Dear Doctor

Welcome to the July issue of our GP e-News and my first as CEO of Macquarie University Hospital.

I’d like to acknowledge former CEO Carol Bryant and the strong relationship that she developed with GPs. I know intimately the challenges facing GPs in providing integrated care for their patients, having served as CEO of Western Sydney Primary Health Network for the past seven years. Connecting our services to GPs remains one of my key priorities as we ensure that Macquarie University Hospital, as part of MQ Health, delivers excellence in patient-centered care.

In this edition of GP e-News, we bring you several stories that underscore the academic basis of who we are as a university hospital.

Orthopaedic surgeons are performing the first Australian cases of a ‘disruptive innovation’ – the REGENETEN Bioinductive Implant – for high-grade bursal rotator cuff injury. Another clinical research team is leading the way in refining the use of Botox in large ventral hernia repair. And academic studies by one of our gastroenterologists has also further enhanced the use of HRM for diagnosing dysphagia.

Our lymphoedema program, in its commitment to prospective surveillance and early intervention for breast cancer surgery patients, continues to run nationally accredited training programs for lymphoedema therapists. Through ALERT, the highly skilled lymphoedema team at MQ Health is able to treat more common and rare forms of lymphoedema.

I hope you enjoy reading about some of our latest services and I look forward to working with GPs in the area in the years ahead.

Walter Kmet,
Chief Executive MUH and Clinical Services
Macquarie University Hospital

If you would like to receive further information about our GP education activities for 2018, please email events@muh.org.au
SHOULDER SURGERY IN NEXT GENERATION

The implant essentially lays down the pathway for new tissue to grow, thereby slowing or halting progression of the disease. Higher grade rotator cuff tears are the most common form of shoulder pain and disability, yet have been traditionally hard to heal, with small tears inevitably becoming larger.

With the body putting its energy into fighting the stress of a tear, it is unable to heal the tear itself. The REGENETEN Bioinductive Implant works to remove that stress by creating an environment in which the body can focus on new tendon growth. Professor Bokor first worked on developing the procedure six years ago with US-based company Rotation Medical, who developed the original concept.

Working at Macquarie University Hospital, Professor Bokor and fellow surgeons developed the instrumentation and surgical approach. Since clearing FDA approval, more than 20,000 implants have now been done in the US. The procedure is awaiting TGA approval in Australia, with Macquarie University Hospital the only facility having been granted a licence to perform special access cases.

The procedure should be widely available in about a year. Recovery time is fast with patients resuming normal activity at six to eight weeks. According to US data, Professor Bokor has published five year results from the procedure. He will present in New Orleans in October this year and in London next June.

RESEARCHERS HAVE REFINED THE USE OF BOTULINUM TOXIN A IN COUNTERACTING THE CHRONIC MUSCLE REACTION REQUIRED IN LARGE VENTRAL HERNIA REPAIR.

FROM PARALYSIS, THE REFINED TECHNIQUE PRESERVES AN IMPORTANT COMPONENT OF ABDOMINAL STABILITY AND DOES NOT DETRACT FROM THE ABILITY TO PRIMARILY CLOSE COMPLEX DEFECTS.

Previously, the procedure administered BTA to all three abdominal wall muscle layers - the TA, the Internal Oblique (IO) and the External Oblique (EO) - to maximise the benefits of paralysis. However, the TA is known to play an integral role in truncal stability, its paralysis can result in unwanted physiological changes, including back pain.

The newly published research - a collaboration between Macquarie University Hospital, Macquarie Medical Imaging, the University of Notre Dame and the Hernia Institute of Australia - looks at sparing the TA to retain it as an important stabiliser.

“This study is the first to report on selective administration of pre-operative BTA to internal and external oblique muscles only, thus sparing transversus abdominis from paralysis,” explained Associate Professor Nabeel Ibrahim, who operates at Macquarie University Hospital and specialises in the repair of large ventral hernias and was part of the surgical team who established the use of BTA in treating complex hernia cases. “We undertook a prospective observational study of 86 patients who underwent either selective two-layer (IO and EO only) or standard three-layer (TA, IO and EO) abdominal wall muscle BTA injection prior to elective laparoscopic ventral hernia repair.

“Results show the same outcomes in both groups. Fascial closure was achieved in all cases, with no post-operative hernia recurrence to date. This means that patients undergoing this procedure should experience better outcomes with regard to core abdominal strength.”

The research is published in Hernia: The Journal of Hernia and Abdominal Wall Surgery by authors: R E Eltring, J W Read, J Saunders, P H Cosman, O Rodríguez-Acvedo, A S W Jacobos, R T Martins and N Ibrahim.

Three patients with high-grade bursal rotator cuff injury have each had a unique operation that ushers in a new generation of biological orthopaedic surgery.

The arthroscopic procedure involves a small collagen patch – the REGENETEN™ Bioinductive Implant – being placed on the rotator cuff tear and secured in place. Over six to twelve months, the patch stimulates the body’s natural healing response to absorb, leaving a layer of tendon-support new tendon growth.

“The implant essentially lays down the pathway for new tissue to grow, thereby slowing or halting progression of the disease.” Rotator cuff tears are the most common form of shoulder pain and disability, yet have been traditionally hard to heal, with small tears inevitably becoming larger.

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MQ HEALTH’S IMPORTANT LYMPHOEDEMA THERAPIST TRAINING PROGRAM

LYMPHOEDEMA TRAINING AT MQ HEALTH AIMS TO IMPROVE ACCESS FOR BREAST CANCER PATIENTS TO A PROSPECTIVE SURVEILLANCE AND EARLY INTERVENTION MODEL OF CARE WITH THE AIM OF PREVENTING LYMPHOEDEMA DEVELOPING – AND IN LINE WITH NATIONAL AND INTERNATIONAL GUIDELINES.

About 20 per cent of breast cancer patients having axillary lymph node surgery develop lymphoedema. Current Australasian Lymphology Association (ALA) guidelines state that all patients undergoing breast cancer surgery should be informed about the condition and receive post-treatment monitoring for two years. Left untreated, lymphoedema can become a chronic, lifelong problem.

While lymphoedema awareness has improved over time, there are still gaps in the provision of information to health professionals and breast cancer patients across Australia. The MQ Health-based Australian Lymphoedema Education, Research and Training (ALERT) program is addressing this problem through its continuing professional development program.

The core nine-day intensive course covers all topics of complex lymphoedema therapy (CLT) such as the theory of lymphatic anatomy and physiology, compression therapy (bandaging, ready-to-wear garments, custom-made garments and technology such as compression pumps), treatment technology (such as laser and negative pressure), adjuvant treatments (such as an overview of kinesiology taping and the use of chip bags/swell spots), exercise prescription, psychological well-being and surgical management.

Most content is taught by ALERT’s academic staff who are all accredited lymphoedema therapists and are listed on the National Lymphoedema Practitioner’s Register (NLPB). The course includes a combination of practical and theory in an interactive learning environment – including access to cadaver specimens for hands-on training.

Offered through the Faculty of Medicine and Health Sciences at Macquarie University, the ALERT course is currently the only Australian program to provide lymphoedema education through a university. This means some of the best lymphoedema experts in the country – including Professor John Boyages, Associate Professor Hiroo Suami and Dr Helen Mackie – also teach on the course. For example, one of the more academic components is understanding lymphatic anatomy utilising the latest evidence in lymphatic imaging techniques – near-infrared fluorescence lymphatic imaging (ICG) and lymphatic territories (lymphosomes) – which is taught by Associate Professor Hiroo Suami, a world-expert in lymphatic research.

“The research shows quite clearly now that the earlier that cancer patients are provided with education and risk reduction practices, the lower their likelihood of developing lymphoedema,” said Andrea Mangion, ALERT Education Coordinator as well as a physiotherapist, lecturer and NLPB member.

“Women are getting good breast cancer treatment, but poor information on lymphoedema. While GPs play an important role in monitoring this condition, having more adequately trained lymphoedema therapists around the country will help to ensure that women can have access to an expert trained in measurement, garment-fitting, the role of exercise and other rehabilitation areas.

“It’s important that breast cancer patients know that there are things you can do to reduce the development of lymphoedema, and that early detection is the key to reducing its onset. You need GPs to ensure patients are informed or referred, and then allied health professionals knowledgeable about lymphoedema to then provide the service.”

The ALA endorses the use of bioimpedance spectroscopy (BIS) as a validated and reliable tool to enable early detection of breast cancer related lymphoedema of the arm.

In 2018, 265 allied health professionals completed training through ALERT Education either through the full lymphoedema qualification course or through shorter skill-based workshops for already qualified lymphoedema therapists.

The next course dates are 17 – 27 September 2019 (excluding the weekend of 21 – 22). To register, please visit mqhealth.org.au/alerteducation

CLICK HERE to view the ALA position statement on monitoring for the early detection of breast cancer related lymphoedema.
“He was in a very bad state,” Brian recalls. “He was flown to Canberra Hospital Emergency Room where they basically saved his life. Then he was transferred to the Brain Injury Rehabilitation Unit at Liverpool Hospital, Sydney, to begin a long program of treatment.

“We nearly lost him several times.”

As a result of his injuries, Dean is quadriplegic, and unable to speak. For many weeks, he could only breathe through a respirator in a surgical incision in his throat.

In the long period of recovery, the NSW State CTP Insurance Scheme paid for the basic equipment Dean would need to survive. (One great example of the good done with your annual Compulsory Third Party premiums).

Dean’s home in Leeton was fitted with wheelchair access and a special bed and lift for movement. The General Manager of Liverpool Hospital, Associate Professor Robynne Cooke, was so impressed by Brian’s generosity, and the effectiveness of NeuroNode in helping severely disabled patients, that she immediately ordered two more for the hospital.

A year later, Brian decided to help another hospital, and in front of a team of doctors, professors and researchers, he presented a second NeuroNode to the rehabilitation team at Westmead Children’s Hospital in Sydney.

“Beeps” are the first real sign that Dean is responding to questions about how he was feeling. The NeuroNode sensor sits on his wrist and when he wants to make a signal, he just imagines moving his hand, even if it doesn’t move properly, and we can hear the results on his iPad.”

NeuroNode is produced and marketed worldwide by an Australian company, Control Bionics. It has won international awards, including HRH The Duke of York, Prince Andrew’s first “Pitch@Palace”, at the University of London last year. Control Bionics CEO, Rob Wong, “without any of the fatigue experienced by users of the older eye-gaze systems.”

Brian presented the NeuroNode Trilogy to Dr Dominic Rowe, AM, Professor of Neurology at Macquarie University, and a world leading researcher and clinician for motor neurone disease (MND) and Parkinson’s disease. MND - also known as ALS or Lou Gehrig’s disease - relentlessly leaves a person completely paralysed and unable to breathe without a ventilator, and unable to communicate. It generally shortens life expectancy to 3.5 years.

“Now we want to do as much as we can to help others benefit from this NeuroNode technology.”

Brian Walsh divides his time between his farm outside Leeton, and working with the care team looking after his son Dean. “This device,” Brian says, “helps out amazingly well, to connect Dean to all of us. We’re really grateful for the professional care hospital staff showed him when they were working to save his life.

“Now we want to do as much as we can to help others benefit from this NeuroNode technology.”

He plans to continue raising funds for more donations, inspired by the care provided to his son, and seeking to turn the experience of a personal disaster into an extraordinary program of philanthropy.

Peter Ford
The Australian Lymphoedema Treatment centre (ALERT) is now in its 6th year of operation, combining the expertise of surgeons, physicians, radiation oncologists, and allied health devoted to the care and treatment of patients with lymphoedema. While the majority of lymphoedema presentations affect the limbs, genital lymphoedema forms a small subset of patients afflicted by this rare devastating condition with far-reaching adverse effects on their lives.

Like other forms of lymphoedema, genital lymphoedema can be congenital or acquired. In the acquired form, across the world it is usually a result of infection or parasite infestation named filariasis in tropical countries. In developed countries such as Australia, the more common aetiology is iatrogenic, resulting from disruption of the groin/pelvic lymphatics such as from radiotherapy or surgical lymph node dissection for treatment of urologic cancers. Less commonly it may also present in adults with no obvious aetiology.

Genital lymphoedema can occur in isolation or combined with lower limb lymphoedema. Initially the skin is distended with interstitial fluid accumulation. There may be associated fluid leakage from skin blisters. Eventually, there is skin hardening and thickening due to fibrosis. The epidermal layer of the skin thickens and squamous hyperplasia is seen. Skin crypts develop between hard plaques. Some parts of the skin may also develop lymphangiomias circumscriptum (lymphangectasia) which are verrucous papulovesicles that constantly leak. In male patients, this is particular debilitating as gradual accumulation of fluid can lead to gigantism of the penis/scrotal region.

The condition presents both physical and psychosocial challenges to the patient. Skin thickening and fibrosis creates physical discomfort. It interferes with daily personal hygiene. Trapped moisture within the skin crevices lead to fungal infection. Physical intimacy is almost impossible. The bulky and heavy scrotum causes gait disturbance.

This can become a major source of embarrassment, poor body image, and psychological distress for many patients.

On first work up, it is important to exclude intra-abdominal/pelvic malignancy/inlet obstruction both on history and investigation if there is no obvious aetiology such as prior pelvic surgery or radiotherapy. This can be accomplished through a contrast CT of the abdomen/pelvis or PET-CT. Long-standing lymphoedema is also of less concern than acute onset which may be a herald sign of pelvic malignancy.

While conservative treatment is the first option and often the mainstay of treatment for limb lymphoedema, the anatomy of the genitalia does not lend easily to a compression garment. Manual lymphatic drainage massage is also less effective. On the other hand, surgical intervention in the form of a resectonal procedure can often be quite effective with a reported success rate of 90-95%.

Reconstruction can take place using any adjacent unaffected skin or by using a skin graft.

ALERT has introduced hope for many patients with lymphoedema who often are referred from specialist to specialist, clinic to clinic with no definite point of care. The concentrated expertise in lymphoedema care and treatment at ALERT is coupled with sophisticated technologies such as indocyanine green fluorescence lymphography and MRI imaging to offer hope for many patients who had lost all hope.

Dr Quan Ngo

NEW LEASE ON LIFE

SB was a 40-year-old patient with massive scrotal lymphoedema. He recounted a history of insidious onset of scrotal swelling which started 5 years earlier. It became progressively larger until he had difficult walking normally. When he slept, he had to lie on his side as the scrotal size and weight prevented prolonged sleeping on his back. The penis retracted inside the scrotum such that urination was difficult with urine trickling down the scrotum. He was not in any relationship throughout this period of time. In January 2017 SB underwent a gastric sleeve procedure and was able to lose 15kg but the scrotal swelling remained.

He presented to the ALERT multidisciplinary surgical clinic in October 2017. He worked in a factory and reports significant difficulty with mobilisation and working due to the mass effect on his thighs. He had not had any physical intimacy for 2 years. Physical examination showed an enlarged scrotum of approximately 15cm diameter. It hung about 15cm below the knees due to the weight effect. Scrotal skin was thickened all around with relative sparing posteriorly. The penis was difficult to examine due to retraction.

After general and lymphoedema assessment at ALERT, we suggested his condition was suitable to be managed by a debulking surgical procedure. In May 2018 SB underwent scrotal resection surgery.

The testicular structures were identified and preserved. Skin flaps were designed on the fairly normal skin and the remainder of the very indurated scrotal content was resected. A total of 15kg of skin and soft tissue was removed.

The improvement in SB was immediate. “I’m now able to sleep on my back for the first time in years” beamed a smiling Scott on the first post-operative visit next day. Postoperatively he developed partial skin necrosis and required a quick trip back to the operation room on day 4 for conservative resection and closure. He was discharged at one week post-op with an indwelling catheter in situ, which was removed 3 weeks later.

Two months later SB had elective circumcision to remove the redundant foreskin. He was quite pleased to be able to void normally at the urinal without embarrassment or concern about dribbling down the front of the scrotum. On the social aspect, he was given a ‘new lease’ on life, being able to better participate in physical activities and pursue his goal to lose more weight and be below 106kg.
THE ROLE OF PHYSIOTHERAPY IN PULMONARY AND CARDIAC CARE

In line with best practice and overwhelming research, MQ Health Physiotherapy offers a suite of exercise and education programs designed to improve health and function for patients with pulmonary and cardiac conditions.

“Cardiac and pulmonary rehabilitation programs are proven to improve functional exercise capacity, quality of life and reduce hospital admissions,” said Hannah Rutherford, the physiotherapist who has set up the program.

Yet statistics show that few people who would benefit from such programs actually attend one. Reasons include waitlists in the public system being long, patients not being adequately assessed and referred, or people simply finding it all too hard.

In consultation with Dr Marita Dale, Hannah has set up two programs at MQ Health: a pulmonary rehabilitation program and a cardiac rehabilitation program.

The former aims to help patients with chronic lung conditions, such as COPD or interstitial lung disease.

“The pulmonary rehabilitation program is for anyone who finds their day-to-day activities becoming harder, or is becoming short of breath,” explained Hannah. “The goal is to improve strength and fitness, quality of life, confidence and ability to cope – and to keep people out of hospital.”

The cardic rehabilitation program is for anyone with a cardiac condition or who might be at risk of developing one. The eight-week program uses both exercise and education to support people in making healthy lifestyle choices.

“Both programs offer access to education from a range of professionals and allied health colleagues including an exercise physiologist, clinical nurse consultant, dietitian and pharmacist – so patients receive advice across all areas of their health,” said Hannah.

“Because we are co-located with Macquarie University Hospital, we can see acute patients – as well as outpatients. We also provide continuity of care, with cardiologists, cardiothoracic surgeons and respiratory specialists from the Hospital referring patients into the program.”

Dr Andrew Hirschhorn, Director of Allied Health, said that the MQ Health environment gives the program its unique approach.

“As part of an academic health sciences centre, we’ve been able to design programs that focus on collaboration across disciplines, enable our staff to work with small groups for individualised attention, give us flexibility to scale up as demand increases, and are underpinned by robust academic thinking” he said.

EVIDENCE SHOWS THAT PULMONARY AND CARDIAC REHABILITATION PROGRAMS RUN BY A QUALIFIED ALLIED HEALTH PROFESSIONAL CAN KEEP AT-RISK PATIENTS OUT OF HOSPITAL AND IMPROVE QUALITY OF LIFE. MQ HEALTH PHYSIOTHERAPY RUNS TWO SUCH PROGRAMS WITH THE AIM TO MAKE ACCESS FAST AND EASY FOR PATIENTS WITH A RANGE OF LUNG AND HEART CONDITIONS.

PULMONARY REHABILITATION PROGRAM: ELIGIBLE PATIENTS

- COPD or other chronic lung disease
- bronchiectasis, ILD, asthma, pulmonary hypertension
- Endobronchial valve insertion – pre and post-procedure
- Lung cancer – pre and post-surgery and during treatment
- Patients on long term oxygen
- Patients recovering from an acute respiratory exacerbation

CARDIAC REHABILITATION PROGRAM: ELIGIBLE PATIENTS

- High risk of developing coronary heart disease
- Atrial fibrillation
- Other vascular or heart diseases
- Medically managed coronary artery disease
- Controlled heart failure and cardiomyopathy
- Myocardial infarction (STEMI and N-STEMI patients)
- Post PCI
- Post-operative open or minimally invasive cardiac surgeries
- PPM and implantable defibrillator insertions

REFERRAL AND OTHER PATIENT INFORMATION

We encourage GPs or other health professionals to refer patients to the service. Patients can self-refer but are required to see their GP prior to attending.

Medicare rebates and private health provider rebates may be available.

CONTACT

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The introduction of oesophageal high-resolution manometry (HRM) has been a major advance in the assessment of oesophageal motility disorders, by measuring intraluminal pressures within the oesophagus in a more detailed, reproducible and reliable fashion. Yet despite these advances, the test is not perfect and a substantial number of patients with oesophageal symptoms can be left undiagnosed.

Dr Santosh Sanagapalli, gastroenterologist at Macquarie University Hospital with clinical research and practice in diagnostic technology for swallowing disorders, has completed several studies that examine the utility of additional provocative testing during HRM, and has demonstrated that they provide more clinically relevant diagnoses, addressing some of the limitations of routine oesophageal HRM.

Routine HRM (the gold standard) sees oesophageal motility measured while patients consume food and drinking larger volumes of water, can improve the diagnosis of achalasia.

“Achalasia is the most well-defined and important motility disorder to diagnose, as it has the widest variety of effective therapeutic options,” explained Dr Sanagapalli. “Yet there remains a substantial number of patients with suspicion of achalasia based on clinical and radiographic evidence, where standard HRM is non-diagnostic.”

“We hypothesised that the use of provocative testing during HRM would improve the diagnosis of achalasia in such equivocal cases. Not only did it do so, but we went on to demonstrate that patients diagnosed in this way exhibited an excellent response to subsequent therapy.”

In other studies using provocative testing in HRM, Dr Sanagapalli and his co-authors have demonstrated the value in discriminating between gastro-oesophageal reflux disease phenotypes.

While provocative testing during HRM is being increasingly performed at leading GI Motility units internationally, Dr Sanagapalli is pioneering this technique in Australia. Dr Sanagapalli has presented his findings at international conferences.
MQ Health Grand Rounds
DEPARTMENT OF CLINICAL MEDICINE
WEDNESDAY 31 JULY 2019
11:45 – 1:00PM

Location
Clinic Building (2TP),
Ground Floor,
Lecture Rooms G10/11

11:45 – 12:00pm
Light lunch
12:00 – 13:00pm
Presentations

On the day
Held at the end of each month MQ Health Grand Rounds are open to all clinical staff, researchers and medical students. Current and interesting medical and surgical cases will be presented with lively discussion.

For more information
Contact Collette Tosen
collette.tosen@mq.edu.au

Grand Rounds Chair
Professor Vincent Lam

“With a little help from my friends…”

Associate Professor Andrew Davidson
Neurosurgery

“Update on glioblastoma treatment”

Associate Professor Mark Wong
Medical Oncology