SUMMER | 2012 | CARDIOLOGY AND VASCULAR EDITION

The Wesley HOSPITAL
*Caring for you for life*

# Medilink

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

## The value of stress echocardiography


Associate Professor Greg Scalia, Heart Care Partners

## Cardiology and vascular medicine

Articles in this issue include:

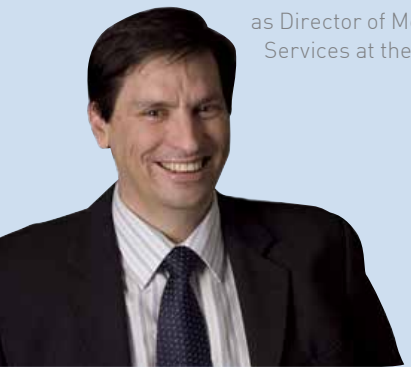
# Welcome

## Dr Luis Prado

**Director of Medical Services**

Welcome to the Summer edition of The Wesley Hospital's Medilink. I have recently accepted the position of Chief Medical Officer for UnitingCare Health. In this role I will be responsible, along with other UnitingCare Health executives, for clinical governance issues, clinical services planning, medical education and research, and medical workforce planning, with the support of Chief Medical Information Officer Dr Monica Trujillo and Deputy Chief Medical Officer, Clinical Ethics and Research, Dr Christian Rowan. Dr Trujillo and Dr Rowan perform a number of other leading roles within UnitingCare Health as Directors of Medical Services of our regional hospitals and St Andrew's War Memorial Hospital respectively.

I will continue in my role as Director of Medical Services at the Wesley.



**Cardiac and vascular care**

Our mission is to deliver excellent care to every patient, and we are proud of our capability in providing complete healthcare on one campus. Cardiology, cardiac surgery and vascular medicine are major strengths, and this edition provides an in-depth focus on our cardiology and vascular services through a series of articles.

Our 25 cardiologists and three cardiothoracic surgeons based at the Wesley have a reputation for exceptional patient care. They are continuing a tradition based on more than two decades' experience in providing a wide range of complex cardiac procedures and treatments to patients with a range of cardiac-related health issues.

Our equipment has been boosted by the installation of the latest cardiac electrophysiology technology which allows our cardiologists to create three-dimensional maps of the heart. The new 3D EnSite Velocity Mapping System will assist the Wesley to diagnose and treat patients experiencing heart arrhythmias faster, safer and with even more accuracy.

Vascular services provided by the Wesley are highly regarded, and comprise six vascular surgeons and one vascular physician. We are able to provide specialised, coordinated diagnosis and treatment for patients with diseases of the arteries and veins. Our advanced technology allows for the comprehensive evaluation, diagnosis, and effective treatment of all vascular diseases and disorders, including ultrasound scanning, angiography, surveillance of surgical bypass grafts, and dialysis graft surveillance.

**Theatre redevelopment**

I am very pleased to report that the Wesley's $20 million theatre expansion and upgrade project is well underway. The project will deliver excellent theatre facilities comprising 19 theatres, one hybrid theatre, three catheter labs and four endoscopy rooms.

Finally, I would like to thank you for your tremendous support of The Wesley Hospital in 2012. We hope that through our General Practice CPD events and other communications we have been able to keep you informed of the hospital's services and developments and meet your CPD needs. Our GP CPD program is designed to provide GPs with evidence-based, interactive learning relevant to doctors at the frontline of patient care. We recognise the vital role the General Practice community plays in ensuring the Wesley continues to be one of Australia's leading private hospitals.

I would also like to sincerely thank all the staff at the Wesley – the outstanding doctors, nurses, allied health and other staff, including Business Development Manager Vicki Goss, as well as our volunteers – for all their hard work this year.

We welcome any feedback from our doctors and wish you all the best for a very productive 2013.

**Phone 07 3232 7926**
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# $20 million theatre expansion underway

**The Wesley Hospital's theatre expansion and upgrade project is now well underway. The project will enhance the Wesley's state-of-the-art theatre facilities comprising 19 theatres, one hybrid theatre, three catheter labs and four endoscopy rooms.**

The expansion includes three new theatres, the refurbishment and expansion of four existing theatres, four new Post Anaesthesia Care Unit (recovery) beds, larger waiting areas for Day of Surgery Admissions and upgraded supply and support management facilities.

One of the new theatres will be a hybrid theatre with the capacity for undertaking interventional and endovascular procedures as well a full operating suite.

The theatre expansion project commenced in September 2012 and is due for completion in 2014. ■

## Timeline

PROJECT 1 - Day of Surgery Admissions (DOSA) – completed

PROJECT 2 - Supply and support service upgrade - underway

PROJECT 3 - New theatres, refurbishment and expansion of Theatres 11-14 and increase in Post Anaesthesia Care Unit (PACU) – due for completion in 2014

Business Development Manager Update

# Exciting program of CPD events planned for 2013


**Vicki Goss**

Business Development Manager


As we near the end of the year I would like to thank all our speakers and attendees who have made our 2012 Continuing Professional Development (CPD) program such a success. We have held 11 CPD events, four regional CPDs, three active learning modules, a clinical weekend and private practice day, and covered a wide range of topics, such as women's health, cardiology, neurology and infectious diseases.

In 2013 we have once again compiled a strong and inspiring program of CPD events at the Wesley which we are confident will support the development and maintenance of medical skills and lifelong learning for our referring GPs and VMPs. The first of these 2013 events are listed in the table below.

We are also very excited to announce that in 2013, for the first time The Wesley Hospital and St Andrew's War Memorial Hospital (also from the UnitingCare Health group) have joined forces to present a joint medical education series – CPD3. This inaugural three-event series will address the priority learning areas for Australian GPs.

The first CPD3 will be held on 16 March and will be a Hypothetical format with Hypotheticals creator and mastermind Geoffrey Robertson QC leading a rotating panel of GPs and specialists through various clinical dilemmas.

The second CPD3 event on 20 July will be a Q&A format hosted by Tony Jones, where a panel of Queensland GPs and specialists come together to thrash out the trickiest of clinical dilemmas in primary care.

The final CPD3 event for 2013 will be on 16 November and be in the format of The Great Debate, where a team of three specialists will face off against a team of three GPs to articulate and argue the common dilemmas faced in Queensland general practice today.

Finally, I would also like to congratulate Dr Luis Prado on his appointment to the new role of Chief Medical Officer for UnitingCare Health which he will carry out in addition to his position as Director of Medical Services at The Wesley Hospital. The new role recognises the significant growth that UCH has been undertaking over recent years, and the importance the group places on clinical outcomes, education, training and research as well as ensuring consistently high standards of clinical governance. ■


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# Upcoming clinical education events

The Wesley's CPD events have been awarded four **Category 2** points by the RACGP for the 2011–2013 triennium. Full program details are sent out before each event. Registration is required prior to each event.

**CLINICAL EDUCATION EVENTS for the first half of 2013**

| Date | Event | Topic* | Location |
|---|---|---|---|
| 19 Feb | Continued Professional Development | Ear Nose andThroat | The Wesley Hospital |
| 16 Mar | CPD3 | Hypothetical | The Hilton Brisbane |
| 19 Mar | Continued Professional Development | Paediatric | The Wesley Hospital |
| 16 Apr | Continued Professional Development | General Surgery | The Wesley Hospital |
| 23 Apr | Continued Professional Development (Rural) | Men's Health | Toowoomba |
| 8 May | Active Learning Module | Men's Health | The Wesley Hospital |
| 21 May | Continued Professional Development | Cardiology | The Wesley Hospital |

NOTE* Topics are subject to change

# Breast Clinic referral forms now online

Medicare Local GP referral forms for The Wesley Breast Clinic are now available online at www.wesley.com.au. These forms can be directly downloaded into most GP practice software programs including Best Practice, Genie, Medical Director, PractiX and Zed Med. Completed forms can then be electronically lodged by GP practices. A copy of the referral should also be printed for patients as it provides general information for them about their appointment. For further information or assistance phone 07 3232 7202 or visit www.wesley.com.au (forms are located under Home/For Doctors/Resources).

# Wesley installs latest in cardiac electrophysiology

Dr Stephen Pavia and Jason Riley in the cardiac electrophysiology lab using the new 3D EnSite Velocity Mapping System

2D mapping of the heart

3D EnSite Velocity mapping

Atrial fibrillation ablation using EnSite Velocity

**The Wesley has successfully installed the latest cardiac electrophysiology technology, allowing its cardiologists to now create three-dimensional maps of the heart.**

The new 3D EnSite Velocity Mapping System is primarily being used to treat patients who are experiencing heart arrhythmias and provides an extremely accurate understanding and visualisation of the mechanisms of these cardiac arrhythmias.

The open system enables 3D visualisation of multiple intracardiac catheters. The sophisticated fusion algorithms and respiratory compensation allow for model-guided therapy with real-time non fluoroscopic visualisation of intracardiac catheters within 3D CT/MRI images.

Shorter procedure times, safer procedures and higher success rates for curing these arrhythmias are further benefits of the new system.

The EnSite Velocity Mapping System is operated by a multidisciplinary team at the Wesley consisting of doctors, nurses, radiographers, cardiac scientists and company representatives.

The Cardiac Catheter Theatre at the Wesley has continued to grow over the past year with an increase of more than 10 per cent in patient referrals and this new technology will assist in ensuring this growth continues.

This latest state-of-the-art electrophysiology technology will assist the Wesley to diagnose and treat patients faster, safer and with more accuracy and ultimately be hugely beneficial for patients' health and well-being.
The Wesley is well known for its outstanding comprehensive cardiology services including a dedicated coronary care unit, cardiac MRI, cardiac telemetry ward, cardiac post-operative ICU, cardiac catheter theatres, specialised cardiac operating theatre and cardiac rehabilitation program. ■

# Comprehensive cardiac rehabilitation

**HeartWise Health Services at The Wesley Hospital runs a comprehensive education and exercise cardiac rehabilitation program designed for cardiac patients during their hospitalisation and following discharge from hospital.**

Since the program began 18 years ago, more than 2800 people have entered the outpatient cardiac rehabilitation program at the Wesley, with thousands more referred to other regional programs throughout Queensland.

HeartWise aims to optimise physical, psychological, occupational and social recovery following an acute cardiac event within a supportive professional environment.

The program provides prescribed, monitored exercise training and education programs to assist individuals and their families with recovery, enabling a return to their normal daily activities, usual occupation, hobbies and other interests.

HeartWise also assists patients establish ongoing healthier lifestyles to help reduce the risk of another cardiac event.

Empowerment of the participant through increased knowledge of the disease process and provision of strategies for secondary disease prevention/regression is critical. While the benefits of cardiac rehabilitation and secondary prevention measures are well established, success in rehabilitation is based on an individual's own level of participation.

The program's orientation includes a preliminary consultation with a member of the cardiac rehabilitation team; an overview of the exercise and education components of the program; and an outline of assistance and support provided by HeartWise and patient expectations.

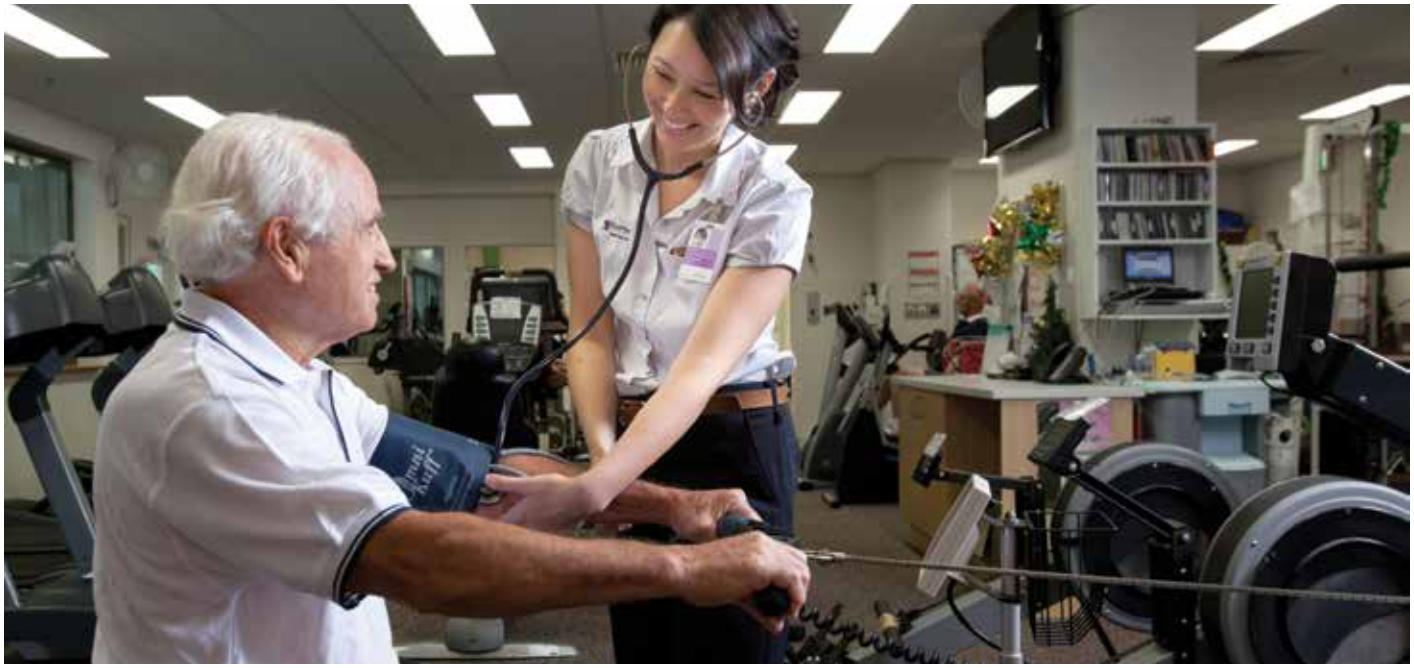
During the rehabilitation process careful consideration is also given to assist each participant achieve their personal goals while ensuring they understand the essential components of appropriate exercise intensity, symptom recognition and management.

Patient referrals to HeartWise can be made from a cardiologist, cardiac surgeon, physician, general practitioner or after being an inpatient at the Wesley or another hospital.

Referring physicians and general practitioners receive a patient entry and exit report detailing participation and discharge exercise capacity.

For further information phone HeartWise on 07 3232 7027 or 0418 713 712. ■

HeartWise aims to optimise physical, psychological, occupational and social recovery following an acute cardiac event within a supportive professional environment.



Cardiac outpatient rehabilitation has benefited more than 2800 people over 18 years at the Wesley

# Stress echocardiography

## Extensive cardiac testing in an hour

Stress echocardiography is a simple, non-invasive, safe, efficient and comprehensive one-hour test for assessing patients with suspected or established cardiac disease. This outpatient test requires no injections or dye, uses no ionizing radiation and is well tolerated by most patients.

Exercise stress echocardiography involves a standard Bruce protocol treadmill stress test. The patient exercises by walking at increasing treadmill speed and pitch every three minutes, until they achieve target heart rate which is greater than 85 per cent of their maximum predicted heart rate (220 minus age in years).

Dobutamine stress echocardiography can be employed for those patients who cannot walk for physical or medical reasons. The heart rate is increased by a peripheral venous infusion of the inotrope dobutamine using incremental doses of this drug in three minute intervals to achieve target heart rate. In some cases, atropine is administered at the end of the test to augment heart rate further if required. The effect of dobutamine can be quickly reversed by the short acting beta-blocker esmolol if required.

At the beginning of the stress echocardiogram, a comprehensive transthoracic resting echocardiogram is performed. After the exercise period, a repeat set of images is taken over 60 seconds at maximum heart rate.

The resting images and the peak exercise images are compared side-by-side for changes in global and regional wall motion. Pre-existing structural abnormalities such as dilated cardiomyopathy, mitral regurgitation, aortic stenosis and shunt defects are all easily detected on the pre-exercise echocardiogram.

The added information from the stress echocardiography imaging significantly increases the sensitivity and specificity of the exercise stress testing. In particular, the positive prognostic value of a normal stress echocardiogram at high workload is strong.

Dr Andrew Rainbird supervising exercise stress echocardiography. Photo courtesy of Heart Care Partners

The primary role of stress echocardiography is for the assessment of inducible coronary ischaemia. Patients with atypical chest symptoms, which may be exertional or non-exertional, can be assessed using this technique. Fundamentally, the test aims to rule in or rule out inducible coronary ischaemia as the cause of the referral symptoms. The usual stress electrocardiogram (ECG) criteria – exercise duration, referral symptoms and ST-segment depression – are assessed during the exercise period and the recovery phase. The immediate post-exercise stress echocardiography imaging provides additional information – specifically looking for induced regional wall motion abnormalities. For example, a patient with a severe narrowing of the left anterior descending coronary (LAD) might demonstrate induced severe hypokinesia in the antero-apical portion of the left ventricle, which was not present at rest and which resolves in the recovery period. A patient with a previous transmuralinfarction of the right coronary artery (RCA) might demonstrate fixed akinesia of the inferior wall at rest, with exercise and in recover, suggesting a scar in that area.

Stress echocardiograph has a particular role in situations where simple stress ECG testing is prone to inaccuracy. Stress ECG testing is prone to false positive results in middle-aged women. Borderline asymptomatic ST segment changes occur commonly even in the absence of significant coronary disease in this demographic. Because the pre-test probability of ischaemic disease is lower in this group, these tests are difficult to interpret. The addition of the stress echocardiography component significantly improves the accuracy of testing in these subjects. In patients with existing underlying ECG abnormalities (e.g. left ventricular hypertrophy or bundle branch block patterns), the stress echocardiography

**Associate Professor Gregory M Scalia**

Cardiologist

Dobutamine stress echocardiography can be employed for those patients who cannot walk for physical or medical reasons. The heart rate is increased by a peripheral venous infusion of the inotrope dobutamine using incremental doses of this drug in three minute intervals to achieve target heart rate.

Stress echocardiography. Photo courtesy of Heart Care Partners

imaging component allows interpretation of the testing when the ECG is relatively non-contributory.

The stress echocardiogram is also useful for the assessment of exertional breathlessness. A myriad of cardiac and non-cardiac causes can contribute to the sensation of dyspnoea. Exercise stress echocardiography takes the patient to their maximum physical workload. The test can determine whether or not there is evidence of ischaemia, heart failure, valve dysfunction or arrhythmia at the time of their breathless symptom. If the heart is functioning well, and no pathology is demonstrated, the dyspnoea is unlikely to be cardiac in origin. If however, left ventricular dysfunction, ischaemia, pulmonary hypertension or arrhythmia is induced, the heart can be clearly implicated and treatment strategies planned.

Finally, in patients with coronary disease who have had revascularisation, a stress echocardiogram is a valuable tool for surveillance and/or assessment of symptoms in patients with revascularisation. For example, in a patient with previous stenting, the stress echocardiogram on medical treatment is pivotal in the assessment of further inducible ischaemia in the stented area (e.g. possible stent restenosis) or other territories (e.g. unstented moderate disease in other arteries). In the era now of non-invasive computed tomography (CT) angiography, patients are frequently referred for assessment of established coronary atheroma for the assessment of inducible ischaemia, which might prompt revascularisation.

Stress echocardiography is a safe, efficient, well-tolerated and painless investigation which has broad application for the assessment of patients with established or suspected cardiac disease.

For bookings for stress echocardiography at HeartCare Partners at The Wesley Hospital phone 07 3858 8670. ■

**Associate Professor Greg M Scalia is a Cardiologist with a special interest in clinical cardiology, valvular heart disease and echocardiography. After graduating from The University of Queensland and completing his Cardiology Fellowship at The Prince Charles Hospital, he undertook a two-year Cardiac Imaging Fellowship at the Cleveland Clinic USA. He is a member of the Royal Australian College of Physicians, the American College of Cardiology, the American Society of Echocardiography and the Cardiac Society of Australia and New Zealand.**

# Benefits of a Mediterranean-type diet

The "healthy" Mediterranean-type diet was first described by Ancel Keys in 1952. This diet initially referred to the diet eaten by the poor in Naples and was largely a vegetarian diet rich in al-dente pasta, olive oil, vegetables and wine. Later, as a result of the first nutritional epidemiological study, the Seven Countries Study, this diet extended to Crete. During a 30-year follow-up the cohort in Crete had the lowest rates of coronary heart disease, lowest rates of cancer and greatest survival. Incidentally the healthy diet in Crete, Japan and Italy protected against risk associated with high blood pressure and elevated cholesterol.

A similar healthy dietary pattern has been seen in Spain with similar low rates of coronary heart disease and stroke.

In the GruppoItaliano per lo Studio dell aSopravvivenzanell'Infartomiocardico (GISSI) - Prevenzione study trial of 11,324 patients, post infarction supplementation with omega-3 fatty acids demonstrated significant reduction of sudden cardiac death and mortality. Embedded within this trial was a dietary study which revealed that the Italians who had a more traditional diet compared to a Western diet showed a significantly lower rate of coronary heart disease independent of any risk factors or drug therapy.

The most important dietary study comparing a Mediterranean-type diet based on Crete (1960) versus an American Heart Association diet was the Lyon Diet Study. This study showed a 50 per cent reduction of mortality and cardiovascular events over a four-year period, again independent of drug therapy and risk factors.

**Associate Professor David Colquhoun**

Clinical Cardiologist

# Coronary heart disease: absolute risk issues

The need for treatment for prevention of coronary heart disease depends on prevalent absolute risk (AR). An agreed cut point is at least 10 per cent risk of a cardiovascular event over a five-year period. It is important to note that most treatments which prevent first and recurrent coronary events do so with a similar relative risk reduction (RR) in the patients at high risk and low risk. What is important is that the AR reduction depends on prevailing risk and consequently when the number needed to treat (NNT) to prevent an event varies dramatically according to background risk.

It is important that a risk factor should not be treated in isolation just because an arbitrary number is reached. Despite the concept of global or AR being embraced universally, it is still surprising to see that special interest groups still hold on to treatment of their risk factor.

AR is estimated by using the Australian Absolute Risk Calculator which is based on the Framingham equations. This simple calculation does not take into account added risk with certain ethnic groups such as South Asians, Indigenous Australians, those with depression, schizophrenia, inflammatory arthritis and those with the physical characteristics of being short, bald, and having coronary ear lobe creases. Many of these factors are risk factors and not targets of therapy. All patients with manifest coronary heart disease, stroke or peripheral vascular disease are deemed high risk and require therapy.

It is important to note that risk associated with diabetes depends on duration of diabetes and prevailing HbA1c levels. It is important to note that risk associated with impaired glucose control increases in a curvilinear fashion from a HbA1c of approximately 5.5 per cent. There is no sudden increase in risk going from a HbA1c below and above 7 per cent.

In all patients who have reactions to basic drug therapy, consideration needs to be given to coronary artery calcium scoring. This has been recommended now for two years by the American Heart Association. A zero cardiac calcium score is associated with a less than 1 per cent chance of a cardiovascular event over 10 years and clearly these patients do not need treatment. The warranty period for this is approximately five years. ■

South Asians are an added risk ethnic group

Baldness is a risk factor

Coronary ear lobe crease

> It is important that a risk factor should not be treated in isolation just because an arbitrary number is reached.

**Associate Professor David Colquhoun is a Clinical Cardiologist with a special interest in preventative cardiology, nutrition and psychosocial factors for heart disease. He gained qualifications at the University of New South Wales and went on to gain a Fellowship of the Royal Australian College of Physicians and Fellowship of the Cardiac Society of Australia and NZ. He is a member of various bodies including the Royal Australian Medical Association, Royal Australian College of Physicians, Cardiac Society of Australia and New Zealand, Australian Atherosclerosis Society, International Society for Heart Research, Australian Society of Medical Research, Australian Lifestyle Medicine Association and Australian Institute of Complementary Medicine.**

**Dr Nicholas Boyne**

Vascular Surgeon

# A more urgent approach to surgical treatment for stroke

Intervention to treat carotid artery stenosis in the setting of stroke or recurrent transient ischaemic attacks (TIAs) has been a well established treatment for many years. The aim of intervention is to prevent further embolic events and therefore prevent progression to a cerebrovascular accident (CVA) or extension of a CVA into a more severe deficit. In the past, most centres deferred intervention for six weeks following a carotid territory event in the belief that this minimised the risk of peri-operative complications.

Recent studies have demonstrated that the highest risk of recurrent events occurs in the first two weeks after an event, whether that be a TIA with good recovery or a CVA with a fixed neurological deficit. These trials have shown that early intervention provides the best strategy to minimise another event and therefore prevent the development of a stroke. With early intervention, a slightly higher complication rate is encountered, however this is significantly offset by preventing many more embolic events that would have occurred without treatment. The results of these trials have been repeated in numerous centres. These findings are relevant to patients presenting with carotid territory embolic events. That would include a CVA with limb weakness or speech disorders, TIA with limb weakness or speech disorders or amaurosisfugax, with loss of vision of all or part of the visual field of one eye that may be permanent or temporary. Episodes of dizziness, syncope and blackouts are less likely to be related to carotid territory emboli.

## Current recommendations and treatment algorithm

**If a patient presents with a carotid territory event**

+ CVA, TIA, amaurosisfugax

**Urgent carotid duplex**

+ Identify a significant carotid lesion of greater than 50 per cent stenosis

**Urgent CT brain**

+ Exclude intracranial haemorrhage as a cause of symptoms

**If no bleed, commence aspirin and statin therapy**

+ Statins will help stabilise the plaque

**Urgent vascular surgery and neurology review**

+ Intervention should occur as early as possible – within days
+ This would generally entail admission to hospital.

A trend toward outpatient management and investigations of patients with TIAs has emerged over the past 10 years. This will delay the diagnosis and optimum management. In most situations, if the carotid duplex does confirm a significant stenosis admission to hospital will be the most effective way to fast track treatment. A stenosis of greater than 50 per cent on ultrasound should be considered for treatment in the event of typical embolic symptoms.

Intervention for carotid stenosis may include carotid endarterectomy or carotid stenting. Current trial data suggests that for symptomatic patients carotid endarterectomy is generally associated with a lower neurological procedural complication rate. In patients with recent embolic carotid territory events, endarterectomy would generally be our first choice in treatment. Stenting would be appropriate in patients with previous neck surgery, laryngectomy or radiotherapy.

In conclusion, early intervention for carotid territory events will help to prevent stroke. Rapid investigations and treatment should become the standard of care in patients presenting with symptomatic carotid disease. ■

**Dr Nicholas Boyne is a Vascular Surgeon with experience in all aspects of vascular surgery particularly carotid, aortic and lower limb salvage. He is also experienced in renal access surgery, varicose vein surgery and management of diabetic foot problems. Dr Boyne trained at the Royal Brisbane Hospital as well as other Queensland hospitals after graduating from The University of Queensland.**

Left carotid artery stenosis - angiogram

MRI with left hemispheric CVA

Endarterectomy specimen of left carotid plaque

**Dr Mark Ray**

Vascular and Transplant Surgeon

# Abdominal aortic aneurysms: open versus endovascular repair

Abdominal aortic aneurysms (AAA) are common in the older population and particularly in males, smokers and/or those with a family history. An aneurysm usually implies a transverse diameter above 3 centimetres. The biology is still not understood but most AAA occur below the renal arteries and may involve the iliac arteries. Most AAA are asymptomatic.

## Why treat?

The natural history of AAA is one of slow growth and eventual rupture if given enough time. Rupture is usually a fatal event. Thrombosis, infection or embolisation of clot to the legs is far less common.

## When to treat?

The indication to treat an AAA is size (≥ 5 to 5.5 cm), rate of growth (≥ 5mm in six months), symptoms and rupture. The indications remain the same for both open and endovascular aneurysm repair (EVAR).

The length of an aneurysm is not an indication for treatment.


Stent-graft in situ with exclusion of aneurysm

## Open surgical repair

Open repair has been performed since the 1950s and is a good operation if selected well. The advantages of open repair include proven durability and less medium and long-term surveillance. Traditionally it is reserved for patients with the requisite fitness and particularly younger patients.

Disadvantages include a more invasive approach and a 30 per cent risk of sexual dysfunction (retrograde ejaculation in particular).

## EVAR

EVAR is less invasive and may be used if the anatomy is suitable. It involves placing a stent-graft or sleeve inside the aneurysm and sealing it from the inside. It can be performed with lower morbidity and mortality. There is also less operative time, inpatient stay and post-operative recovery. New graft technology enables the use of endotherapy for more complex anatomy such as short necks, angulation, iliac aneurysms (fenestrated grafts, Iliac Branch Devices etc). New closure devices allow the grafts to be delivered via the groin using a percutaneous approach rather than a femoral cut down, in the majority of patients.

Disadvantages of EVAR include closer scrutiny in the medium- to long-term with surveillance imaging to ensure shrinkage of the sac and integrity of the stent-graft. Medium-term results are excellent.

## Current trends

The current trend is for most AAAs to be repaired with endotherapy. The key

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to optimal outcomes is good selection, that is, choosing the best procedure for the individual patient. Further improvements in stent-graft design for both conventional and more challenging anatomy are expected over the coming years with an emphasis on smaller delivery devices (low profile sheaths) and completely percutaneous access. EVAR is also expanding the applicability of AAA repair to older patients and has increasing applicability in ruptured AAAs. The use of EVAR in ruptures is a very exciting area.

## Controversial issues

Current controversies include whether the threshold for treatment should be lowered to include AAAs < 5cm given the advances in endotherapy, treating younger patients under 65 years with EVAR, and if EVAR should be offered preferentially to older patients.

COOK Zenith Flex graft

## Vascular hybrid operating theatre (VHOT)

The VHOT is quickly becoming the gold standard for vascular surgery. It is an operating suite that combines state-of-the-art imaging facilities with full, open operative capabilities, enabling lower contrast and radiation doses. The Wesley Hospital is currently in the design stage for a VHOT, with construction expected to commence in 2013. ■

### What's in

Open surgery for fit patients with unsuitable anatomy for EVAR

EVAR and Iliac Branch/fenestrated technology

Percutaneous access for EVAR

EVAR for ruptured AAA

**Dr Mark Ray is a Vascular and Transplant Surgeon consulting and operating at The Wesley Hospital. He obtained his Vascular Fellowship in 2004 and General Surgery Fellowship in 2001. He received his training in Brisbane and Melbourne and obtained his MBBS from The University of Queensland in 1993. He works in all areas of vascular and endovascular surgery. Special interests include the management of complex abdominal and thoracic aneurysms, visceral aneurysms, thoracic outlet syndrome, renal and vascular access and renal transplantation.**

**Dr Andrea Riha**

Vascular Physician and Cardiologist

# New oral treatments
## for venous thromboembolism

A question I am asked almost daily is: "Is there anything to treat clots apart from injections and warfarin?" The answer finally is yes, there is some limited availability of new drugs to help the needle phobic and anti-warfarin patients out there.

Two drugs have recently become available – Dabigatran (Pradaxa) and Rivaroxaban (Xarelto). Having over the years been to several launches of supposedly "new warfarin replacement drugs" and having followed the "promising" development of several more, these appear to be stayers on the market, though I am always cautious with this pronouncement.


Dabigatran (Pradaxa) and Rivaroxaban (Xarelto)

Rivaroxaban is a direct factor Xa inhibitor and has been used for about three years in the prevention of deep venous thrombosis (DVT) and pulmonary embolism (PE) in patients after total hip and total knee replacements. This is a good population to see whether there are any major post marketing side-effects and issues and no serious ones appear to have come to light. It was Therapeutic Goods Administration (TGA) approved in April 2012 - but not yet Pharmaceutical Benefits Scheme (PBS) listed - for the treatment of DVT and prevention of recurrent DVT and PE.

There is an initial loading period of 15mg (one tablet) twice daily for three weeks, followed by a clinically-assessed period of ongoing treatment of 20mg (one tablet) once a day.

Two major trials (EINSTEINs) demonstrated that Rivaroxaban was considered non-inferior to enoxaparin (clexane) and warfarin in both safety and efficacy.

Rivaroxaban has been submitted for PBS listing and is awaiting approval. The benefit from the patient's point of view is that no monitoring is required and there are no injections.

From the prescriber's point of view, again the no monitoring is a benefit, plus the ease of dosing. Currently there is limited availability of Xarelto for stroke and AF and DVT patients through a patient familiarisation program coordinated by the drug company.

Very poor renal function and drugs like antiretrovirals are contraindicated, as is hepatic failure. The drawback is that reversal is difficult and not completely proven – prothrombin complex has however been found effective in recent studies

Dabigatran (Pradaxa) is an oral direct thrombin inhibitor and is currently approved in Australia for VTE prevention following knee or hip surgery. It is also TGA approved and PBS listed for non-valvular atrial fibrillation. Therefore, for VTE treatment, it can only be obtained on a private ("off-label") script. Thus there is a considerable out-of-pocket cost of about $160 per month to the patient. Studies (RE-MEDY, RECOVER, RE-SONATE) of more than 2500 patients with either acute DVT of the legs or pulmonary embolism have found dabigatran (150mg twice daily) was associated with a similar rate of recurrent VTE events at six months as adjusted-dose warfarin. Major bleed rates were also similar between the two groups, as were the number of deaths

Again, it does not require routine monitoring, a big plus for patients and prescribers. The dosing is generally 150mg twice a day, though this is reduced to 110mg twice a day with lower body weight and renal impairment. Full prescribing details should be referred to prior to prescription, for those unfamiliar with the drug. There are some issues with it that have come to light with its recent wider release in the market. The capsules are not stable outside its packaging. And again there is currently no proven antidote or reversal agent which makes bleeding events and surgery difficult to manage. Also, in some of the studies, there appeared to be a higher incidence of acute coronary syndromes. The collection of further post-marketing data will be valuable.

Of note is that the elderly are at significant risk of bleeds to both of these drugs. Dose adjustments may be necessary depending on a patient's age, Cr Cl, liver function concomitant medications and body weight. Dabigatran is contraindicated if CrCl <30mL/min and rivaroxaban is contraindicated if CrCl <15mL/min. Remember to report any ADRs for the new anticoagulants to ADRAC.

So, in answer to the initial question – "yes" there are new drugs available, but not yet widely available and there are both benefits and drawbacks with both the current drugs. There never is an "easy fix". ■

**Dr Andrea Riha is a Vascular Physician and Cardiologist who has an interest in leg ulcers, vasculitis, deep venous thrombosis, pulmonary embolism, cardiac risk factor prevention and women's cardiac issues. After graduating from The University of Queensland she completed specialty training at Monash University. She is a Fellow of the Royal Australasian College of Physicians and the Cardiac Society of Australia and New Zealand**

# Welcome to our new specialists

## Dr Jasmine Dillon

Infectious Diseases Physician

Dr Jasmine Dillon is an Infectious Diseases Physician who commenced practising at the Wesley in 2012. Dr Dillon holds a Bachelor of Science (Hons) in Medical Microbiology and Animal Virology, a Bachelor of Medicine and Surgery, a Diploma of Tropical Medicine and Hygiene, and a Masters in Public Health. In addition, Dr Dillon completed her Fellowship through the Royal Australasian College of Physicians in 2011.

Dr Dillon has interests in infection control and public health issues. She undertook advanced training in infectious diseases in Cairns and Singapore to gain exposure in tropical medicine, indigenous medicine as well as the usual infectious diseases seen in first world patients. While training at Tan Tock Seng Hospital in Singapore, Dr Dillon was involved in treating cases of dengue, severe malaria, leptospirosis, multi drug resistance, complex postoperative wound infections and patients with late HIV and severe immune deficiency.

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## Dr Brendan Hanrahan

General Physician

Dr Brendan Hanrahan is a General Physician, who completed his medical degree at The University of Queensland in 1998 and trained predominantly at the Royal Brisbane and Women's Hospital and Prince Charles Hospital.

Dr Hanrahan recently completed a two-year appointment in Singapore, enriching his experience in the provision of comprehensive healthcare within diverse communities. Dr Hanrahan has particular expertise in the prevention of both disease development and progression and medicine in the obese patient.

His approach is distinguished by a demonstrated commitment to evidence-based, cost-effective and practical therapies and bringing the latest in evidence-based therapies to clinical use.

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## Dr Piksi Singh

Gynaecological Oncologist

Dr Piksi Singh is a Gynaecological Oncologist who specialises in the management of all known and suspected cancers of the female genital tract, colposcopy and pre-invasive conditions of cervix, vagina and vulva. She has a keen interest in managing women with hereditary familial gynaecological cancers, gestational trophoblastic disease (GTD), vulval reconstructive surgeries and complex minimally invasive surgery, including total laparoscopic hysterectomies and robotic procedures.

Originally from India, Dr Singh obtained her postgraduate obstetric and gynaecological qualifications in 1994 and then worked as a Senior Consultant in New Delhi before moving to Australia in 2003. In Australia, she undertook further sub-specialty training in gynaecological oncology in Adelaide, Newcastle and Brisbane, completing her Certification in Gynaecological Oncology in 2008. Dr Singh acquired further surgical training in resecting upper abdominal disease in advanced gynaecological malignancies and robotic surgery in the United States.

She is committed to clinical and translational research, authoring papers in peer reviewed international journals. She has worked as a Senior Staff Specialist at the Gold Coast, Royal Hobart and Christchurch Women's Hospitals.

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## Dr Polly Tsai

Rehabilitation Physician

Dr Polly Tsai is a Rehabilitation Physician at The Wesley Hospital with special interests in reconditioning, orthopaedic, spinal and neuro rehabilitation. Dr Tsai graduated from Monash University in 1999. She completed her basic physician training at Princess Alexandra Hospital and subsequently underwent advanced training in rehabilitation medicine at various metropolitan hospitals in Brisbane.

Dr Tsai was awarded her Fellowship of the Australasian Faculty of Rehabilitation Medicine, RACP, in 2009. She is currently working as a staff specialist at the spinal injuries unit of Princess Alexandra Hospital and visiting medical officer at St Vincent's Brisbane Hospital and The Wesley Hospital.

In addition, she remains active in her research and is participating in several international studies investigating the effectiveness of intensive exercise programs and nocturnal CPAP on improving clinical outcomes in tetraplegia patients. Dr Tsai is the recipient of the Adrian Paul Prize for the best scientific paper presented at an annual scientific meeting.

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**451 Coronation Drive**
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**F 3176 5644**

## Dr Clement Wong

Breast and Endocrine Surgeon

Dr Clement Wong is a Specialist Breast and Endocrine Surgeon, with special interest in breast cancer, thyroid surgery and minimally invasive parathyroid surgery.

He graduated in medicine from The University of Queensland and completed his residency at Royal Brisbane and Women's Hospital. His advanced general surgical training was based in Queensland, mainly at Princess Alexandra Hospital and the Mater Hospital.

Dr Wong was accepted as a Fellow of the Royal Australasian College of Surgeons in 2009. He undertook post-fellowship training in breast and endocrine surgery at the Royal Brisbane and Women's Hospital.

Dr Wong then travelled to Adelaide and trained for 12 months with a world-leading endocrine surgeon in complex thyroid surgery, minimal invasive parathyroid surgery and adrenal surgery. He is one of the few surgeons in Brisbane who is fully qualified in surgeon-performed ultrasound scan (CCPU).

Dr Wong is also passionate about teaching and research. He is a Senior Lecturer with The University of Queensland and a consultant Breast and Endocrine Surgeon at Royal Brisbane and Women's Hospital. He is a member of the Breast and Endocrine Sections of the Royal Australasian College of Surgeons, Australian Endocrine Surgeons and Breast Surgeons ANZ.

He has commenced consulting at The Wesley Hospital and is happy to be contacted for any breast and endocrine problems.

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wesley medical imaging

advanced diagnostics, better care

# New Generation of MRI system at The Wesley Hospital

## The only radiology clinic in Australia to be operating two 3-Tesla MRI scanners

In line with our vision to provide the most advanced medical imaging and the highest quality healthcare for Queenslanders we are pleased to announce the installation of two new revolutionary 3T MRI scanners at Wesley Medical Imaging.

- 3-Tesla Siemens MAGNETOM (Skyra) in October 2011 and;
- 3-Tesla Siemens MAGNETOM (Skyra) in August 2012

### The Siemens Skyra system represents the pinnacle of commercially available 3-Tesla MRI scanners

The co-location of two wide bore 48 channel 3T magnets in a private radiology clinic is a first for Queensland and Australia. It allows us to target the specific needs of all your patients and offer quick access to both funded and unfunded 3T MRI scans on the most advanced technology available.

### What does this mean for your patients?

- Faster scanning times
- Improved comfort for all types of patients (including obese and paediatric patients)
- Consistently superior diagnosis

The Skyra has several new features which will lead to improved patient comfort and diagnosis.

**For more information regarding our medical imaging services, please contact:**

Wesley Medical Imaging - The Wesley Hospital - 30 Chasley street - Auchenflower QLD 4066

PH: 07 3371 9588 - FX: 07 3871 1249 - www.wesleymedicalimaging.com.au

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