Australian Government
Department of Health

Statement on use of Thermography to detect breast cancer

Statement

The National Advisory Committee to the BreastScreen Australia program does not recommend the use of thermography for the early detection of breast cancer.

Breast thermography, also known as thermal breast imaging, is a technique that produces 'heat pictures' of the breast. The rationale for thermography in breast imaging is that the skin overlying a malignant breast lesion can be warmer than that of surrounding areas.

Thermography in one form or another has been in use for approximately 35 years. The two most common approaches to thermography are contact thermography and telethermography (also called digital thermography).

Studies have shown that a tumour has to be large (several centimetres in diameter) before it can be detected by thermography (Homer MJ 1985). Screening mammograms have the ability to detect breast cancer at a much smaller size, and therefore to reduce deaths from breast cancer. Less than 50% of breast cancers detected by mammography screening have an abnormal thermogram (Martin JE 1983).

There is no current scientific evidence to support the use of thermography in the early detection of breast cancer and in the reduction of mortality.

References

Homer MJ 1985: "Breast Imaging: Pitfalls, controversies and some practical thoughts" Radiological Clinics of North America 23: 459-471

Martin JE 1983: "Breast imaging techniques, mammography, ultrasonography, computed tomography, thermography and transillumination" Radiological Clinics of North America 21: 149-153

Other information on thermography

Breast thermography, also known as thermal breast imaging, is a technique that produces 'heat pictures' of the breast, by measuring the temperature of the skin of the breast. The rationale for thermography in breast imaging is that the skin overlying a breast cancer can be warmer than that of surrounding areas.

There is a high level of consistency in the approach of numerous medical organisations from Australia and abroad in warning against the use of thermography for breast cancer

detection. Many of these organisations have arrived at their positions through expert multidisciplinary review of the scientific evidence. (References 1-8)

The following organisations support the use of mammography and do not support the use of thermography for breast cancer detection (valid as at September 2010):

- Cancer Australia
- Royal College of Radiologists of Australia and New Zealand
- Australian Medical Association (no position on thermography to date)
- American Medical Association
- American Cancer Society
- Cancer Research UK
- Australian Therapeutics Goods Administration
- Medicare Australia.

According to several reviews there is no current scientific evidence to support the use of thermography in the early detection of breast cancer or in the reduction of mortality from breast cancer.

Of the range of techniques in use for the detection of breast cancer, mammography is currently the only examination that is supported by objective and randomised clinical trials for screening and diagnosis.

Additional information on thermography is also available on the Cancer Australia Position Statement

References

1. American Medical Association. Thermography Update H-175.988, vol. 2007: American Medical Association Website, 2007.
2. American Cancer Society. Thermography (Thermal Imaging), vol. 2007: American Cancer Society Website, 2007.
3. Australian Medical Association. Position Statement on Breast Cancer Screening, vol. 2007: Australian Medical Association Website, 2007.
4. BreastScreen Australia. Statement on use of thermography to detect breast cancer, vol. 2007: Australian Government Department of Health Website, 2007.
5. Cancer Research UK. Thermography or "heat mapping": Cancer Research UK website, 2007.
6. National Breast Cancer Centre[1], Breast imaging, a guide for practice. National Breast Cancer Centre, 2002.
7. Cancer Australia Statement on the use of thermography to detect breast cancer, updated February 2010.
8. Society of Breast Imaging. Use of alternative imaging approaches to detect breast cancer, vol. 2007: Society of Breast Imaging website

[1] In February 2008, National Breast Cancer Centre (NBCC), incorporating the Ovarian Cancer Program, changed its name to National Breast and Ovarian Cancer Centre (NBOCC). In July 2011, NBOCC amalgamated with Cancer Australia to form a single national agency, Cancer Australia, to provide leadership in cancer control and improve outcomes for Australians affected by cancer.