnostic radiology, nuclear medicine, urology, general surgery (sub-specialising in vascular surgery) or a consultant physician in nuclear medicine attends the patient in person at the practice location where the service is rendered, immediately prior to or for a period during the rendering of the service, and that specialist or consultant physician interprets the results and prepares a report, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)	\$84.75	\$285	4	0.0%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
55232	<p>DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of cavernosal tissue of the penis to confirm a diagnosis and, where indicated, assess the progress and management of:</p> <p>(a) priapism; or</p> <p>(b) fibrosis of any type; or</p> <p>(c) fracture of the tunica; or</p> <p>(d) arteriovenous malformations;</p> <p>where a specialist in diagnostic radiology, nuclear medicine, urology, general surgery (sub-specialising in vascular surgery) or a consultant physician in nuclear medicine attends the patient in person at the practice location where the service is rendered, immediately prior to or for a period during the rendering of the service, and that specialist or consultant physician interprets the results and prepares a report, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Groups applies (R) (NK)</p>	\$84.75	\$1,833	26	54.0%
55233	<p>DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of surgically created arteriovenous fistula or surgically created arteriovenous access graft in the upper or lower limb, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054) or 4 of this Group applies (R) (NK)</p>	\$84.75	\$1,766	28	47.6%
55235	<p>DUPLEX SCANNING, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or veins OR arteries and veins, for mapping of bypass conduit prior to vascular surgery, not being a service associated with a service to which an item in Subgroups 1 (with the exception of items 55026 and 55054), 3 or 4 of this Group applies - including any associated skin marking (R) (NK)</p>	\$84.75	\$3,807	73	78.8%
55236	<p>DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow spectral analysis and marking of veins in the lower limb below the inguinal ligament prior to varicose vein surgery, not being a service associated with a service to which an item in Subgroups 1 (with the</p>	\$55.55	\$388	11	12.9%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	exception of items 55026 and 55054), 3 or 4 of this Group applies - including any associated skin marking (R) (NK)				
55248	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or bypass grafts in the upper limb OR of arteries and bypass grafts in the upper limb, not being a service associated with a service to which an item in Subgroup 1 (with the exception of items 55026 and 55054) or 4 of this Group applies - (R) (K)	\$169.50	\$1,576,401	11,284	5.1%
55252	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of veins in the upper limb, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054) or 4 of this Group applies - (R)	\$169.50	\$3,800,710	27,421	9.5%
55280	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of intra-cranial vessels, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054) or 4 of this Group applies - (R)	\$169.50	\$202,023	1,707	-1.7%
55282	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of cavernosal artery of the penis following intracavernosal administration of a vasoactive agent, performed during the period of pharmacological activity of the injected agent, to confirm a diagnosis of vascular aetiology for impotence, where a specialist in diagnostic radiology, nuclear medicine, urology, general surgery (sub-specialising in vascular surgery) or a consultant physician in nuclear medicine attends the patient in person at the practice location where the service is rendered, immediately prior to or for a period during the rendering of the service, and that specialist or consultant physician interprets the results and prepares a report, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054) or 4 of this Group applies - (R)	\$169.50	\$104,440	694	15.7%
55284	DUPLEX SCANNING involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of cavernosal tissue of the penis to confirm a diagnosis and, where indicated, assess the progress and management of: (a) priapism; or	\$169.50	\$78,729	509	5.3%



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	<p>(b) fibrosis of any type; or</p> <p>(c) fracture of the tunica; or</p> <p>(d) arteriovenous malformations;</p> <p>where a specialist in diagnostic radiology, nuclear medicine, urology, general surgery (sub-specialising in vascular surgery) or a consultant physician in nuclear medicine attends the patient in person at the practice location where the service is rendered, immediately prior to or for a period during the rendering of the service, and that specialist or consultant physician interprets the results and prepares a report, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054) or 4 of this Groups applies - (R)</p>				
55292	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of surgically created arteriovenous fistula or surgically created arteriovenous access graft in the upper or lower limb, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054) or 4 of this Group applies (R)	\$169.50	\$1,712,352	11,183	13.3%
55294	DUPLEX SCANNING, involving B mode ultrasound imaging and integrated Doppler flow measurements by spectral analysis of arteries or veins OR arteries and veins, for mapping of bypass conduit prior to vascular surgery, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054), 3 or 4 of this Group applies - including any associated skin marking (R)	\$169.50	\$554,342	4,305	9.7%
55296	DUPLEX SCANNING, unilateral, involving B mode ultrasound imaging and integrated Doppler flow spectral analysis and marking of veins in the lower limb below the inguinal ligament prior to varicose vein surgery, not being a service associated with a service to which an item in Subgroups 1 (with the exception of item 55054), 3 or 4 of this Group applies - including any associated skin marking (R)	\$111.05	\$1,257,450	6,800	9.5%
60001	Digital subtraction angiography, examination of head and neck with or without arch aortography - 1 to 3 data acquisition runs (R) (NK) (Anaes.)	\$282.00	\$268	1	N/A
60004	Digital subtraction angiography, examination of head and neck with or without arch	\$413.55	\$3,586	10	N/A



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
	aortography - 4 to 6 data acquisition runs (R) (NK) (Anaes.)				
60007	Digital subtraction angiography, examination of head and neck with or without arch aortography - 7 to 9 data acquisition runs (R) (NK) (Anaes.)	\$588.05	\$12,275	24	N/A
60010	Digital subtraction angiography, examination of head and neck with or without arch aortography - 10 or more data acquisition runs (R) (NK) (Anaes.)	\$688.15	\$23,504	40	N/A
60013	Digital subtraction angiography, examination of thorax - 1 to 3 data acquisition runs (R) (NK) (Anaes.)	\$282.00	\$16,285	69	N/A
60016	Digital subtraction angiography, examination of thorax - 4 to 6 data acquisition runs (R) (NK) (Anaes.)	\$413.55	\$613	2	N/A
60019	Digital subtraction angiography, examination of thorax - 7 to 9 data acquisition runs (R) (NK) (Anaes.)	\$588.05	\$1,727	4	N/A
60022	Digital subtraction angiography, examination of thorax - 10 or more data acquisition runs (R) (NK) (Anaes.)	\$688.15	\$5,926	11	N/A
60025	Digital subtraction angiography, examination of abdomen - 1 to 3 data acquisition runs (R) (NK) (Anaes.)	\$282.00	\$8,340	36	N/A
60028	Digital subtraction angiography, examination of abdomen - 4 to 6 data acquisition runs (R) (NK) (Anaes.)	\$413.55	\$6,047	17	N/A
60031	Digital subtraction angiography, examination of abdomen - 7 to 9 data acquisition runs (R) (NK) (Anaes.)	\$588.05	\$6,733	14	N/A
60034	Digital subtraction angiography, examination of abdomen - 10 or more data acquisition runs (R) (NK) (Anaes.)	\$688.15	\$34,948	59	N/A
60037	Digital subtraction angiography, examination of upper limb or limbs - 1 to 3 data acquisition runs (R) (NK) (Anaes.)	\$282.00	\$1,043	5	N/A
60040	Digital subtraction angiography, examination of upper limb or limbs - 4 to 6 data acquisition runs (R) (NK) (Anaes.)	\$413.55	\$1,480	4	N/A
60043	Digital subtraction angiography, examination of upper limb or limbs - 7 to 9 data acquisition runs (R) (NK) (Anaes.)	\$588.05	\$6,085	12	N/A
60046	Digital subtraction angiography, examination of upper limb or limbs - 10 or more data acquisition runs (R) (NK) (Anaes.)	\$688.15	\$12,408	21	N/A
60049	Digital subtraction angiography, examination of lower limb or limbs - 1 to 3 data acquisition runs (R) (NK) (Anaes.)	\$282.00	\$1,309	6	N/A
60052	Digital subtraction angiography, examination of lower limb or limbs - 4 to 6 data acquisition runs (R) (NK) (Anaes.)	\$413.55	\$3,161	10	N/A



Item	Descriptor	Schedule fee	Services FY2016/17	Benefits FY2016/17	Services 5-year annual avg. growth
60055	Digital subtraction angiography, examination of lower limb or limbs - 7 to 9 data acquisition runs (R) (NK) (Anaes.)	\$588.05	\$9,078	20	N/A
60058	Digital subtraction angiography, examination of lower limb or limbs - 10 or more data acquisition runs (R) (NK) (Anaes.)	\$688.15	\$24,290	42	N/A
60061	Digital subtraction angiography, examination of aorta and lower limb or limbs - 1 to 3 data acquisition runs (R) (NK) (Anaes.)	\$282.00	\$1,462	7	N/A
60064	Digital subtraction angiography, examination of aorta and lower limb or limbs - 4 to 6 data acquisition runs (R) (NK) (Anaes.)	\$413.55	\$2,661	9	N/A
60067	Digital subtraction angiography, examination of aorta and lower limb or limbs - 7 to 9 data acquisition runs (R) (NK) (Anaes.)	\$588.05	\$2,674	6	N/A
60070	Digital subtraction angiography, examination of aorta and lower limb or limbs - 10 or more data acquisition runs (R) (NK) (Anaes.)	\$688.15	\$9,197	14	N/A
60073	Selective arteriography or selective venography by digital subtraction angiography technique - one vessel (NR) (NK) (Anaes.)	\$24.05	\$1,280	77	N/A
60076	Selective arteriography or selective venography by digital subtraction angiography technique - 2 vessels (NR) (NK) (Anaes.)	\$48.05	\$1,994	54	N/A
60079	Selective arteriography or selective venography by digital subtraction angiography technique - 3 or more vessels (NR) (NK) (Anaes.)	\$72.15	\$5,163	88	N/A
60918	ARTERIOGRAPHY (peripheral) or PHLEBOGRAPHY 1 vessel, when used in association with a service to which items 59903, 59912, 59925, 59970, 59971 59972, 59973 or 59974 applies, not being a service associated with a service to which items 60000 to 60079 inclusive apply (NR)	\$47.15	\$1,470	45	16.5%
60927	SELECTIVE ARTERIOGRAM or PHLEBOGRAM, when used in association with a service to which items 59903, 59912, 59925, 59970, 59971 59972, 59973 or 59974 applies, not being a service associated with a service to which items 60000 to 60079 inclusive apply (NR)	\$38.05	\$25	1	0.0%
61109	FLUOROSCOPY in an ANGIOGRAPHY SUITE with image intensification, in conjunction with a surgical procedure, using interventional techniques, not being a service associated with a service to which another item in this Table applies (R)	\$258.90	\$8,591,897	45,532	6.5%
61110	FLUOROSCOPY in an ANGIOGRAPHY SUITE with image intensification, in conjunction with a surgical procedure, using interventional techniques, not being a service associated with a service to which another item in this Table applies (R) (NK)	\$129.45	\$35,005	320	N/A





11. Impact statement

Both patients and clinicians are expected to benefit from these recommendations because they address concerns regarding patient safety and quality of care, and they take steps to simplify the MBS and make it easier to use and understand. Patient access to services was considered for each recommendation. The Committee also considered each recommendation's impact on clinician groups to ensure that any changes were reasonable and fair. However, if the Committee identified evidence of potential item misuse or safety concerns, recommendations were made to encourage best practice, in line with the overarching purpose of the MBS Review.

Recommended changes to the vascular items covered in this report predominantly seek to improve the value of services patients receive. By guiding clinicians to make more appropriate referrals for common vascular tests, the Committee aims to reduce the number of tests that add minimal value to patient management. In many cases, this serves three purposes: reducing inconvenience, discomfort and exposure for patients; reducing out-of-pocket fees; and speeding up the journey to successful management by guiding patients towards more informative testing or earlier referral. Speeding up the journey to successful management will also benefit the system by opening capacity to provide care to more patients.

The changes recommended to the vascular items predominantly seek to remove or reduce low-value care by:

- Improving safe practices.
- Removing or mitigating financial incentives that encourage perverse practice.
- Updating the MBS to reflect contemporary vascular surgery and interventional radiology practice.



12. Glossary

Term	Description
ABI	Ankle brachial index
ACT	Australian Capital Territory
ANZSVS	Australian and New Zealand Society of Vascular Surgery
CAGR	Compound annual growth rate or the average annual growth rate over a specified time period.
CVC	Central vein catheterisation
Change	When referring to an item, "change" describes when the item and/or its services will be affected by the recommendations. This could result from a range of recommendations, such as: (i) specific recommendations that affect the services provided by changing item descriptors or explanatory notes; (ii) the consolidation of item numbers; and (iii) splitting item numbers (for example, splitting the current services provided across two or more items).
CT	Computed tomography
CTA	Computed tomography angiography
CVC	Central vein catheterisation
CW Doppler	Continuous wave Doppler; an ultrasonography that uses a constant series of echoes, both originating from and received by the same transducer
Delete	Describes when an item is recommended for removal from the MBS and its services will no longer be provided under the MBS.
DIAS	Diagnostic Imaging Accreditation Scheme
DIST	Diagnostic Imaging Services Table
DSA	Digital subtraction angiography
ELT	Endovenous laser therapy
EPD	Emboic protection device
EVAR	Endovascular aneurysm repair
FY	Financial year
GMST	General Medical Services Table
GP	General practitioner
HCC	Hepatocellular carcinoma



High-value care	Services of proven efficacy reflecting current best medical practice, or for which the potential benefit to consumers exceeds the risk and costs.
Inappropriate use / misuse	The use of MBS services for purposes other than those intended. This includes a range of behaviours, from failing to adhere to particular item descriptors or rules through to deliberate fraud.
Low-value care	Services that evidence suggests confer no or very little benefit on consumers; or for which the risk of harm exceeds the likely benefit; or, more broadly, where the added costs of services do not provide proportional added benefits.
MBS	Medicare Benefits Schedule
MBS item	An administrative object listed in the MBS and used for the purposes of claiming and paying Medicare benefits, consisting of an item number, service descriptor and supporting information, schedule fee and Medicare benefits.
MBS service	The actual medical consultation, procedure or test to which the relevant MBS item refers.
Misuse (of MBS item)	The use of MBS services for purposes other than those intended. This includes a range of behaviours, from failing to adhere to particular item descriptors or rules through to deliberate fraud.
MRA	Magnetic resonance angiography
MSAC	Medical Services Advisory Committee
MSLT	Multiple sleep latency test
MSR	Multiple Services Rule
New service	Describes when a new service has been recommended, with a new item number. In most circumstances, new services will need to go through the MSAC. It is worth noting that implementation of the recommendation may result in more or fewer item numbers than specifically stated.
NICE	National Institute for Health and Care Excellence
No change or leave unchanged	Describes when the services provided under these items will not be changed or affected by the recommendations. This does not rule out small changes in item descriptors (for example, references to other items, which may have changed as a result of the MBS Review or prior reviews).
Obsolete services / items	Services that should no longer be performed as they do not represent current clinical best practice and have been superseded by superior tests or procedures.
O&G	Obstetrics and gynaecology
PBS	Pharmaceutical Benefits Scheme
PVD	Peripheral vascular disease
RFA	Radiofrequency ablation, specifically for the management of varicose veins
TACE	Transarterial chemoembolisation
The Committee	The Vascular Clinical Committee of the MBS Review
The Minister	Minister for Health



The Taskforce	The MBS Review Taskforce
Total benefits	Total benefits paid in 2016/17 unless otherwise specified.
UGFS	Ultrasound-guided foam sclerotherapy



Appendix A Summary for consumers

This table describes the Committee's key recommendations, including the relevant medical service, the recommendations of the clinical experts and why the recommendations have been made.

Recommendation 1: Improve diagnostic options for duplex examination of aorto-iliac and lower limb vasculature.

Item	What it does	Committee recommendation	What would be different	Why
55276, 55238	These ultrasound examinations are used to check the arteries and veins in the abdomen (55276) and the legs (55238).	Change item 55238 to ensure that an examination of the aorto-iliac segment (the arteries in the pelvis that connect to the arteries in the leg) is included where necessary. Change item 55276 to include 'vena cava' which is the large vein that returns blood to the heart.	Where necessary, radiologists would be able to examine the arteries in the aorto-iliac segment, as well as the leg arteries, under the same referral on the same day.	The Committee noted that, in most cases, the aorto-iliac segment should be examined at the same time as the leg arteries. This is a more complete assessment that will provide better outcomes for patients.

Recommendation 2: Prevent low-value over-servicing of carotid duplex examinations.

Item	What it does	Committee recommendation	What would be different	Why
55274	This examination is used by clinicians to examine the carotid arteries in a patient's neck, usually to check for blockages or signs of narrowing.	Change this item to clarify that a carotid ultrasound should only be performed on high-risk patients or patients with symptoms.	Patients who are neither high risk nor symptomatic would no longer be subject to unnecessary screening.	The Committee agreed that many patients were undergoing unnecessary carotid ultrasound examinations. This can lead to unnecessary interventions and out-of-pocket costs.



Recommendation 3: Prevent low-value over-servicing of renal duplex examinations.

Item	What it does	Committee recommendation	What would be different	Why
55278	This examination is used by clinicians to examine the arteries that supply blood to the kidneys and other organs.	Restrict use of this item, so that it can only be performed if it is requested by a specialist (with the exception of obstetricians and gynaecologists).	Patients would only be able to receive this specialised examination if it is requested by a specialist (with the exception of obstetricians and gynaecologists).	<p>The Committee noted very high use (and variation in the use) of this ultrasound examination.</p> <p>The Committee agreed that it is a highly specialised examination that should only be used in very specific clinical circumstances. This recommendation would ensure that only patients who would benefit from a renal artery ultrasound receive this examination.</p>

Recommendation 4: Reduce the use of ankle brachial index for screening.

Item	What it does	Committee recommendation	What would be different	Why
11610	<p>An ankle-brachial index (ABI) is a quick, non-invasive way for clinicians to check a patient's risk of peripheral arterial disease (PAD).</p> <p>The examination compares the blood pressure in a patient's arm to the pressure in their ankle.</p>	Target the use of this test so that it is only used for patients who show signs or symptoms of PAD.	Patients would only have an ABI examination if they show signs or symptoms of PAD.	<p>The Committee noted very high growth in the use of ABI. While the Committee agreed that it is a very useful test, it noted that there is no clinical explanation for the dramatic increase in use in recent years.</p> <p>The recommendation makes it clear that this test should be used if a patient has signs and symptoms of PAD.</p>



Recommendation 5: Remove low-value CW Doppler investigation of venous insufficiency and obstruction.

Item	What it does	Committee recommendation	What would be different	Why
11602, create a non-referred item for 11602 (i.e. 116xx)	<p>Continuous wave (CW) Doppler is a type of ultrasound technique that detects motion using sound waves. As blood moves towards the probe, the sound increases; it decreases as the blood moves away.</p> <p>The Committee understands that these items are primarily used by clinicians treating varicose veins.</p>	<p>Remove “CW doppler” from the item descriptors and replace it with “duplex ultrasound”.</p> <p>Restrict clinicians from co-claiming this item with any other duplex ultrasound of the lower limb.</p>	<p>Patients would receive higher quality ultrasounds, in line with current best practice.</p>	<p>Duplex ultrasound examination combines ultrasound with CW Doppler. This type of ultrasound allows clinicians to visualise the structure of vessels, as well as the movement of blood inside.</p> <p>The Committee believes that CW Doppler is an obsolete technology and should be replaced with “duplex ultrasound”.</p>



Recommendations 6–8: Remove current run-based tiering and anatomical classifications of digital subtraction angiography and link procedural items with new angiographic items and bundle item numbers for selective catheterisation of vessels into new angiographic items

Items	What it does	Committee recommendation	What would be different	Why
60000–60078	<p>Digital subtraction angiography (DSA) is a special type of X-ray imaging of the blood vessels. It provides information about blood vessel abnormalities (e.g. narrowing, inflammation, blockages and bleeding).</p> <p>To get these images, a dye called “contrast” is injected into an artery/vein, which allows the abnormalities to be seen on X-ray imaging.</p> <p>DSA can be performed on all areas of the body, including the head and neck, abdomen and upper limbs. Each image that is taken is called a “run”. The radiologist decides how many runs are required.</p>	<p>The Committee is recommending a number of changes to ensure that angiography services are delivered safely and are remunerated properly.</p> <p>Currently, there is a suite of items for each physiological location and the associated number of runs carried out (e.g. one to three, four to six, seven to nine, and 10 or more runs). The Committee recommends removing all run-based tiering and the anatomical classification of these items. Instead, these items will be linked to procedural items where the DSA is considered integral to performing that procedure.</p> <p>These items need to be tiered by a measure of complexity and retained within the Diagnostic Imaging Services Table (DIST) on the MBS. This will ensure that these items are still governed by the Diagnostic Imaging Accreditation Scheme (DIAS).</p>	<p>Instead of receiving a schedule fee based on the number of contrast runs that are performed, an appropriate schedule fee will be paid to cover the costs of the associated time and complexity of the imaging required.</p>	<p>There is currently no evidence to indicate that a diagnosis is more accurate if more runs are conducted. Clinicians should be conducting as few runs as possible to diagnose patients. This would increase patient safety by decreasing their exposure to contrast and radiation.</p> <p>Ensuring that diagnostic imaging machines comply with the DIAS is imperative for patient safety.</p> <p>Under the current system, clinicians may be financially incentivised to conduct more runs when it is not clinically indicated in order to reach an item tier with a higher schedule fee. Similarly, clinicians may be incentivised to perform unnecessary runs on other areas of the body in order to claim additional items.</p>



Recommendation 9: Replace references to “digital subtraction angiography” with “angiography and fluoroscopy”.

Items	What it does	Committee recommendation	What would be different	Why
n/a	Digital subtraction angiography (DSA) is a special type of X-ray imaging of the blood vessels. It provides information about blood vessel abnormalities by using contrast/dye. There are other types of angiography, including fluoroscopy (real-time moving X-ray images) and non-digital angiography.	Change all mentions of “digital subtraction angiography” in the MBS to “angiography and fluoroscopy”.	The MBS would be more inclusive, having broadened the use of other modalities of angiography. There would be more options for patient examination.	Using the words “digital subtraction angiography” in the MBS excludes other types of angiography, such as fluoroscopy and non-subtraction digital angiography. This change would enable and encourage modalities of angiography with lower radiation doses, as well as imaging techniques with increased accuracy, to be used where appropriate. This would increase patient safety.



Recommendation 10: Create a new item for diagnostic catheter-based angiography.

Items	What it does	Committee recommendation	What would be different	Why
New item	Catheter-based angiography is when a thin plastic tube is inserted into an artery through a small incision in the skin. It is then guided to the area that is being examined, and contrast is injected through the tube so that X-ray images can be taken.	<p>The Committee believes that catheter-based angiography ideally should not be used as a primary diagnostic tool. This is because there are other tools available that pose a lower risk to the patient, such as computed tomography angiography (CTA). However, there is variability in the type of equipment available in the community and catheter-based angiography would be suitable when CTA is not present.</p> <p>This means that a new item is required for the use of angiography for diagnostic purposes.</p>	Clinicians would be able to use a new item to provide patients with the right type of angiography tool. This change would require clinicians to document that they have considered other, less-invasive types of angiography with another clinician.	Not all practices have access to the different types of angiography currently available. Consequently, banning catheter-based angiography for diagnostic purposes could pose risks to access for patients, as well as risks to their safety. This recommendation acknowledges that catheter-based angiography does play a role in diagnosis, although it is not the recommended method.

Recommendation 11: Support minimally invasive diagnostic alternatives to DSA.

Item	What it does	Committee recommendation	What would be different	Why
New item	Magnetic resonance angiogram (MRA) is a minimally invasive diagnostic tool that assists clinicians in detecting conditions/diseases that affect the blood vessels. Detailed images are produced using a powerful magnetic field, radio frequency waves and a computer.	The Committee supports the application to the Medical Services Advisory Council (MSAC) stipulating that MRA should be used as an alternative for digital subtraction angiography (DSA).	Patients would have access to a less-invasive diagnostic tool.	The Committee believes that DSA should not be used to diagnose patients. The creation of an MRA item will increase patient safety and provide them with access to a minimally invasive examination tool.



Recommendation 12: Amend existing items for peripheral and thoracic aneurysm repair to include open or endovascular techniques (excluding the angiography component).

Item	What it does	Committee recommendation	What would be different	Why
33050, 33055, 33070, 33075, 33080, 33100, 33102, 33109, 33112, 33115, 33116, 33117, 33118, 33119, 33121, 33124, 33127, 33133, 33136, 33139, 33142, 33145, 33148, 33151, 33154, 33157, 33160, 33163, 33166, 33169, 33172, 33175, 33178 and 33181	<p>An aneurysm is an abnormal swelling or bulge in the wall of a blood vessel.</p> <p>These items provide schedule fees to patients for aneurysm repair using newer techniques.</p>	<p>Revise the descriptors for existing items to allow surgeons to repair aneurysms using newer endovascular techniques.</p>	<p>Patients would be able to access schedule fees for aneurysm repair, regardless of whether the surgeon performed an endovascular procedure or an open procedure.</p>	<p>Technology has rapidly advanced since the items for aneurysm repair were first introduced. Today, aneurysms can be repaired using endovascular techniques. Evidence suggests that these techniques have comparable outcomes to “open” aneurysm repairs.</p> <p>This recommendation would reflect current surgical practice in repairing aneurysms.</p>



Recommendation 13: Change the descriptors to make reference to embolic protection devices (EPDs) in transluminal stenting and balloon angioplasty.

Item	What it does	Committee recommendation	What would be different	Why
35300, 35303, 35306, 35307, 35309, 35312 and 35315	<p>Transluminal stenting and balloon angioplasty are procedures that open up blocked blood vessels using a small flexible tube. Normal blood flow returns to the blood vessel once the stent/balloon is in place.</p> <p>Embolic protection devices (EPDs) trap blood and debris whilst clinicians perform angioplasty procedures. EPDs have been found to reduce the risk of injury.</p>	The Committee recommends that the use of EPDs for lower limb interventions is technically possible.	Change the descriptors to make reference to EPDs.	The Committee believed this change will improve outcomes in clinical scenarios.

Recommendation 14: Delete low-value venous valvular surgical reconstruction items from the MBS.

Item	What it does	Committee recommendation	What would be different	Why
34818, 34821, 34824, 34827, 34830 and 34833	<p>Veins have valves in them that prevent blood from flowing in the wrong direction. If the valves stop working, there can be changes in the skin, swelling and the formation of ulcers. Surgery can be conducted to try to fix the valves.</p>	Delete items relating to the surgical reconstruction of venous valves.	Funding for the surgical management of incompetent veins would be removed. Clinicians would not be able to claim these procedures.	Other types of venous management (sclerotherapy, endovenous ablation, stripping, etc.) have largely replaced the use of surgery to restore valve competency. These items are not frequently used.



Recommendation 15: Restrict co-claiming for vascular wound repair where this is considered part of the procedure.

Item	What it does	Committee recommendation	What would be different	Why
Items 33815, 33824 and 33833	These items are for the repair of wounds located at a major artery or vein.	Add restrictions to these items to ensure that they cannot be co-claimed with specific procedural items on the same day for the same patient.	Clinicians would not be able to claim these wound closure items with other specific vascular procedures on the same day for the same patient.	These items are currently being claimed to close a vessel after it has been opened to carry out a procedure. This is inappropriate because the closure of an access site is part of the procedure being performed; it is not an additional item.

Recommendation 16: Change the item descriptor for items 32500 - 32529.

Item	What it does	Committee recommendation	What would be different	Why
32500, 32507, 32508, 32511, 32514, 32517, 32520, 32522, 32523, 32526, 32528 and 32529	These items are for venous disease.	Change the descriptors to require referral from GP.	A referral from GP will be required for management of venous diseases.	This recommendation focuses on ensuring consistency and appropriateness across all varicose veins items.

Recommendation 17: Require proximal reflux to be treated or excluded before any direct vision sclerotherapy.

Item	What it does	Committee recommendation	What would be different	Why
Item 32500	<p>Varicose veins are veins that have become twisted and enlarged.</p> <p>Venous reflux occurs when there is an issue with the valves, and blood flows in the wrong direction.</p>	Change the item descriptor to require evidence of truncal reflux (or the exclusion of) by ultrasound prior to treatment.	Clinicians would be required to perform an ultrasound prior to treating varicose veins.	The MBS does not fund items that are for cosmetic purposes. The requirement of an ultrasound prior to treating varicose veins with sclerotherapy would assist in determining whether treatment is clinically necessary.

Recommendation 18: Create a new item for ultrasound-guided foam sclerotherapy.



Item	What it does	Committee recommendation	What would be different	Why
New item	<p>Ultrasound-guided foam sclerotherapy is a technique to treat varicose veins, which avoids surgery for the patient.</p> <p>The standard varicose vein injection treatment is mixed with gas to create a mousse or foam consisting of very small bubbles. Once injected, the foam pushes the blood out of the way so that the injection solution can be administered without being diluted by the blood. Consequently, a smaller amount of solution is required with foam sclerotherapy.</p>	<p>Submit an application to the MSAC for a new ultrasound-guided foam sclerotherapy item.</p> <p>The Committee believes that ultrasound is required to treat reflux affecting the trunk of the body.</p>	Clinicians would be able to treat patients with clinically significant varicose veins by ultrasound-guided foam sclerotherapy.	Treating varicose veins by ultrasound-guided foam sclerotherapy would provide patients with a treatment option that does not require surgery or a general anaesthetic. This treatment is also a strong option for patients with risk factors (e.g. patients with diabetes and/or obesity, patients taking warfarin).

Recommendation 19: No change to endovenous laser therapy items.

Item	What it does	Committee recommendation	What would be different	Why
Items 32520 and 32522	Endovenous laser therapy is a minimally invasive treatment for varicose veins.	The Committee has not recommended any changes to these items.	No changes to the MBS.	The current items are clinically appropriate for the treatment of varicose veins. The Committee also believes that there will be a natural shift in practice towards out-of-hospital treatment (rather than in hospital, which is currently the predominant location for treatment).

Recommendation 20: No change to radiofrequency ablation items.



Item	What it does	Committee recommendation	What would be different	Why
Items 32523 and 32526	Radiofrequency ablation is a procedure used to decrease pain experienced by patients. An electrical current produced by a radio wave is used to heat up a small area of the nerve, which decreases the emittance of pain signals from that specific area of the body.	The Committee has not recommended any changes to these items.	No changes to the MBS.	The current items are clinically appropriate for the treatment of varicose veins. The Committee also believes that there will be a natural shift in practice towards out-of-hospital treatment (rather than in hospital, which is currently the predominant location for treatment).

Recommendation 21: Change item 32507 to reflect contemporary practice, remove out-of-hospital benefits and exclude co-claiming with any venography items.

Item	What it does	Committee recommendation	What would be different	Why
Item 32507	Sub-fascial ligation is the tying of veins through a small incision in the skin for the treatment of varicose veins.	Change the item descriptor to remove out-of-hospital benefits, exclude co-claiming with any venography items and change the wording in the item descriptor. Refer this obsolete technique to the compliance team at the Department of Health for review, following an increase in out-of-hospital use and inappropriate co-claiming behaviour.	The item would clarify that it is no longer appropriate to conduct sub-fascial exploration, and that ligation procedures should only be conducted in hospital.	The Committee believes that sub-fascial ligation is no longer an appropriate method for treating varicose veins and should be removed from the MBS. This item provides patients with low-value care. The changes to the item descriptor are designed to ensure that this item accurately reflects current practice.



Recommendation 22: No change to varicose vein surgical ligation and dissection items.

Item	What it does	Committee recommendation	What would be different	Why
Items 32508–32517	Ligation is the tying of veins through a small incision in the skin for the treatment of varicose veins. Dissection is the removal of varicose veins.	The Committee has not recommended any changes to these items.	No changes to the MBS.	The Committee believes that these items are valid techniques for treating varicose veins. International guidelines still recognise the role of surgical management in contemporary care.

Recommendation 23: Percutaneous embolisation splitting.

Item	What it does	Committee recommendation	What would be different	Why
35321	Percutaneous embolisation is the intentional blockage of an artery using catheters inside the artery to stop bleeding.	The Committee recommends splitting item 35321 into anatomically relevant indication-specific embolisation items, to reflect the added complexity of these procedures not adequately covered by the current item number.”	New items would be added to the MBS, that would be different from each other by where the bleeding is being treated.	The Committee believes that there are a large number of different procedures with varying difficulty, risk and complexity. Having one item with one fee may discourage clinicians from performing more difficult procedures.
35321	Percutaneous embolisation is the intentional blockage of an artery using catheters inside the artery to stop bleeding.	Add “vascular malformations” to the descriptor	Vascular malformations, that may not necessarily be classified as veins or arteries but have the same bleeding problem can now also legitimately be treated.	The Committee believes that including vascular malformations will more accurately reflect the range of anatomical sites that clinicians treat using this number.

Recommendation 24: Uterine Artery Embolisation.



Item	What it does	Committee recommendation	What would be different	Why
35410	Uterine artery embolisation is the intentional blockage of the blood supply to parts of the uterus, as a method of treating uterine fibroids (which are excessive tissue growths in the uterus, which may cause symptoms such as pain and infertility).	Change the requirement for a gynaecologist referral to gynaecologist review prior to the procedure being performed	Patients will now be able to be referred for the procedure by other medical practitioners, provided that a gynaecologist is part of the process.	The Committee believes that the use of this evidence-based, minimally invasive technique is significantly lower than it should be, and that by removing referral barriers more patients will be able to access the treatment, instead of having only surgical options offered such as a hysterectomy.

Recommendation 25: Transluminal balloon angioplasty.

Item	What it does	Committee recommendation	What would be different	Why
35303	Transluminal balloon angioplasty is the opening of a narrowed vessel from the inside (introduced by a catheter), by inflating a balloon.	Change the descriptor to include iliac arteries.	The item would now include arterial vessels of the lower abdomen that are also consistently referenced across the MBS.	The Committee believes the iliac arteries should be included to remove any ambiguity as to whether they can be treated under the same item number.

Recommendation 26: Aortic bypass.

Item	What it does	Committee recommendation	What would be different	Why
32711	Aortic bypass is the grafting of a harvested vessel onto the aorta and the femoral arteries in the groin, to provide blood flow past a narrowing of the aorta.	Change the description of the femoral arteries to plain language.	The item would now refer to the common term "femoral arteries", instead of obsolete descriptions.	The Committee believes that changing the descriptor to reflect plain language will remove ambiguity for clinicians.



Recommendation 27: Femoral artery bypass.

Item	What it does	Committee recommendation	What would be different	Why
32748	Femoral artery bypass is the grafting of a harvested vessel onto the femoral or popliteal artery in the leg, to an area above the foot, to provide blood flow past a narrowing of the femoral artery.	Change the descriptor to specify the lower grafting site as being where there is above the ankle no muscle coverage.	The new descriptor will allow clinicians to choose a grafting site that is appropriate, rather than within the	The Committee believes that the current descriptor requiring the site to be 5cm may vary between patients, and clinicians should choose a grafting site which is most appropriate, which may be greater than 5cm away from the ankle.

Recommendation 28: Abdominal venous thrombectomy.

Item	What it does	Committee recommendation	What would be different	Why
33810	Abdominal venous thrombectomy is the removal of a blockage of the large veins in the abdomen, using instruments introduced by from inside the vessel (rather than open surgery).	Change the descriptor to specify “by endovenous technique” rather than “by catheter”.	The new descriptor ensures consistency of language across the MBS, where “endovenous technique” is the preferred and broader term used.	The Committee believes that “endovenous technique” also includes non-catheter type procedures, and future-proofs the item when new non-catheter technology is developed.



Recommendation 29: Aorto-duodenal fistula repair by covered stent.

Item	What it does	Committee recommendation	What would be different	Why
34160	Repair of a fistula (open connection) between the aorta (a blood vessel) and the duodenum (part of the small intestine), which is either done by closing the holes in both organs.	Change the descriptor to include “covered stent” of the aorta.	The new descriptor will allow clinicians the option of using a covered stent, which is a type of device that seals the wall of the aorta. Previously the item only described repairing the aorta by suture (sewing it closed).	The Committee believes the use of covered stents is an appropriate technique that can be used to repair the aorta, where sutures are not as efficient or effective.

Recommendation 30: Aorto-duodenal fistula repair by endovascular technique.

Item	What it does	Committee recommendation	What would be different	Why
34163	Repair of a fistula (open connection) between the aorta (a blood vessel) and the duodenum (part of the small intestine), which is either done by closing the holes in both organs.	No change.	Nil.	The Committee notes that this item was not claimed in the previous financial year.

Recommendation 31: Intra-abdominal vessel cannulation.

Item	What it does	Committee recommendation	What would be different	Why
34521	An open operation to place a catheter into an artery or vein in the abdomen for long-term chemotherapy treatments.	Delete the item.	This item and technique would no longer be rebated by the MBS.	The Committee believes that this technique is obsolete and rarely used, and has been replaced by minimally invasive procedures that are safer and more effective.



Recommendation 32: Central vein catheterisation.

Item	What it does	Committee recommendation	What would be different	Why
34527, 34528, 34529, 34530, 34533, 34534, 34538, 34539 and 34530	Insertion of a central vein catheter into the main veins in the chest, for long-term administration of medications etc, which is done with fluoroscopy to ensure the catheter is working correctly	<p>Change the descriptor to require “appropriate fluoroscopy”.</p> <p>Change the descriptors for items 34539 and 34540 which may not require fluoroscopy but it may be used in some circumstances to require “appropriate fluoroscopy if required”.</p>	The new descriptor will ensure that fluoroscopy is appropriately used in indifferent cases of CVC insertions.	The Committee believes that CVC insertions without appropriate fluoroscopy is an unsafe practice, as clinicians cannot confirm that the CVC is operating correctly without checking with fluoroscopy.

Recommendation 33: Intracranial aneurysm.

Item	What it does	Committee recommendation	What would be different	Why
35412	Repair of an aneurysm in the brain	Simplify the descriptor describe “endovascular technique” rather than “endovascular occlusion with detachable coils, and assisted coiling if performed”.	The new descriptor will allow clinicians the option of using different appropriate endovascular techniques other than detachable coils.	The Committee believes that by broadening the terminology, the item will encompass other currently appropriate techniques, and the item will be future-proofed as other appropriate endovenous techniques are developed.



Recommendation 34: Refer transarterial chemoembolisation (TACE) to the MSAC.

Item	What it does	Committee recommendation	What would be different	Why
New item	TACE is a minimally invasive procedure where blood vessels supplying a tumour of the liver are intentionally blocked using chemotherapy agents and embolization materials.	Support referral of TACE to the MSAC.	The item would be made available on the MBS.	The Committee believes TACE is a modern, effective and appropriate options for treating inoperable liver cancers, and are already in use in non-MBS practice.

Recommendation 35: Refer prostate artery embolisation to the MSAC.

Item	What it does	Committee recommendation	What would be different	Why
New item	Prostate artery embolisation is a minimally invasive procedure where blood vessels supplying a tumour of the prostate are intentionally blocked using embolization materials.	Support referral of prostate artery embolisation to the MSAC.	The item would be made available on the MBS.	The Committee believes prostate artery embolisation is a modern, effective and appropriate options for treating inoperable liver cancers, and are already in use in non-MBS practice, and is an alternative to surgery, such as transurethral resection of the prostate.

Recommendation 36: Create a new item for endovenous sampling.

Item	What it does	Committee recommendation	What would be different	Why
New item	Endovenous sampling refers to blood-taking from specific, difficult-to-reach blood vessels (such as the thyroid, adrenal and sphenoidal veins) using endovenous techniques for testing.	Create a new item for endovenous sampling.	The item would be made available on the MBS.	The Committee believes that percutaneous ablation of tumours is a modern, effective and appropriate option for obtaining blood samples, and are already in use in non-MBS practice.



Recommendation 37: Develop an item for percutaneous ablation of primary and metastatic tumours.

Item	What it does	Committee recommendation	What would be different	Why
New item	Percutaneous ablation is a minimally invasive procedure where blood vessels supplying a tumour are intentionally scarred and closed by applying heat (ablation). This is used to treat cancers where surgical treatment is not appropriate.	Develop an item for percutaneous ablation of primary and metastatic tumours	The item would be made available on the MBS	The Committee believes that endovenous sampling is a modern, effective and appropriate option for treating a broad range of cancers and is already in use in non-MBS practice, including mostly in public hospitals

Recommendation 38: Refer transvenous biopsy by endovascular approach to the MSAC.

Item	What it does	Committee recommendation	What would be different	Why
New item	Transvenous biopsy is a minimally invasive procedure where a biopsy is taken from the liver via the jugular vein, rather than a direct biopsy.	Support referral of transvenous biopsy to the MSAC	The item would be made available on the MBS	The Committee believes that transvenous biopsy is a modern, effective and appropriate option for obtaining biopsy tissue from the liver, rather than direct or open biopsies.

Recommendation 39: Change the name of Subgroup 3 from “vascular” to “vascular, endovascular and interventional radiology”.

Item	What it does	Committee recommendation	What would be different	Why
N/A	Currently, Subgroup 3 refers to all vascular surgery items. Interventional radiology items do not have a specific place in the MBS, and are scattered in different sections throughout the MBS.	Change the name of Subgroup 3 to include endovascular and interventional radiology.	All new interventional radiology items would be added to this section, and existing items would be considered for migration to Subgroup 3.	The Committee believes that endovascular and interventional radiology items should be grouped together in the MBS for consistency.



Recommendation 40: No change to femoral, saphenous, sural, popliteal and posterior nerve blocks.

Item	What it does	Committee recommendation	What would be different	Why
18270 and 18272	Nerve blocks of the upper and lower leg (femoral, saphenous, sural popliteal or posterior tibial nerve) block pain at the site of injection, and to parts of the leg lower than the site of injection. It is typically used for pain relief prior to and following orthopaedic surgery, and in vascular and general surgery.	No change to items	No change to existing practices.	The Committee believes that items are currently appropriately used.

Recommendation 41: Delete item for carotid sinus injection of anaesthetic.

Item	What it does	Committee recommendation	What would be different	Why
18282	Injection of anaesthetic agents into the carotid sinus are used during operations involving the neck.	Delete this item.	Clinicians will not be able claim this anaesthetic during open operations of the neck.	There is a lack of clinical evidence for this item's efficacy in contemporary clinical practice.



References

-
- ¹ MBS Review Vascular Clinical Committee expert consensus
- ² Department of Health, MBS data, FY 2012-17
- ³ J. Scott et al, Choosing Wisely for Syncope: *Low-Value Carotid Ultrasound Use*, Journal of American Heart Association, 13 August 2014
- ⁴ *Choosing Wisely Canada Internal Medicine*, Canadian Society of Internal Medicine, <https://choosingwiselycanada.org/internal-medicine/> last updated January 2018, accessed 6 September 2018
- ⁴
- ⁵ *Choosing Wisely 5 things physicians and patients should question*, Society for Vascular Surgery, <http://www.choosingwisely.org/wp-content/uploads/2015/02/SVS-Choosing-Wisely-List.pdf> last updated July 2016, accessed 6 September 2018
- ⁶ *AIUM Practice Parameter for the Performance of an Ultrasound Examination of the Extracranial Cerebrovascular System*, American Institute of Ultrasound in Medicine, 2016
- ⁷ MBS Review Vascular Clinical Committee expert consensus
- ⁸ A. Granata et al., *Doppler ultrasound and renal artery stenosis: An overview*, Journal of Ultrasound, Vol 4 p133-143, December 2012
- ⁹ J. Foreman et al., *Establishing the diagnosis of renovascular hypertension*, UpToDate, 4 December 2017
- ¹⁰ *Choosing Wisely Guidelines five things physicians and patients should question*, The Society for Vascular Medicine, <http://www.choosingwisely.org/wp-content/uploads/2015/02/SVM-Choosing-Wisely-List.pdf>, released 21 February 2013, accessed 6 September 2018
- ¹¹ Department of Health, MBS data FY 2016-17
- ¹² Department of Health, MBS data FY 2016-17
- ¹³ J. Lewis et al, *Non-invasive assessment of peripheral arterial disease: Automated ankle brachial index measurement and pulse volume analysis compared to duplex scan*, SAGE Open Medicine 4 April 2016
- ¹⁴ M. Rac-Albu et al., *The Role of Ankle-Brachial Index for Predicting Peripheral Arterial Disease*, Maedica, Vol 3 p295-302, 9 September 2014
- ¹⁵ MBS Review Vascular Clinical Committee expert consensus



¹⁶ R. Schultheiss et al., *Comparison between Clinical Examination, cw-Doppler Ultrasound and Colour-duplex Sonography in the Diagnosis of Incompetent Perforating Veins*, European Journal of Endovascular Surgery Volume 13, p122-126, February 1997

¹⁷ Department of Health, MBS data FY2016-17

¹⁸ *National Health Service 2017/18 and 2018/19 National Tariffs, National Tariff Payment System*, NHS Improvement and NHS England, <https://improvement.nhs.uk/resources/national-tariff-1719/> accessed 6 September 2018

¹⁹ F. Mettler, et al: *Effective Doses in Radiology and Diagnostic Nuclear Medicine: A Catalog*, Radiology 2008 248:254-263

²⁰ A.C. Vahl et al., *Contrast Enhanced Magnetic Resonance Angiography Versus Intra-arterial Digital Subtraction Angiography for Treatment Planning in Patients with Peripheral Arterial Disease: A Randomised Controlled Diagnostic Trial*, European Journal of Vascular and Endovascular Surgery, 35, 514-521 (2008)

²¹ J Menke and J Larsen, *Meta-analysis: Accuracy of contrast-enhanced magnetic resonance angiography for assessing steno-occlusions in peripheral arterial disease*, Ann Intern Med. 2010 Sep 7;153(5):325-34

²² F. Pomposelli, *Arterial imaging in patients with lower extremity ischemia and diabetes mellitus*, Journal of Vascular Surgery, Volume 52, Number 12S, September 2010

²³ J Bosma et al., *The costs and effects of contrast-enhanced magnetic resonance angiography and digital subtraction angiography on quality of life in patients with peripheral arterial disease*, Acta Radiologica, April 2014

²⁴ R. Collin et al., *A systematic review of duplex ultrasound, magnetic resonance angiography and computed tomography angiography for the diagnosis and assessment of symptomatic, lower limb peripheral arterial disease*, Health Technol Assess. 2007 May;11(20):iii-iv, xi-xiii, 1-184.

²⁵ *Peripheral arterial disease: diagnosis and management*, Clinical Guideline [CG147], National Institute for Health and Care Excellence, <https://www.nice.org.uk/guidance/cg147/chapter/Recommendations#diagnosis> last updated 2018

²⁶ *Diagnostic Imaging Pathways – Leg Ischaemia (acute)*, Diagnostic Imaging Pathways, Government of Western Australia, published March 2016

²⁷ MBS Review Vascular Clinical Committee expert consensus

²⁸ P. Stather, *Systematic review and meta-analysis of the early and late outcomes of open and endovascular repair of abdominal aortic aneurysm*, British Journal of Surgery 201; 100: 863-872

²⁹ C. Nesbitt et al., *Endovenous ablation (radiofrequency and laser) and foam sclerotherapy versus open surgery for great saphenous vein varices*, Cochrane Database of Systematic Reviews 2014, Issue 7, 2014

³⁰ *Varicose veins in the legs – the diagnosis and management of varicose veins, clinical guidelines [CG168]*, National Institute for Health and Care Excellence (NICE UK), July 2013



³¹ J. Cabrera and M.A Garcia-Olmedo, *Treatment of varicose long saphenous veins with sclerosant in microfoam form: long-term outcomes*, *Phlebology*. 2000;15:19-23.

³²Stucker et al., *Review of published information on foam sclerotherapy*, *Dermatol Surg*. 2010 Jun;36 Suppl 2:983-92.

³³C. Hamel-Desnos and F. Allaert, *Liquid versus foam sclerotherapy*, *Phlebology*. 2009 Dec;24(6):240-6. doi: 10.1258/phleb.2009.009047

³⁴ *Varicose veins in the legs – the diagnosis and management of varicose veins, clinical guidelines [CG168]*, National Institute for Health and Care Excellence (NICE UK), 24 July 2013

³⁵ As above, NICE UK July 2013

³⁶ As above, NICE UK July 2013

³⁷ S Van der Koojj et al., *Uterine Leiomyomas (fibroids): Treatment with uterine artery embolization*, UpToDate, published Jan 06 2017, accessed 10 Sept 2018

³⁸ MBS Review Vascular Clinical Committee expert consensus

³⁹ MBS Review Vascular Clinical Committee expert consensus

⁴⁰ A Dohan et al., *Transjugular liver biopsy: indications, techniques and results*, *Diagnostic and Interventional Imaging*, Vol 95, Issue1, January 2014 p11-15