

Summer 2023-2024

San Doctor

collaborating with our GPs
to provide coordinated
community care



Message from Brett Goods, Chief Executive Officer

As we commence a New Year, many of our surgeons and staff have returned from holiday following the festive season, and activity is picking up.

We are delighted to share a new initiative. The San is now offering Pressurised Intraperitoneal Aerosolised Chemotherapy (PIPAC), for patients whose cancer has spread to the peritoneum.

You will also read in this edition about the benefits of ambulatory blood pressure monitoring.

In November we celebrated the opening of our Szeto PET/CT Centre. This was a truly great occasion made possible through the generosity of the Szeto family and the San Foundation. It allows us to offer patients the best diagnostic technology and will help us serve the community long into the future.

It's important we acknowledge the great generosity of donors to the San Foundation. Thank you to each and everyone of you for what you help the hospital to achieve.

We are delighted by our successes in 2023 and we look forward to seeing what we can further achieve by working together in 2024.

Brett Goods, CEO
Chief Executive Officer
Adventist HealthCare Limited

A new purpose-built imaging centre housing the latest generation digital PET-CT scanner and patient facilities opened on 20 November at Sydney Adventist Hospital (the San) – changing lives through earlier detection and treatment of cancer and brain disease.

The new facility – The Robert & Jeanne Szeto PET-CT Centre – was made possible through the extraordinary generosity of San nuclear medicine physician, Dr Edwin Szeto, who donated \$7 million to build the centre in honour of his parents.

The centre houses the new digital PET-CT scanner as well as a dedicated radiopharmaceutical laboratory (hot-lab), reporting rooms, and a large waiting area. There are two change rooms, three bathrooms, and six 'uptake' rooms (specialised rooms where patients can comfortably rest between radiopharmaceutical injection and scanning).

"The creation of The Robert & Jeanne Szeto PET-CT Centre moves us from analogue to digital technology," said San CEO Mr Brett Goods. "It will transform our current imaging capabilities and will have a profound impact on the health outcomes of our patients."

How the new PET-CT centre came to be

After Dr Szeto's father passed away, he and his mother talked about a making a meaningful charitable contribution in healthcare. "My father was a quietly spoken yet purposeful man who was completely dedicated to his family," said Dr Szeto. "He remained humble amid his business successes and was known for his selflessness and generosity. We often heard him remark about the importance of giving. My mother is simply the most selfless and loving person one could imagine, deeply dedicated to her Christian faith. She always reminded us to never forget Dad, and there were frequent conversations about how best to honour his legacy."

"I only started working at the San in 2018, however the synergy I felt with the whole community was immediate," said Dr Szeto. "So when I heard the San was thinking about upgrading the Nuclear Medicine Department, I made a few enquiries and the rest is history." The vision Dr Szeto had for a new state-of-the-art molecular imaging facility – with a focus on patient care and comfort – is now a reality. "There is palpable excitement amongst the staff working in the new centre," he added.

Mr Goods said the new centre would not exist without the contribution of the Szeto family. "Many of the remarkable things we achieve here at the San we owe to the generosity of our valued donors and supporters. We are so very grateful to Dr Szeto, and we know the new centre will make an immeasurable difference to the lives of our patients. We are deeply committed to delivering on the vision Dr Szeto has for honouring his parents with this centre."

The hospital's philanthropy arm, San Foundation, donated a further \$500,000 towards the new centre. "It has been such an honour to work with the Szeto Family, and the San is so fortunate that this philanthropic gift aligned perfectly with the strategic objectives of the hospital," said Judy Tanna, Managing Director of the San Foundation.

Purpose-built PET-CT Centre opens at Sydney Adventist Hospital following \$7million donation



Benefits

PET-CT scans (positron emission tomography scans) use radioactive tracers to pinpoint and detect disease earlier and more accurately than many other imaging tests. PET scans can also show whether a tumour or lesion is growing, shrinking, active, static, or has spread to other areas.

"PET scans not only greatly improve lesion detection, they've become almost indispensable in monitoring disease progression, so doctors can know if a particular cancer treatment is working or whether to change to a different treatment regime," said Brian Sorensen, Chief Nuclear Medicine Technologist, San Radiology & Nuclear Medicine. "PET-CT scans are commonly used for patients with lymphoma, melanoma, lung cancer, breast cancer, prostate cancer, gynaecological malignancies, head and neck cancer, sarcoma and colorectal cancer. PET-CT scans can also be used in patients with suspected Alzheimer's Disease."

"A few years ago PET scans were considered 'nice to have', not a necessity," noted Mr Sorensen. "However PET scans are now considered crucial in most multidisciplinary (MDT) meetings, in discussing tumour groups and cancer streams."

While Medicare has quite strict eligibility criteria around PET-CT, doctors can still request PET scans for non-Medicare-funded conditions, and the gap is covered by the patient.

The new generation of PET-CT scanners require smaller doses of radiation which reduces radiation exposure for patients. They also provide a much larger field of view, enabling shorter scan times – from 30 minutes previously, down to 10 minutes per scan now.

The latest imaging technology and new camera features provide better resolution, greater sensitivity and clearer delineation between various organs and soft tissues. "This is important for image quality and reporting confidence," said Mr Sorensen. "There are also various AI (artificial intelligence) filters doctors can choose from, which further enhance image quality and can be useful in reconstructions."

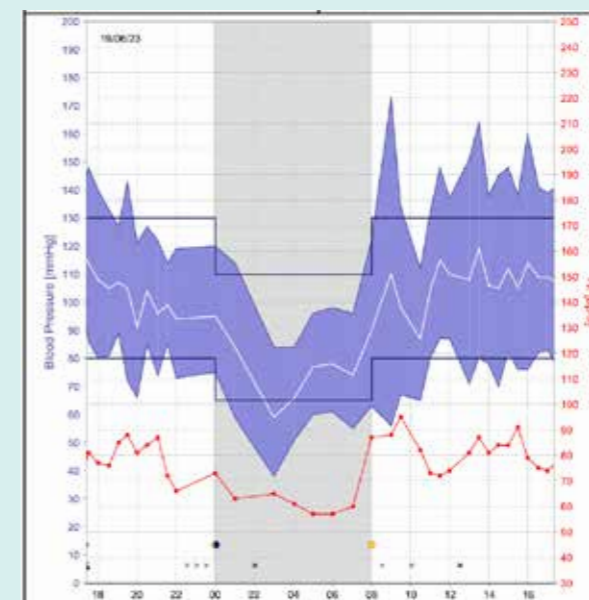
The new centre will facilitate research; both on-campus research and the ability to join other multi-centre trials. "We are also replacing one of our SPECT-CT systems, so the SPECT together with the new PET-CT will enable greater participation in trials and research," said Mr Sorensen. "For example, we currently do lutetium treatment (theranostics) at the San for prostate cancer. To this point in time we have not conducted research in this field. However the new centre will enable us to participate in multi-centre international trials – in prostate cancer and many other areas."

The new centre has been built to allow for future growth. "We will now be able to double our current capacity of scanning 15 patients per day, to 30 patients per day," said Mr Goods. "This means shorter waiting lists for patients, and hopefully earlier disease detection and treatment. The Robert & Jeanne Szeto PET-CT Centre is a vital part of caring for our patients' health today, while pioneering research for a healthier tomorrow. We are deeply grateful to the Szeto family, and we know this centre will make a world of difference for our patients and clinicians for years to come."

If you have a patient you wish to refer for a PET-CT scan please see www.sah.org.au/san-radiology for request forms and more information.

AN ARTICLE
FEATURING**Dr Charles
Nelson**

24-hour ambulatory BP monitor (ABPM)



Graph of 24 hr ABPM

The overall prevalence of hypertension is 45% (~50% in ~50 yo and >80% in >75yo). Treatment of hypertension is the most common reason for outpatient visits in rooms and for the use of chronic prescription medications. More than half of hypertensive individuals do not have adequate blood pressure (BP) control.

For a higher risk population [characterised by atherosclerotic cardiovascular disease (ASCVD), heart failure, diabetes, chronic kidney disease, age ≥ 65 yrs or a calculated 10-year risk of an ASCVD event $\geq 10\%$] the ACC/AHA 2017 threshold for the diagnosis of hypertension is a clinic or home BP of $>130/80$ mm Hg or a 24-hour mean BP of $>125/75$ or Daytime (awake) mean of $\geq 130 / \geq 80$ mmHg or Nighttime (asleep) mean of $\geq 110 / \geq 65$.

For a lower-risk population (i.e. without the above risk factors) the threshold is clinic BP of $>140/90$ or home BP of $>135/85$ or 24-hour mean of greater than $130/80$ mm Hg or Daytime (awake) mean of $\geq 135 / \geq 85$ mmHg or Nighttime (asleep) mean of $\geq 120 / \geq 70$.

For both high and low risk populations the target blood pressure is the same: 24-hour mean BP of $<125 / <75$ or Daytime (awake) mean of $<130 / <80$ mmHg or Nighttime (asleep) mean of $<110 / <65$. The equivalent clinic and home reading targets are $<130 / <80$.

Two scenarios impact the diagnosis of hypertension: white coat hypertension and masked hypertension

White coat hypertension is defined by the in-clinic BP above diagnostic threshold for hypertension and mean out-of-clinic readings below diagnostic threshold for hypertension. It has a prevalence of up to 20% and is more common in older adults, women and those whose clinic readings are close to the diagnostic threshold. White coat hypertension does not merit pharmacotherapy.

Masked hypertension is defined by mean in-clinic BP below diagnostic threshold for hypertension and mean out-of-clinic readings above diagnostic threshold for hypertension.

Another common scenario can occur where the white coat effect makes monitoring the appropriate dosing of blood pressure treatments difficult.

White coat effect, also known as treated white coat hypertension, is defined by the following in a treated patient (ie, already being treated with antihypertensive medication)

1. Mean blood pressure at or below the patient's goal based upon out-of-office readings.
2. Mean blood pressures above the patient's goal by office-based readings.

In patients with white coat effect, pharmacotherapy should be guided by Ambulatory Blood Pressure Monitoring (ABPM) and not by other BP measurements.

It has a prevalence of up to 30% and is more prominent in men, diabetics, chronic kidney disease patients and obstructive sleep apnoea patients. Patients with masked hypertension require pharmacotherapy guided by ABPM and not by other BP measurements.

The role of ABPM

Ambulatory Blood Pressure Monitoring is superior to both clinic blood pressure measurements and home blood pressure measurements for prediction of future cardiovascular events and is the widely recognised (including American College of cardiology) reference standard for the diagnosis of hypertension and the titration of antihypertensive medication. Compared with ABPM, the sensitivity and specificity of clinic BP are poor (both 75 percent).

ABPM is performed using a device worn by the patient that automatically takes blood pressure measurements over a 24-to-48-hour period. This usually occurs in fixed 15-to-30-minute intervals during the daytime, and 30-to-60-minute intervals during sleep. These blood pressures are recorded on the device, and the average day (diurnal) or night (nocturnal) pressures are calculated by a computer.

A reasonable argument can be made that ABPM would be superior to and value add if used for all outpatient BP done to diagnose or monitor hypertension. In particular, the reasons to evaluate a patient for masked or white coat hypertension using ABPM are:

1. Office-based BPs 10 or less below the patient's goal (eg, systolic pressure 120 to 129)
2. Office-based BPs below the patient's goal plus any of the following:
 - Elevated atherosclerotic cardiovascular disease risk (eg, 10-year atherosclerotic cardiovascular disease risk $>10\%$)
 - Chronic kidney disease
 - Diabetes mellitus
 - Evidence of new or worsening end-organ damage (eg, prior atherosclerotic cardiovascular event, heart failure, left ventricular hypertrophy, hypertensive retinopathy)
3. Office-based BPs above the patient's goal (but $<180/120$) despite a 3-month trial of lifestyle modifications, and no evidence of hypertensive end-organ damage

4. Office-based BPs above the patient's goal
5. Office-based BPs at or above the patient's goal with symptoms of hypotension (eg, lightheadedness, falls) at home or work
6. Labile office-based BPs

There are significant cost savings when ABPM diagnoses white coat hypertension eliminating with the need for medication and intensive follow-up.

Home BP has several disadvantages including: Less than 15 percent of commercially available blood pressure devices worldwide have published information on device accuracy; in addition, a multinational study found that only about 20 percent of the most commonly purchased devices have been validated.

In November 2023, Medicare introduced an item number for ABPM, 11607, (unfortunately restricted to patients in whom a diagnosis of Hypertension has not already been made). This test is available through cardiologists' rooms and pathology services.

N.B. In this article all BP readings are in mmHg. Reference: Up to Date Journal December 2023



Dr Charles Nelson

MBBS, MPhil, FRACP, FCSANZ

Dr Nelson is a General Cardiologist with a subspecialty interest in Imaging. He graduated from the University of New South Wales in 1989 and has trained at St Vincent's, St George and Prince of Wales hospitals in Sydney. He completed a Clinical Research Fellowship and Master of Philosophy in Cardiac Imaging Science at University of Queensland / Princess Alexandra Hospital / The Wesley Hospital in Brisbane and a 2 year Clinical Echocardiography Fellowship at Hearts 1st Laboratory at Greenslopes Private Hospital in Brisbane. He is also certified in Cardiac / Coronary CT.

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AN ARTICLE FEATURING **A/Professor Lynch**

New Medical treatment trial introduced at the San



What is PIPAC?

Pressurised intraperitoneal aerosol chemotherapy (PIPAC) is a relatively new modality for the treatment of cancer that has spread to the peritoneal cavity.

PIPAC is performed at laparoscopy (keyhole surgery) where chemotherapy is delivered into the abdominal cavity as an aerosol to allow even dispersion within the peritoneal cavity. It is administered under pressure (standard in laparoscopic surgery) to increase the local tissue penetration. This allows higher concentrations of chemotherapy to get into the tumour and requires a smaller drug dose than intravenous chemotherapy (around 10%).

The concept of PIPAC was first described in 2000 and was first performed on a patient in 2011. This therapy has been shown to be particularly effective for the palliation and downstaging of cancer patients who have a high volume of peritoneal cancer and who are not suitable for other surgical approaches to their disease.

What are the benefits of PIPAC?

PIPAC enables the direct delivery of chemotherapy into the abdominal cavity, where it can be absorbed into peritoneal tumours.

The aerosolization and pressurisation of the chemotherapy results in a uniform distribution through the abdomen and greater penetration into the tumour nodules which can reduce growth and spread.

“With PIPAC we can control the disease with much lower doses of chemotherapy, which results in a better toxicity profile in comparison to traditional chemotherapy administration.”

Generally, it takes 30 minutes to deliver PIPAC and the treatment is repeated every 6-8 weeks.

Overall, we aim to improve quality of life for cancer sufferers with fewer symptoms.

Who is a candidate for PIPAC?

PIPAC is usually a well-tolerated procedure, with most patients discharged the next day.

It is designed for a specific group of patients whose condition is not suitable for other types of treatment for peritoneal cancer.

“It is another way in which we are able to deliver chemotherapy, and we believe it is a good option for those patients who do not have alternative palliative options available.”

PIPAC is often given in conjunction with intravenous chemotherapy but is not useful for patients who have bowel obstruction or have metastases in areas outside the abdominal cavity.

A patient’s experience

When Nicholas* learned that he had signet ring cell carcinoma, he was unsure what options were available to treat his condition.

“When I was diagnosed, we saw various oncologists to get an idea of what was going on and one of them suggested PIPAC. Originally, we were looking at HIPEC which is a different type of procedure, but I wasn’t eligible for that,” said Nicholas.

Nicholas lives in Perth, where PIPAC is not currently available to patients, but he was referred to specialists at the San where he now travels for treatment every six weeks.

“It’s a long way to come for treatment, but to have this therapy available, means I am still here. The peritoneum isn’t well served by the blood stream, so this treatment more directly treats my cancer. I also found that I was more knocked around by traditional chemotherapy, but it wasn’t as targeted. It’s not suitable for everyone, but for people in my position it is a good alternative.”

PIPAC at the San

A/Prof. Craig Lynch and Prof. Gavin Marx performed the first Pressurised Intraperitoneal Aerosol Chemotherapy (PIPAC) procedure at the San in April 2023. This was made possible through the generous support of the Charles Warman Foundation.

“We are so grateful to be able to start delivering PIPAC at the San. Peritoneal cancer is an aggressive disease with limited treatment options. We hope that patients undergoing PIPAC on this trial will not only have meaningful improvement in survival and quality of life, but also support the critical research to advance PIPAC treatments in the future, both here in Australia and overseas.”

**name has been changed for patient privacy*



A/Professor Lynch

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A/Professor Lynch is a Robotic & Colorectal Surgeon at the Sydney Adventist Hospital and Associate Professor at the Australian National University.

He has extensive experience managing advanced Colorectal Cancer, using a minimally invasive approach with both laparoscopic and robotic surgery.

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Patient undergoing PIPAC treatment



Peritoneal Cancer - Pre PIPAC



Same patient at PIPAC #3 (12 weeks later)

San Updates



Newly Accredited Specialists

Sydney Adventist Hospital has several newly accredited specialists, to find out more about them scan the QR code.



Upcoming GP Events

Are you interested in attending our GP events in 2024?

Scan the QR code to keep up to date for details on what is coming up this year.



AMO Awards Winners

Congratulations to the following San Accredited Specialists for being awarded an Adventist HealthCare AMO Award for their exceptional contributions to our hospital and our community at our Thrive Awards event.



Dr Mason Reeder



Dr Josie Rutovitz

2023 AMO Award Winners

Academic Award

Dr Mason Reeder

Dr Josie Rutovitz

San Doctor Award

Associate Professor Michael Hughes

Doctor in Training Award

Dr Emily Agius



Associate Professor Michael Hughes



Dr Emily Agius

Sydney Adventist Hospital installs advanced heart lung machine



Sydney Adventist Hospital (fondly known as the San) has recently acquired the latest technology in cardiopulmonary perfusion medicine.

The Essenz Perfusion System is designed to support a perfusionist throughout the duration of a procedure, providing flexibility and scalability to optimize intra-operative care coordination. The San is only the fifth site in Australia to procure the heart lung machines.

“This equipment is indispensable when performing cardiac surgery,” said Dr David D’Silva, San Medical Perfusionist and President of the Australasian Society of Medical Perfusion.

“Ultimately the machine provides insightful data which supports us in making decisions throughout a case, which allows us to better tailor individual patient care.”

“We are pleased to have introduced the Essenz Perfusion System to our clinical practice to better support our patients during open-heart procedures”, said Brett Goods, Adventist HealthCare CEO.

The Sydney Adventist Hospital team successfully performed the first adult clinical case using this technology in late January.