

Century

INNOVATION & EDUCATION | Issue 03 | August 2020

To mark our 100 year milestone, we've created quarterly newspapers for our patients, staff and community to reflect back and enjoy the now.

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Epworth firsts

Thanks to a history rich in innovation, Epworth has celebrated many firsts. These firsts have positively impacted the lives of many. Some of our highlights include:

- 1981 ○ Becoming the first private hospital in Victoria to have a fully equipped intensive care unit with 24 hour medical cover.
- 1981 ○ Performing the first open heart surgery in a private hospital in Victoria.
- 1984 ○ Two world firsts – the first baby from a donor ovum and the first baby born as a result of frozen embryo technology at the Epworth-Monash Fertility Clinic.
- 1984 ○ Being the first private hospital in Victoria to be the centre for cleft lip and palate operations on babies.
- Mid 1990s ○ Being the first private Emergency Department accredited to accept time critical medical patients.
- 1996 ○ Opening the first stroke unit in a private hospital in Victoria.

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The wonder of technology

Over the last 30 years, the methods we have to diagnose disease have advanced dramatically.

When Dr Anthony Felber joined Epworth's Medical Imaging Unit in 1989, the diagnostic mainstays were X-ray and a new CT scanner.

"With that CT, each scan slice took about 30 seconds, then two minutes to reconstruct the image. We sat next to a room filled with computers using magnetic tape for memory.

We now acquire thousands of images in seconds and they are all ready to view within a minute," Dr Felber said.

"Ultrasound was in its developmental form in the 70's, with X-ray and early angiography in the 1960s and earlier. Nothing was available to look inside the brain or to examine the spinal cord itself or for ligaments and tendons.

"It was a matter of – you only knew what you could see at the time.

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Dr Luis Prado
Chief Medical Officer



Finding new ways forward

Our commitment to clinical education and research is key to the delivery of high quality, safe healthcare, utilising the most advanced and innovative technology available.

Epworth has led the development of key clinical advancements in Australia, such as robotic surgery, resulting in significant improvements in quality outcomes, allowing patients to recover quicker and leave hospital earlier.

‘Keyhole’ and other less invasive methods for surgery significantly minimise the impact on the body. In the past, a patient may have required weeks in hospital post-surgery, and now it is often a matter of a few days.

Our focus on clinical research has unearthed new methods of care, more effective drugs and Epworth actively supports our lead researchers and clinicians as they discover new information to improve patient care into the future.

Providing high quality care does not just depend on such advancements and innovation – it is the people who deliver care, the doctors, nurses, other clinicians and all the staff who support our patients who contribute so much to the patient experience.

Also, healthcare has been transformed by the increasing involvement of the patient and their loved ones in all aspects of the care they receive. Today, we encourage patients to be informed about their conditions, to ask questions and we work together to reach goals the patient has set.

The future of healthcare is about bringing together the people, educators, research and innovations to work with the patient and Epworth is perfectly placed to continue leading.

Individualising cancer care

A new research study is examining DNA in the blood of bowel cancer patients to plan an individualised approach to treating cancer.

Associate Professor Rachel Wong is leading the DYNAMIC clinical trials research at Epworth Eastern into early stage rectal cancer and stage III bowel cancer, as part of two Australian-led international studies.

Researchers are looking at circulating tumor DNA (ctDNA), which is found in the bloodstream, and refers to DNA that comes from cancerous cells and tumours. A previous study in patients with bowel cancer has shown that those with ctDNA detected in their blood after surgery have a very high chance of the cancer coming back compared to those with no ctDNA.

This study is trying to determine whether the presence of ctDNA after surgery is effective in determining the type and duration of chemotherapy the patient will need to prevent reoccurrence.

“We take blood samples, which are analysed at Johns Hopkin University in Baltimore, and use that information to see if we need to use intensive chemotherapy or a less intensive chemotherapy, with the aim of improving outcomes and reducing side effects for patients,” A/Prof Wong explained.

“With these studies, we look for residual cancer in the bloodstream. We know that chemotherapy is toxic so it is hoped to have a better tool to decide who needs it and how much they need.”

“If we detect no cancer cells in the sample, those patients may only need three months chemotherapy treatment, instead of six and/or maybe only one drug instead of two,” A/Prof. Wong said. For some rectal cancer patients, they may avoid chemotherapy altogether.

“Currently, for early stage colorectal cancer, we have no idea if cancer treatment is working, apart from waiting five years for no recurrence. We do scans and tumour markers but when we’re looking for recurrence, we can’t see microscopic abnormalities with available tests. We are trying to kill tiny cells in the bloodstream so they don’t come back later somewhere else, but we know cancerous cells can grow and hide,” A/Prof Wong said.

“With the ctDNA, we can detect cancerous cells in the patient and if the ctDNA gets down to zero (or decreases) on subsequent tests, that means the treatment is working.”

The trial, which involves 500 participants in the rectal cancer trial and 1,000 in the colon cancer trial, is expected to run several years at hospitals around Australia and New Zealand. Epworth patients were enrolled in the trials from December 2019.



A/Prof. Rachel Wong

Epworth FIRSTS

(Continued from page 1)

- 2002 ○ Technology has advanced greatly over the years – and devices have become much smaller and lighter. In 2002, a cardiac MRI was installed, weighing just four tonnes, replacing the old 40-tonne machine!
- 2003 ○ We introduced the first Da Vinci robotic assisted surgery to Australia. Then, in 2008, we carried out an Australian-first (and possibly a world-first) when using a robot to remove a tumour from a heart valve.
- 2003 ○ Three world firsts were carried out for vascular surgery, leading to less invasive procedures, less stress on the body and shorter recovery times:
 - a world-first procedure to insert the first large diameter stent into a human. The new stent provided strength and flexibility to conform to vessels
 - the trial of ultrasonic thrombolysis, a technique using ultrasonic energy to clear blocked vessels
 - the use of a new abdominal aortic aneurysm polymer repair device.
- 2010 ○ Surgeon Mr Daniel Moon achieved an Australian-first when he removed a kidney through a 2cm hole in a patient’s navel, significantly reducing the risk of infection and improving recovery time.
- 2012 ○ Epworth patients were the first in Australia to have a new device implanted to treat type 2 diabetes.
- 2017 ○ In a world-first, our experts used 3D printing technology to create a fully-functioning jaw bone in a single, minimally invasive procedure.



“... the ability we’ve had to introduce new technology has made it easier for people – things such as the robot. To watch a mitral valve repair using a robot is just one of the most incredible things – to realise these people don’t have to have their chest opened and can receive the surgery with minimal pain.”

CEO DENIS HOGG, WHO RETIRED AFTER 20 YEARS AT EPWORTH IN FEBRUARY 2007

The wonder of technology

(Continued from page 1)



Dr Anthony Felber

Imaging and treatment options have evolved dramatically since then. Epworth was the first private hospital in Victoria to purchase a CT scanner and MRI.

“With MRI, we could now look at the brain, the spine and soft tissues. This revolutionised diagnostic accuracy,” Dr Felber said.

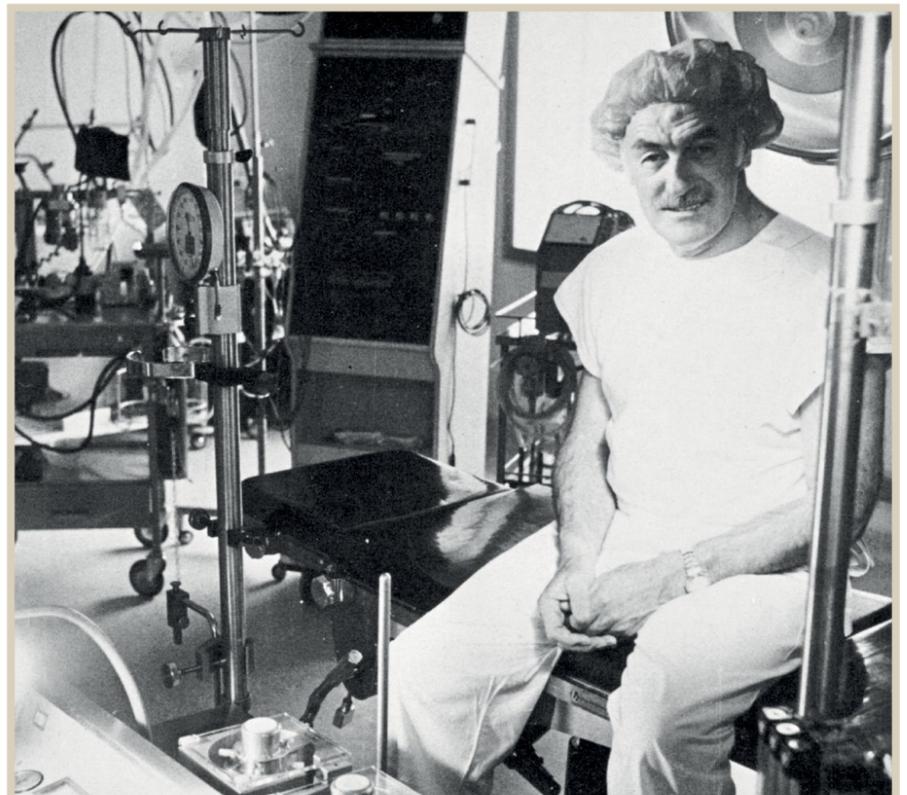
Knowledge in the field of radiology has exploded over the last few decades, with new techniques, methods and equipment.

As an interventional radiologist, Dr Felber has specialised in angiograms (which make blood vessels visible on a scan) and fluoroscopies (which uses X-rays to allow real-time visualisation of body structures). He inserted the first PICC (Peripherally Inserted Central Catheter) line at Epworth in 1995. PICC lines, inserted into a vein in arm, leg or neck, are used for long term IV antibiotics, nutrition, medications or to draw blood.

“We also now have screening programs such as for bowel and breast cancer that are changing disease outcomes due to early diagnosis.”

“Now with so much imaging performed, we find a number of incidental things, such as lung nodules or adrenal gland nodules. It is important to manage these correctly and not to over-intervene. You shouldn’t biopsy everything or you run into that risk of harm,” Dr Felber added.

“Patients are dramatically better off these days; the accuracy of diagnosis has improved so much over the years and medical imaging, though sometimes taken for granted, is an integral part of healthcare.”



Val Quanchi with a heart-lung machine, 1983. During a visit with some Rotarians to raise money for such a machine, Val underwent stress testing and was found to be in danger of a heart attack. He had open heart surgery at Epworth soon after.

Further education advancing nursing care

Nursing has become an increasingly educated profession. While the shift to university education for nurses happened some time ago, more recently nurses have been able to advance their clinical practice with extra study.



Michael Hardie

Michael Hardie was a critical care nurse before becoming Epworth’s first endorsed nurse practitioner in mid-2018, following a two year Masters Degree in nursing practice and 5,000 hours as a nurse practitioner candidate at University Hospital Geelong.

The shift to taking on more responsibilities involved a big learning curve.

“You have to know a lot about anatomy and the structures within the body,” Michael said.

“But interpreting radiology scans – CTs, X-rays and MRIs – is the biggest learning curve. You need to know what structures you are looking at and how they compare to the normal. You get so much information from imaging – probably 60 per cent – the rest comes from the patient’s medical history and pathology.”

As Epworth Geelong has just introduced a nurse practitioner program, Michael was involved in the set-up of the program, which involved a comprehensive documentation of clinical governance and patient safety.

“We were able to tweak our program to mirror what the private system needed. It was amazing to learn the governance side of things,” Michael said.

Research showed the busiest time for patients needing to see a nurse practitioner was 10am-8pm, particularly on weekends. This includes patients with less serious illnesses and injuries who are cared for in ‘fast track’ – typically that includes patients with cuts, sprains, fractures, soft tissue injuries, minor burns, eye irritations and minor paediatric issues like marbles up the nose!

Michael works closely with the senior consultants in Emergency and together they formulate a patient care plan.

The nurse practitioner pilot has been an outstanding success.

“Day one I had eight patients and for the month of July I saw 16 per cent of the department presentations. We’re in a time of growth and having a nurse practitioner working at an advanced clinical level helps us meet our length of stay and triage targets,” Michael explained.

“On the days I’m working these fast track patients wait 10 minutes. On the days I’m not there, they wait an average of 28 minutes.

“I’m not a substitute for the doctors; I’m an extra clinician in the emergency team.

“Our aim is to improve the patient experience by making things more streamlined so we can get people back to their families, or their holiday quicker.”

Simulating the real world

Knowing what to do in critical medical situations is crucial. Epworth's students and newly graduated nurses, midwives and doctors build their skills and knowledge constantly and can often be found practising their skills in our simulation labs with the latest technology.

A new simulation lab, opened in September 2019 at the renovated Epworth Freemasons, mimics a very real clinical environment and provides a mine of educational opportunities for staff.

The mannequins who live in the lab include a very cute, but not real, baby called Frankie-Freo who can be 'born' and a high fidelity simulation mannequin, who staff have dubbed "Old mate", can mimic critical distress.

Acting Education Manager Amber Burke says, the high-tech equipment (funded by Epworth Medical Foundation donors) enables staff to undertake all their core competencies as well as advanced life support training.

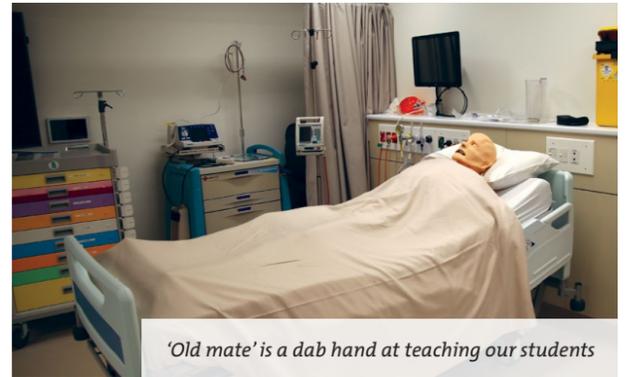
"Old mate cries, his lips go blue, his tongue swells up and he can talk," Amber explained.

"We use him when we're simulating a Code Blue or a Met Call. We can get real time feedback, you can measure depth of compressions and from the control room we can make him deteriorate, get his heart rate up and give the students some practice on what to do in such a situation.

"We can even change his eyes so neurological observations can be done on him.

"Staff can put fluids in, take blood pressure and if they don't listen to him, he makes the noise of vomiting!"

The simulation lab also has a mannequin for basic life support training, a crash trolley, where staff can do a real defibrillation and a paediatric resuscitation mannequins. With Frankie-Freo, staff can practice birthing him, work out what to do if his shoulder gets stuck midway and actually monitor how much pressure is being placed on the baby during delivery, which can cause serious damage.



'Old mate' is a dab hand at teaching our students

Prior to this lab opening, staff travelled across to Epworth Richmond for training.

"We are pretty well kitted out – we have catheter and cannula trainers; we can set up for midwifery students with vaginal exam kits, where they can feel when the patient is in dilation and we can make blood bags and urine bags and create a very real environment," Amber said.

It's not just our clinical staff who can be found here either – our environmental and food services staff come to the lab to practice their Safe Moves training to ensure they don't injure themselves.

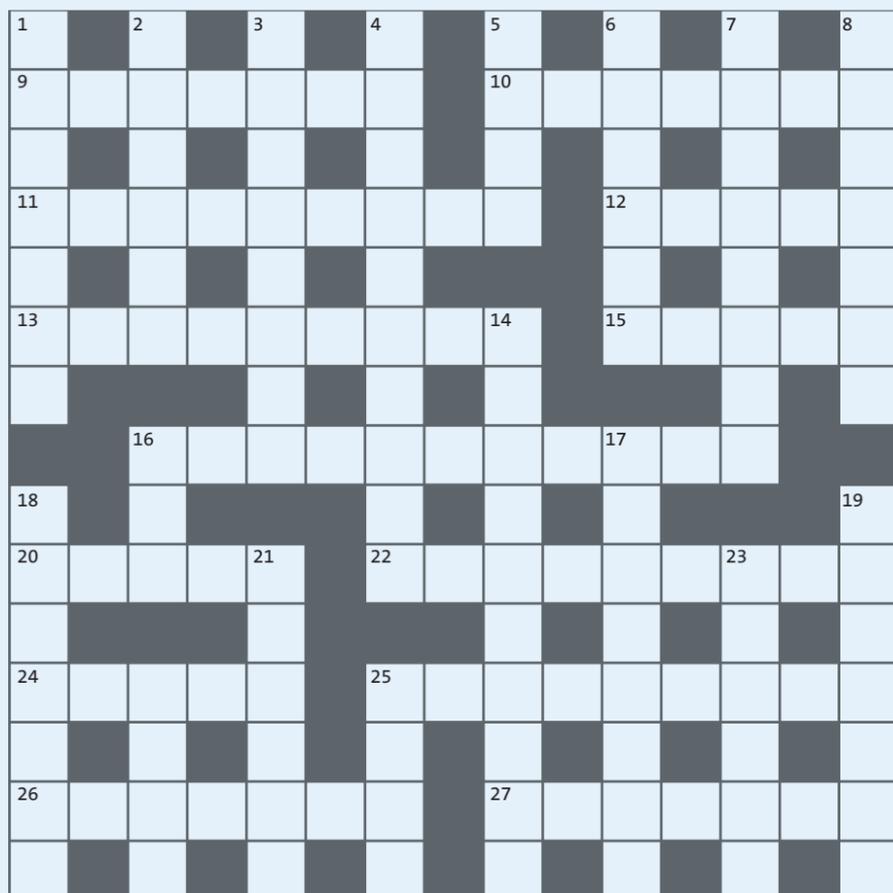
Crossword challenge

ACROSS

- 9. In disorganised hub, muse about a widespread shrub (3,4)
- 10. Ran up an odd Western Australian beach (7)
- 11. Ranges near Melbourne (9)
- 12. Lout (5)
- 13. Military posts (9)
- 15. Geelong bay (5)
- 16. Sapphire Coast resort (7,4)
- 20. Like Georgia Brown (5)
- 22. Church by which Epworth was founded (9)
- 24. Arcade coin (5)
- 25. Forceps used for extracting bullets from wounds (5-4)
- 26. Soup up (7)
- 27. Cathedral, for example (7)

DOWN

- 1. Reverend William J Palamountanis birthplace (7)
- 2. Marathon man (6)
- 3. Unambiguous indication (4,4)
- 4. Once used to put one under (10)
- 5. Obstacle (4)
- 6. Coordinated (2,4)
- 7. Current Epworth Board President Maryjane (8)
- 8. Thus far (2,2,3)
- 14. Permissible (10)
- 16. Remains of anything ruined (8)
- 17. Kind of guitar (8)
- 18. Smokers' receptacle (7)
- 19. In need of a push? (7)
- 21. Crude carrier (6)
- 23. Admission of guilt (1,3,2)
- 25. The --- Wing at Epworth Richmond, commemorating an Epworth founding board member (4)



ACROSS: 9 Emu bush, 10 Nanarup, 11 Dandenong, 12 Yobba, 13 Garrisons, 15 Corio, 16 Wonboyn lake, 20 Sweet, 22 Methodist, 24 Token, 25 Crow's-bill, 26 Augment, 27 Edifice.
 DOWN: 1 Bendigo, 2 Kinner, 3 Sure sign, 4 Chloroform, 5 Snag, 6 In synch, 7 Crabtree, 8 Lip to now, 14 Sanctioned, 16 Wreckage, 17 Acoustic, 18 Ashtray, 19 Stalled, 21 Tanker, 23 I did it, 25 Cato.

A passport to wellness and recovery

Sometimes innovation doesn't involve technology. To improve care for our mental health patients, we developed a Mental Health Passport, which encourages patients to become experts in their conditions and healthcare professionals to empower patients towards recovery.

In this age of gadgets, computers and automation, this initiative bucks the trend. The passport is simply a folder of comprehensive information, with sections for the patients to fill out, including a recovery action plan, preferences about care, triggers that exacerbate their illness, information from the dietician on how food and mood go hand in hand and advice from Epworth's exercise psychologist on movement and mood.

Suzie Hooper, Director of Clinical and Site Services says the team was looking for a "one stop shop of information" that could travel with the patient as they continue beyond Epworth Clinic. With nothing available within Australia, the team created its own.

"This is a very unique resource that no one else in the world seems to have," Suzie said.

Associate Nurse Unit Manager Natalie Nardella at Epworth Camberwell led the working party and has created a resource which focuses on recovery goals, not medical goals.

"Patients identify what their mental health has taken away and what they want to work towards again. It might be getting back to work, having the usual parenting skills or self-managing anxiety," Nat said.

"When the patient goes back to hospital, the passport goes with them so they don't have to retell their story everywhere they go. That in itself can be re-traumatising and triggering for people. It's designed to be a consumer-focused complementary communication tool that sits alongside information their care team may already have received."

There are also daily planners to help structure the day. When your mental health deteriorates, something as simple as showering can become difficult.

"It's about achieving small goals, taking the space to document your mood and reflect on how to respond to different events," Natalie said.

"Keeping a mood calendar, self-rating your mood from 1-10, allows patients and their carers to get a clear picture of what's going on. We can then track how things are going, identify any changes from new medications and other treatment and interventions over several weeks and see any improvements, even if it's marginal."

