ELEKTA

Photo courtesy of Simon Devitt, Photographer

Customer Profile

KATHLEEN KILGOUR CENTRE

Leading Radiation Therapy

Kathleen Kilgour Centre

ACHIEVING COMFORTABLE AND PRECISE RESPIRATORY MOTION MANAGEMENT

The state-of-the-art Kathleen Kilgour Centre in Tauranga, New Zealand is equipped with some of the very latest radiotherapy technologies to ensure accurate dose placement and healthy organ sparing, including Elekta Versa HD™ linear accelerators and Elekta Active Breathing Coordinator™ for precise, reproducible respiratory motion management.

Established by private investors in partnership with the Bay of Plenty District Health board, the Kathleen Kilgour Centre (KKC) in Tauranga, New Zealand, is located alongside the existing Cancer Centre at Tauranga Hospital and opened in October 2014. With its innovative design (it is New Zealand's first solar-powered radiotherapy centre) and cutting edge technology, the Kathleen Kilgour Centre sets a new standard for radiation treatment in New Zealand, offering state-of-the-art radiation oncology procedures to both public and privately funded patients in the Bay of Plenty and beyond.

ABOUT

Kathleen Kilgour Centre

LOCATION

Tauranga, North Island, New Zealand

STAFF

- Medical physicists (3)
- Radiation oncologists (5)
- Radiation therapists/technologists (15)

EQUIPMENT

- 2 Versa HD™ Linear Accelerators
- Monaco 5.0 Treatment Planning System
- MOSAIQ® OIS
- Active Breathing Coordinator™

KATHLEEN KILGOUR CENTRE
Leading Radiation Therapy

State-of-the-art technology

Previously, patients from the Bay of Plenty on New Zealand's North Island had to travel over 100 km to Waikato Hospital in Hamilton for radiotherapy treatment, but the new Kathleen Kilgour Centre will be able to provide advanced radiation oncology services locally for approximately 550 new patients every year. "Having a facility in the Bay of Plenty will allow many patients to receive treatment without having to take full days off work or stay in Hamilton away from the comforts of family and home," comments Dr Leanne Tyrie, Clinical Director of the Kathleen Kilgour Centre.

The Kathleen Kilgour Centre employs five radiation oncologists, three physicists and 15 radiation therapists. It is equipped with two Elekta Versa HD™ linear accelerators, utilising the Monaco 5.0 Treatment Planning System and MOSAIQ® OIS (Oncology Information System). These features afford patients access to the very latest in advanced treatment capabilities including Image Guided Radiation Therapy (IGRT) and Volumetric Modulated Arc Therapy (VMAT). These techniques help to optimise plan quality and minimise the prescribed dose to healthy tissue.

Imaging at the time of treatment is crucial for precise and accurate dose placement. IGRT helps to account for motion (i.e. organ movement or breathing) and ensures that the tumour volume is in the same position during each treatment session. Such positional information on the location of the tumour and critical structures gives confidence to deliver increased dose to the target, while protecting critical structures and reducing irradiation of healthy tissue.

VMAT allows high radiation doses to be delivered precisely to the tumour target while reducing dose to the surrounding tissue and organs. Furthermore, by using single or multiple radiation beams that sweep in uninterrupted arcs around the patient, this advanced delivery technique enables treatment times to be reduced dramatically.

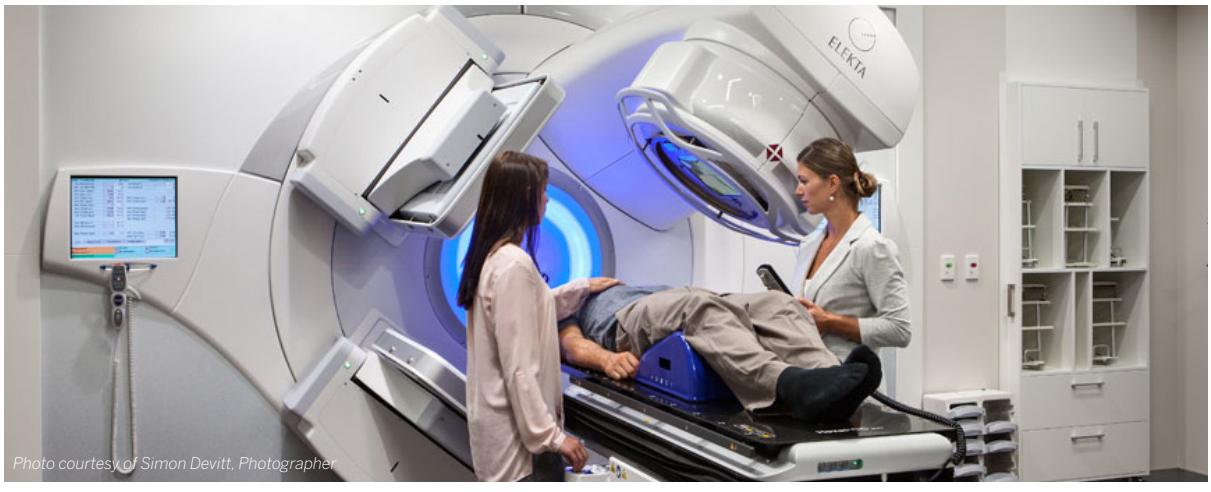


Photo courtesy of Simon Devitt, Photographer

Respiratory motion management

Since they opened in 2014, the Kathleen Kilgour centre has used the Elekta Active Breathing Coordinator (ABC) for respiratory motion management.

"The Radiation Oncology Breast Cancer team at KKC has always recognised the need to minimise radiation dose to normal tissues in order to reduce the possibility of long term side effects. We have used the ABC system where at all possible on the majority of our left sided breast cancer patients", explains Dr Glenys Round, KKC Radiation Oncologist specialising in the treatment of breast cancer. She affirmed that this non-invasive system provided efficient immobilization of anatomies affected by respiratory motion, such as the breast and lung. "It is comfortable, intuitive and provides consistent respiratory motion feedback to all those using it," she says.

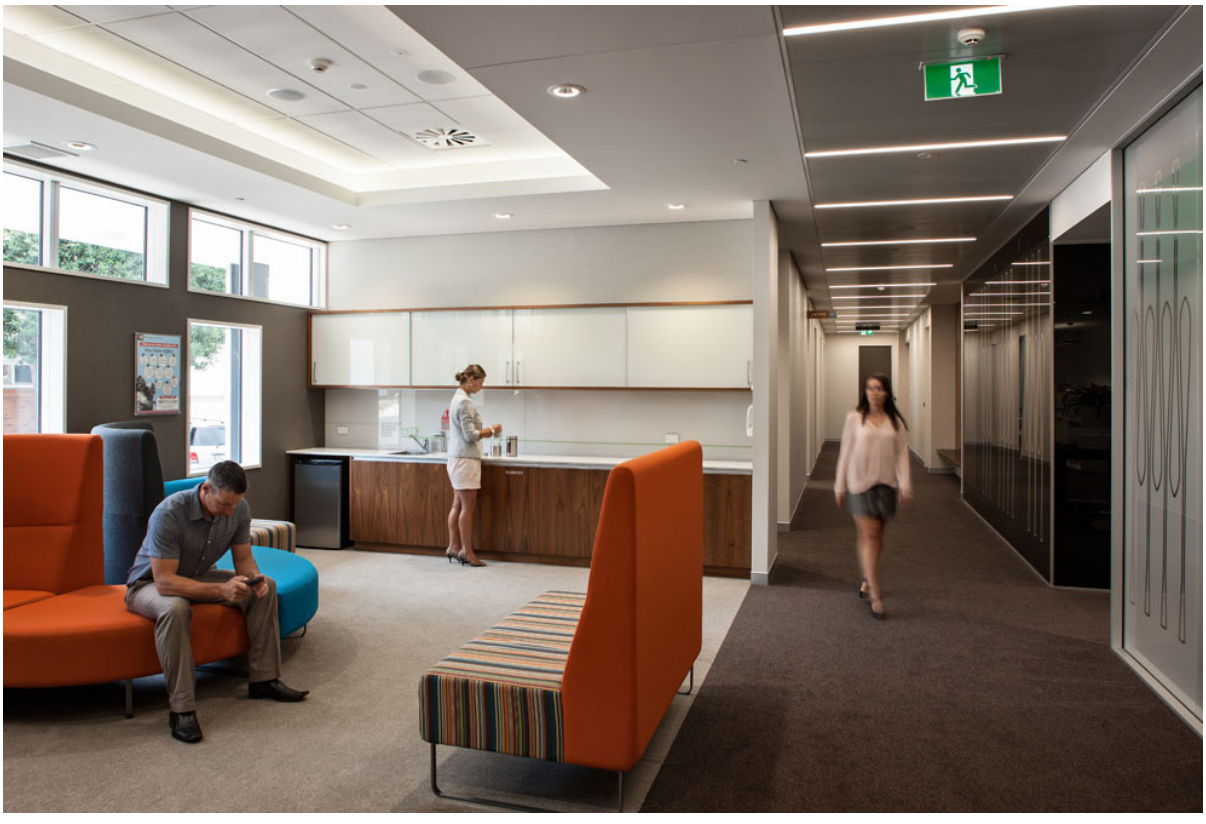
"ABC is comfortable, intuitive and provides consistent respiratory motion feedback to all those using it."

The Kathleen Kilgour Centre looked at other respiratory motion management products available on the market and came to the conclusion that ABC was easy to use for both patients and staff members. Linked to the digital accelerator through the Elekta Response™ gating interface, automated gated breath-hold treatments – from 3D conformal and IMRT to complex VMAT deliveries, including stereotactic treatments – can be delivered with confidence.

Currently, the Centre treats ten patients every day, on average, using Elekta ABC. "We find ABC to be particularly useful for the treatment of patients with left sided breast cancers and we have also used it for other indications requiring heart and pulmonary vessel sparing," comments Shelley Donnell, Radiation Therapy and Operations Manager. "Reproducibility for left sided breast treatments is significantly enhanced using ABC, and toxicity to organs at risk is reduced."

Reducing dose to the heart

Women with breast cancer need to be made aware of the risks of treating left sided breast cancer in terms of the increased likelihood of long term coronary artery damage. This has the potential to lead to cardiac toxicity later in life, as demonstrated in published analysis of this issue. "When you are treating a patient cohort with a high chance of cure and normal life expectancy, protecting healthy tissue from radiation induced damage is critical", says Dr Tyrie.



"We try to ensure that our patients are aware of the risks of heart disease induced in the treatment of left sided cancers using older techniques and spend time explaining the benefits of the ABC system to them prior to therapy," she continues. "Most patients will choose to do whatever they can to ensure the best outcomes. Clinicians here at KKC place a high priority on maximising excellent outcomes. We have seen a consistent reduction in dose to heart volumes, compared to traditional breath hold and free breathing CT techniques, and believe that, in the long term, ABC will lead to reduced toxicity for patients treated here at the Kathleen Kilgour Centre. The reliability, ease of use and comfort of the ABC system made it an easy choice when we were assessing which products to purchase to maximise excellent patient outcomes from the point of view of tumour control and normal tissue toxicity."

Shelley Donnell reiterates, "The system was very straightforward to implement and is easy to use. The majority of patients that receive coaching end up following through to treatment with ABC, and almost every patient that has been treated using this system has tolerated it well."

"We have seen a consistent reduction in dose to heart volumes, compared to traditional breath hold and free breathing CT techniques."

Dr Leanne Tyrie, Clinical Director
Kathleen Kilgour Centre

Kathleen Kilgour staff have found that the treatment workflow has not been adversely affected by implementing the ABC system. They report that patients can be set up and treated without difficulty within the allocated 15-minute appointment slot.

Further information

The Elekta Active Breathing Coordinator (ABC) provides precise, personalized and reproducible immobilization of anatomies affected by respiratory motion through assisted inspiration breath-hold. It allows clinicians and patients to define a comfortable and effective breath-hold level and duration.

Breath-hold treatments using ABC provide the ability to reduce dose to critical structures, such as the heart, by increasing the distance between the tumour and critical structures during the breath-hold.

With left sided breast treatments, moderate deep inspiration breath-hold with ABC expands the lung volume, increasing the distance between the chest wall and the heart, and allowing dose to the heart to be minimized.

Further information about Elekta ABC is available at www.Elekta.com

Disclaimer

This customer perspective is based on the experience and application of medical experts, and is intended as an illustration of an innovative use of Elekta solutions. It is not intended to promote or exclude any particular treatment approach to the management of a condition. Any such approach should be determined by a qualified medical practitioner.

ABOUT ELEKTA

Elekta's purpose is to invent and develop effective solutions for the treatment of cancer and brain disorders. Our goal is to help our customers deliver the best care for every patient. Our oncology and neurosurgery tools and treatment planning systems are used in more than 6,000 hospitals worldwide. They help treat over 100,000 patients every day. The company was founded in 1974 by Professor Lars Leksell, a physician. Today, with its headquarters in Stockholm, Sweden, Elekta employs around 4,000 people in more than 30 offices across 24 countries. The company is listed on NASDAQ OMX Stockholm.

elekta.com @elekta /elekta /company/elekta

Corporate Head Office:

Elekta AB (publ)
Box 7593, SE-103 93 Stockholm, Sweden
Tel +46 8 587 254 00
Fax +46 8 587 255 00
info@elekta.com

Regional Sales, Marketing and Service:

North America
Tel +1 770 300 9725
Fax +1 770 448 6338
info.america@elekta.com

Europe, Middle East, Africa, Eastern Europe, Latin America
Tel +46 8 587 254 00
Fax +46 8 587 255 00
info.europe@elekta.com

Asia Pacific
Tel +852 2891 2208
Fax +852 2575 7133
info.asia@elekta.com

ELEKTA