



ST GEORGE'S
CANCER INSTITUTE
(Registered Charitable Trust)

newsletter



An Update from the Chair

We are excited for our next milestone with the commencement of liver and kidney cancer treatment on the MR Linac.

Dr Tivanka Senanayake, one of the Centre's Radiation Oncologists, attended a conference in Canada which was related to Liver Cancer treatments. We look forward to utilising his learnings as we commence treatments this month.

In the past couple of months, I have had two men speak to me about their prostate treatment on the MR Linac and they have been thrilled with the results. This investment is offering so many positive outcomes.

Here is to a Happy Xmas (which has arrived very quickly this year) and a very positive and healthy 2025.

Thank you for your support as we move towards making St George's Cancer Care Centre the most up to date in the Southern Hemisphere with equipment and treatments.

Cilla Glasson

*Chair, Cancer Institute Trustees
Limited Board of Directors*



Kidney MR update

Stereotactic ablative body radiotherapy (SABR) is a highly focused and advanced form of radiation therapy. It can be an effective treatment for patients with kidney cancer when surgical removal of the tumour is not appropriate.

St George's Cancer Care Centre now offers kidney SABR with Adaptive Magnetic Resonance-guided radiotherapy (MRgRT), which accurately tracks and targets a tumour with high doses of radiation, while minimising the side effects of treatment.

Essentially, SABR stops kidney cancers from growing, while preserving the ability of kidney

function and causing only modest side effects.

The Centre is the first specialist facility in New Zealand to utilise the MR-guided Linear accelerator for delivering SABR to localised kidney cancers. Kidney SABR may also be used in combination with systemic therapy for patients with cancer that has only spread to a few distant parts of the body.

Kidney SABR is delivered over a few treatments in a short period of time, offering patients significant convenience in terms of reducing the time away from home and work. Each treatment session is between 45 and 60 minutes.

Master's degree supports ongoing role as Medical Physics Registrar

One of only 15 Medical Physics Registrars in New Zealand, Megan Taylor has recently completed her Master's in Medical Physics which is further supporting her new role at the St George's Cancer Care Centre.

Born and raised in Christchurch, Megan was pleased to study close to home at the University of Canterbury (UC) – the only university in New Zealand to offer a Medical Physics major.

Megan graduated from UC with a Bachelor of Science, majoring in Physics and Mathematics which she completed in 2020. Succeeding this, Megan studied towards an impressive Master's of Science in Medical Physics which she completed in March 2024.

Megan thoroughly enjoyed mathematics and physics in high school and has aimed for a career in science alongside a desire to help people through her work.

"Finding this 'happy medium' in medical physics has been a strong reason why I continue to enjoy my job," Megan says.

In late 2021 while studying towards her Master's of Science, Megan became a full-time physics assistant at the St George's Cancer Care Centre. Working alongside Jerome Gastaldo, Chief Medical Physicist, and the full physics team gave her valuable on-the-job experience that she felt so fortunate to have while completing her studies.

Working in the Centre also helped Megan to complete her Master's thesis. It involved creating a workflow that can be used to better estimate radiation doses delivered to a patient, given their anatomy changes each time they come in for treatment. The workflow has potential to help inform clinical decisions in further tailoring a treatment to the individual.

The data used in Megan's thesis was provided by St George's and included imaging and dose maps from patients



Medical Physics Registrar Megan Taylor

treated on the MR Linac system. This workflow is not currently in use as it still requires further development, but there is potential for the tool to be utilised in the future.

Once completing her Master's thesis, Megan began her full-time role as a Medical Physics Registrar – the only registrar at the Centre. Once a month she meets the other 14 New Zealand-based registrars to share recent projects and updates with each other.

Megan's daily tasks as a Medical Physics Registrar provide a lot of variation and no day is the same. Her current aim is to be exposed to all areas of radiation oncology medical physics so that she can finish her training to become a fully qualified medical physicist.

While expanding her knowledge in all areas of radiation oncology, she also gets involved in clinical tasks such

as machine quality assurance and commissioning of equipment. Megan is currently focusing on upskilling in treatment planning which is an important part of the process.

"I really enjoy the problem-solving aspect of the job. It's very rewarding to have someone come to you with a problem and then to help them fix it," Megan says.

Megan also loves the team environment of the Centre as the people are such an important part of the job.

Although her work is such a passion, Megan does enjoy turning off the logical part of her brain and getting creative whenever she can. In her spare time, she enjoys painting and crocheting with her cats by her side, and having recently bought a house with her partner, getting stuck into some DIY projects around the property.

Remote access to Unity MR machine allows for efficiency in cancer treatment process

New technology providing doctors with remote access is proving efficient in cancer treatments.

The Centre's addition of the Unity MR Linac machine last year has advanced treatments, delivering stronger and more accurate doses of radiation by combining MRI imaging and the Linear accelerator (Linac).

However, unlike regular Linac radiation treatments, the Unity MR Linac process involves imaging, planning and delivery of treatment all in the same day. This requires an oncologist to be present on site to target content volume, review the organs at risk and give treatment doses.

Remote access to the treatment system now gives oncologists great flexibility and efficiency in the treatment process. It eliminates the inconvenience of rescheduling appointments and disrupting a patient's schedule on the occasion an oncologist is working off site. This is particularly valuable for patients who have travelled from out of town or who have multiple days of treatment.



St George's Cancer Care Centre Radiation Oncologist Dr Tivanka Senanayake

Oncologists can remotely access the treatment system on their personal tablets from anywhere around the country. This screen mirroring system replicates the system that they know in the Centre, so they can continue to provide advice and dosage information without any disruption to the treatment process, as if they were still in the hospital.

By using a tablet and stylus, doctors can draw intricate contours of

cancer structures and from that create margins and dose volumes to prescribe the treatment.

“Previously, if we couldn't have the doctor on site and they had to be away, we would then possibly have to postpone a patient's treatment to a day when they could be available to draw a contour on site,” says David McKay, Senior Physicist at St George's Cancer Care Centre.

“With the remote access, we're able to keep the schedule that we plan for a patient's treatment and the doctor can use the remote access to complete the work that they need to do.”

As well as gaining 'live' access to the system, oncologists can also access treatment plans for review and approval, which allows staff at the Centre to continue treatment without disruption.

The Unity MR machine is the only one in New Zealand and with its added efficiency of remote access supports St George's Cancer Care Centre's high calibre of service and care.

Positive environmental impact in switching to reusable gowns

The St George's Cancer Care Centre nursing team is excited to announce the switch from disposable chemo-protectant gowns to a launderable and sustainable material option.

Prior to this practice change, the team was using and disposing of approximately 120 individual plastic-wrapped disposable gowns per week! The production of disposable gowns requires vast amounts of water and energy (not to mention the chemicals involved!)

The switch to reusable gowns will reduce the dependence on these resources and also lower the Centre's greenhouse gas emissions associated with production and disposal.

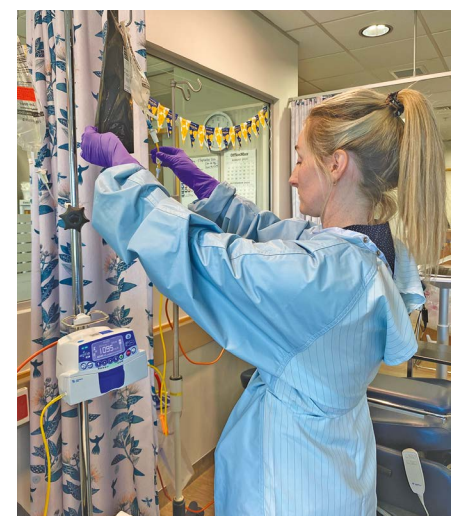
The new material gowns provide nursing staff with the same protection from potential exposure to the cytotoxic treatment they are



Registered Chemotherapy Nurse Chloe Farmer wearing a new reusable gown

administering and can be laundered on-site at the hospital.

The positive environmental impact of this transition cannot be overstated. It highlights the Centre's passion to



reduce its environmental impact by significantly conserving resources at the same time as ensuring excellence in clinical care.

