I-124 PET/CT for Thyroid Cancer

Initiative Type

Technology

Status

Deliver

Added

01 February 2018

Last updated

04 September 2024

URL

https://test.clinicalexcellence.qld.gov.au/improvement-exchange/i-124-petct-thyroid-cancer

Summary

For thyroid cancer, surgical resection is the most common treatment. Following surgery, radioactive iodine (RAI) therapy with iodine-131 (I-131) is usually given for advanced cancers. Patients currently receive a standardised ‘blind’ empiric dose of I-131 based upon clinicopathologic risk stratification. Iodine-124 (I-124) is a new form of RAI that can be accurately imaged and provide high resolution three-dimensional images of remaining disease distribution. I-124 positron emission tomography

(PET) assessment can guide a personalised calculation of the optimal amount of I-131 that can be safely administered to deliver a lethal dose of radiation to residual tumour.

Key dates

Sep 2017

Sep 2019

Implementation sites

Royal Brisbane and Women's Hospital

Partnerships

Healthcare Improvement Unit

Key Contacts

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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 potential benefits of this technology includes:

- 1-124 therapy will provide high-resolution imaging for improved disease investigation and staging.
- There will be a reduction in unnecessary hospital admissions where I-131 is likely to be ineffective.
- I-124 treatment should be well tolerated by patients, and most should be comfortable during the investigation.
- I-131 treatment will only be delivered to patients where demonstrated to be of benefit.
- Personalised dosimetry will calculate the correct I-131 dose for treatment, for improved disease control.
- Anticipated cost savings will allow for reinvestment into other treatment services.

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

Key findings will be published at the end of the evaluation period.

Resources

Technology evaluation summary

PDF saved 21/06/2025