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# I-124 PET/CT for Thyroid Cancer

Initiative Type

Technology

Status

Deliver

Added

01 February 2018

Last updated

04 September 2024

URL

<https://cnxp3cuvtvrn68yjaibaht5ywrxspj7m.clinicalexcclence.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

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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:

- I-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.

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## Resources

[Technology evaluation summary](#)

PDF saved 19/05/2025