Active Breathing Coordinator (ABC)

Initiative Type

Technology

Status

Deliver

Added

01 February 2018

Last updated

15 March 2018

URL

https://test.clinicalexcellence.qld.gov.au/improvement-exchange/abc

Summary

The Active Breathing Coordinator (ABC) is a device that assists patients maintain a deep breath during radiation therapy treatment for breast and other cancers. One negative side effect of radiation therapy is that normal surrounding tissue and organs receive unnecessary radiation dose. In the instance of breast radiotherapy, it can be the heart and lung that is affected. During a deep breath, the heart moves away from the breast and chest wall thereby reducing the amount of heart tissue

within the treatment area. Because the heart receives less radiation, the amount of damage to the heart is reduced and the long term health outcomes of these patients are improved.

Key dates

Jan 2017

Dec 2017

Implementation sites

Princess Alexandra Hospital

Partnerships

Healthcare Improvement Unit

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Aim

Provides an opportunity to pilot and evaluate new technologies within 'real world' clinical settings in the Queensland context.

Benefits

The radiation dose received by the heart is reduced, thereby reducing the amount of damage to the heart and improving the long term health outcomes of patients.

Background

This technology was funded through the New Technology Funding and Evaluation Program (NTFEP). The NTFEP funds the introduction and evaluation of new technologies that:

- Are safe and effective
- Provide better health outcomes
- Provide value for money
- Provide greater access to care.

The evaluation findings will inform recommendations regarding the future use and/or investment of the technology within Queensland.

Evaluation and Results

- The average radiation dose received by the heart was reduced by 62 per cent (down to 1.3 Gray).
- ABC was well tolerated by patients and most were comfortable using the device.
- Radiation Oncologists are expanding the use of ABC during radiation therapy for the treatment of other cancers which are affected by breathing motion.
- The average radiation dose received by the main artery of the heart was reduced by 42 per cent (down to an average maximum dose of 15.5 Gray).
- During the evaluation, the ABC device was used more and more during radiation therapy treatment of some breast cancer.
- Patients were excited that ABC was likely to improve their long term quality of life.

Resources

Technology evaluation summary

PDF saved 20/06/2025