At the heart of it
A ‘NO TOUCH’ APPROACH TO HEART BYPASS SURGERY
PROFESSOR MICHAEL VALLELY, CARDIOThorACIC SURGEON

Mending hearts with robotically assisted technology
Better understanding of pulmonary hypertension
Breathtaking collaboration - interventional pulmonology bringing clinical practice and research together
Welcome to the latest edition of Frontier magazine.

Over the past year, we've continued to work in tandem with the Faculty of Medicine and Health Sciences in the development of an overarching structure now called the Macquarie University Health Sciences Centre, and marketed as MQ Health.

The research and education activity that has been produced by the Faculty in the past year has grown at an extraordinary rate. As always our Hospital continues to provide the highest levels of clinical care. In many areas, this care is directly enhanced by the translational model of research that sees academic work from the Faculty make its way into patient care. Together our joint facilities are realising MQ Health’s shared purpose – to Heal, Learn and Discover.

In an effort to better evidence how we are fulfilling this purpose, each of the stories in this edition of Frontier links to the relevant aspect of our shared vision. Our feature on the Hospital’s new robotic heart program, for example, has been an extraordinary step in improving cardiothoracic patient care this year.

And we’ve flagged it as an example of MQ Health aims to Heal.

I’d like to take this opportunity to congratulate my colleagues at the Faculty on launching the Macquarie MD program. Commencing in 2018, the four-year graduate medical program will provide an innovative learning experience for its students, offering a comparative, global approach to learning in authentic clinical and research active environments.

The Macquarie MD program will provide students with top-quality teaching, early patient contact, top-of-the-range facilities and exceptional clinical education and training. With a small cohort of 60, students will also benefit from small class sizes. A significant component of the program will be taught at Macquarie University Hospital.

As many of you might be aware, in July of this year Macquarie University Hospital launched an external Hospital advertising campaign incorporating cinema, billboards and social media that will run for approximately five months. Our academic advantage of being the most technically advanced private hospital in Sydney is our unique point of difference and should be leveraged.

While we use the Hospital’s logo in this campaign, we reference Macquarie University Health Sciences Centre (MQ Health) through our strapline ‘the SCIENCE OF’. We also reinforce our bold vision through striking imagery and draw on a futuristic colour palette and a creative device to denote technology. You will see imagery from this campaign in the following pages.

I do hope you enjoy reading about the many extraordinary developments that are taking place at the Hospital and, more broadly, at MQ Health.

Carol Bryant
CEO, Macquarie University Hospital
WHY WE TAKE A TEAM APPROACH TO HEART CARE

Given the many approaches to heart surgery these days, patients can be unsure about the best way to proceed. How do you know and where do you go to check that you’re getting the right procedure?

At Macquarie University Hospital, we build those ‘checks and balances’ approach into the way we work with patients. We do this by taking a team approach to heart care, and especially to any of our patients requiring interventional cardiology procedures.

Our team includes surgeons discussing all appropriate approaches and collectively deciding on the best option alongside you, the patient.

This way, patients who come to Macquarie University Hospital for their cardiology services get not only a team of the best to treat them, but an ‘unbiased’ view of their condition and the optimal solution.

If you don’t have a team to review you, then make sure you ask your doctor why you are getting the approach being recommended and how many times they have done the procedure. If you’re in any doubt, get a second opinion.

DYNAMIC DUO: TWO OF OUR LEADING DOCTORS

Macquarie University Hospital cardiothoracic surgeon Professor Michael Vallely is one of the pioneers of the ‘no touch’ approach to heart by-pass surgery – introducing it to Macquarie University Hospital in 2012.

With fellow heart surgeon Professor Michael Wilson, the pair have done more than 1000 cases using the technique. They are amongst the most experienced surgeons in the world using this technique.

Coronary Artery Bypass Graft (CABG) is the standard treatment for three-vessel heart disease. CABG is associated with a higher risk of stroke – either as a result of a patient being on the cardiopulmonary bypass (CPB) pump or as a result of manipulation of the aorta by aortic cross-clamping.

While it was previously thought the CPB pump was the main cause of stroke – with many taking up off-pump surgery as a result – Professor Vallely and a group of surgeons turned their attention to eliminating manipulation of the aorta, developing a ‘no touch’ approach to CABG: anaortic Off-Pump CABG (anOPCAB).

“Ageing and co-morbidities bring increased atheromatous (cholesterol plaque) disease in the aorta,” explained Professor Vallely. “Manipulating the aorta means that bits of atheroma can break off and go into the brain, causing a stroke.

‘Anaortic OPCAB relies on taking blood flow from the internal mammary arteries that run behind the sternum, rather than from the aorta. Because the aorta is not manipulated and inflow for the bypass grafts is taken from vessels other than the aorta, the chance of an embolic stroke occurring during the procedure is virtually eliminated.”

Professor Vallely’s team has now examined the clinical evidence available. Their network meta-analysis, ‘Coronary Artery Bypass Grafting with and without manipulation of the ascending aorta was published in the February issue of the Journal of the American College of Cardiology.

The meta-analysis looks at four different ways of doing coronary artery bypass surgery: from completely avoiding manipulation of the aorta, to minimal manipulation, to a partial clamp manipulation, to a fully arrested heart using the heart–lung machine and aortic cross-clamp.

“We looked at studies that took stroke as the major end point within the 30-days post-operative period. The studies included a total of 37,720 patients across 13 major studies.

“Patients with minimal manipulation who had greater risk of stroke before the procedure and a larger incidence of pre-operative neuropsychogerative problems showed the best outcomes and a drastic reduction in stroke post-operatively.

‘Overall, anOPCAB was the most effective treatment for decreasing the risk of post-operative stroke, reducing incidence by 71 per cent when compared to CABG.”

These patients also had better outcomes in terms of mortality, renal failure, bleeding complications, atrial fibrillation and length of intensive care stay.

Macquarie University Hospital surgeon Professor Michael Vallely and his team have completed a network meta-analysis of the latest evidence for off-pump heart surgery across the world. The research shows that a ‘no touch’ or ‘anaortic’ approach has a significant impact on reducing stroke.

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At the heart of it

A ‘NO TOUCH’ APPROACH TO HEART BYPASS SURGERY

Macquarie University Hospital surgeon Professor Michael Vallely and his team have completed a network meta-analysis of the latest evidence for off-pump heart surgery across the world. The research shows that a ‘no touch’ or ‘anaortic’ approach has a significant impact on reducing stroke.
In an Australasian first, neurosurgeons at Macquarie University Hospital have introduced the BrainPath® non-disruptive cranial access technology, a new device allowing access to tumours deep within the brain without causing damage to surrounding tissue.

BRAINY SOLUTION
HELPS TO PRESERVE OUR MOST PRECIOUS ORGAN

The first patient treated with BrainPath at Macquarie University Hospital was diagnosed with a 12mm metastatic adenocarcinoma in the right frontal lobe, pressing against vital motor pathways of the brain.

She probably would have been advised against surgical removal of the tumour before the arrival of BrainPath and a new standardised surgical approach that integrates BrainPath with imaging, navigation and tissue removal technologies.

Importantly, BrainPath allows surgeons to access deep regions of the brain using its natural folds – a trans-sulcal surgical route.

The technology is essentially a highly engineered metal probe that lies inside a 14mm-wide plastic sheath. The probe, which is uniquely navigable, guides the sheath to the targeted abnormality then is removed, leaving the sheath as the corridor by which surgeons use existing instruments to remove tumour or hematoma within the brain.

“The genius of BrainPath is its ability to pass between the ‘sulci’ or folds of the brain, applying uniform pressure in all directions as it moves around tissue,” said Dr. Andrew Davidson, who performed the procedure after receiving specialised training in the US.

The probe is linked to a real-time intraoperative 3 D MRI navigation system, allowing surgeons to see exactly where they are operating.

The BrainPath is manufactured by NICO Corporation, a world leader in developing non-invasive neurosurgical surgical systems and a new novel standardised surgical approach using advanced technologies.

It is significant in offering safer surgical opportunities for those patients who have gliomas, secondary metastatic tumours and other tumours inside the brain.

“Previously, even though we have been using minimally invasive approaches to brain surgery for more than a decade, removing a lesion often involved cutting away tissue to get to the tumour,” said Dr. Davidson.

“This conventional method poses risk to critical structures of the brain that might get permanently damaged in the process, and in cases like our first patient, we would have been limited in terms of what we could reach.”

Recovery for patients who undergo surgery using the BrainPath approach may be much faster, often resulting in reduced time in hospital.

The BrainPath device has also been approved for early clot removal in cases of intra-cerebral haemorrhage – the deadliest and most devastating form of stroke. There is now a growing body of peer-reviewed evidence showing improved patient outcomes for both tumour removal and hemorrhagic stroke when using BrainPath.

Research from the US, where the technique has been in use since 2015, shows length of hospital stay after haemorrhagic stroke has reduced from 5.2 days to 2.8 days and time spent in the ICU has also dropped from 17 days to 9 days.

In the UK, Kings’ College Hospital in London became the first medical centre to work with the device earlier this year, and it has gained the CE Mark (European Conformity), which recognises the technique for use in more than 30 countries in the European Union.

Jim Pearson, President and CEO of NICO Corporation, said: “NICO is highly committed to the training aspect of this new approach and technology to ensure surgeons are performing surgery in a standardised way using standardised technologies to achieve repeatable clinical results.

“We are very excited that the population around Australia will now be able to benefit from these technologies and a new surgical approach that is better for the patient and the healthcare system.”
Macquarie University Hospital successfully completed its first Off-Pump Coronary Artery Bypass Graft (OPCABG) using the da Vinci Xi Surgical System, the most advanced available surgical robot.

Leading Sydney heart surgeon, Professor Michael Wilson, who has been one of the pioneers of an off-pump approach to bypass surgery, performed the procedure.

Although Professor Wilson and his team have done OPCABG procedures robotically at Macquarie University Hospital using the older SI System, this case was the first time that the latest model – the da Vinci Xi – had been used.

Colleagues Professor Michael Vallely and Professor Michael Wilson are two of only a few surgeons worldwide who are able to perform CABG in all three modalities: traditionally, off-pump and robotically.

“We’ve been doing off-pump CABG increasingly at MUH and RPA for years now, with excellent results for patients,” said Professor Wilson.

“And we’ve also done more than 1000 cases using a ‘no touch’ approach – an aortic OPCABG – which means there is no manipulation of the aorta during revascularisation. We mobilise the mammary and radial arteries instead for blood flow.

“Research analysis of international clinical data shows that an OPCABG reduces the risk of stroke by two-thirds. What a robotic approach does is allow us to offer an OPCABG in a minimally invasive way. At the moment, we are unique in this approach.”

Forty four year old patient Joanne Deane found out that she had early onset arterial disease after she developed chest pain during her daily cycling commute to work. This meant that she thought she was headed for a full sternotomy or stents, until she met with Professor Wilson and found out about Macquarie University Hospital’s new cardiothoracic robotic program.

“I’d heard of robotically assisted surgery for the heart, but I didn’t think that it was actually available now,” said Ms Deane, who returned home in less than a week after surgery, and was fully mobile less than two weeks later.

“Robotic surgery is less invasive than traditional surgery. Patients may also experience faster recovery times. A four-centimetre cut under the breast crease is all that is required to access the heart. Patients can be back at work two weeks later.

Macquarie University Hospital has commenced using the latest da Vinci Xi surgical system to perform minimally invasive coronary bypass surgery.
A second patient, considered for the same procedure as Ms Deane, had his converted to conventional surgery, “Robotically assisted bypass surgery can be a safe procedure when patients are properly screened and referred,” said Professor Wilson.

“And it’s important to remember that conventional surgery is always there as a back-up. Our priority is always patient safety first, and in the case of our second patient, we decided to proceed traditionally. We had conventional bypass surgery and is recovering well,” Macquarie University Hospital CEO Carol Bryant said that it was the Hospital’s investment in a second and more advanced robot earlier this year that has allowed the development of a robotic bypass graft program.

“We are delighted to be adding a range of robotically assisted surgeries to several other disciplines with the new da Vinci XI Surgical System,” she said.

“These will include colorectal, gynaecological and cardiothoracic surgery, which require more movement over a larger area of the body, and more dexterity.

“It’s fantastic to see our first patient Joanne recovering so well and benefiting from our investment in this technology. This is a big advance for the private hospital sector in Australia.”

One of the most rapidly expanding areas of the Hospital, the robotic assisted surgery program is currently expanding with the acquisition of a second robotic system, the da Vinci XI Surgical system. The new surgical robot is the latest model available. It has refined features from the previous model as well as new capabilities – in particular, its capacity for increased movement across the body. This enhanced anatomical access is by way of a new overhead arm architecture and instrument shafts designed to give greater range of motion and operative reach.

Professor David Gillatt, Head of the Urology and Gynaecology Clinical Discipline and Director of Medical Services at Macquarie University Hospital, said that the new system can be used across a wide spectrum of minimally invasive procedures.

“Because of the movability of the arms and instruments, the system will make it easier for procedures where multiple sites are involved,” said Professor Gillatt. “Unlike prostate surgery, where the resection site is confined, specialist areas like colorectal, gynaecological and cardiothoracic surgery require more movement over a larger area.

“We also anticipate the robot’s use in pancreatic, lung, and head and neck surgery. And, because we are an academic hospital with the capability to perform highly complex surgeries, we will be looking to use robotic approaches in some of those types of cases.

Robotic surgery is far less invasive than traditional surgery. Patients may also experience faster recovery time. The Hospital’s expanded program means that more patients can now access this approach.

Training in robotic surgery will continue to be a core part of the Urology program at Macquarie University Hospital, and expand to training in other disciplines.

Professor Michael Wilson

FOR MORE INFORMATION: CALL 02 9812 3838

Macquarie University Hospital invests in a second robot – the latest da Vinci XI Surgical System. This has enabled it to expand to other specialty areas.
The Hospital’s art collection is about to get some special attention as curators from Macquarie University Art Gallery refresh its presentation for patients and visitors. The Hospital has a diverse art collection, with more than forty works across a broad range of periods and styles. The collection is interesting, eclectic and loved by patients, visitors and staff.

“It’s a wonderful collection, varied and of relevance to the Hospital’s location,” said Dr Rhonda Davis, curator at the Macquarie University Art Gallery.

“For example, there are paintings by David Lever, which are extremely popular and provide a narrative about the life and times of Arthur Stace, one of Sydney’s original graffiti artists active between 1932 and 1967.

“There are atmospheric and evocative landscape photographs by British artist Jeremy Welsh depicting the Lofoten Islands, and photographs by Effy Alexakis documenting her connections with the Parramatta River. Different forms of contemporary abstraction include works by Craig Waddell and Peter Griffen. Waddell is well known; his painting represents a local scene in the Dural region, with his vigorous use of paint and application retaining a raw and emotive energy. Aboriginal art includes spectacularly vivid works by Kudditi Kngwarreye of the artist’s connection to country.”

The collection was installed with some haste when the Hospital first opened its doors seven years ago. Now, it’s about to get a lift over the coming months, as Dr Davis and her team refresh how the collection is presented to the thousands of people who visit and work at the Hospital every week.

“One of the things we’d like to do is look at grouping the works around themes,” said Dr Davis. “There are some strong nature themes, for example, and we’d like to re-consider how these are presented, to bring out a stronger narrative thread.”

It’s now well established that art can play a role in improving health and wellbeing, and the Hospital aims to strengthen this through its collection.

“Viewing and engaging art brings about physiological changes in the body,” explained Dr Davis. “For example, it activates parts of the brain that lowers stress.

“In a hospital environment, this can be powerful. It’s a stressful time for patients and their loved ones.”
ENJOY THE ARTS AND CULTURAL EXPERIENCES ON CAMPUS

The Macquarie University campus is a vibrant cultural precinct. Galleries, sculptures and an arboretum make the campus a rich environment for arts engagement and contemplation.

The Australian History Museum holds over 8,000 items from pre-colonisation to the present. The Sculpture Park is a collection of over 100 modern and contemporary sculptures dotted around the University campus. Tours are also available to view the largest depth of field hologram ever produced in the world, titled To Absent Friends, 1988 by renowned artist Paula Dawson.

The University’s program has now seen hundreds of people visit the gallery participating in two-hour sessions with 6 to 12 participants and 3 to 4 carers in attendance. The session engages this audience with art in diverse ways that bring immense joy and a sense of ownership to the participants as they share their knowledge and stories. The program has proven highly successful and has expanded through a partnership with Baptist Community Care.

Participants spend time looking at art, responding and discussing it. The program has focused on abstract art, which the Macquarie University team has observed to show nuances that are particularly effective at bringing back memory.

“With their breadth of experience and relationships, elderly participants in the program bring a rich understanding to a work,” commented Dr Davis. “Being able to respond and discuss this gives them a sense of agency.”

Art opens up different emotions. On an individual basis, the arts have the ability to give us clues to everyday life, and can be a significant process in making meaning of the everyday.”

Working in collaboration with Jane Thogersen from the Australian History Museum, also located on campus, the team has further developed the program by integrating art with related objects from the Museum. This has formed a unique arts engagement program for people living with dementia that connects image with object. From all accounts so far, there appear to be key indicators for prompting memory and associated stories.

Currently, there are also early discussions around a staff wellness program that would include workshops and coffee mornings.
For patients with early-stage lymphoedema, the use of compression garments, exercise, skin care and lymphatic drainage massage have offered an effective solution in reducing and controlling symptoms. More recently, for those with more severe lymphoedema, liposuction and lymph node transfer surgery have become viable surgical options.

However, patients with lymphoedema who fall in the middle of the spectrum, have had no satisfactory treatment option. Many struggle with the compression garments and are not candidates for surgical intervention. With time, these patients can progress to advanced fatty-type lymphoedema.

Earlier this year, Lymphovenous Anastomosis (LVA) was performed in a Macquarie University Hospital first. Suitable for mild to moderate lymphoedema sufferers and well established overseas, the procedure was introduced into Australia through an international collaboration that saw Macquarie University Health Sciences Centre (MQ Health) bring two top plastic surgeons from Okayama University in Japan to mentor plastic surgeon Dr Quan Ngo, along with other members of the multidisciplinary team. These included clinical lead Dr Helen Mackie and lymphoedema therapist and program manager Louise Koelmeyer.

LVA involves the surgical creation of a local connection between the lymphatic vessels and veins to facilitate drainage of accumulated lymph fluid into the systemic circulation, thereby reducing fluid collection in the affected limbs and limiting further lymphoedema progression.

“This is called super-microsurgery,” said Professor John Boyages, Director of the Australian Lymphoedema Education Research and Treatment (ALERT) centre and Professor of Breast Oncology at the Faculty of Medicine and Health Sciences at Macquarie University. “Vascular surgeons are used to joining hair-sized arteries, but here they are joining hair-sized lymphatics – around one-third of a millimetre – to very small veins called venules.

“The goal of the procedure is to allow the lymphatic system to drain. The pressures have to be right to join the two.”

To enable the necessary detailed visualisation of the lymphatic system prior to the surgery, Macquarie University Hospital has acquired an Indocyanine Green (ICG) Fluorescence lymphography device, and ICG lymphography and infrared vein viewer.

MQ Health is also delighted to have Associate Professor Hiroo Suami on board. He trained in Japan as a reconstructive microsurgeon and is now a world-renowned expert in visualising the human lymphatic system. Recruited from the University of Texas MD Anderson Cancer Centre in Houston, Associate Professor Suami helped draft the protocols for the procedure at Macquarie University Hospital and is involved in patient selection.

“Oddly enough, LVA was invented in Australia in the 1970s but never taken up,” said Professor Boyages, who has ensured that an LVA research program has been established in conjunction with the clinical program. “Now that we’ve taken it up as part of our lymphoedema services, offered to patients, we hope put in place a strong program to measure success and ensure we achieve the best outcomes for patients.”

This will add to other strong research programs that the Macquarie-based ALERT program conducts – including the particularly strong data it has on liposuction for patients with advanced lymphoedema.

“Our colleague at Vanderbilt University, Professor Sheila Ridner, one of the world’s leading researchers in lymphoedema treatment and management, told me earlier this year that, to her knowledge, Macquarie University Hospital is the only place in the world that can test LVA in a research environment,” said Professor Boyages. “We look forward to sharing our first research results with the wider community as early as 2018.”

**Illuminating micro-surgery**

**SOLUTIONS FOR PATIENTS WITH LYMPHOEDEMA**

In a Macquarie University Hospital first, surgeons performed fluorescence imaging assisted Lymphovenous Anastomosis for lymphoedema patients experiencing mild to moderate lymphoedema.
Clinical librarians play a crucial role at Macquarie University Hospital, helping doctors access the latest evidence-based information quickly and effectively. Mary Simons and Jeremy Collins are the Macquarie University clinical librarians that support the Faculty of Medicine and Health Sciences – researchers, students and hospital staff.

Mary regularly attends multidisciplinary team (MDT) meetings across a number of disciplines at the Hospital in cancer, neuro-oncology and others. This allows her to respond to information needs as they arise.

Several years ago, she saw doctors wanting to provide their patients with relevant evidence-based information, but frustrated that they had no extra time to track down and deliver specific information relevant to each patient.

“In the MDTs, doctors talked about the need for patients to have reliable information – good credible information referenced through the publication system and filtered by qualified medical professionals,” said Mary.

“Patients typically Google their symptoms or diagnosis, or rely on the popular press. Often, this doesn’t serve them well as they can get inaccurate or incomplete information.”

Working with doctors, Mary started to put the resources together. She then collaborated with web developers to establish a website, first launched in 2012, then re-designed to accommodate expanding resources and consumer interest in 2016.

Today, the Hospital has a well-designed platform and an outstanding patient-focused resource – one that confidently provides the latest evidence-based information.

The team started with cancer, and the site has information on nine different types of cancers. It also has ‘Stats and facts’ and ‘Practical tips’ sections, along with information on the latest technologies – including PET scan and Gamma Knife.

Information ranges from peer-reviewed research in the top international journals, to links to relevant websites and peak bodies, to mobile phone apps.

Importantly, the site is also embedded into their bedside consoles for all patients on wards. For the elderly or people who prefer a hard copy, nurses can print pages on the ward.

“Consumer education plays an important role in assisting patients and their families with decision-making,” said Mary. “This ultimately enhances patient outcomes.

“The next phase of the website is to move beyond cancer. Medicine is a constantly evolving field, so we see this as a living document.”

The resource is freely available to the public. muh.org.au/cancer-information
Adele McDonald first came to Macquarie University Hospital for Gamma Knife treatment in July 2015. She had been diagnosed with metastatic brain tumours, having had breast cancer several years before.

“I live north of Brisbane, and whole brain radiation was the only option available to me there at the time,” said Adele. “I wasn’t completely comfortable with this idea.

“Around the same time, I read a story featuring Associate Professor Matthew Foote from Princess Alexandra Hospital talking about treating multiple lesions with Gamma Knife, in the lead up to Princess Alexandra Hospital acquiring Queensland’s first Gamma Knife.

“I was intrigued. So I had a consultation with Professor Foote and he put me in touch with Macquarie University Hospital, as they were still the only site in Australia with Gamma Knife technology.”

Adele sent results from an MRI scan to Dr John Fuller at Macquarie University Hospital. The team reviewed her case and selected Adele as a suitable candidate for Gamma Knife treatment.

“The MRI scan showed that Adele had at least forty tumours,” said Dr Fuller. “We were able to arrange immediate treatment, and she flew to Sydney within a few days.

“Patients with multiple brain metastases are often still offered only whole brain irradiation as a palliative measure, which, in light of current literature, is not necessarily appropriate. We look at providing the most effective treatment based on current best practice. This approach means treating patients as individuals based on their specific disease and its extent.”

The Gamma Knife team was able to treat 26 tumours in one day over eight hours, with Adele’s treatment tailored to the specifics of her situation and condition.

“To treat more than forty lesions would require too long a period of treatment that would not have been well tolerated by her,” explained Dr Fuller. “Therefore, to avoid the potential long-term neurocognitive problems associated with whole brain irradiation to the cerebral hemispheres, all of the lesions located in these regions were treated with Gamma Knife surgery.

“The multiple lesions in her cerebellum were then planned to be treated with non-focused irradiation to this area alone.”

Indeed, Adele returned to Brisbane to have the remaining tumours in her cerebellum treated with radiation. Since then, she has had eight further brain metastases treated stereotactically in Queensland.

“My results have been amazing, and it’s nice to share my story,” said Adele. “Two and a half years ago I was told I had six months to live, and I’m still here with my most recent brain scan showing just one tumour, which is pretty amazing considering there were forty.”
Under the guidance of Associate Professor I-Van Ho, Macquarie University Hospital has become the first hospital in Australia to trial a new digital 3-D visualisation system for vitreoretinal and cataract surgery.

Notably, the NGENUITY® Visualisation System replaces the use of a microscope with a High Dynamic Range (HDR) camera, which provides excellent resolution, image depth, clarity and colour contrast.

With this superior 3-D view, the surgeon and operating theatre staff now have a level of depth perception not previously available on standard television monitors, which are often used in operation theatres today.

“The digitised technology brings several additional benefits that contribute to safer surgery,” explained Associate Professor Ho, Vitreoretinal Surgeon and Macular Disease Specialist who is also an Associate Professor and Head of Ophthalmic Surgery at Macquarie University Hospital.

“In a national first, Macquarie University Hospital trials a cutting-edge digital visualisation system for ophthalmic surgery that will bring benefits to people needing cataract or other retinal surgeries.

“From a surgeon’s point of view, we can use filters to enhance different tissue layers. A green filter, for example, applied to the red of blood vessels allows them to stand out in high-definition black, making differentiation of retinal tissue much more accurate.

“The equipment also has digital overlay technology, allowing us to correlate what we see in clinics pre-operatively, such as the OCT [optical coherence tomography] images of the macula, allowing the surgeon to perform a safer and more complete surgery. Coupled with the new technology of intra-operative OCT, the point-to-point registration for optimum surgery is amazing.

“The other benefit of the digital imaging system is that it requires less light than a traditional microscope system, as with digital as opposed to film-based cameras. This will serve to reduce potential phototoxic trauma to the eye.”

Macquarie University Hospital already offers some of the most advanced retinal and cataract surgery in the country, with the potential for a permanent NGENUITY® acquisition ensuring the hospital remains national leader in this field.

It also has the first private hospital teaching clinic in Australia, drawing some of the most respected specialists and surgeons to the hospital.

“The potential for teaching, using the NGENUITY® system, would open up huge possibilities,” said Associate Professor I-Van Ho, who is also Vitreoretinal Surgeon and Director of Vitreoretinal Fellowship at Sydney Eye Hospital.

“The digital nature of the technology means that the operating field can be accessed by everyone in the operating room in 3-D, similar to a 3-D movie theatre.

“For the first time, I am able to have more than one trainee surgeon observing my surgery in 3-D at the same time. Even my experienced operating theatre nurse has commented on how, for the first time, she can appreciate what I do in 3-D, which helps her assist me better during surgery.”

The technology also opens the possibility of telemedicine surgery where a surgeon could potentially train and assist surgeons on the other side of the country or in rural or remote areas.

Macquarie University Hospital CEO Carol Bryant said that the Hospital was excited to be moving towards Digitally Assisted Vitreoretinal Surgery, or DAVS.

“Currently we are one of several sites in the world to have access to this new technology – the others being in the US and Europe,” said Ms Bryant.

“Associate Professor Ho and his team have led retinal surgery at Macquarie University Hospital to become the excellent centre that it is, keeping the Hospital at the forefront of ophthalmology surgery.

“With the vast majority of people needing some form of ophthalmic and retinal surgery as they age – particularly cataract surgery – we will be looking closely at the NGENUITY® trial period as we consider investing in this technology for the future.”
Peter and Sue Dodd have kindly made a significant donation to the Hospital to support nursing services in oncology, contributing to enhancing the overall breast cancer care of patients.

Dr Peter Dodd was Deputy Vice-Chancellor and Chief Operating Officer of Macquarie University from 2009 to 2012. He was also the inaugural Chairman of the Macquarie University Hospital Board – serving in this capacity till mid-2016.

Professor Rick Kefford, Head of the Cancer Clinical Program extended a warm thank-you to the Dodds for their extremely generous donation.

"Breast cancer comprises one of our largest groups of patients in the program," said Professor Kefford, who is also Head of Department of Clinical Medicine (FMHS) at Macquarie University.

"The constant stream of new information from conferences and journals provides an ongoing challenge for our staff in maintaining currency and ensuring that our patients are always getting the latest and best advice and care."

"The generosity of the Dodds will provide the Hospital with an opportunity to innovate in oncology nursing, and help with developing the breast cancer skills on both surgical and medical wards."

"Our jobs can be difficult at times but we always strive to do our best," said Jenny Gilchrist, Nurse Practitioner in Breast Oncology at Macquarie University Hospital. "Getting to help people during cancer care makes it all very much worthwhile."

Peter and Sue Dodd said that they had great confidence in the Hospital’s comprehensive and specialist approach to breast cancer.

"We hope our donation will help provide increased training opportunities for nurses working in this important area of medicine," said Peter. "We also want to encourage others to consider donating to promote research and education."

Grants are currently available to cancer nurses to the value of $2,000. In time, the Hospital hopes to attract broader philanthropic support for nursing education across the board. Applicants must demonstrate how their educational experience will directly benefit breast cancer patients.

ABBY FYFE: Recipient of the Peter and Sue Dodd Nursing Education Scholarship

In June this year, with funding from the Peter and Sue Dodd Nursing Education Scholarship, Abby was able to attend the Multinational Association of Supportive Cancer Care (MASCC) conference in Washington in the US.

Here’s what she said about this international professional development opportunity:

“Attending the conference was an extremely valuable experience. I learned some great innovative, internationally recognised techniques to care for our cancer patients.

“Some highlights for me and my work at Macquarie University Hospital include the use of virtual reality to help combat fears and anxieties, the importance of increased awareness of cancer-associated thrombosis for patients, using cryotherapy to help combat peripheral neuropathy caused by some chemotherapy agents and new wound care tips.

“I have also increased my awareness of fertility and sexuality issues, and furthered my knowledge on immunotherapies and their side effects. It’s exciting to be taking what I learned back to the Hospital to discuss and incorporate into some quality projects for the year.”
More than 15 years ago, Rebecca Barnwell had a very bad car accident. A year later, she started getting severe knee pain. Three knee operations and countless visits to specialists later, Rebecca was still being told that her ongoing hip pain was related to her knee.

It was not until 2016 that a sports physiotherapist diagnosed her with a ‘labral tear’ and referred her to Dr Sunny Randhawa, a Hip and Knee surgeon at Macquarie University Hospital.

“Rebecca’s case was typical for a labral tear, where the patient gets given many alternative diagnoses before finally a hip MRI scan confirms the labral tear as a source of the pain,” explained Dr Randhawa.

“Making the medical and wider health community aware of hip impingement as a valid diagnosis that responds well to surgery, is a slow and developing process. Rebecca was a great candidate for hip arthroscopy surgery because she had a large unstable labral tear, in an otherwise pristine hip. Being able to make her pain-free and restore her quality of life is truly satisfying.”

Hip arthroscopy is becoming the leading and most commonly used minimally invasive procedure for tears of the acetabular labrum, the flexible cartilage lining the hip joint. The condition is known as hip impingement, or Femoroacetabular Impingement (FAI).

Dr Randhawa introduced hip arthroscopy to Macquarie University Hospital last year in a relatively new application of arthroscopic techniques. He uses lateral patient positioning to perform his surgery. The Hospital invested in the suite of special equipment needed: the special arthroscope, hip traction table, latest percutaneous instruments, and high-definition camera.

To perform the procedure, the surgeon makes small incisions for the camera and other tools. Repair of the torn labrum is performed using small bony anchors and sutures. New technology using fiberoptics, laser, and percutaneous instruments has enabled this latest advance in minimally invasive hip surgery.

“Hip arthroscopy greatly reduces the recovery time when compared with conventional open surgery techniques for FAI,” explained Dr Randhawa. “It can also delay hip arthritis by treating hip impingement, one of the underlying causes of osteoarthritis. If we repair the labrum early, slow down the process of cartilage degradation, in the right patient, it can be preventative.”

Rebecca’s outcomes have been excellent. Within three months of the procedure, she was pain free for the first time in more than a decade. She is scheduled to have her other hip treated in December this year with the same procedure.

“With no proper diagnosis or cause of the pain, in 2004 I was advised to stop most exercise,” said Rebecca. “Prior to that I was extremely active and passionate about netball and adventure sports. For the first time in so long, I can see the light at the end of the tunnel. With the first hip procedure so successful, and no pain in that area, I am excited for life after the second procedure when I can return to exercising and living a normal life pain free.”

After receiving his surgical fellowship, Dr Randhawa went on to complete the highly sought-after hip arthroscopy and anterior hip replacement fellowship in Melbourne under Associate Professor John O’Donnell, then President of the International Society of Hip Arthroscopy. During this time, Dr Randhawa mastered the techniques used to manage sports hip conditions such as femoroacetabular impingement (FAI), hip instability, snapping hip syndrome and gluteal tendinopathy. He also completed a fellowship in hip replacement via the minimally invasive Direct Anterior Approach (DAA).
MQ Health now has an established multidisciplinary Pulmonary Arterial Hypertension (PAH) Clinic linked to a number of related clinical trials. This patient-based approach to learning more about PAH in a private university hospital is unique in New South Wales.

Several trials are currently investigating both pharmacological and non-pharmacological approaches to improved diagnosis and treatments for PAH, giving patients attending the clinic access to additional options.

“The treatment of Pulmonary Arterial Hypertension still has many unanswered questions,” said Dr Martin Brown, Cardiologist at Macquarie University Hospital and Primary Investigator on a number of the PAH studies. “Historically, it has been under-recognised, with an average of 5-6 years delay from symptoms onset to diagnosis. Current treatment options are far from optimal, and many medications available internationally are not yet available or PBS funded in Australia. Our clinical trials – involving both pharmacological and non-pharmacological approaches – aim to increase options available to our patients.”

The approach to the research is multidisciplinary and includes radiologists, cardiologists, pulmonologists, rheumatologists and exercise physiologists.

“We follow an inter-collegial model,” said Dr Brown. “Our international and domestic trials involve multiple partners from across industry and other hospitals and academic units in New South Wales. These networks enable patients access to our services and to the novel treatments that come with participation in clinical research.”

Pulmonary arterial hypertension is a condition affecting the arteries in the lungs and right side of the heart. What are researchers at Macquarie University studying to bring patients better treatment?

Better understanding OF PULMONARY ARTERIAL HYPERTENSION

WHAT ARE PAH TRIALS LOOKING AT?
The FREEDOM 310 trial is a multi-centre, international, randomised, double-blind and placebo-controlled trial that is, testing an oral treatment (Treprostinil) not yet available in Australia, versus placebo as an add on to current therapy.

The FREEDOM 311 trial is an open-label extension study of Treprostinil in subjects with PAH and a long-term follow-up to Protocol FREEDOM 310, comparing oral Treprostinil versus placebo three times a day for patients who are already on single background therapy.

The iNOvation trial is testing a long-established drug via a newly developed nitric oxide/nitopulse® delivery device for use in long-term symptomatic subjects with PAH and in subjects with pulmonary hypertension associated with chronic obstructive pulmonary disease (COPD). This is a new international study involving 50 trial sites around the world.

A new non-pharmacological study is looking at four-dimensional blood flow dynamics in the pulmonary artery during cardiac MRI versus right heart catheterisation. The lead on this study is Professor Stuart Grieve and this is a new multi-institutional study within NSW.

A second non-pharmacological study is investigating the effects of Respiratory Muscle Training on heart function, exercise capacity and quality of life in people with PAH. This is a multi-institutional study within New South Wales led by Dr Rachel Cordina at Royal Prince Alfred Hospital.

FOR MORE INFORMATION: CALL 02 9812 2900

Dr Martin Brown
Confronting the four factors that threaten Medicare’s future

1. Ageing and the emergence of chronic disease

All statistics point to Australians becoming physically and mentally sick as the average population age continues to rise. If we look at disease patterns in a younger population, we see rising rates of overweight/obese Australians (two times higher since 1990) and diabetes (three times higher since 1990), which threaten to reduce life expectancy for the first time in generations. With fewer younger people working and more retiring over the next few decades, the system will be paid for by a harder working, tax-paying minority.

2. Transactional schedule of payments

The Medicare item schedule places a transactional value on each of the points of access to medical consultations, diagnostic tests and treatment. There is an item number for a consultation or procedure and the providers get paid accordingly. The Medicare item number schedule was probably a necessary way of funding payment, but it placed a monetary value favouring procedural specialists over primary care physicians and non-interventional specialists. This has created rifts within the profession and changed our practice. Additionally, the Medicare rebate’s long period of stagnation has lagged behind inflation, and resulted in increasing out-of-pocket costs being passed on to patients.

3. Advances in medicine

Medicine has become much more expensive because of new technologies and treatments – reaching 10 per cent of the overall GDP for the first time in 2014. These advances have created the unrealistic expectation that modern medicine is infallible and can work miracles. This raises a tricky question: should the latest – and often the most expensive – treatments really be offered immediately without a true assessment of their efficacy and/or comparison with existing treatment options?

4. Fragmentation and conflict among stakeholders

The system has become complex and resists change, with the most obvious break between state and federal responsibilities for different portions of the public health system. Further competing and fractious “partners” have become more interested in growing their share of the market or acquiring assets to preserve both revenue and control. The relationship between these players can be adversarial – for example, health insurers proposing non-payment for “poor” quality outcomes to both private hospital providers and doctors – and may well become more adversarial as the funding pool shrinks.

* A version of this article was printed in the Australian Financial Review in May this year. 

Established in the early 1970s, Australia’s public healthcare system remains one of our greatest assets. Today, however, what was put together with the best of intentions, is increasingly coming undone.

The system is under threat from a confluence of four forces: ageing and the emergence of chronic disease, advances in medicine, a transactional schedule of payments, and fragmentation among providers and patients.

These forces are creating a hostile, adversarial and competitive atmosphere in the face of a shrinking pool of funds. The May budget, while thawing the Medicare freeze and keeping health off the front pages, has done nothing to fix these underlying problems.

An opinion piece by Professor Anand Deva

Macquarie University Hospital surgeon Professor Anand Deva discusses how the current Medicare pay-for-procedure regime isn’t working and looks to a new approach.

The big concern is that these forces are now pushing our healthcare system into dangerous territory. The rise in demand coupled with funding pressure has started to affect accessibility and affordability. A growing number of Australians who are now stuck between a public system they are not sick enough to access and a private system that is out of reach.

As a fourth generation doctor, I also perceive a change in mindset and behaviour of the profession since the advent of the transactional Medicare funding schedule and the growth of medical entrepreneurship. My ancestors worked very much in an honorary capacity – giving their skills and time freely to those who unable to afford care while balancing a good income from patients who could. Health arguments now tend to revolve around money: that more cash equals better results. We need to create a new paradigm for healthcare in this country. This change needs to come from the ground up rather than from policy makers, corporate offices and insurance companies who do not have instant feedback on the effect of their decisions. We have to also build a more cooperative alliance amongst all players with the intent on solving problems of affordability and access while maintaining quality of care.
Macquarie University Hospital participates in a new program to develop innovation in health care delivery.

Unlocking patient access

In February this year, Jenny Sheehan became the first patient to undergo major surgery at Macquarie University Hospital through a new ‘Access’ program – a model akin to a pro bono scheme.

The program aims to provide reduced-cost procedures to patients who otherwise could not afford them, with the cost reduction funded by the participating surgeon or hospital.

The brainchild of Head of Plastic and Reconstructive Surgery at MQ Health, Professor Anand Deval, the Access program is offered by MQ Health in collaboration with Integrated Specialist Health Care Education and Research Foundation (ISHCERF) – a not-for-profit organisation committed to developing innovation in health care.

ISHCERF has launched a number of initiatives in integrated care over the past year and now partners with MQ Health in delivering the Access program.

The program will be unique to the private hospital sector, where financial models allow flexibility to accommodate patients at a reduced cost.

“An overburdened public system, under significant funding pressure, along with increasing out-of-pocket costs passed onto patients even with private health insurance have meant that a large number of Australians are struggling financially to be able to access the treatment they require,” said Professor Deva.

“Jenny’s case is indicative of thousands of Australians who will, ultimately, cost the government more through unaddressed health conditions,” said Professor Deva.

“For others, increasing demand and fiscal pressure on public hospitals has resulted in longer waiting times, thereby worsening their burden of disease and in some cases worsening their prognosis.

“Australia clearly needs new paradigms for delivering health care. What the Access program aims to do is to alleviate current stresses on the system by the private health sector offering a limited number of affordable procedures every year for patients who have gone through a selection process based on appropriate criteria.

“The role of the ISHCERF is to provide bridging funds for specific cases and to negotiate with private hospital providers to allow patients to be treated at reduced or no cost. We are very pleased to be working in corroboration with MQ Health on this initiative and having Macquarie University Hospital as our first participating private hospital.”

FOR MORE INFORMATION:
VISIT accessprogram.org.au
Macquarie University’s new Master of Public Health has some key features that are attracting high numbers of students.

This year, Macquarie University enrolled its first students in its new Master of Public Health degree. The course was established as a key part of the restructure that created the Faculty of Medicine and Health Sciences in 2015.

“I think one of the strengths of the course design is that we were able to start from the ground up,” said Professor Janaki Amin, Head of the Department of Health Systems and Population and an internationally recognised expert in infectious disease epidemiology, clinical trials and biostatistics.

“This meant that we could take the best from a field that has a solid history in Australia, add the specific strengths that we have at Macquarie University and Hospital, and ensure that our students are ready to meet the needs of the modern public health workforce.”

The degree is very adaptive, equipping students with the advanced knowledge and skills needed for 21st-century public health practice. Over two years, it offers an outstanding foundation in public health theory and practice through a broad range of units.

All students are required to understand research findings and study design, with the degree a pathway to PhD studies for those wanting to pursue this career path.

“Most of our MPH students will go on to practice public health, so a focus on practice throughout the degree has been something we have built into the course,” said Professor Amin.

“We have embedded this by having leading practitioners in the field delivering expert lectures. We try to bring public health to life, so that students understand the context of their learning and see how theory is applied.”

Besides tapping into campus-wide expertise in areas such as business leadership, law and ethics and environmental and social sciences, the course also sees professionals from NSW Health, North Sydney Local Health District and Medicins Sans Frontier teach into the program.

One of the unique features of the degree is its focus on health systems, arising out of a partnership with the Australian Institute of Health Innovation (AIHI).

AIHI relocated to Macquarie University Health Sciences Centre two years ago and is the nation’s leading research consortium tackling the big issue of health care delivery within Australia’s health care system.

AIHI has the largest concentration of researchers and grant funding in the field of health services research in the nation. It looks at health informatics, health systems and safety, and healthcare resilience and implementation.

“This is a key point of difference that Macquarie University offers,” said Professor Amin. “Professor Jeffrey Braithwaite, for example, teaches into the foundation units and also delivers a unit on health systems later on in the course.

“For students to learn directly from one of Australia’s leading health systems academics and advocates is an extraordinary opportunity.”

The MPH course currently has 30 students, with a proportion of those part-time. Teaching is delivered face-to-face, mostly between 6 and 8pm, and online to allow those who work to enrol.

Recognition of Prior Learning is available to those with an appropriate health degree and/or work experience in a health field.

“The MPH degree responds to what students want and, more importantly, to what the profession and the workforce require in contemporary Australia,” said Professor Amin.

“And we are constantly looking at new units, with areas such as chronic disease, infectious disease and health economics on the horizon.

“It’s just a great opportunity for career enhancement or change – and to have a broad impact on the lives of individuals and the wellbeing of communities.”
Breathtaking collaboration

INTERVENTIONAL PULMONOLOGY BRINGING CLINICAL PRACTICE AND RESEARCH TOGETHER

MACQUARIE UNIVERSITY HOSPITAL IS THE FIRST CENTRE IN THE WORLD TO PERFORM INNOVATIVE ELECTROPORATION THERAPY FOR PATIENTS WITH COPD WITH PREDOMINANTLY CHRONIC BRONCHITIS.

Patients with severe chronic obstructive pulmonary disease (COPD) and predominant chronic bronchitis are at increased risk of infection and exacerbations. Respiratory physicians at Macquarie University Hospital have completed the first in human treatment of a new interventional technique — electroporation therapy — that reduces the cells causing the sputum.

A team of respiratory physicians, including those at Macquarie University Hospital, evaluated the safety and effectiveness of the procedure in 20 clinical cases over an 18-month period. This was a prospective analysis of Australia’s first data.

IMPROVING COPD PATIENT SELECTION FOR ENDOBRONCHIAL VALVES

Chronic obstructive pulmonary disease (COPD), which includes patients with chronic bronchitis and emphysema, remains common in Australia, with high smoking rates from the 1960s and 70s continue to take their toll. In Australians over the age of 75, approximately 30 per cent will have COPD. For this demographic, the rate of Emergency Department visits is high.

In addition to destroying lung tissue, COPD causes hyperinflation and gas trapping in the diseased lung, further impairing breathing mechanics.

For the past decade, COPD patients have had minimally invasive procedures available to them: insertion of one-way endobronchial valves. The operation works by decreasing the volume diseased, hyper-inflated lung and simultaneously allow more air and blood flow to the more normal lung, improving its function.

However, the results are not always consistent, with the risk of air cross-ventilating between different parts of the lungs causing the procedure to fail in some patients. Inaccurate fissures that separate lobes of the lung result in this problem.

Macquarie University Hospital respiratory physicians have performed the first in New South Wales to perform bronchial thermoplasty for severe asthma. To date, more than 25 people have undergone the procedure, with the first analysis of clinical results just published.

The research was published in the Internal Medicine Journal by Professor Alvin Ing and colleagues in May this year. It shows that for appropriate patients — those with severe asthma — the benefits are significant.

“What we saw in the data was an overall significant reduction in symptoms at six months, including a reduction of severe exacerbations with Emergency Department visits,” explained Professor Ing.

“The use of medication decreased significantly, especially in patients on maintenance oral corticosteroids with 50 per cent of patients able to cease oral steroids after the procedure. Lung function also improved in patients whose baseline lung function was below 60 per cent and, as expected, quality of life improved overall.

“This early data shows that bronchial thermoplasty is a safe procedure, which can achieve clinical improvement in those with uncontrolled symptoms and severe airflow obstruction. Our data collection is ongoing as part of long-term research in this area.”

GREAT NEWS FOR ASTHMA SUFFERERS AS RESEARCH SHOWS THE SAFETY AND EFFECTIVENESS OF BRONCHIAL THERMOPLASTY.

In 2014, Macquarie University Hospital respiratory physicians were the first in New South Wales to perform bronchial thermoplasty for the treatment of severe asthma. To date, more than 25 people have undergone the procedure, with the first analysis of clinical results just published.

The approach uses the delivery of electrical energy to bronchial airways, with the first two cases performed by Professor Alvin Ing, Dr Jonathan Williamson and Dr Tajalli Saghaie, interventional pulmonologists at Macquarie University Hospital.

Macquarie University Hospital — established to bring new and innovative technologies to patients — worked in collaboration with Gala Therapeutics, who developed the unique initial concept and have seen it in fruition.

At Macquarie University Hospital, our physicians in interventional pulmonology are at the forefront of their field and actively engaged in research. We look at how their academic expertise is leading to better patient outcomes.

CALL
02 9812 3709

FOR MORE INFORMATION:
CALL 02 9812 3709

Dr Tajalli Saghaie, Professor Alvin Ing and Dr Jonathan Williamson
Taking a joint approach

With a larger range of motion than any other major joint in the human body, the shoulder consists of a complex arrangement of bone and ligament structures that allow extremes of motion without dislocating. When it comes to pathologies of the shoulder, the most common include wear and tear of the rotator cuff tendons that move the shoulder joint, and damage to the cartilage lining of the shoulder joint that leads to arthritis and dislocation of the rotator cuff tendons.

The research team, which includes biomedical engineers and surgeons, is working together to investigate what role the CAL has in shoulder function and what the biomechanical implications are of excising this ligament as a treatment for tears of the rotator cuff tendons.

"The CAL acts like a hammock to stay the shoulder joint from dislocating. When young contact athletes, such as rugby players, dislocate their shoulder, this ligament is torn. We are trying to better understand what parts of the CAL have the best native holding properties so that our surgical repairs don’t fail."

"We are essentially creating a future hold strength map of the CAL to guide surgical treatment."

The second study involves getting a better understanding of the role of the CAL in shoulder function. The CAL is often excised in the treatment of patients with wear and tear of the rotator cuff tendons.

"The goal is to marry surgical need with engineering research in an effort to bring new and improved technologies and approaches to patient care."

"Translational research allows us to develop improved treatments and have these move more rapidly to the broader population," said Associate Professor Bokor.

"It’s simply faster, and more effective in reaching accurate and meaningful understanding of how the body works and how that best translates into surgical technique and treatment algorithms."

"Our ongoing aim at the Biomechanics Laboratory is to develop a complete set of competencies across all joints in the human body – including hips, knees, wrist, hand, spine and others areas – so that we can perform similar kinds of work currently being done in shoulders."

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About the orthopaedic biomechanics laboratory

The Orthopaedic Biomechanics Laboratory is located in the Faculty of Medicine and Health Sciences (FMHS) and is one of a handful of laboratories in Australia that has the capacity to use human tissue for research.

Used primarily for orthopaedic research, the laboratory has a state-of-the-art material testing system, and advanced optical tracking and imaging systems. It is an extension of the University’s anatomy laboratory.

"It is an incredible privilege for doctors to work with human tissue," says Associate Professor Bokor.

"It is an incredible privilege for doctors to work with human tissue," says Associate Professor Bokor.

"Dedicated biomedical engineers with a huge amount of experience are working together with medical researchers and clinicians. It’s the coming together of the academic and the clinical across disciplines that is the hallmark of our approach at Macquarie University Health Sciences Centre."
IF YOU'RE A DOCTOR

Why should you consider participating in clinical trials?

“Participating in a medical trial makes you an expert,” said Professor Gurney. “You get access to the latest treatments eight years before others in your field.

“You become an expert, and you become a key opinion leader. It’s a fantastic chance to learn, to lead and to serve your patients better.”

Do clinical trials mean ‘more work’ – a concern that busy doctors may have?

Well, yes, they do because you are required to become an ‘investigator’ on the trial, which means you have to be involved. However, the long-term benefits to your knowledge base and expertise, and ultimately to your patients, probably outweigh the time investment up front.

And the Clinical Trials Unit takes much of the administrative burden from doctors in handling some of the application, compliance and data handling work.

IF YOU'RE A PATIENT

Ask your doctor about participating in a clinical trial

Patients and doctors can shy away from participating in clinical trials. But they should think again, says Professor Gurney.

“There is a perception amongst patients that clinical trials are ‘experimental’ – in the sense that they carry risk because they are ‘unproven’,” he said

“However, the opposite is true. Participating in a clinical trial will bring you the best standard of care. Patients who participate in clinical trials undergo additional testing and monitoring, which can have positive outcomes on their long-term health.

“More importantly, patients get the latest and the best treatment – and they get it now, years ahead of the therapy coming onto the market.”

As a HOSPITAL

We are better at what we do because of our clinical trials.

Macquarie University Hospital is a growing teaching hospital – the first of its kind in the private hospital sector in Australia.

As a teaching hospital, we are required to have a clinical trials unit.

“Having a trial unit raises the expertise of the entire hospital,” said Professor Gurney. “A strong trial unit at a hospital attracts the best staff, engages more doctors in keeping abreast of the latest medical advances, and is able to offer its patients the latest and best standard of care.”
Macquarie University Hospital’s 2017 advertising campaign

An external Hospital advertising campaign incorporating cinema, billboards and social media commenced in June of this year and will run for approximately five months.

As well as promoting the Hospital’s overall services, the marketing team have focused on a number of key specialties. Carol Bryant, CEO of Macquarie University Hospital is delighted with the campaign. “We have worked alongside Group Marketing and the Faculty of Medicine and Health Sciences, as well as our doctors and other key healthcare professionals to develop a campaign that promotes our services in a unique and dynamic way,” she said.

“Traditional hospital marketing campaigns are inundated with smiling shots of doctors with stethoscopes and caring healthcare professionals. Whilst this imagery is of course, at the heart of what we do, should we have approached our external campaign in this way, it would have had limited cut through – ostensibly promoting our competition. “Our academic advantage and legacy of being the most technically advanced private hospital in Sydney is our unique point of difference and should be leveraged. Whilst we utilise the Hospital logo in this campaign, we are referencing Macquarie University Health Sciences Centre (MQ Health) through our strapline ‘the SCIENCE OF’. We also reference our bold vision through striking imagery and draw on a futuristic colour palette and a creative device to denote technology.”

Here are some examples of how the campaign language will be rolled out across a number of specialties.

**THE SCIENCE OF MOVEMENT**
Orthopaedic surgery

**THE SCIENCE OF THE HEART**
Cardiology and cardiothoracic surgery

**THE SCIENCE OF SENSES**
Ear, nose, throat and eye surgery

**THE SCIENCE OF CONNECTION**
Neurosurgery and neurology

**THE SCIENCE OF TOUCH**
Hand surgery

**THE SCIENCE OF FORM**
Plastic and reconstructive surgery

**THE SCIENCE OF PRECISION**
Robotic surgery program

**THE SCIENCE OF INSIGHT**
Pioneering diagnostic imaging

**THE SCIENCE OF SYSTEMS**
Urology

**THE SCIENCE OF LIFE**
Respiratory medicine

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**CLINICAL TRIALS UNIT:**

**PATIENT JOURNEY**

Diagnosis of a medical condition

Patient consult - Clinician participating in a Clinical Trial

Patient offered other treatment options or another clinical trial

Patient offered Clinical Trial - given Patient Information Sheet and Consent Form to review

Screening procedure commenced to confirm eligibility for trial treatment/intervention

Patient offered Clinical Trial - given Patient Information Sheet and Consent Form to review

Offered a Clinical Trial - given Patient Information Sheet and Consent Form to review

Regular assessments, text, clinic visits and follow ups

Regular assessments, text, clinic visits and follow ups

Trial treatment started at Hospital/Clinics

Trial treatment/intervention stopped if not effective

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**CLINICAL TRIALS AND THE BENEFIT TO AUSTRALIA**

Clinical trials improve the health of the population, enable provision of innovative treatments and is a valuable export income for the country. An Australian Trade Commission report from 2015 estimated that clinical trials generated more than one billion dollars in income annually for Australia with the world’s top 20 pharmaceutical companies alone investing around $200 million each year in clinical trials. (Ref: https://www.austrade.gov.au/.../2814/ Clinical-Trials-Capability-Report.pdf.aspx). See Appendix 1 for a summary of clinical trials in Australia.

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**CLINICAL TRIALS ARE A PARTNERSHIP**

The successful undertaking of clinical trials requires a close partnership between all entities concerned with the patient, principal investigator and the trial unit at its core.
Prostate cancer is the most common cancer in Australian men, yet there is much controversy around screening and treatment. PSA remains the most accessible form of screening but MRI, the new form of digital prostate examination, is now part of mainstream assessment. Robotic surgery is also improving outcomes and clinical trials of new chemotherapy agents are giving hope to those with metastatic disease.

On Wednesday March 29 we invited GPs to join our panel of experts as Professor Simon Willcock hosted an interactive Q & A session and took us on a journey of discovery as we discussed this important and controversial disease. As a hypothetical patient unfolded GPs gained insight into cancer screening, diagnosis and treatment.

On Thursday August 24, staff from Macquarie University Hospital along with eight other businesses from Macquarie Park participated in a seven kilometre walk to raise money for early childhood literacy in the local community.

On Friday May 12 (the birthdate of Florence Nightingale) we held a staff BBQ to acknowledge the work our wonderful nurses do here every day and say a very special thank you.

On Thursday August 24, staff from Macquarie University Hospital along with eight other businesses from Macquarie Park participated in a seven kilometre walk to raise money for early childhood literacy in the local community.

"This inaugural Macquarie Business Park Community Walkathon was a great success, with almost $15,000 raised so far. This investment will reap significant social dividends in the near future, building the literacy and learning skills of children who might otherwise start school developmentally vulnerable" said United Way CEO Clayton Nobel.

To celebrate, we held a staff BBQ on Friday May 12 (the birthdate of Florence Nightingale) to acknowledge the work our wonderful nurses do here every day and say a very special thank you.

Macquarie University Hospital doctors and staff were delighted to participate in City2Surf 2017 to fundraise for the MQ Health Cancer Program. This year, an estimated 130,000 Australians will be diagnosed with cancer, accounting for three out of every 10 deaths in Australia. MQ Health Cancer Program is well placed to respond to this trend, translating research into personalised cancer care through an integration of clinical care, research, support services and education.

The team raised $3285 for the Program. In MUH colours, some of the team walked and others ran, enjoying the sun, the entertainment and festivities along the way.

Seven years ago, on June 15 2010, MUH opened its doors. Now part of MQ Health, we continue to grow from strength to strength, achieving many Australian firsts along the way including being a completely digital facility, owning the first Gamma Knife, cyclotron and zeego robot.

We also have the most comprehensive Robotic Surgery Program in the country. Our dedicated medical team and support staff has provided care to over 118,000 patients.
Pain service ADDS TO CANCER CARE

Cancer patients at Macquarie University Hospital can now access supportive care with the addition of a weekly pain management clinic.

Physician and pain specialist Professor Paul Glare has joined Macquarie University Hospital’s Comprehensive Cancer Centre, bringing his extensive experience in all types of supportive care to cancer services at the Hospital.

In collaboration with Genesis Cancer Care, Professor Glare runs a Tuesday morning clinic co-located in the Radiation Oncology Department (B2).

“Chronic pain is common in cancer patients undergoing treatment,” said Professor Glare, who is a Fellow of the Royal Australasian College of Physicians and the Faculty of Pain Medicine of the ANZ College of Anaesthetists.

“One of my main roles is to offer support through a number of possible avenues to help patients continue with their treatment. When severe pain leads a patient to consider abandoning their cancer treatment, we are concerned. Accessing our services can help them find the best way to complete treatment by reducing discomfort.”

Professor Glare also sees patients who have completed treatment and returned to work, but are experiencing ongoing pain. In many cases, cancer patients experience pain caused not by their cancer, but by results of surgery or co-morbidities such as arthritis or chronic back pain. Complex cases, such as these, require the expertise of a pain specialist who has the time to look at a patient holistically.

“My service adds to the continuity of care that is part of Macquarie University Hospital’s approach to patients. Where appropriate, I refer to other specialists, including palliative care specialists.”

About Professor Paul Glare

Prior to his appointments at Macquarie University Hospital, Professor Glare was Chief of the Pain and Palliative Care Service at the Memorial Sloan Kettering Cancer Center in New York with an affiliated appointment as Professor of Medicine at Weill Cornell Medical College.

He is also Head of Discipline, Pain Medicine, in the Faculty of Medicine at the University of Sydney, and is on the Board of Pain Management Research Institute (PMRI) Ltd., a community-based foundation supporting the efforts of the PMRI.

Professor Glare’s main research interest is pain in cancer survivors. His other interests include the comparative effectiveness of chronic pain therapies, as well as the scientific, social, psychological and behavioural economics elements of decision-making in pain management.

For more information:
Dr Paul Glare
Genesis Cancer Care at Macquarie University Hospital
CALL 02 9812 3220

“I take different approaches depending on the patient,” said Professor Glare, who also completed a Master of Medicine in Clinical Epidemiology at the University of Sydney, and an MA in Applied Ethics (Health Care). “For example, a patient and their family might have read about intervention procedures and express their wish for that approach; however, that might not necessarily be the appropriate solution for them, based on a multi-dimensional assessment.

“Some patients do very well with self-managed techniques, although they might not have considered them before. Patient education is key to my role, and I see it as important to present a realistic view about options, which could be analgesics, interventional techniques, psychological approaches or a combination of these.”

Protracted pain can lead to a host of emotional conditions that significantly reduce quality of life – including depression, loss of confidence and hopelessness.

“My service adds to the continuity of care that is part of Macquarie University Hospital’s approach to patients. Where appropriate, I refer to other specialists, including palliative care specialists.”

Professor Glare takes referrals from GPs and is happy to assist GPs seeking assurance that they are approaching treatment in complex cases appropriately.
THE SCIENCE OF INSIGHT

DIAGNOSTIC IMAGING