

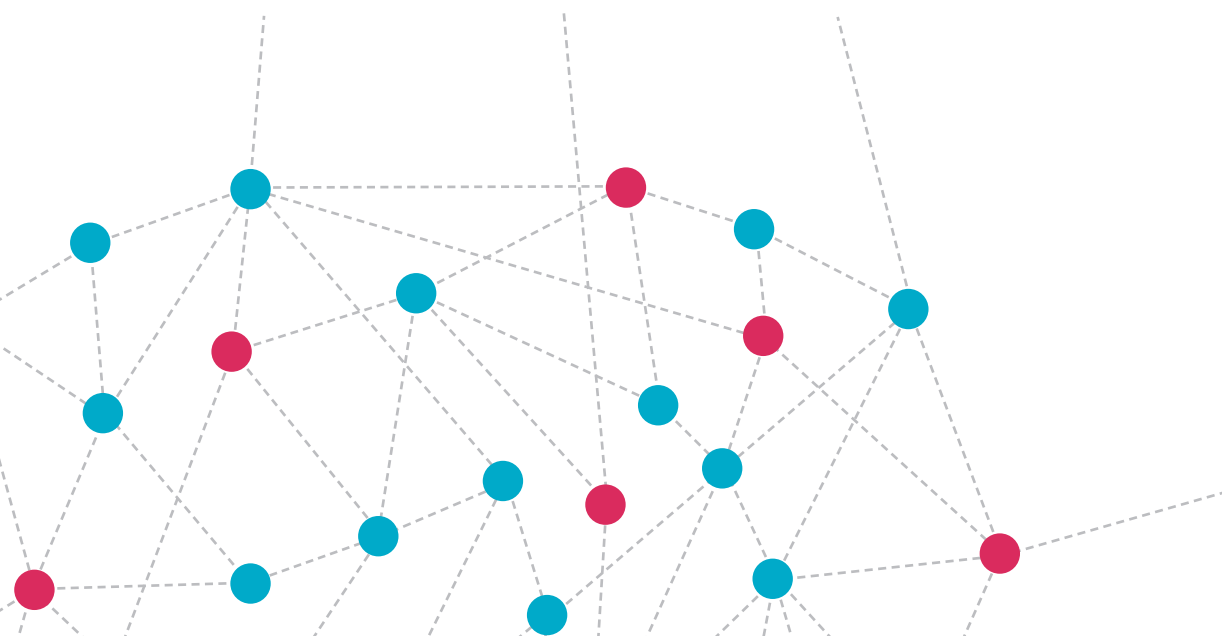
# neurosciences today2015



neurology  
neuropathology  
neurosurgery  
ear, nose and throat  
research



Health  
Sydney  
Local Health District







## INTRODUCTION

Welcome to the first publication dedicated to the Sydney Local Health District neurosciences clinical stream. Within these pages, we have profiled some of our ground-breaking research and the patients who have benefited from the world-class care and treatment we provide.

The neurosciences clinical stream encompasses a range of services including neurosurgery, neurology, neuropathology, otolaryngology, and head and neck surgery.

Our neurology services provide care of patients with disorders of the brain, nerves and muscles. We have particular expertise in epilepsy, multiple sclerosis, neuromuscular disorders, stroke, dizziness and balance, Parkinson's disease and other movement disorders.

The neuropathology department focuses on the provision of best practice diagnostic neuropathology expertise to Royal Prince Alfred Hospital as well as serving the broader NSW medical community. The neuropathology department's core clinical duties are to provide diagnostic pathology services for our colleagues in neurosurgery and neurology.

Neurosurgery units operate at Royal Prince Alfred Hospital and Concord Hospital. The neurosurgery unit at RPA is the oldest purpose-designed and maintained Neurosurgery Unit in NSW, possibly Australia, and provides a comprehensive range of Level 6 tertiary referral neurosurgical services on an inpatient, ambulatory and outpatient basis.

There is close multidisciplinary management of patients with involvement of neurology, otolaryngology, neuropathology, rehabilitation and cancer services as well as other RPA clinical services.

Otolaryngology head and neck surgery treats diseases and problems affecting the ears, nose, throat, head and neck, including base of skull surgery.

Research and education is fundamental to the stream providing high quality services as research findings are translated into novel treatments and improved patient care. Medical, nursing, allied health and management education occurs as an integral part of the clinical activities of the stream.

Our integrated care is supported by common protocols, District-wide databases, peer audit and review, academic leadership, research and education, clinical governance and a positive compassionate culture committed to patient-centred care.



Dr Paul Stalley, Clinical Director Neurosciences, Bone and Joint, Plastics and Trauma Surgery



## WHAT WE DO

Last year we performed  
**925**  
neurosurgical procedures

**405**  
spinal surgeries

**328**  
sinus and complex  
middle ear procedures

**53**  
cochlear implants

About  
**\$50**  
million was  
spent delivering treatment  
to our patients

Head of the Neurology Department and Director of the Acute Stroke Unit at Royal Prince Alfred Hospital, Professor Craig Anderson.



Professor Michael Fulham, patient Indigo Dunphy-Smith and Dr Jeffrey Brennan.

## MEETINGS OF MINDS AND TECHNOLOGY

When Indigo Dunphy-Smith, 19, began suffering chronic headaches last year she first put it down to stress.

“Then I started zoning out, so that I couldn’t speak, and when I tried to type it would all come out as gibberish,” she said.

RPA neurosurgeon Jeffrey Brennan delivered the frightening news that these episodes were absent seizures, caused by a large, dangerously positioned tumour in her brain.

Due to the unusual and difficult position of the tumour, Indigo’s case was referred to RPA’s Tumour Board Meeting, which was the first of its kind established in NSW.

“It’s a multidisciplinary meeting of neurologists, neurosurgeons, pathologists, radiologists, medical oncologists and often many more experts,” said senior staff neurologist Professor Michael Fulham.

Professor Fulham convenes the Tumour Board every two weeks with up to 16 experts discussing each case – as valuable for education as it is for enhancing patient care.

“There are so many strengths at RPA that benefitted Indigo in her treatment,” Dr Brennan said.

“When the best approach was decided, we used the intraoperative MRI scanner, which is the only one of its kind in NSW.

“This assisted greatly, because it allowed real time confirmation as to how the tumour resection was proceeding and confirmed that the tumour had been removed.”

The intraoperative MRI meant the brain navigation system was regularly updated, providing real time information, rather than relying on preoperative scans.

The tumour was successfully removed and Indigo has returned to work and university. She is still being treated for ongoing issues with memory loss but feels lucky to be alive.

Dr Brennan said philanthropic donations to RPA could help it become the first public hospital in NSW to introduce a spine surgery navigation system, similar to the one he used during Indigo’s surgery.

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## NEW HOPE FOR 'INCURABLE' EPILEPSY

For some people living with epilepsy, the diagnosis means a lifetime of fear and dangerous seizures.

But for those treated at Royal Prince Alfred Hospital, there is the possibility of a cure.

RPA is one of two hospitals in Australia using stereotactic electroencephalography, a minimally invasive technique that targets otherwise difficult to access parts of the brain.

It has yielded remarkable results since it was introduced at RPA in February 2014.

"The technique involves delivering multiple electrodes directly into the brain to make a three dimensional recording of the seizures," said RPA neurosurgeon Dr Ben Jonker.

"This reveals the precise part of the brain where the seizures are originating and exactly where we need to operate."

RPA's Director of Comprehensive Epilepsy Service Associate Professor Armin Mohamed is responsible for bringing the new technology to the hospital.

"It's exciting because we're now offering surgery to patients who previously had no surgical options at all," he said.

"We can also carefully plan where the electrodes go to minimise the amount of brain removal and maximise the chance of success."

Father of four Allan Frazer had controlled his epilepsy with medication for 10 years, but when that control faltered, he began suffering grand mal seizures several times a week.

"It is frightening because you're out without warning and you get injuries to your face and head. You never know when it will happen," Mr Frazer said.

Dr Jonker performed the technique on Mr Frazer in February last year, definitively showing the location in the brain causing the seizures.

In May, the seizure producing area was removed and Mr Frazer has been seizure free since.

"The doctors at RPA completely changed my life. I would do absolutely anything for them," Mr Frazer said.

Associate Professor Mohamed hopes donor support will help RPA become the first hospital in Australia to offer laser epilepsy surgery, which can burn the seizure producing part of the brain in a minimally invasive procedure.

"It's done while the patient is awake and they can walk out of the hospital seizure free on the same day," he said.

*The doctors at RPA completely changed my life. I would do absolutely anything for them.*



Dr Ben Jonker and Associate Professor Armin Mohamed

## NEW TRIALS SUPPORT SURGICAL STROKE TREATMENT

Royal Prince Alfred Hospital has provided thrombectomy and intra-arterial thrombolysis treatments for selected patients with acute stroke for more than 15 years, and interventional neuroradiologist Dr Geoff Parker and neurosurgeon Dr Rodney Allan have seen some incredible results.

Dr Parker has seen the surgical removal of clots significantly reduce the size of strokes and, in some cases, prevented strokes from affecting the brain altogether.

“Some patients haven’t needed rehabilitation at all and have gone home three or four days later, Dr Parker said.”

Until recently there has been a lack of conclusive scientific evidence supporting this treatment to remove large blood clots causing acute stroke in the medical literature.

“Since late 2014, however, a series of new clinical trials using the most modern devices have shown a dramatic benefit from endovascular stent-retriever thrombectomy in acute stroke,” Dr Parker said.

“These trials not only support the results we have seen here at RPA, they prove beyond a shadow of doubt that thrombectomy works in acute stroke without causing excessive harm.”

Jamie Hurst, 47, is lucky to be alive after his clot was pulled out via the femoral artery seven years ago.

“I’m living proof that you can still have a full life after what I went through,” Mr Hurst said.



Acute Stroke nurse Nadia Burkolter and patient Jamie Hurst.

## Research alters stroke guidelines

Head of the Neurology Department and Director of the Acute Stroke Unit at Royal Prince Alfred Hospital, Professor Craig Anderson, has led several major international clinical stroke trials that have changed guideline recommendations and clinical practice. These include the INTERACT2 trial in about 3000 patients that demonstrated benefits and safety of early intensive blood lowering treatment in patients with stroke due to bleeding in the brain (acute intracerebral haemorrhage); the PROGRESS trial in over 6000 patients showing long-term benefits blood pressure lowering in preventing recurrent stroke in both hypertensive and normotensive patients; and the ONTARGET trial of different forms specific blood pressure lowering with drugs that block a special hormonal system in the body (the and intensities of angiotensin system ) that is important for blood pressure regulation in the prevention of cardiovascular disease.

In addition to the surgery, Mr Hurst credits his recovery to the role of Acute Stroke Nurses, including Nadia Burkolter.

“Acute Stroke Nurses are responsible for the coordination of the stroke survivor’s care and the key link between the different specialties including allied health and rehabilitation,” she said.

“We get paged when a suspected stroke survivor is about to arrive in emergency so we are there for the patient from the very beginning.”

Dr Allan hopes the new trials supporting thrombectomy for the treatment of acute stroke will see the service become more widely available so that more patients like Mr Hurst can benefit.

*I’m living proof  
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## CLINIC'S GLOBAL IMPACT

Concord Hospital's neuro-immunology clinic has developed an online screening tool now used in more than 30 countries.

Immunosuppression Screen allows clinicians to accurately and efficiently determine the risks for patients who receive powerful immune-suppression therapies, wherever they are in the world.

A range of new drugs change the way the immune system functions and dramatically improve patient outcomes for diverse neuro-immune conditions, but also present an expanded range of potential risks.

Working like a pilot's checklist, the tool can be used to automatically assess patients for key risks as identified by an expert panel.

"No one has ever designed a tool like this," said Concord Hospital neurologist Associate Professor Stephen Reddel.

"It makes a major health difference because we can identify potential complications before giving the drugs and patient outcomes are much better."

The tool is free for anyone to use and does not capture identifying patient data so it can be used to benefit the greatest number of people possible around the world.

Concord's head of immunology Associate Professor Sean Riminton established the multidisciplinary neuro-immunology clinic with Associate Professor Reddel to treat the many complex neurological conditions that originate in immune and inflammatory mechanisms.

"The clinic is a close collaboration between neurology and immunology and manages patients with some of the most complex cases from across Australia, and occasionally overseas," Associate Professor Riminton said.

"Conditions like multiple sclerosis and myasthenia gravis are the two most common, but we treat more than 100 different neuro-immunological conditions."

Associate Professor Reddel said philanthropic support would help the clinic expand its capacity for training positions.

"These fellowships not only allow us to do more research, they also lay the foundation for excellent collaborations as fellows move on to continue their work elsewhere."

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Associate Professors Stephen Reddel and Sean Riminton using the Immunosuppression Screen.





Dr Martin McGee-Collett, Laura Stubbs and Associate Professor Glen Croxson.

## WORLD-LEADING COLLABORATION

When Laura Stubbs arrived at hospital to have a benign cyst in her neck scanned, the MRI found something far more serious.

A large acoustic neuroma was discovered measuring more than three centimetres in diameter.

This was a frightening surprise as Ms Stubbs, a 34-year-old civil engineer, had not experienced any of the typical symptoms such as loss of hearing, balance or facial function.

RPA's head of neurosurgery Dr Martin McGee-Collett said the size of the tumour and its location on the balance nerve presented significant risks and required a collaborative approach with the head of RPA's Ear Nose and Throat Department, Associate Professor Croxson.

"This collaboration is a real strength here at RPA," Dr McGee-Collett said.

"Associate Professor Glen Croxson and I have dealt with about 300 of these cases over the past 23 years and many things have changed, so that not everyone needs surgery."

Slow-growing tumours can be carefully observed until they cause symptoms or are shown to enlarge and some small tumours can be treated with focused radiotherapy.

Associate Professor Croxson said RPA could offer all treatment alternatives and necessary services under one roof.

"The treatment we provide here is of international world-class best practice, and it shows in Laura's case," he said.

"The removal of such a large tumour with virtually no morbidity is an extraordinary outcome when you consider the potential risks."

The location of the tumour meant hearing loss in one ear was inevitable, but Ms Stubbs feels very lucky to walk away without more serious consequences.

"It was a terrifying moment in my life but it made a big difference to know I was in good hands," she said.

Dr McGee-Collett said that with developing technology at RPA, parts of the largest tumours that were most difficult to remove, and associated with the greatest risk, would be left for focussed radiotherapy.

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*The treatment we provide here is of international world-class best practice, and it shows in Laura's case.*



Associate Professor Michael Barnett using the technology with patient Zinat Kaouar.

## WORLD-CLASS TECHNOLOGY TRANSFORMING MS TREATMENT

Sydney Local Health District has collaborated in a clinical trial that led to the development of a world-first patient safety technology.

Developed by Medical Safety Systems and Genzyme, the Blood Watch system monitors pathology tests in real-time for patients who are taking the new multiple sclerosis drug, alemtuzumab.

The system, conceived by Concord Hospital's Head of Immunology, Associate Professor Sean Riminton, neurologist Associate Professor Stephen Reddel, and RPA neurologist Associate Professor Michael Barnett, helps patients and physicians manage the risks associated with alemtuzumab therapy.

It provides immediate automated alerts via SMS, email and a smartphone application to patients and their treating doctors if abnormal results are detected.

Alemtuzumab is administered over five days every 12 months, but patients taking the drug must have monthly pathology tests for a period of five years.

Zinat Kaouar was one of the first patients to use the new technology in a clinical setting and was amazed by how well it worked.

"I received my first alert about an abnormal test result by email and SMS recently and Professor Barnett, who received the same alert, called right away to explain what was happening and reassure me," Ms Kaouar said.

At RPA, alemtuzumab treatment is managed under the supervision of Associate Professor Barnett at the Multiple Sclerosis Clinic, the largest MS clinic in NSW.

"We are fortunate to have a large clinic to help facilitate such ground-breaking projects while providing comprehensive care for patients with MS," he said.

The clinic, housed within the University of Sydney's Brain and Mind Centre, is funded by the MS Society but Associate Professor Barnett said it required philanthropic support.

"The complexities of MS treatment and an increasing number of patients treated in our service make it crucial that we not only maintain our services but expand them to account for this growth," he said.

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## LEADING THE NATION IN BALANCE DISORDERS

For patients living with Meniere's disease, life can be interrupted at any minute by fluctuating hearing loss, abnormal ringing in the ear and sudden attacks of disabling vertigo, nausea and vomiting.

However, a new diagnostic approach being pioneered by Royal Prince Alfred Hospital's Balance Disorders Clinic is bringing hope to countless Meniere's sufferers.

RPA's Associate Professor Miriam Welgampola said the new approach, developed in collaboration with Dr Hamish MacDougall of the University of Sydney, involved training patients to use specially designed glasses which record eye movements during an episode of vertigo.

"Many patients have episodes of vertigo that last only a few minutes so it's not possible for them to come into hospital during an attack while they are disabled," she said.

"The recordings are sent to us following an attack and we can diagnose the type of vertigo based on the patient's unique eye movements."

The approach allows much earlier diagnosis and treatment before the disorder can advance.

For those patients with the most common form of vertigo, benign paroxysmal positioning vertigo, RPA's Balance Disorders Clinic is the first in the country to provide another innovative treatment.

The Omniax rotator machine moves patients on three planes and allows clinicians to accurately assess and treat benign positional vertigo arising from any one of the six semi-circular canals.

The clinic has used the technology to treat more than 2000 patients referred from doctors throughout Sydney, NSW and further afield including Perth and New Zealand.

RPA's balance clinic is the leading unit in Australia and has made significant contributions to world-leading research.

One such contribution is head impulse test, developed by neurologists Michael Halmagyi and Ian Curthoys to quickly and effectively assess semi-circular canal function. This has become the most widely used clinical indicator of vestibular function in the world, providing fast, simple and safe diagnostic information at no cost.



Associate Professor Miriam Welgampola demonstrating the Omniax rotator.

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Associate Professor Michael Buckland

## THE NEXT GENERATION OF BRAIN CANCER RESEARCH

Associate Professor Michael Buckland and his team are pioneers exploring the next generation of brain cancer research.

“We’re doing lots of work on how brain cancer cells communicate with other cells by releasing tiny packets of information called microvesicles. These interact with surrounding brain cells and modify the local environment allowing the cancer cells to grow.”

Cell-to-cell communication is the biological equivalent of tweeting, and glioma-derived microvesicles have been linked to tumour growth, infiltration and vascularisation.

As the head of neuropathology at Royal Prince Alfred Hospital, Associate Professor Buckland sees this as an exciting field, virtually unknown to science 10 years ago.

“It’s a whole new world that we are starting to wake up to - an unappreciated form of signaling between cells that biologist have not been aware of for hundreds of years.”

While this basic research was unlikely to yield cures in the next 10 years, the work is laying the foundation for the next generation.

“Presumably there are targets that you can therapeutically modify to change the type of vesicle being released or stop them from being released. That’s the hope for the future,” he said.

For the nearer future, Associate Professor Buckland and neurosurgeon Dr Brindha Shivalingam have launched Brainstorm, a fundraising collaboration between RPA and the University of Sydney, aiming to build local capacity to advance brain cancer research and treatment.

One of Brainstorm’s major research aims is to match brain cancer mutations with existing targeted therapies.

“We know that brain cancer cells harbour many of the same genetic mutations being targeted with drugs in other cancers,” Dr Shivalingam said.

“These drugs may be effective for brain cancers, but we must first define what mutations are present and in what frequency.

“Our aim is to define these crucial mutations in brain cancer so that trials can be established.”

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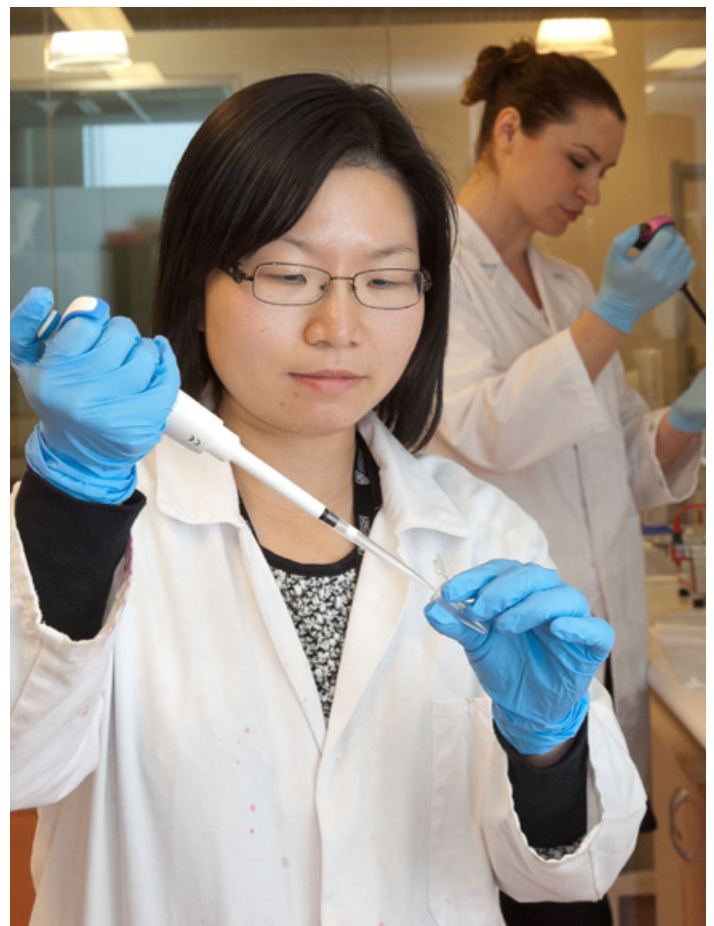


## RESEARCH

**O**ver the past decade, Dr Laurie Miller and the team of neuropsychologists at **Royal Prince Alfred Hospital** have worked with students and colleagues from the University of Sydney and Macquarie University to develop and test the outcome of a memory training program for outpatients with neurological disorders. The course focuses on teaching and practising internal mental strategies and using external aids. Initially, a randomised control trial showed that participants benefitted from the course in several ways. They reported using more strategies in their daily lives and experiencing fewer instances of forgetfulness post-training. Scores improved on some memory tests, including recall of a word list, and participants reported a high degree of satisfaction with the course as well as increased self-awareness. Ongoing research has indicated that factors such as group size and a history of neurosurgery do not influence the likelihood of significant gains, but aetiology and time-since-onset do. These results have been included in several publications and conference presentations. The course is now run at most of the major teaching hospitals across Sydney and the program's instruction manual has been published and is used internationally.

**C**oncord Hospital's Professor Garth Nicholson and his research group have been involved in the discovery of the genetic causes of motor neurone disease and hereditary neuropathies. The research group was the first in the world to show mutant TDP-43 causes MND, proving the importance of this protein as an underlying cause of the disease. This work now continues as a collaboration with the motor neurone research group at the School of Advanced Medicine Macquarie University to find new MND genes and to create a zebra fish model of MND suitable for drug screening. A zebra fish model for Machado-Joseph disease is being developed to screen for possible drug treatments in an NHMRC and MJD Foundation funded collaborative research at the Brain and Mind Institute. Professor Nicholson's research has shown that the hereditary neuropathies, once thought to be a single disease, Charcot-Marie-Tooth neuropathy, is made up of many different unique disorders some of which, when properly diagnosed by new genomic techniques, are potentially treatable.

**T**he Brainstorm research collaboration of **Royal Prince Alfred Hospital** and the University of Sydney is studying a gene called isocitrate dehydrogenase 1 (IDH1), which is commonly mutated in brain tumours. The group is currently investigating how mutations or chemical modifications of IDH1 contribute to glioma through epigenetic perturbations. By understanding how glioma forms and spreads, the group hopes to identify new potential therapeutic targets as well as strategies for detection of glioma in its earliest stages. The research has already produced the first characterisation of the spectrum of IDH1 mutations in Australian glioma patients, which is far more diverse than those reported from Europe and North America. This research also identified the first glioma patient to have a "double hit" to the IDH1 gene in their tumour; a finding which has important implications for how IDH1 contributes to gliomagenesis. The group's work on methylation of the IDH1 gene promoter provides additional evidence that IDH1 is not acting as a typical tumour suppressor gene, and it is likely it has more complex functions in altering the packaging and chemical modification of DNA across the whole genome. Current investigation includes genome-wide chemical modifications of DNA induced by IDH1 mutation in gliomas through deep sequencing.



## RESEARCH

**D**r Todd Hardy is the Principal Investigator at **Concord Hospital** for recruitment of patients into the MSBase Registry, an international, longitudinal, observational database for the central collection of epidemiological data about patients with Multiple Sclerosis. The benefit of MSBase is that investigators can use a large dataset for sub-studies analysing various aspects of epidemiology, clinical course, treatment and safety, greatly advancing the understanding of MS in real-world patients. Dr Hardy, Associate Professor Stephen Reddel and Dr Katherine Buzzard of the Royal Melbourne Hospital are examining whether cohorts of patients who switched from the MS disease modifying therapy, natalizumab, to another MS disease modifying treatment were more likely to accumulate disability faster than cohorts who remained on natalizumab over the same time period. The answer to this question has the potential to impact on how neurologists around the world think about prescribing and switching between MS therapies and has potential to translate to better outcomes for MS patients.

**I**n a preclinical study performed by researchers at **Royal Prince Alfred Hospital** Neuropathology Department, the University of Sydney's Brain and Mind Research Institute and School of Molecular Bioscience, more than 1100 proteins were profiled to help understand how brain tumour cells invade into normal brain tissue. Glioblastoma is the most common and aggressive brain cancer in adults. Tumour cells spread quickly into surrounding brain tissue with tentacle-like projections, making surgical removal incomplete and relapse inevitable. New therapies that disrupt cell invasion could slow tumour spread, and thereby improve survival. Recently published in the Journal of Neuropathology and Experimental Neurology, glioblastoma cells were ranked by their ability to invade thorough a 3D matrix. The tumour cells' invasive potential was then compared to levels of 1100+ proteins isolated from the cells' membranes to identify new proteins involved in invasion. Several of these, including integrin-alpha-5, were also linked to patient prognosis, where proteins present on the more invasive cells were also found in tumours from patients with shorter survival times. Excitingly, by blocking integrin-alpha-5 the group were able to significantly slow tumour cell invasion. Phase II clinical trials for an agent targeting integrin-alpha-5 has shown early promise in melanoma, lung, renal and pancreatic cancers, and should be assessed for treating patients with glioblastoma.

**C**oncord Hospital's Dr Michael Hayes has been collaborating on the Australian Parkinson's Disease Register in conjunction with Professor Malcolm Horne at the Florey Institute of Neuroscience in Melbourne and Sir Charles Gairdner Hospital in Western Australia. This is a longitudinal project recruiting subjects and controls for genetic factors (Parkinson's gene testing Concord Molecular Medicine Laboratory), cellular markers and a clinical database. He is also collaborating with Professor Horne on the clinical application of a sophisticated accelerometer device, which monitors and records movement activity in Parkinson's disease patients over seven day periods. The purpose of this device is to aid clinical decision-making with regards to dopaminergic medications as well as advanced infusional therapies and deep brain stimulation surgery. Dr Hayes is also undertaking a research study utilizing the role of transcranial ultrasound and other bio-markers in establishing a more accurate diagnosis of early Parkinson's disease. **Concord** was one of the first hospitals in Australia to pioneer the infusional levo-dopa treatment, Duodopa, via PEG-J and is joining a new global observational study named DUOGLOBE to monitor outcomes over a three year period.







Neurosurgeon Dr Brindha Shivalingham.

## THERE ARE MANY WAYS TO GET INVOLVED AND SUPPORT SYDNEY LOCAL HEALTH DISTRICT

At Sydney Local Health District we know that leading healthcare is not only about what we can do for our community today, but about seeking advances in medicine for generations to come.

We nurture and encourage philanthropic support through individuals, groups and business and are incredibly grateful to all our donors. All gifts, large and small, make an enormous difference to the research we conduct and the care and services we provide every day.

There are many ways you can help raise funds to support our work across the community. Whether you want to honour the memory of a friend, ask for donations in lieu of gifts at a special event, give shares, organise giving via your organisation's payroll or leave a gift in your will, donations can be made easily online or by contacting the fundraising team at Sydney Local Health District.

### DONATE

You can donate directly online via credit card or PayPal, send us a cheque or call us to donate over the phone via direct deposit.

### LEAVE A GIFT IN YOUR WILL

Leaving a bequest can make a profound difference in finding a cure. Find out all the details to help you with the decision and the administrative aspects by contacting the fundraising team.

### RUN A FUNDRAISING EVENT

Local businesses and community groups sometimes choose to run a company function or social event (e.g. golf day, barbecue, dinner dance or trivia night). If you plan to raise funds for Sydney Local Health District, you will need to make sure your event or activity is registered and authorised. Some activities and events may require additional permits or licenses. For more information please speak to our fundraising team.

### GIVE IN MEMORY

Donate in memory of your friend or loved one to pay tribute to their life and to help continue our work. If you would like to honour your loved one in this way, please ask family and friends to donate through our website.

### PAYROLL GIVING

You can set up automatic donations from your pay – a simple and tax effective way to contribute.

### GIVE IN CELEBRATION

Celebrate a big event in your life, or someone else's, and support our work by gifting charitable donations. Ask your friends and family to donate to Sydney Local Health District for your birthday, anniversary, or wedding.

If you or your company are interested in discussing ways you might be able to help Sydney Local Health District, please contact James Ellender, Manager Relationships and Fundraising, on 9515 9002 or via [donations@slhd.nsw.gov.au](mailto:donations@slhd.nsw.gov.au)

If you would like to make a donation online please go to <http://www.slhd.nsw.gov.au/supportUs.html>

Your donation can make a real difference to healthcare in your community and beyond.

