

AUTUMN 2018

# Medilink

**Medical Professionals direct link**  
to programs and services at the Wesley



## Celebrating Medical Milestones

### Articles in this issue:

- + Centre of Excellences
- + MAKO Robot
- + Leading technologies at The Wesley



# Welcome

Welcome to the autumn edition of Medilink where we take a look at innovative and evolving techniques and services that are forefront at The Wesley Hospital in 2018.

This year is shaping up to be an exciting one for The Wesley, and I am very happy to have joined the team. For many of you, this will be your first introduction to me as the new Director of Medical Services at The Wesley. I look forward to connecting with many of you at our education events that we will be holding throughout the year. Before joining The Wesley, I was working as the Clinical Director of the Emergency and Trauma Centre at The Royal Brisbane and Women's Hospital since 2015, and continue to do clinical work in the public sector.

I have a keen interest in improving clinical service delivery and ensure that everything we do places our patients front and centre. I will always advocate strongly for patient safety and look for ways that our team can deliver care to the best of their ability and the top of their scope of practice.

As a hospital, we are always looking for ways to embrace and adopt new technologies in the context of strong clinical governance to provide the best possible outcomes for our patients. Our Centres of Excellence for Bariatric and Robotic Surgery are just a small snapshot of the way we are moving forward.

I hope you enjoy this edition of Medilink where we have included articles on the Robotics and Bariatric Centres of Excellence, Irritable Bowel Disease Clinic, the Mako Robot, TAVR and Breast Cancer Care.

I look forward to working with you all.

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## Business Development Update

We have had a busy start to the first half of the year with an extent of new and exciting services evolving at The Wesley.

This year, we have dedicated our GP Education Program to reflect 'What's New at The Wesley' to showcase our comprehensive services and key milestones supporting patient care; including Centre of Excellences', Cancer Care, and developing technology in Women and Men's Health.

As our GP CPD and ALM program continues to grow in size, we want to thank our supporting GPs that attend our education sessions and we look forward to seeing many of you at our events throughout the next half of the year.

### UPCOMING EVENTS

- Saturday 4 August – Emergency Medicine ALM/CPR
- Tuesday 7 August – Robotics CPD
- Saturday 8 September – Orthopaedics CPD
- Saturday 20 October – Men's Health ALM

If you would like to join our mailing list to receive invitations to our CPD and ALM education program, please email your details to [wesley.bdm@uhealth.com.au](mailto:wesley.bdm@uhealth.com.au)

Regards

The Business Development Team

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# Inflammatory Bowel Disease

**Inflammatory Bowel Disease (IBD) is a chronic, idiopathic inflammation of the gastrointestinal tract, characterised by periods of remission and relapse.**

Ulcerative Colitis (UC) is limited to the colon and Crohn's Disease (CD) can involve any part of the gastrointestinal tract from mouth to anus, but most commonly affects the terminal ileum and colon. Approximately 350 in every 100,000 Australians suffer from IBD. In 2012, an estimated 74,955 Australians were living with IBD<sup>1</sup>. By 2022, the average number of IBD sufferers is projected to increase to 89,752.

Up to 25% of patients with IBD will first present in childhood or adolescence<sup>2</sup>. Pediatric Inflammatory Bowel Disease (PIBD) has a more extensive anatomical involvement at diagnosis and more aggressive disease course compared with adult patients. Therefore, they have higher rates of immunomodulator use, and biological therapy reflecting the underlying severe disease phenotype<sup>4</sup>.

The quality of life (QOL) of patients with PIBD has also been shown to be decreased in early adulthood when compared to population-based controls. A recent Australian review supported this notion with a significant proportion (35%) reporting mood disturbance. Despite this, psychological services are under utilised, with only 5% of those with mood disturbances accessing specific care. This

growing cohort of complex patients will eventually transition from paediatric to adult care.

Transition is the purposeful, planned movement of adolescents and young adults with chronic physical and medical conditions from child-centered to adult-oriented healthcare systems. The relapsing and remitting nature of IBD and its impact on the physical, developmental and psychological states of adolescent patients make successful transition a priority.

A recent review identified that adolescents with IBD who undergo a formal transition process have decreased rates of surgery and hospital admission, reach maximal growth potential with improved rates of medication compliance, disease remission rates, clinic attendance<sup>5</sup>.

Given the complex needs of these patients, an Adolescent IBD clinic will be commencing at the Wesley, which will be attended by a paediatric and adult gastroenterologist, with access to nursing and allied health staff (dietitian, psychologist, social worker). This clinic will service the Inner Metro/Northwestern Metro area of Brisbane and provide outpatient, inpatient care through a supported transition process.

Some of the benefits to patients include:

- Education, support and assistance with management of a chronic medical condition.
- Improved QOL and reduced psychological impact
- Foster self care through improved knowledge and understanding of disease
- A supported transition process
- Optimised growth and development

The Wesley Hospital is uniquely placed to provide care to this population given its ability to provide rapid access to a state of the art endoscopy unit, radiology services including MRI, surgical services, a day infusion unit and inpatient medical facilities for paediatric, adolescent and adult patients.

**Referrals can be made directly to the clinic via Dr Richard Muir.**

**T (07) 3232 7080**

**F (07) 3232 7700**

**E [referrals@paedsgastro.com.au](mailto:referrals@paedsgastro.com.au)**

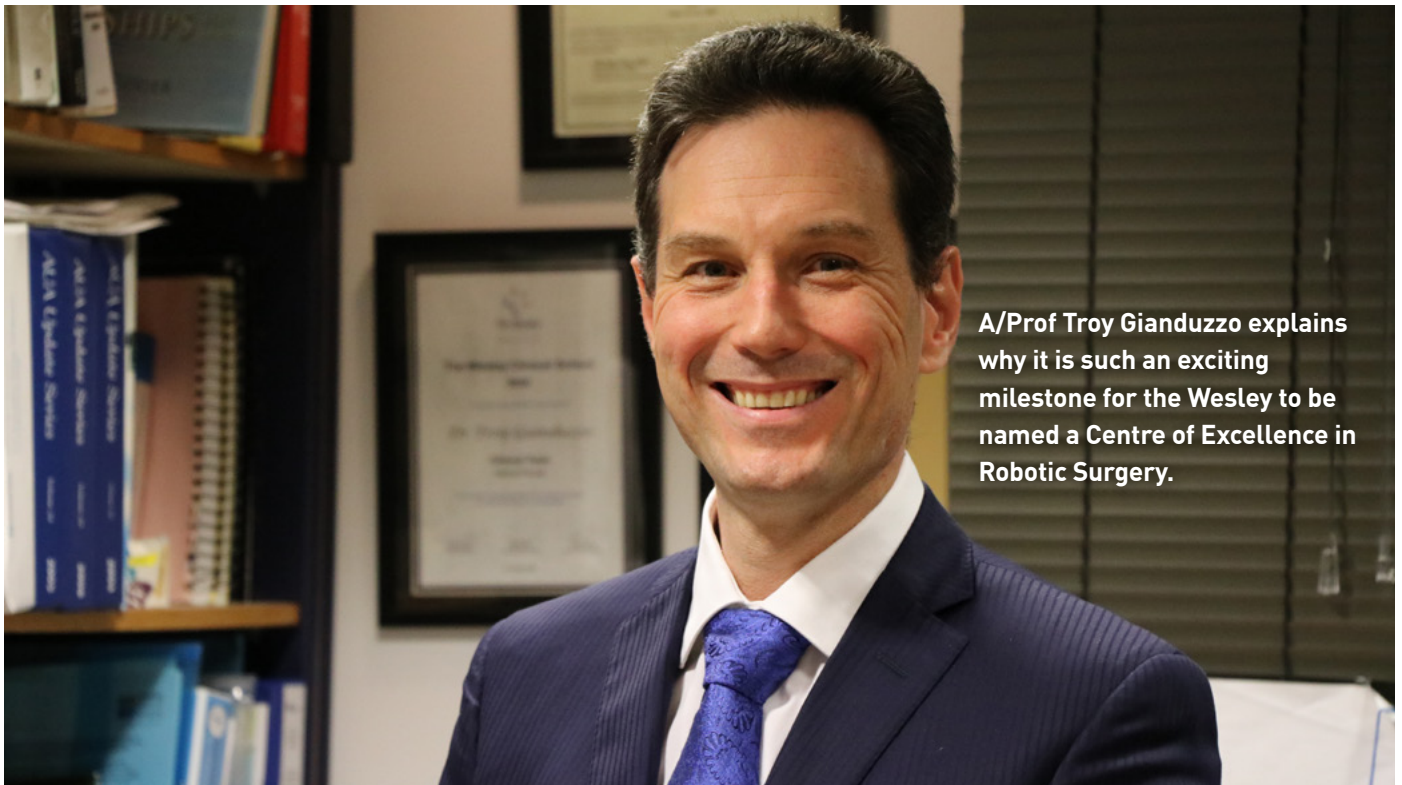
From left to right: Melanie Bannister – Dietitian, Dr Richard Muir – Paediatric Gastroenterologist, Dr Daniel Burger – Gastroenterologist

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**A/Prof Troy Gianduzzo explains why it is such an exciting milestone for the Wesley to be named a Centre of Excellence in Robotic Surgery.**

## The Wesley Hospital celebrates Australia's first Centre of Excellence in Robotic Surgery

As a leader in care, innovation and medical technology, the Wesley's pursuit of excellence has now been internationally recognised by one of the world's leading medical accreditation agencies, Surgical Review Corporation (SRC).

Robotic technology offers the benefits of minimally-invasive surgery coupled with the dexterity of open surgery and is often easier to perform than pure laparoscopy. The days of open surgery are fading. Similarly, laparoscopic surgery is being replaced with the robotic interface.

**“In my specialty area of prostate cancer, robotic prostatectomy has surpassed open surgery with over 70% of all radical prostatectomies in Australia now performed robotically.”**

Increasingly surgeons and patients are choosing robotics across a range of surgical disciplines including

urology, gynaecology, general surgery, cardiothoracic surgery, and head and neck surgery.

The Wesley Hospital acquired its first da Vinci robot in 2009. At that time there were only 2 other systems in Queensland and 7 throughout Australia. However, this number has now grown exponentially to 14 in Queensland and 48 Australia-wide. Health consumers have more choice than ever before, but how do patients and their GPs choose where, and to whom to go?

The biggest predictors of outcomes relate to surgeon training and to surgeon and hospital volume. Surgeons who have had dedicated fellowship training in minimally invasive surgery have better results and shorter learning curves compared to those who have transitioned from open surgery.<sup>1</sup>

In the case of radical prostatectomy, the learning curve to transition from open surgery to robotics is estimated to be

around 250-500 cases.<sup>2,3</sup> High volume, experienced surgeons are associated with better operative outcomes compared to low volume surgeons.<sup>4</sup>

However, surgery is not a solo virtuoso performance as surgeons are heavily dependent on the hospital infrastructure and systems that support them. Accordingly, procedures performed at high volume hospitals have consistently better outcomes with fewer complications and lower costs compared to low volume institutions.<sup>4,5</sup>

Since 2009, over 4600 robotic procedures have been performed at The Wesley Hospital, including 736 radical prostatectomies in the last 12 months alone, making it the highest volume robotic centre in the country.

Given this background, it is very exciting to announce that the Wesley Hospital has been officially accredited as Australia's first Centre of Excellence in Robotic





Surgery by the US-based Surgical Review Corporation (SRC).

SRC is an independent body that assesses surgeons and healthcare facilities worldwide to advance surgical safety and efficacy. The rigorous accreditation process assesses both surgeon experience as well as hospital infrastructure and systems, including the organisation's commitment to excellence, clinical support services, equipment, clinical pathways and procedures, ancillary support staff services, patient education, and quality assurance mechanisms. At a minimum the SRC requires that at least 100 robotic procedures per year are performed at the institution under review and that each program surgeon must perform 30 procedures per year.

The Wesley easily met these criteria as over 900 cases are performed at the Wesley annually and each of our program surgeons performs over 100 cases per year.

In November 2017, the Wesley Hospital was awarded its Centre of Excellence in Robotic Surgery by the SRC. We are particularly grateful to the efforts of our specialist prostate cancer care nurse Rachel Oxford and to Shona di Clemente who worked tirelessly to facilitate the SRC review. This accreditation is an important differentiating feature for the Wesley. Ultimately any hospital with enough capital can purchase a robot. However, whether that hospital has the surgical expertise in its accredited surgeons combined with the institutional expertise to deliver a world class surgical service is a different matter.

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**INSERT SRC LOGO**

# Centre of Excellence in Bariatric & Metabolic Surgery

The Wesley Hospital is proud to share our accreditation as Queensland's first and Australia's second Centre of Excellence in Metabolic and Bariatric Surgery by international accrediting body Surgical Review Corporation (SRC).

This is a significant milestone recognising that the Wesley delivers high-quality care, processes and patient journey outcomes with bariatric surgery – from diagnosis right through to post-operative care. As a recognised Centre of Excellence, it provides a new platform to further focus on exceeding clinical expectations and international benchmarks. It also demonstrates the Wesley's overall commitment to the pursuit of excellence in health and the investment we're making in medical technology. We got to sit down with one of our leading bariatric surgeons, Dr Reza Adib, and learn a little more about bariatric surgery.

"During a visit to one of the leading hospitals in Chicago I realised that, at the Wesley, we manage a significantly higher number of bariatric patients with the same complexity and I believe that we have better outcomes for our patients."

**"Almost 1,300 bariatric patients were cared for at the Wesley in 2017."**

Up to one in four Australian males and one in six Australian females are overweight

or obese. Individuals are considered overweight or obese if their Body Mass Index (BMI) is 30 or higher and are morbidly obese if their BMI is over 40. Most patients are considered obese or morbidly obese if they are more than 30 kg/Mass(squared) over their ideal weight.

Obesity is now considered a disease and severe obesity is a serious disease. It is now recognised that this problem is not necessarily solely as a result of excess eating.

Bariatric surgery can help patients manage obesity as a disease with the aim being to improve the quality of life for patients. Along with reductions in co-morbidities, the surgery can improve patient's personal relationships by reshaping interactions with friends and family.

Health risks related to obesity include: diabetes, cardiovascular disease, hypertension, sleep apnoea, stroke, asthma, joint/bone issues, depression and metabolic syndrome

The current criteria for obesity related procedures for individuals is a:

- BMI 40 or greater or:
- BMI 35 or greater with one or more significant co-morbidities conditions related to obesity



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## What are the surgical options for these patients?

Bariatric surgical procedures cause weight loss by either restricting the amount of food a stomach can hold, or by malabsorption of nutrients, or by a combination of both gastric restriction and malabsorption.

- **Restrictive surgery**

These procedures involve the use of bands or staples to section off a part of the stomach, creating a pouch. Because the pouch is so small, the amount of food that can be eaten is limited. Food continues to be digested through the normal digestive and absorption process. Examples are the

Laparoscopic Banding and Sleeve Gastrectomy

- **Restrictive with Malabsorptive**

These procedures restrict food intake and amount of calories and nutrients absorbed. In addition to creating a stomach pouch, the surgery disrupts the normal digestive process. As a result, the food bypasses a large part of the stomach and most of the small intestine – the most common procedure is the Roux-en-y Gastric Bypass

Currently the most common form of bariatric surgery is the sleeve gastrectomy which involves

restriction of both food uptake and appetite.

The volume of bariatric surgeries at The Wesley Hospital has grown to more than 4000 cases since 2014 with the bulk of procedures performed by three surgeons - Reza Adib, Blair Bowden and Ian Martin. Dr Ben Dodd has recently joined the ranks of surgeons offering these procedures.

"Together with my colleagues, we perform around 1300 procedures per year at The Wesley and we strive to keep the highest standards of care as recognised by SRC."



# A new era in joint replacement at the Wesley



The commencement of Robotic Assisted Surgery using MAKO for joint replacement of the hip and knee marks a new chapter in Orthopaedic surgery at the Wesley.

Article by Dr Richard Hanly

Joint replacement surgery for the hip and knee are two of the most successful procedures performed by an Orthopaedic Surgeon. Hip replacement is recognised in the top 3 surgical procedures for improving quality of life by the WHO.

Since 1960 when Sir John Charnley implanted the first total hip replacement

and 1974 when John Insall implanted the first total condylar knee replacement, the partnership between Orthopaedic Surgeon and Engineer has led to improvements in the design, technique, and functional outcome of joint replacement.

The MAKO system exemplifies this collaboration with the ability to plan and

execute joint replacement surgery with a focus on individualised anatomical restoration and unparalleled accuracy.

MAKOplasty describes the procedures in which the Robotic Arm Interactive System (RIO) is used to create cut or reamed bone surfaces for hip and knee replacement. The procedure involves pre-operative planning





Dr Paul Pincus, Dr XXXXXXXXXXXXXXXX,  
Dr Rohan Brunello and Dr Richard Hanly  
with the MAKO robot.

performed on 3D computer engineered models based on CT scans obtained prior to surgery. All aspects of positioning and joint restoration can be trialled prior to an incision ever being made on the patient. The accuracy of the technology allows for intra-operative resections to be made within 0.5mm or the equivalent of a fraction of 1 degree from the intended alignment.

The Wesley Orthopaedic unit will participate in the collection of data in relation to the use of the MAKO robot as part of ongoing research projects into bettering outcomes in joint replacement.

A core group of surgeons have completed the prerequisite training to gain expertise in this surgical technique. There will be ongoing collaborative projects between the Wesley Orthopaedic group and the Holy Spirit Northside group who have been utilising the technology for the last 2 years since its release in Australia.

Ultimately the outcome for the patient is paramount and this technology allows for increased accuracy in executing a pre-operative plan to provide a stable, pain-free, well-functioning joint replacement.

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# Wesley Emergency Centre

The Wesley Emergency Centre is currently in its 24th year of operation and remains one of the busiest private emergency departments in the country.



Dr Gavan Doig

Currently the centre is seeing around 22,000 attendances annually with around 38% of attendances being admitted to the Wesley Hospital.

The case mix of the department reflects the overall structure of the Wesley Hospital with significant focus in cardiology and oncology but caters to the full range of adult and paediatric emergency presentations which are supported by the extensive clinical services found in a large tertiary private hospital such as the Wesley.

This year the centre has welcomed three new emergency physicians to the practice, Dr Dan Soobraty, Dr Charles Tweed and Dr Luke Jeremijenko.

These appointments reflect the success of previous members of the practice in moving on to university positions, overseas positions and in the case of Dr

Geoffrey Egarr well-deserved retirement from emergency medicine having been with the department since 1994.

These new doctors have joined the practice on a full-time permanent basis bringing our complement of practitioners up to 13 full-time physicians.

These changes reflect the Wesley Emergency Centre's ongoing commitment to providing care by a consistent and committed group of full-time doctors.

Dr Gavan Doig returned to his role as the director of the department last year. Gavan took the opportunity brought about by the organisational restructure and "merger" of the St Andrews and Wesley departments to try and work little less. However with the failure of this administrative merger Gavan is delighted to be back at the helm of this wonderful department.

## Wesley Emergency Centre

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# The Changing Role of Vacuum-assisted Biopsy of the Breast: A New Prototype of Minimally Invasive Breast Surgery

Over the past 25 years the diagnosis and management of breast disease has been greatly assisted by the development of new needle biopsy techniques with ever-improving technology. Fine needle aspiration biopsy (FNAB) was quickly superseded in the 1990s by automated core needle biopsy (CNB) techniques and the early 2000s saw the widespread introduction of vacuum-assisted breast biopsy (VAB) devices.

The impetus for the transition from FNAB to CNB was the improved sensitivity and specificity of CNB over the fine needle technique<sup>1,2</sup> and the fact that FNAB was associated with a significantly high inadequacy rate.<sup>3</sup>

CNB also provided superiority of diagnosis in being able to distinguish between in situ and invasive malignancy according to histological assessment,<sup>4</sup> and additionally because the immunohistochemical and molecular profiling of tumor samples is able to be undertaken providing information in relation to estrogen receptors, progesterone receptors, and HER2 for purposes

of planning systemic treatments and neoadjuvant drug therapies.<sup>5</sup>

Additionally, the modern management of breast cancer patients importantly necessitates the ability to achieve a tissue diagnosis before definitive cancer surgery so that proper consultation can be undertaken with the patient being fully informed before definitive surgical treatment.

Indeed, current preferred practice would dictate that the use of surgical excisional biopsy to establish whether a breast lesion is benign or malignant should only be used infrequently and under exceptional circumstances. BreastScreen Australia in its

National Accreditation Standards requires that more 75% of malignancies should be diagnosed without the need for open surgical biopsy.<sup>6</sup>

Core needle biopsy as well as VAB offer the ability to achieve a diagnosis nonsurgically for breast lesions, however, recent reports have shown that VAB might have superiority in certain circumstances in terms of its diagnostic ability, and in its capacity to achieve complete excision of breast lesions.

The vacuum-assisted core biopsy device is essentially a core biopsy needle with an associated suction chamber and rotating cutter. The vacuum draws tissue into the



aperture of the needle, which is then sliced off with a rotating cutter.

Although some of the earlier VAB devices required the needle to be extracted from the breast so that the specimen could be retrieved, most current VAB devices transport the specimen using suction into a port chamber without the need to remove the needle from the biopsy site, thus enabling multiple tissue samples to be taken through a single skin puncture without the need to repeatedly relocate the needle.

Vacuum-assisted biopsy of the breast was first developed in 1995 by Fred Burbank, a radiologist at Stanford University, California, and although the first commercially available device was the Mammotome marketed by Johnson & Johnson (New Brunswick, NJ), many other similar devices are now available on the market including the Hologic Suros Atec (Hologic Inc, Marlborough, MA) and the BARD EnCore (Bard Biopsy Systems, Tempe, AZ) range of devices.

The main advantage of the VAB devices lies in their ability to excise large specimens of tissue. For example the standard 14-gauge CNB excises a specimen of approximately 20 mg, and a 14-gauge VAB needle will extract a sample of 40 mg, however, a 7-gauge VAB needle can extract samples of approximately 300 mg, and with multiples of the samples being able to be removed.

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### Vacuum-assisted breast biopsy can now be used with all of the usual breast imaging modalities including mammography, ultrasound, and magnetic resonance imaging (MRI).

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Ultrasound is the most easily used and preferred imaging to guide the performance of VAB and from the perspective of the breast surgeon who uses ultrasound in his practice this a readily usable technique. Mammographic stereotactic percutaneous VAB and MRI-guided VAB are used when the breast lesion of concern is only visible using either of these modalities.

Stereotactic needle biopsy is most commonly used for microcalcification and MRI has a particular application in younger women with dense breast parenchyma, particularly those at high risk of familial breast cancer.

In the diagnostic context the indications for VAB are continuing to expand. One of the most useful roles of VAB is when there is discordance between the breast imaging findings and the fine needle aspiration cytology or core biopsy histology. Wang et al<sup>7</sup> in a study of 62 patients in whom lesions were found to be ultrasound

imaging-histologic discordant after CNB, the subsequent use of VAB was associated with the discovery of malignancy in up to 23% of cases.

There is also a good argument for advocating the use of VAB for selected cases in Breast Imaging-Reporting and Data System Category 4, particularly 4a, which is associated with a low but significant risk of malignancy in the range of 2% to 10%, because VAB has been shown to have a very high negative predictive rate (99%).<sup>8</sup>

Vacuum-assisted breast biopsy is also particularly useful in the context of small lesions, including small sonographic lesions <5 mm as well as very small clusters of microcalcification, both of which are more easily targeted with VAB than with a standard CNB. However, microcalcifications of extreme size and particularly diffuse areas of pleomorphic microcalcification when ductal carcinoma in situ (DCIS) is suspected



might be more effectively sampled with VAB to improve the probability of detecting or excluding invasive carcinoma in the context of a provisional diagnosis of DCIS. A metaanalysis by Brennan et al,<sup>9</sup> which included 52 studies and 7350 cases of DCIS, the underestimation rate of invasive carcinoma for 14-gauge CNB was 30.3% whereas for an 11-gauge VAB this same number was 18.9%.

Vacuum-assisted breast biopsy is also the preferred method of needle intervention for lesions that are very deep or close to the chest wall or very superficial and close the skin or nipple because the VAB mechanism does not involve a 'throw,' as is the case for CNB, which might be less safe in these circumstances.

Vacuum-assisted breast biopsy has also been shown to have an increasing therapeutic role. In view of the large sample size, which a VAB device can collect, and because multiple samples can be

retrieved at each intervention, it is feasible to completely excise breast lesions. The most commonly targeted lesions have been fibroadenomas and numerous studies have now been reported using VAB as an alternative to surgical excision for the management of fibroadenomata.<sup>10,11</sup>

Most studies have reported very high success rates with residual or recurrent lesions found in less than 10% to 15% of cases. Lesions up to 2.5 cm can be effectively removed using VAB and this is most commonly performed using ultrasound guidance. Additionally, there appears to be an increasing role for VAB in the management of atypical B3 types of pathological lesions.

The pathologic B coding system classifies lesions on core biopsy on a scale of B1 (normal and nondiagnostic) to B5 (malignant) with category B3 being lesions of uncertain malignant potential, and including a range

of entities such as atypical epithelial proliferation, lobular neoplasia, radial scars/complex sclerosing lesions, phyllodes tumors, papillary lesions, and columnar cell change.

In this setting B3 lesions represent a diagnostic and therapeutic dilemma, making it important to exclude the possibility of malignancy.

Published literature would suggest that standard CNB has been shown to have an underestimation rate of malignancy of approximately 25% for these histological types of lesions<sup>11</sup> and for this reason traditionally surgical excisional biopsy has been recommended. However, some reports would indicate that VAB does perform better diagnostically than CNB in this setting of B3 lesions, particularly for certain types of nonatypical B3 lesions such as papillomas, radial scars, and fibroepithelial lesions.

Indeed, there have been some recent reports asserting a role for VAB as the definitive means of managing many of these B3 lesions and in the context of using VAB as the definitive excision method. Strachan et al<sup>12</sup> at Leeds (United Kingdom) developed clinical pathways for the management of B3 lesions with as well as without atypia, with VAB being offered as first- or second-line management, and with second-line VAB being the equivalent of a diagnostic excision. In this series of 398 patients, 245 (62%) of women were able to avoid an unnecessary diagnostic excisional biopsy and instead were able to be managed with VAB with median follow-up at 3 years showing no evidence of cancer being detected at the original B3 site.

Moreover, a recent international consensus conference<sup>13</sup> in Switzerland on the management of B3 breast lesions has recommended a new approach to these lesions incorporating therapeutic VAB in lieu of open surgical excision as an acceptable method of management for a range of B3 lesion types including flat epithelial atypia, papillary lesions, radial scars with atypia, benign phyllodes tumors, and low-grade forms of lobular neoplasia. This heralds a significant strategy shift in the management of these types of atypical lesions, and on the basis of the current emerging evidence, this approach would appear to be justifiable.

However, as a consequence of the previously mentioned reports, further studies on the role of VAB in this context are clearly required, and guidelines would need to be established regarding the management of nonconcordance between the radiology and

any initial biopsy result and the final VAB pathology, and recommendations made around the placement of tissue markers and the further management of any unexpected malignancy.

The avoidance of open surgery and its associated hospital costs would potentially offer significant economic advantages for this new approach to managing these types of breast lesions and would undoubtedly offset the additional costs of the VAB equipment and needles.

These changed management paradigms, particularly encompassing VAB as a new minimally invasive excision tool for benign and atypical breast lesions, will invoke further debate around the issue of which specialists should be undertaking such interventions and what training is necessary. Because most breast abnormalities are sonographically visible, most of these interventions would be anticipated to be performed using ultrasound guidance.

An important question in particular for breast surgeons, who have been the traditional interventionalists in breast disease management, is what role they will play in this setting.

As a breast surgeon myself, and one who has used ultrasound in his clinical practice for the past 20 years, and who currently uses VAB, I believe it is important that breast surgeons upskill themselves in ultrasound and needle biopsy techniques to be able to offer patients this latest technologically optimal care.

Breast surgeons now have access to numerous recognized national and

international ultrasound training programs with associated credentialing bodies to appropriately facilitate skills development in this area, and it would be essential that surgeons avail themselves of these programs and achieve the necessary accreditation.



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## References

1. to be supplied





From left to right: Associate Professor Gregory Scalia, Dr Terri Hall, Dr Sam Hayman, Dr XXXXXXXX XXXXXXXX, Dr Anthony Camuglia

# Structural Heart Team performs pioneering heart valve operation

The Wesley Hospital has become the first private hospital in Brisbane to repair a leaking mitral valve using the innovative MitraClip system.

The minimally invasive procedure was performed in April 2018 by the Structural Heart Team, comprising Dr Sam Hayman, Associate Professor Gregory Scalia, Dr Anthony Camuglia and Dr Terri Hall.

A type of keyhole surgery, the MitraClip system is an excellent alternative for patients with mitral heart valve disease who cannot undergo open heart surgery.

The new procedure complements The Wesley Hospital's minimally invasive

structural heart disease program, which now includes:

- Transcatheter mitral valve repair (MitraClip, MAVERIC annuloplasty) for mitral valve disease.
- Transcatheter aortic valve replacement/implantation (TAVR/TAVI) for aortic valve disease.
- Atrial septal defect, ventricular septal defect and paravalvular leak closure.

The hospital's comprehensive quaternary cardiac care includes a mature open cardiac surgical program complemented by interventional cardiology and supported by a rich clinical outreach network across Queensland.

The hospital also has a well established coronary interventional program that includes complex and high-risk angioplasty, along with a cardiac research program.





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# Chiari Malformations: A Curious Pathology

Chiari malformation (CIM) presents an interesting pathology, affecting both children and adults. It is described as a downward displacement of the cerebellar tonsils through the foramen magnum (Fig 1).



Fig 1. MRI T2 sagittal cervical spine. Downward displacement of the cerebellar tonsils.

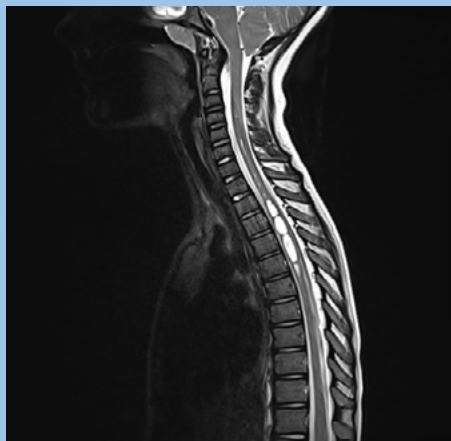


Fig 2. Peroperative

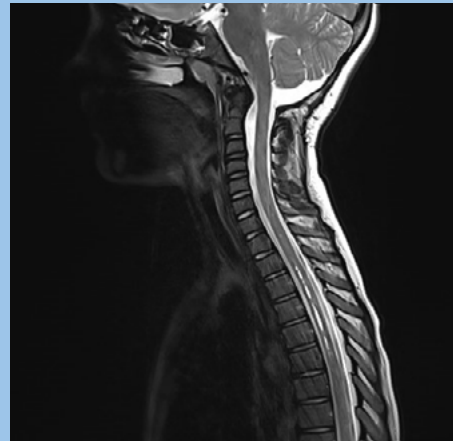


Fig 3. Postoperative

This downward displacement of the cerebellar tonsils (more than 5-7mm below the foramen magnum) is the primary cause of signs and symptoms observed. This herniation can be a result of congenital or acquired malformations. There are several theories yet to be proven behind the development of congenital CIM. These include aetiologies such as small posterior fossa, hydrodynamic insults, hindbrain dysgenesis, underdevelopment of the basiocciput, lack of ventricular distention, and genetic causes<sup>1</sup>. Aetiology for acquired CIM may include trauma, craniosynostosis or intracranial mass lesions just to name a few<sup>2</sup>.

Many CIMs are discovered incidentally, and have no associated signs or symptoms<sup>3</sup>. The prevalence of asymptomatic CIMs is estimated at 15-37%<sup>4,5</sup>. The signs and symptoms associated with symptomatic CIM include pain, headache, elevated intracranial pressure, syringomyelia, cranial neuropathies, brainstem compression, cerebellar dysfunction, cervical myelopathy, and sleep related breathing disorders<sup>6</sup>. Syringomyelia is an important pathology related to CIM occurring in 30-70% of cases<sup>7,8</sup>. It can cause symptoms of sensory changes, scoliosis, and proprioceptive loss.

Pain and headache is the most common symptom associated with symptomatic CIM, reported in approximately 60-70% of cases<sup>3,4,9,10</sup>. The pain is described in the occipital or upper cervical region, and is often exacerbated by coughing, sneezing, laughing and changes in posture<sup>3</sup>. Less commonly, cranial neuropathies and brain stem compression may result in respiratory

tract symptoms (vocal changes, dysarthria, tongue atrophy, aspiration) and sleep disorders (central and obstructive sleep apnoea). Signs of autonomic dysfunction (sinus bradycardia, syncope, hiccups), sensorineural hearing loss, weakness, spasticity, hyperreflexia and upgoing Babinski reflex have also been described.

There are several types of CIM described. Type II CIM involves a herniated cerebellar vermis, brain stem and fourth ventricle, in addition to cerebellar tonsils. This subgroup represents a much smaller proportion of CIM<sup>2</sup>. Type II CIM is almost always associated with myelomeningocele as well as Klippel-Feil anomalies, and incomplete closure of the posterior arch of the atlas.

The treatment of asymptomatic CIM is largely conservative. Surgical treatment should be considered in patients with associated CIM headache symptoms impacting quality of life, large or enlarging syrinx, or objective abnormal neurological findings or myelopathy.

The most common surgical approach is a craniocervical decompression. This involves removal of part of the occipital bone extending to foramen magnum, and may also include removal of posterior C1 arch, decompression with arachnoid opening followed by duroplasty (Fig 2&3). Other surgical options include bony decompression alone, of cerebellar tonsil coagulopathy or resection.

Fig 2&3. Preoperative and postoperative MRI T2 sagittal cervical spine. Preoperative image shows mild tonsillar ectopia with prominent cervical syringomyelia.

Postoperative image shows adequate craniocervical decompression and significant reduction in cervical syringomyelia. Significant progress has been made in recent years in treatment of Chiari malformations. However this disease remains a curious pathology and there are still many key questions yet to be answered.



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# Meet our new Visiting Medical Practitioners



## Dr Andrea Warwick

### Colorectal Surgeon

Dr Andrea Warwick is a specialist colorectal surgeon with broad experience in all aspects of colorectal surgery including colorectal cancer and inflammatory bowel disease, and a subspecialist interest in benign and functional disorders, including diverticular disease, endometriosis, faecal incontinence, prolapse, constipation, haemorrhoids and anal fistula.

Dr Warwick graduated from medical school in 2004. She spent 11 years undertaking surgical training in hospitals in the UK and in Australia. In 2012 Dr Warwick worked as a surgeon for Médecins Sans Frontières (MSF – Doctors Without Borders) in South Sudan and has undertaken humanitarian missions to Ghana.

Following the completion of her colorectal training in the UK in 2015, Dr Warwick won a prestigious travelling fellowship from the European Society of Coloproctology and spent time in world renowned colorectal units in Geneva, Switzerland and in Aarhus, Denmark. She undertook the fellowship of the European Board of Coloproctology by examination, and was awarded a prize from the Royal Society of Medicine.

Dr Warwick is a keen researcher and undertakes evidence based care with a focus on outcomes. She is currently undertaking research in to numerous colorectal topics both independently and as part of international multicentre trials. She has written numerous peer reviewed publications and is a reviewer for the journal "Colorectal Disease". She has extensive teaching experience and has lectured and taught at multiple courses and scientific conventions on a wide range of colorectal topics. She is a lecturer at the University of Queensland. She was invited to be part of a

European Society of Coloproctology expert group reviewing the colorectal use of mesh in the pelvis.

She has public hospital appointments at Redcliffe Hospital and QEII Hospital, where she works in a subspecialist pelvic floor unit. She has recently commenced private practice at the Wesley Hospital.

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## Dr Norman Ma

### Neurosurgeon

Dr Norman Ma is a neurosurgeon with specialist skills in the surgical treatment of both adult and paediatric brain and spine.

Born in Hong Kong before growing up in New Zealand, Dr Ma completed his undergraduate medical degree at the University of Auckland.

He completed his advance neurosurgery training having worked in Brisbane, Melbourne, Auckland and Christchurch. Dr Ma also holds appointments at the Royal Brisbane and Women's Hospital and Lady Cilento Children's Hospital.

Dr Ma has special clinical interests in: Adult and paediatric neurosurgery and spinal surgery, Cranial surgery, Neuro-oncology, Functional neurosurgery, Pain surgery.

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## Dr Michael McAuliffe

Orthopaedic Surgeon

Dr Michael McAuliffe is an Orthopaedic Surgeon who specialises in surgery of the lower limb with the following subspecialty services available;

- All knee surgery: trauma, sports and arthroplasty
- Hip replacement surgery
- Knee replacement surgery includes: robotics; computer guidance and patient specific surgical knee instruments where appropriate

He currently has clinics at Indooroopilly and Ipswich.

Dr Michael McAuliffe's Qualifications are as follows;

- Fellow Royal Australasian College of Surgeons 2005
- Fellow of Australian Orthopaedic Association 2009
- Full Member of Australian Knee Society 2010
- Member American Association Hip and Knee Surgeons 2013
- Australian Society of Orthopaedic Surgeons 2014
- ABC Alumni 2016 – American British Canadian Fellow 2016
- Senior Lecturer University of Queensland
- PhD Candidate - 2015- ongoing; QLD University of Technology. (Total knee replacements)

Dr McAuliffe's philosophy is based on a very simple premise; to provide the highest standard of personalised surgical care at a cost that is affordable for all patients.

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## Dr Meryta May

Paediatric Infectious Diseases

Dr Meryta May is a Paediatric Infectious Diseases Specialist.

Dr May has been working in the field of paediatric infectious diseases and microbiology since 2002.

As well as a Bachelor of Medicine and Bachelor of Surgery, she has a Bachelor of Medical Science and holds Fellowships in both Microbiology and Paediatric Infectious Diseases.

Dr May has a broad interest in paediatric infectious diseases and would be very pleased to offer advice and consultation on many areas including:

- Recurrent skin and soft tissue infections
- Bone and joint infections
- Immunization-related queries or concerns
- Congenital infections
- Interpretation of microbiological and serological results
- Travel-related infections or exposures

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## Dr Hamish Alexander

Neurosurgeon and spinal surgeon

Dr Hamish Alexander is a neurosurgeon and spinal surgeon who joined the BrizBrain&Spine team in 2017.

Born and bred in New Zealand, Dr Alexander trained in neurosurgery in Australia and New Zealand following completion of his neuroscience and medical studies at Otago University, NZ. He finished his advanced neurosurgical training at the Royal Brisbane and Princess Alexandra Hospitals and was awarded Fellowship of the Royal Australasian College of Surgeons in 2016.

Dr Alexander has special clinical interests in: Neuro-oncology, Skull base, Pituitary, Congenital, Peripheral nerve and Spinal surgery.

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