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HOSPITAL
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UNSW
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Australia's
Global
University

St Vincent's Clinical School 2017 Annual Report

Acknowledgment of Country

The Clinical School would like to acknowledge and honour the Aboriginal Elders of the Gadigal People of the Eora Nation, those who once lived here and first walked this land and to their descendants who maintain these spiritual connections and traditions. We acknowledge that the Gadigal people occupied and cared for this land over countless generations and we celebrate their continuing contribution to the life of this region.

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Introduction from our Head of School

Professor Jerry Greenfield
Clinical Associate Dean

The last 12 months have been dominated by growth and change. At a Faculty level, Operational Excellence has led to significant change in support staffing across all Clinical Schools, with a significant alteration to some roles and rebranding of others. Fortunately, we have maintained the basic structure of our Clinical School, allowing us to maintain ongoing support for Clinical Academics, Conjoint appointees and, most importantly, St Vincent's Hospital medical students.

We have had meetings with all hospital departments over the last 12 months, in an attempt to ensure that we are taking advantage of all teaching opportunities for the students who attend our campus.

We continue to maintain strong ties with the associated medical research institutes on the St Vincent's campus, namely the Garvan Institute of Medical Research, The Kinghorn Cancer Centre (TKCC) and the Victor Chang Cardiac Research Institute. Furthermore, we have fostered ties with the other Clinical Schools on the St Vincent's campus, by holding joint lectures and tutorials.

I am particularly pleased to welcome A/ Professor Elgene Lim as a new full-time Clinical Academic in the St Vincent's Clinical School. Elgene is a young and talented researcher who has a laboratory at TKCC that is investigating the hormonal contributors to breast cancer development, with the aim of developing novel therapeutic agents to combat this increasingly common disease. Elgene's appointment will enhance the research capabilities and output of our School and will significantly assist with our teaching capabilities.

Congratulations are due to three talented Garvan Institute and TKCC Conjoint Senior Lecturers, Paul Baldock, Paul Timpson and Tri Phan, who were promoted to Associate

Professor this year. All are well deserving of this promotion.

We were also thrilled at the arrival of two Clinical School offspring this year – Dr Rohan Gett's wife gave birth to a beautiful baby boy and Alison Cullen gave birth to a beautiful baby girl. We wish both of them and their families all the best and are pleased that we have a succession plan in place for these staff members in years to come!

In July, Professor Terry Campbell retired from UNSW medicine after an established and accomplished research and teaching career that spanned 5 decades and 7 Deans of Medicine. Terry's wisdom, corporate knowledge and generosity with his time and intellect will be sorely missed, but we are lucky to be able to continue to benefit from Terry's expertise on campus in his role as the Director of Research.

On a personal note, I would like to thank all of you – the readers of the Annual Report – our Clinical Academics, Conjoint Appointees and administrative staff in the Clinical School – for your ongoing support and dedication, particularly to UNSW medical students. You continue to represent our Clinical School on many fronts and, in many cases, give freely of your time to ensure that our teaching, research and UNSW ambassador roles are fulfilled with skill and pride.



Director of Medical Student Education Report

Dr Rohan Gett
Senior Lecturer

The year has almost finished and we are now reflecting on another successful teaching period at the Clinical School. Three hundred and twenty-six University of New South Wales students completed some study at St Vincent's Hospital in 2017. Our Clinical Academics and Conjoint staff have run 9 separate research and teaching courses throughout the year. In Phase 1, over 128 first and second year students received 2 hours of tutorials per week. Forty-four Phase 2 students progressed with tutorials and small group teaching while 77 Phase 3 students spent most of the week on the campus.

We welcomed 3 graduate entry students from the health sciences and 15 elective students to the hospital as well 24 Independent Learning Project students with a range of hypotheses. Six Honours students completed studies through St Vincent's Precinct and the associated research institutes.

Towards the end of the academic year we transitioned 44 students back from ILPs into clinical medicine and 37 newly graduated doctors were given specific skills to prepare for internship in our PRINT term. For all these teaching opportunities I am particularly grateful to the many Conjoint staff who have taken time to teach our students within their specialties.

On a lighter note, the annual grudge soccer match was won again by A/Prof Mark Danta's marauders and there was a lovely new competition where the medical students shared photographs from their elective terms. The images were both beautiful and inspiring.

All in all 2017 was a terrific year for teaching, mentoring and acquiring both skills and knowledge. Great thanks go to the administrative staff Alison, Leanne and Kate who have not only organised and coordinated the students but provided care and friendship as well.

Looking forward to a promising 2018.



Faculty & University News

Professor Terry Campbell

Emeritus Professor of Medicine and Director of research, St. Vincent's Hospital

2017 has been another very big year, both for St Vincent's Clinical School and for the Faculty of Medicine and UNSW in general. It was also a very big year for me as I retired from my posts at UNSW at the end of July. I now work half-time for St Vincent's Hospital as Director of Research and have some more time to myself. This has allowed me to sit back a bit and observe what a great job Professor Jerry Greenfield is doing in his new role as Clinical Associate Dean.

As I flagged last year, the Faculty's approach to research strategy has moved from being more or less school- and research centre-based, to being theme-based, with the initial themes being designated as Cancer, Infection Immunity and Inflammation and Mental Health/ Neuroscience (known as "Mindgardens"). An additional fourth broader theme, "Non-communicable Disease", is also under development. This latter exercise has moved along significantly with the arrival on the UNSW scene of The George Institute as a fully-affiliated partner of UNSW. Overall I think the Theme approach is developing very well and is being well led.

Unfortunately, the Dean, Professor Rodney Phillips was on extended sick leave for much of the year. We wish him well for his planned return to duty early in 2018.

The Vice Chancellor has placed much emphasis on our global reputation and our global engagement and a number of the initiatives I referenced last year are now well underway with various international partners including the University of Arizona in Phoenix, Kings College London and two Universities in Uganda. We also continue to engage very closely with China in terms of an international knowledge translation exercise entitled TORCH. Further information on much of this can be gleaned from the University's website.

It remains an interesting and challenging time at UNSW at present. Re-organisations are underway across the University and a number of longstanding employees have made the decision to move on. While this can be unsettling, I think it is much more to be seen as an exciting series of opportunities, some of which will be very positive, and some not so. Only time will tell. I urge you all to take part in the changes that are happening and strive to work for the best outcomes for all of us.



Administration Update

Melinda Gamulin
Clinical School Manager

2017 has been another busy year for the St Vincent's Clinical School and I would like to thank my administrative team on another successful year. Thank you for all your hard work and efforts.

There have been a few staff movements this year, such as:

In May, Ms Alison Cullen, Student Administration Officer commenced maternity leave and gave birth to baby girl named Lyla in July.

In June, Ms Laura Derkenne joined the School as the Administration Assistant, Dept of Medicine, and will be looking after the School postgraduate administration and SVH medical grand rounds. Laura has previously worked as an Admissions Officer at UNSW Graduate Research School.

In June, Ms Kathryn (Kate) Steele joined the School as the Student Administration Assistant, and will be looking after the undergraduate student administration with Leanne McQuiston. Kate has previously worked at UNSW Student Life.

In December, Naomi Townsend left the School after 12 years of service. We wish her all the very best in the future.

The School could not function without the support of Conjoint staff, St Vincents Hospital, the Faculty of Medicine, UNSW, the local community and the patient population and, of course, our student body. We value the contribution of these individuals and groups and look forward to their ongoing support next year.

The tutor gift this year is a pair of coasters!
I hope you enjoy this year's gifts as a
thank you from our School.



Awards & Acknowledgements

2017 Queens Birthday Honours

In the Australian Honours system, appointments to the Order of Australia confer the highest recognition for outstanding achievement and service. We congratulate these colleagues and applaud this significant acknowledgement.

Companion in the General Division of the Order of Australia (AC)

Professor John Shine AO, a molecular biologist at UNSW Medicine and the Garvan Institute of Medical Research, in recognition of his service to medical research, particularly in the area of biopharmaceuticals and molecular biology, to higher education as an academic, to professional medical organisations, and as a supporter of the advancement of innovation in science.

Officer in the General Division of the Order of Australia (AO)

Gordian Fulde, UNSW Associate Professor of Emergency Medicine, for distinguished service to emergency medicine as a clinician and administrator, to medical education, and to the community as an advocate for a range of public health issues.

Member in the General Division of the Order of Australia (AM)

Professor Peter MacDonald, Conjoint Professor UNSW Medicine, for significant service to medicine in the field of heart transplantation and cardiovascular research, and to medical education.



Rupert Higgins
JMO Tutor of 2017

2017 Clinical School Tutor Awards

Consultant Tutor of the Year (SVC/SVPH): Oliver Khoo

Consultant Tutor of the Year (SVH): Tri Phan

Registrar Tutor of the Year: Ruwanthi Wijayawardana

RMO Tutor of the Year: Joe Jabbour

JMO Tutor of the Year: Rupert Higgins

2017 Clinical School Staff Awards

School Researcher of the Year: Prof Ric Day

School Publication of the Year: A/Prof Mark Danta

School Community Engagement Award: A/Prof Bill Sewell



Prof Ric Day
School Researcher of 2017



A/Prof Mark Danta
School Publication of 2017

2017 Student Awards

St. Vincent's Clinical School Prize: Lucy Haagstrom

Doug Tracy Prize for Surgery: Lucy Haagstrom

John Hickie Prize for Medicine: Lucy Haagstrom

ILP & Honours Grand Rounds Presentation: Jacquelyn Ooi

ILP & Honours Grand Rounds Prize: Timothy Ng

School Student Researcher of the Year: Rohan Nandurkar



Lucy Haagstrom
Winner of School Student Prizes 2017

Teaching Conjoint of the Month

As a new initiative, we will highlight exceptional teaching Conjoint staff members in our School. The Clinical School would not function without the generous assistance and support of our exceptional Conjoint staff, who make an outstanding contribution to teaching, by taking a group of students on a bedside tutorial, offering procedural skills sessions, marking assignments, stepping in at the last minute to help out with examinations. There are many talented, inspiring and dedicated doctors and professionals who positively impact student's learning despite their busy work schedule.

We are pleased to announce the following Conjoint Teachers of the Month for 2017.

JUNE *Dr Melinda (Min) Berry & Ms Alex Pile*

Min has been a conjoint since May 2008 and teaches AH1 skills, Ph3 PRINT skills, and Ph3 Emergency Medicine.

Alex has been a conjoint since March 2011 and won the Faculty of Medicine Conjoint award in 2011 for "Best innovation by a Conjoint Staff Member in a Teaching Program" and teaches in AH1, AC&R, CTC, and PRINT skills.

JULY *Dr Kevin Ostrowski*

Kevin has been a conjoint since December 2014 and teaches Ph2 Bedside, Ph3 Viva, is a Ph3 Supervisor, AH2 assignment marker and end of year examiner.

AUGUST *Dr Gayathri Kumarasinghe*

Gayathri has been a conjoint since December 2014 and teaches Ph2 Bedside, Ph3 Viva, is a Ph3 Supervisor, AH2 assignment marker and end of year examiner.

SEPTEMBER *Dr Mark Benzimra*

Mark has been a conjoint since October 2016 and teaches Ph3 Bedside, is a Ph3 Supervisor, QUM assignment marker and end of year examiner.

OCTOBER *Dr Kathryn Brooke*

Kathryn has been a conjoint since March 2005 and teaches AC&R Tutorials, S&H Tutorials, and a Ph3 Supervisor.

NOVEMBER *Dr Shari Parker*

Shari has been a conjoint since October 2008 and is an AC&R Course Tutor and end of year examiner.

DECEMBER *Ms Monique Gilbert*

Monique has been a conjoint since March 2016 and does the Ph2, Ph3, and Elective Theatre Orientations.



Isobel Eloi, Alex Pile, Kate Steele and Monique Gibert at the Clinical School End of Year Function.

*Congratulations to you and thank you for your
dedication to the students of our Clinical School!*

In Memoriam

On a sad note, we lost three of our talented teaching staff over the last 12 months. Associate professor Bruce Conolly passed away earlier this year. Drs Chloe Abbott (Basic Physician Trainee) and Paul Lee (Staff Specialist, Endocrinology) died suddenly this year in January and August respectively. All were talented and much loved teachers who will be sadly missed.

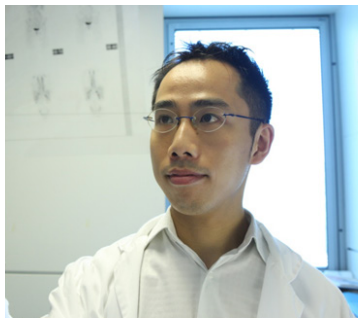
Associate Professor William Bruce Conolly

AM FRCS FRACS FACS

1 February 1935 – 21 February 2017

Bruce was born in Molong NSW and educated at Shore School and Sydney University, graduating in Medicine in 1959. He became a Fellow of the Royal College of Surgeons in 1963, working in Liverpool, U.K. and London where he met his wife to be Dr. Joyce Lavan, during her residency.

Bruce was a dedicated and highly respected member of the medical profession and a pioneer within the field of hand surgery. He established the Sydney Hospital's Hand Unit in 1972 and is credited for raising the profile of the speciality. Bruce was a one of five International Editors of Churchill Livingstone Publishers. His book detailing the history of Sydney Hospital's Hand Unit was written to commemorate the 40th anniversary of the unit's conception.



Dr Paul Lee (Conjoint Lecturer)

MBBS PhD FRACS

20 January 1977 - 14 August 2017

Paul was a highly regarded member of Garvan's Diabetes and Metabolism Division, and a successful young scientist whose research was recognised by numerous awards and grants. Paul was a brilliant and talented endocrinologist and a member of the St Vincent's Endocrinology Department and valuable team member. He was a major contributor to the Department's status as a leader at the cutting edge of patient care; a clinician determined to see research breakthroughs make a swift transition to the patient bedside. Paul was a loyal and supportive colleague and a mentor to all the junior members of his team and the wider hospital campus.

Dr Chloe Abbott (Phase 1 Tutor)

MBBS

31 January 1987 - 9 January 2017

Dr Chloe Abbott was an enthusiastic and inspiring doctor, who taught clinical teaching skills to Year 1 & 2 Medical Students. Chloe had a beautiful presence about her and was always keen to be involved in teaching. She was a passionate advocate for medical student training, and was one of the founding members of the group 'Medical Student Action on Training'. Chloe will be remembered by the students and staff of the Clinical School with fondness.



Events

2017 Doctors Vs Students Soccer Match

On a cold, cloudy morning on Friday 16th June, 2017 the Annual Doctors v Students soccer match was held at Weigall Oval, Sydney Grammar's sporting field – courtesy of the School, for which we are grateful.

The Doctors were keen to repeat last year's victory and had recruited well during the off season. The students arrived early to warm up, the Doctor's team had to start the match with one player short and after only 5 minutes of play a back pass to the keeper resulted in a penalty as the keeper picked up the ball. While the students all parked the bus in the goal mouth they defended the shot well. There were great skills between both teams and with only minutes left of the 1st Quarter Doctor Lee Blair scored a fantastic goal, considering the doctors played one player short for the whole quarter. Unfortunately the students scored an own goal making the score now 2-0 to the doctors team. A great pass from Lee Blair to Michael Liu who then crossed it to Simon Donaldson to slot it past the goal keeper. Quarter time 3-0 to the doctor's team!

The students enjoyed the half time break to re-group and with some planned moves Daniel Kim scored the first goal for the students and they were on the board. The crowd were definitely on the students side and with the doctors team tiring, Brian Heo was just too fast for them and scored a runaway goal to make the score 3-2.

With only one quarter left Tom Crofts got a great cross from Mark Danta and hit the ball in the back of the net. The score was now 4-2. Amir Amin was handed a yellow card by Referee Steve Faux for a bad tackle and free kick was awarded to the students. Aiden McLachlan took the free kick and the keeper fumbled the ball and Aiden scored. The crowd were on their feet with excitement, the students were on a roll, from a run of play Aiden McLachlan scored again to lock up the score at 4-4 at fulltime.



The winning team of 2017!



The coveted trophy.

In the 7 years of this annual match, we have never had extra time before so both teams were told they would play an extra 5 mins each way, both teams were very tired. With no score in the first 5 mins of extra time the teams changed ends, with the doctors determined to keep the trophy they found a little inspiration and momentum. Michael Liu got the ball on half way and took on the defence and ran past two students but the keeper had made the mistake of coming off his line on the goals and with quick thinking Michael chipped the ball over the head of the goalie. What a great win by the Doctors 5-4.

A big thank you to Sydney Grammar School for the use of their Oval again this year and also their BBQ facilities. Staff and students appreciated the efforts of the School Administrative staff in preparing the after match nourishments.

Special mention goes to Ronald Craig from SVH Transport Department but no major assistance was needed this year. Also special thanks to Steven Faux for refereeing the match.

Cassie Shearer

Scorers:

Doctors: Lee Blair, Simon Donaldson, Tom Crofts, Michael Liu

Students: Daniel Kim, Brian Heo, Aiden McLachlan (2)

Annual Conjoint Appointee & Clinical School Dinner

Our annual Conjoint dinner was held at Buon Ricordo on 7 September. It was attended by almost 40 Clinical School Academics, Conjoints and support staff. In addition to good wines, food and company, we were spoilt by a fascinating talk by A/Prof Elgene Lim, our newly hired Clinical Academic, on his research journey and plans for the future.

This event is arranged annually to promote the commitment to medical education on the SVH Campus and ongoing program of medical student teaching in St Vincent's Public and Private Hospitals and St Vincent's Clinic.



Year 6 Farewell Drinks

The event was held at the Bellevue Hotel in Paddington and was well attended by the majority of the 6th Year students and Clinical School staff members. It was a lovely send off for our senior students who will be embarking on their medical journey as interns in 2018.



St Vincent's Hospital

Conjoint A/Prof Anthony Schembri
CEO, St Vincent's Health Network Sydney



The past twelve months have seen St Vincent's embark upon one of the most important future planning endeavours in our 160-year history, culminating in the launch the St Vincent's Integrated Healthcare Campus Darlinghurst Clinical Services Strategy 2027 by Health Minister Brad Hazzard earlier this year.

The Strategy has significant implications for our growing relationship with the UNSW Clinical School as it represents St Vincents' future vision for the Campus to meet and adapt to the clinical, teaching, scientific, pastoral and financial challenges of healthcare in the 21st century.

The Clinical Services Strategy was formulated after extensive consultation with staff and key stakeholders including UNSW, and outlines six key strategic commitments.

Among those are precision medicine, new ambulatory models of integrated care, telehealth to reach rural patients and to be a destination for world-class treatment, research and training.

St Vincent's will also continue to advocate for and deliver compassionate care to the poor and vulnerable in the spirit of Mary Aikenhead and the Sisters of Charity.

In a major accomplishment for the Campus' precision medicine endeavours, we launched Australia's first Clinical Genomics Unit in collaboration with the Garvan Institute to provide whole genomic sequencing.

The new Unit is enabling the application of whole genome sequencing to understand the basis for hereditary diseases, and pave the way for tailored measures to minimize risk of disease.

In May St Vincent's held its inaugural Patient Safety & Quality Symposium co-hosted with the Clinical Excellence Commission. The main theme for attendees is that all staff have a role to play in ensuring the safety of our patients.

Keynote speaker Richard de Crespigny's shared lessons from crash-landing a Qantas A380 with 469 passengers and crew on board and launched the St Vincent's quality and safety strategic plan, Leading Safety Inspired Care.

I am pleased to report that we have just commenced work to more effectively treat patients presenting to St Vincent's Emergency with both mental health as well as drug and alcohol related conditions. The St Vincent's Hospital Psychiatric Alcohol and Non-Prescription Drug Assessment (PANDA) Unit, which will be built within the \$14 million Emergency Department enhancements, will reconfigure the physical space in the Emergency Department to directly address projected growth in Emergency presentations.

Once complete in mid-2018, the six bed PANDA unit will be collocated with an expanded Psychiatric Emergency Care Clinic (PECC) to improve the assessment and treatment of patients with mental health and drug and alcohol related conditions.

I am proud to note that the past year has seen St Vincent's receive several significant awards and achieve a number of milestones, including:

Our Psychogeriatric SOS project won the Minister's Award at the 2016 NSW Health Awards.

St Vincent's commenced a world-first trial with medicinal cannabis to improve pain management and appetite of terminally ill cancer patients.

Our Basic Physician Trainees achieved a 100% pass rate in their exams – the highest of the state.

We opened our new 20-bed fully medicated alcohol & drug withdrawal unit Gorman House to provide more complex care to clients.

The National Geographic series Miracle Hospital showcasing groundbreaking procedures at St Vincent's is screened in 171 countries to critical acclaim.

We launched our St Vincent's Health Network's Aboriginal Health Plan 2017-2020 which outlines the Network's commitment to Aboriginal Health and employment.

A/Prof Nadine Ezard, St Vincent's Director of Alcohol & Drugs Service named one of Australia's 100 most influential women in AFR.

We opened our new Renal Ambulatory Care Unit providing dialysis patients brighter and more spacious surroundings.

St Vincent's Heart Lung Transplant Unit performed the 1000th lung transplant in February followed by the 1000th heart transplant in September, having established the nation's first Heart/Lung Transplant unit in 1984.

Our Director of Prevocational Education and Training, Dr Sarah Michael won the Geoff Marel Award –for her contribution to the education and support of prevocational trainees.

We launched an Australian-first pancreatic screening program of asymptomatic people with a high risk of developing pancreatic cancer in an effort to treat the disease early.

St Vincent's established the Inner Sydney Urban

Partnership with GP's, government agencies and NGO's to improve the quality of care for vulnerable inner-city clients.

We joined SPHERE - the Sydney Partnership for Health, Education, Research and Enterprise. It is a partnership of 14 education and medical research organisations joined together to collaborate on program development to improve the health and wellbeing of the communities they serve and the NHMRC has recognised SPHERE as an Advanced Academic Health Science Centre.

While these achievements are diverse, they share a common theme in that they probably would not have come about if not for our unshakable partnership with UNSW and the Clinical School. As we embrace our master-planning to future-proof the St Vincent's Campus over the coming decades, the strength of our relationship with UNSW has become all the more evident.

2017 Community Project

Sydney Grammar visit



Whilst many boys in my year group took the opportunity of a “free-marking day” after our trial examinations to sleep in, I, alongside ten of my classmates, set out to St Vincent's Hospital, in the hopes of further understanding what life as both a medical student and medical professional would entail. With HSC examinations lurking just over a month away, many of us were speculating about a future in Medicine, so the St Vincents excursion provided an opportune moment to clarify any questions and even learn something about our own anatomy, all in a relaxed environment with medical students not that much older than ourselves. We played around with stethoscopes, made sure our reflexes were in check and also learnt how to create a cast for a broken arm! Afterwards, the group was led down for a tour around a live emergency department, the highlight of the day, as it was both interesting and humbling to see the swiftness and dedication with which the department functioned. All in all, on behalf of the group, I would like to thank the Clinical School for organising this informative, eye-opening and motivating experience, which gave a small taste of the vast opportunities that lie beyond school.

Vishak Senthil

Sydney Grammar Student

St Vincent's Clinic & St Vincent's Private Hospital

St Vincent's Private Hospital and St Vincent's Clinic are proud to continue their long standing involvement with the UNSW Clinical School by providing an opportunity for medical students to gain experience in the private sector.

We recognise the importance of building clinical capacity and the following activities were achieved in 2017:

- *Phase 3 medical students undertook placements in the Operating Suite, Day Surgery, the Patient Care Areas and a two day placement in the Pre Admission Centre*
- *Students gained experience in the private rooms of the VMOs in St Vincent's Clinic.*
- *30 students were allocated to the Pre Admission Clinic, providing them with a total of 60 CPD.*
- *In the Pre admission Clinic, the students completed a medical and patient histories as well as sitting in with the anaesthetist for pre hospital admission anaesthetic assessments. Students also experienced the documentation process using the deLacy system.*

During 2017 UNSW Medical students and their fellow medical and nursing student colleagues from Notre Dame University and other partner universities, participated in many of the interprofessional teaching and learning activities on offer in St Vincent's Private Hospital Sydney, St Vincent's Clinic and UNSW Clinical School.

The St Vincent's Clinic Foundation awarded \$500 for the best student's Independent Learning Project. The 2016 winner of the ILP/Honours prize was Max Fulton for a study "Predicting progression to asystole in the pathway of organ donation after circulatory death (DCD)" and his supervisor was Associate Professor Kumud Dhital. St Vincent's Private Hospital Sydney and St Vincent's Clinic 2017 Consultant of the Year was awarded to Dr Oliver Khoo.

We continue to explore strategies to increase teaching opportunities within St Vincent's Private Hospital Sydney and St Vincent's Clinic to complement student teaching and learning in public facilities.

St Vincent's Private Hospital Sydney and St Vincent's Clinic are proud to be actively involved with UNSW Faculty of Medicine and will continue to develop a leadership role in medical student teaching and learning in the private sector.



Ms Michelle Wilson
St Vincent's Clinic Executive Director



Ms Anne Fallon
Education Training & Development Manager

Post Graduate Report

Associate Professor Mark Danta
Postgraduate Co-ordinator

This has been another busy year for the St Vincent's campus at the postgraduate level. It is the second year of the Scientia Scholarship scheme which, after a few teething problems, is rolling out well. There were four successful applicants to our campus for 2018.



Overall, the Faculty of Medicine was awarded approximately a third of all the Scientia Scholarships, which highlights the importance of the Faculty to UNSW on the postgraduate front. The Fellowships will support students with generous scholarships that include a stipend of \$40,000 per annum for 4 years and a support package of up to \$10,000 per annum awarded to provide support for development activities, international collaboration and other related expenses. We should encourage and foster the excellent work with ongoing applications to the program. Currently, St Vincent's Clinical School has 107 students enrolled in PhD (101) or MSc (6) making SVCS the third largest in the Faculty. There have been 37 completions and 35 new enrolments which is stable.

This year marked the launch of the Sydney Partnership for Health, Education, Research and Enterprise (SPHERE). This is a \$20 million collaboration between leading experts in health, research and education sectors and aims to develop new and innovative ways to deliver better healthcare for communities in NSW. Modelled on overseas collaboration to aims to bring together various institutions and researchers to accelerate investigation into important health issues. Professor Ian Jacobs, President and Vice-Chancellor of the University of New South Wales, is the inaugural Chair of SPHERE. This year a number of SPHERE grants have already been awarded and this may expand in 2018. In a coup for UNSW, the George Institute became affiliated with the Faculty of Medicine, UNSW.

With regard to the Graduate Research School, a new website was launched in August. This contains all the relevant information for students and supervisors and I would commend all those involved with HDR processes to visit this site. Specific to supervision, the GRS has introduced a

compulsory online course for new supervisors that is likely to be rolled out to all HDR supervisors in the future. We hope to organise some sessions on the St Vincent's campus next year. The support for postgraduate students and supervisors has also improved significantly with the development of the Graduate Research Information System (GRIS), the online process of application and candidature for higher degree research students. The GRIS system, as many are aware, now co-ordinates all the Annual Progress Review process. Eventually the thesis examination mode will be added. As a result the overall supervision of HDR students has improved significantly. Finally, iThenticate, a text matching software program, is now available through the GRS to use for detection of plagiarism in a thesis.

NHMRC grants are becoming more competitive with success rates now below 10%. The St Vincent's campus received a total of \$4.1 million in grants from the National Health and Medical Research Council (NHMRC), Australia Research Council (ARC) and other funding bodies for projects to commence in 2018, which was very competitive with the other schools in the Faculty. Students are obviously key in the HDR process. This was exemplified by the Dr Mayoora Namasivayam who was runner up in the UNSW 3 Minute Thesis competition which should be commended. He delivered an excellent presentation "Don't stop the beat" based on his cardiac work which can be seen on UNSW website.

I would like to thank Tracy Anderson of the Garvan Institute and Boris Martinac of the Victor Chang Cardiac Research Institute for their ongoing support of higher degree research students on the campus. It is an important mentoring and administrative role. Finally, I would also like to welcome and thank Laura Derkenne the PGC Administrator for SVCS.

All the best for 2018.

Clinical Pharmacology Update

The Department of Clinical Pharmacology and Toxicology (CPT) is part of St Vincent's Clinical School and the School of Medical Sciences, UNSW Medicine and St Vincent's Hospital Sydney, St Vincent's Health Australia.

The core activities of the CPT Department focus on promoting the safe and effective use of medicine as well as patient safety at St Vincent's Hospital and in the community. This includes:

- Inpatient service for the management and assessment of overdoses and poisoning,
- Consulting on therapeutic problems,
- Guidance on the usage of electronic medication management and decision support tools,
- Research and teaching on medicines.

Welcome Dr Eindra Aung, Mr Jacob Bechara, Dr Jonathan Brett, Dr Matthew Coleshill, Dr Darren Roberts and Mr Marcel Schulz and who joined CPT in 2017. Eindra, Jacob, Matthew and Marcel work on the NH&MRC Partnership Gout project. Eindra is the new project manager for the Gout project. She obtained her medical degree (MBBS) in Myanmar, Masters of International Public Health from The University of Sydney, and PhD in Health Services Research from The University of Queensland. Her main research interest is evaluation of health services and programs. Matthew obtained his PhD in Psychology and has experience in health psychology, with a particular focus on the psychological aspects of medicine. Marcel obtained his Master of Public Health (Quantitative Research Methods) at UNSW Sydney, and his Master of Health Policy, and Bachelor of Health Science at the University of Sydney. He brings with him experience in epidemiology/biostatistics research. Jacob recently completed his Honours in Psychology (2016) and has been working on a volunteer basis to establish databases for the Neuropsychologists at Concord Hospital (2015-2017). Jonathan and Darren are staff specialists in Clinical Pharmacology & Toxicology and Addiction Medicine. All six have been a great addition to the team.

The department's students all had excellent academic years. Of our four UNSW honours students, three achieved first class honours. Our students also had great success in presenting their work at the Australasian Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) meeting in December. Ms Gina Chowdhury (PhD student) was awarded the prestigious 2017 Neville Percy prize for best poster communication, while Ms Felicity Smith (PhD student) received the 2017 ASCEPT Clinical Special Interest Group Prize for her oral presentation. In addition, Mr Sylvain Meslin (Honours) received an honourable mention as a finalist for the 2017 ASCEPT Robert Whelan prize for his poster presentation. Closer to home, Felicity was also awarded the UNSW School of Medical Sciences Student Tutor Excellence Award 2017 and both Gina and Felicity received the St Vincent's Centre for Applied Medical Research Scholarship Supplementation.

We would also like to acknowledge and say thank you to Honorary Professors Garry Graham and Ken Williams for their continuing volunteer work, research and assistance with student research projects.

Lastly, farewell to Dr Amy Nguyen, Post-Doctoral Research Fellow, who left us at the end of 2017. Amy has made great progress and contribution to our group and to our gout work. Dr Amy Nguyen was awarded a "Rising Start Bursary" to enable her to attend the Informatics for Health Conference in Manchester, UK this year. We wish to thank her and wish her success in her future endeavours.

UNSW Project Grants (commenced in 2017)

RG160092 - Australian Research Council/Discovery Project – Prof R Stocker, 01-Jan-2017 to 31-Dec-2019 for \$371,000.00 on Novel methods to quantify multiple reactive species in biological systems.

RG160784 - Australian Research Council/Discovery Early Career Researcher Award (DECRA) – Dr Eva Novoa Pardo, 01-Jan-2017 to 31-Dec-2019 for \$372,000.00 on Specialized ribosomes: an unexplored regulatory layer to tune the proteome?

RG160960 - Australian Research Council/Discovery Project – Prof Robert Graham, 01-Jan-2017 to 31-Dec-2019 for \$366,500.00 on Critical role of cardiac α 1-adrenergic receptors in survival of the fittest.

2017 Research Infrastructure Scheme: Supporting Collaborative Research - Prof Ric Day, 01-Jan-2017 to 31-Dec-2017 for \$78,431 for installation of Installation of a Shimadzu Nexera X2 UHPLC into the Department of Clinical Pharmacology and Toxicology.

Successful Grant Applications

24 Research grants were awarded in 2017

totalling **\$919,916**

St Vincent's Clinic Grants awarded to UNSW Academic & Conjoint Staff

SVPHS Ladies' Committee Sr Mary Bernice Research Grant - \$100,000

"Dendritic Cell (DC) Nanovesicles: Novel highly active cancer immunotherapy"

Principal Investigator - Dr Peter Manders

Adult Stem Cell Research Grant - \$100,000

"Clinical significance of age-associated gene mutations in stem cells"

Principal Investigator - Prof David Ma

Tancred Research Grant - \$50,000

"Randomised controlled study comparing long term clinical outcomes of patients with acute cardiac rejection diagnosed and treated based on cardiac MRI and Endomyocardial biopsy compared to Endomyocardial biopsy alone"

Principal Investigator - A/Prof Andrew Jabbour

K&A Collins Cancer Grant - \$50,000

"Improving the classification and management of patients with Barrett's Oesophagus"

Principal Investigator - Prof Reginald VN Lord

Thelma Greig Cancer Grant - \$50,000

"Metabolic effects of exercise on breast cancer"

Principal Investigator - A/Prof Elgene Lim

Froulop Research Grant - \$30,000

"Modelling variable presentation of primary arrhythmia syndromes using induced "Modelling variable presentation of primary arrhythmia syndromes using induced pluripotent stem cell derived cardiomyocytes"

Principal Investigator - Dr Adam Hill

Annual Grant 1 - \$30,000

"Simplified HCV detection through self-collected capillary finger-prick samples"

Principal Investigator - Dr Tanya Applegate

Annual Grant 2 - \$30,000

"Pharmacological conditioning of the donor heart to normalise mitochondrial oxidative metabolism and function: An approach to minimise ischaemia reperfusion injury and maximise heart recovery"

Principal Investigator - Prof Peter Macdonald

Annual Grant 3 - \$30,000

"Contribution of T follicular helper (Tfh) cells to recrudescence from the latent HIV-1 reservoir"

Principal Investigator - Prof Anthony Kelleher

Annual Grant 4 - \$30,000

"The TGF-B superfamily cytokine Macrophage Inhibitory Cytokine-1 (MIC-1/GDF15) protects from development of prostate cancer"

Principal Investigator - Prof Samuel Breit

Annual Grant 5 - \$30,000

"The safety and pharmacokinetics of metformin in heart failure"

Principal Investigator - Prof Richard Day

Annual Grant 6 - \$30,000

"Preclinical in vivo testing of novel targeted therapies for the treatment of acute leukaemia"

Principal Investigator - Dr Tim Molloy

Annual Grant 7 - \$30,000

"The kynurenine pathway as therapeutic target for multiple sclerosis"

Principal Investigator - Prof Bruce J Brew, AM

Annual Grant 8 - \$30,000

"Understanding drug-induced arrhythmias and structure of the Kv11.1 (hERG) channel"

Principal Investigator - Dr Carus Lau

Annual Grant 9 - \$30,000

"Investigating the effects of platelet extracellular vesicles and antiplatelet therapy on colorectal cancer" Principal Investigator - Dr Joanne Joseph

Kavan Migraine Bequest - \$50,000

"Investigation of treatment options for refractory migraine"

Principal Investigator - Dr Susan Tomlinson

Kinsella Colorectal Bequest - \$46,666

"Inflammatory Bowel Disease Research Position"

Principal Investigator - Dr Alissa Walsh

Kavan Orthopaedic Bequest - \$50,000

"Development of Post-Operative Rehabilitation Protocols: Outcomes, Gait Analysis and Compliance"

Principal Investigator - Dr Andrew Higgs

Travelling Fellowship Grant 2 - \$10,000

"St Vincent's Cardiology Team to go to Solomon Islands"

Principal Investigator - A/Prof Cameron Holloway

PHASE 3

YEAR 6 Students

Six years later and here we are. Older, questionably more knowledgeable, frighteningly inexperienced, but yet hopefully safe. The end brings joy, excitement, elation, and for some perhaps even mania... This is tempered however by a visceral, gut-wrenching fear. What will our first arrest be like? Our first night shift? Our first time at actually being responsible for patient's lives? We've got a long way to go still: in the words of a wise tutor, we "can't yet tell our elbows from our backsides".

As we all managed to convince our portfolio examiners, the last six years have been a time of tremendous growth and development. We look back fondly (or with horror) to those terribly awkward bedside tutorials back in first year, where six or seven sweaty-palmed, dorkily-dressed students stuttered over basic history taking. Having just finished our pre-internship term, we realise now that we can actually not only take a decent history, but make successful consultations, explain results to patients and communicate well with other health professionals. Plus, compared to some of our more senior colleagues, we can type a whole lot faster.

Like a poorly controlled person with diabetes, we have had both our highs and hypos. Although the loss of our old common room to Notre Dame is a sore spot for many of us, we've enjoyed taking up residence on the balcony. It has since become our one hide away from those overly excited juniors in the common room, not to mention the brilliant banter we have with Alison, Kate and Leanne on our way through. With some brilliant negotiation skills, we have also managed to finally gain access to the front door of DeLacy. Wifi access was another huge win, long promised – now we can search UpToDate to our hearts' content.

We came tantalisingly close to beating the doctors in the annual Doctors versus Students Soccer Match. No major injuries sustained, however one of our players was referred to Emergency with a flesh wound (does anyone smell foul play?). Our annual Student Grand Rounds was also well attended, with Matt (VI), Tanya (VI), Lucy (VI) and Eddie (V) exploring the debate between fat versus



sugar and the rationale behind a sugar tax. Many of us also enjoyed helping out at mock biomed tutorials for the fifth years, watching the students improve dramatically in only a few weeks. Perhaps having our St Vincent's Graduation Function the night before their final practice run was a bit of an oversight...

Graduation Ball was certainly a highlight for all – held in the Westin Hotel, it was lovely to see so many familiar (and unfamiliar) faces. Although not many sported fake-tan jaundice, many that night suffered from varying degrees of fatty liver. Needless to say, there was much drama at the ball. Some may remember the rainbow sequin hat crisis, whereby some devilish student stole a key dress-up prop for the photobooth. Fortunately, our very own Fiona struck a secret deal with the offending party, returning the cherished hat to its original home.

On behalf of the sixth years, we would like to give tremendous thanks to all the clinical staff who have helped organise and run our tutorials, timetables, and exams. We will particularly remember Kate, Leanne and Alison for their kind words and for always being available to chat when we were feeling swamped by viva practice. Also a big shout out to all of the amazing tutors who took time out of their busy schedules to get us through our final exams. And to Jesse, our seriously sensational, systematic, sensual, suave, sixth year representative. Best of luck to the upcoming students, study hard but enjoy the good times at Vinnies too! .

Lucy Haggstrom & Brendan Treloar



PHASE 3

Elective Students

We welcomed a number of national and international students to the St. Vincent's campus for their elective term in 2017. Bal Krishna Orgyan from Martin Luther University Halle-Wittenberg joined St. Vincent's in Spring and shared his experience.

" After a long, tentative wait in New Zealand for my Australian visa to arrive, I finally landed in the mesmerizing city of Sydney and headed to the famous 'St. Vincent's Hospital'. I have never experienced such a warm welcome as the one I received from all the student coordinators and staff at UNSW and St. Vincent's Hospital.

I had the honor of meeting and learning from Prof. Dhital, a well-known, world famous cardiothoracic surgeon. His kindness and hospitality impressed me very deeply in the heart. I witnessed the pioneering work of Prof. Dhital and his team on many interesting procedures including heart transplantation and other cardiac surgeries.

Prof. Dhital would invite the whole team for an authentic dinner after a long day of surgery, which was impressive and very generous of him (see photo). I had a very pleasant time during my stay in Sydney and have gained many important contacts for my future career. I am looking forward to seeing you all very soon!

Sydney, the city of the beautiful Opera House and Harbour Bridge with a fantastic view of Sydney Harbor. I was mesmerized by the beauty of the city on a sunny day, so much happening that you can enjoy the beaches, circular quay and central city with ease. All the people are very friendly and open too.

Thank you very much to everyone for some of the best memories ever during my stay in this wonderful city of the world. Many good wishes and greetings from Germany. "

Bal Krishna Orgyan

Martin Luther University Halle-Wittenberg, Germany.



Our own medical students also embarked on exciting elective adventures at the end of their fifth year. Becky Everist, writes of her overseas experience in Scotland and Tanzania.



My overseas elective was one of the most enjoyable experiences of my medical school career. I was fortunate to be able to do both of my electives overseas, the first being in the beautiful city of Edinburgh. My experience in the Cardiology department was invaluable, and I saw many common and important presentations, as well as observed numerous procedures including angiograms and electrophysiology procedures such as ablations. The doctors, both junior and senior at the Royal Infirmary were all extremely welcoming – I even went out dancing with a few of the junior doctors one night! I loved exploring Scotland and spent a weekend in the Isle of Skye, as well as did day trips with fellow elective students to St Andrews and Glasgow, and attended the Christmas markets more times than I dare to admit.



Having had enough of the cold I then travelled to Africa, where after a few weeks travelling in Botswana and Zimbabwe I settled in Arusha, Tanzania for 5 weeks. A common Tanzanian saying is “pole pole” which means “slowly slowly”, and that basically sums up the way they do life there. This was a big adjustment, but a welcome challenge. In Arusha I did my placement in Obstetrics and Gynaecology, and was very fortunate to be able to deliver 3 beautiful babies, as well as assist in caesareans, observe gynaecological procedures and participate in the day to day activities of the ward. My placement there was enjoyable but also heart-breaking, as women and babies died of diseases that are easily treated in Sydney, and bed shortages meant that it was not uncommon to see 3 women to a bed including their babies.



I was taken even further out of my comfort zone when I spent a week in a Maasai village. It was there I experienced the biggest culture shock, and was horrified by some of the health problems I saw. My most memorable experience from this time was driving 2 hours through the desert, passing zebras and giraffes, to a tree in the middle of nowhere where 60 Maasai mamas were waiting with their babies to be vaccinated.

To top off all of my incredible experiences, I finished my trip by climbing Mt Kilimanjaro. This was the hardest thing I have ever done, but also incredibly rewarding, and watching the sunrise from 5895m high will remain one of the most amazing things I have ever experienced. I am so grateful to have had these amazing experiences and would strongly encourage anyone who is able to step out of their comfort zone and travel overseas for their elective.

Becky Everist

UNSW Medical Student



COMMUNITY

Becky Everist
Maasai Village, Tanzania

TRAVEL
Michela Doyle
Pig Beach, Bahamas



Big Picture Competition Winners 2017



CHRISTMAS!
Simone Chin
Temple Bar In Dublin, Ireland

ELECTIVE
Jesse Ende
Operating Theatre In Myanmar



PHASE 3

YEAR 5 Students

It was the summer of 2017 when we rolled up our beach towels, dusted off our stethoscopes and swapped our Havaianas for our newly polished RMs. We were ready to embark on the final Phase of our medical studies. After a year tucked away in research labs for our ILPs, we were excited but apprehensive, unsure of what 5th year had in store for us. We were instantly thrown into the hustle and bustle of life on the wards with newfound responsibility; we chased after our teams during early morning ward rounds, refined our handwriting by scribbling in patient notes and quickly learned that scrubs are the most comfortable hospital attire.

Many of us were new to St Vincent's, and were warmly welcomed by clinical staff and other students. As we acclimatised, we explored and discovered the many treasures Darlinghurst has on offer; South Dowling Sandwiches, Messina and Little Bishop become regular pit stops during our day. This year we truly learned the meaning of self-directed learning as we balanced our clinical experience with campus day lectures, tutorials in De Lacy and bravely (or stupidly) learnt to cannulate on each other. Highlights of 2017 included the student-teacher soccer match (we'll get them next year!), staying overnight to watch heart and lung transplants, and venturing to the Outback for our rural term only to return to the familiar and beautiful city skyline on show from St Vincent's wards.

A huge thank you to Leanne, Alison and Kate for their unwavering support and guidance throughout the year – you make our lives so much easier (sorry for making yours harder!). We'd also like to thank St Vincent's clinical staff for taking time out of their busy days to teach us in both the classroom setting and at the bedside. We are especially grateful for the 6th years running mock vivas as we frantically prepare for our upcoming Biomed exam.

5th year has been challenging and rewarding, and we can't believe it's come to an end. The summer of 2018 will see us return to St Vincent's after our elective placements across the globe. Some of us will be tanned from tropical islands, some of us paler than ever from European winters, but undoubtedly, all of us will be refreshed and inspired to tackle our final year at St Vincent's.

Romy Ehrlich and Nilani Mills

PHASE 2 Students

Wow - what an unbelievable year! As we concluded our summer holidays, dusted off our stethoscopes and received freshly printed ID badges, we were ready to put the theoretical knowledge we had gained during Phase 1 to the test in a clinical setting. Although many of us felt nervous at first, the friendly staff of St. Vincent's Hospital immediately shifted that feeling to one of excitement and motivation.

As we donned surgical scrubs for the first time and were introduced to the operating theatres, we finally got our "Grey's Anatomy" moment! Attending surgeries opened up a new aspect of medicine to which we had been naïve. It gave us a greater outlook beyond medical management, and allowed us to see physical reconstruction that could improve, or potentially save, a patient's life.

We thoroughly embraced learning new procedural skills over the past year. From the accurate reading of ECGs, as opposed to seeing squiggly lines on grid paper, to interpreting CT scans, and finally being able to differentiate a kidney from a spleen, or a grey blob, this year led us to correlate patient presentations with their investigative findings. Other exciting skills mastered were that of plaster casts, injections, and intravenous cannulation.

We were privileged to have had the acute, chronic, and complex cases of the cardiovascular, gastrointestinal and respiratory systems of Adult Health 1, and in Adult Health 2, Dr. David Skalicky explored neurological and musculoskeletal cases, facilitating an environment whereby we were given the opportunity to ask any question for further understanding, while feeling valued and respected in our learning journey. The Aged Care and Rehabilitation term led us through the complexities of Geriatric medicine, highlighting key features that are particularly pertinent to elderly patients such as functional and environmental assessments. The Oncology and Palliative Care term brought forth new and emotional experiences for many students as we were introduced to terminal patients and the reality of the human aspect of medicine.

The tutors challenged us in the best ways possible, putting value in using first principles to dissect complex cases, encouraging us to think critically and giving each of us the satisfaction of eventually arriving at the correct answer. They were patient beyond measure, and taught us to use our mistakes as learning opportunities.

We are also thankful for the incredible teaching by our bedside tutors. Many of them offered countless hours, came in to the hospital on their days off, and were always prepared with a list of suitable patients for us to assess under their skilled guidance.

We are grateful to the patients, for without them giving of their time and consent, we would not be able to receive these valuable opportunities to practice. Russian master of the modern short story, Anton Chekhov, once said, "Knowledge is of no value unless you put it into practice." Communicating with the patients was both humbling and inspiring. Many patients left an indelible mark on us, and for that, we are grateful.

We are sincerely grateful to the masterminds behind organising this year. A special thank you to Alison, Leanne, and Kate, for their support and guidance as they organised our timetables, helped us navigate the clinical school and online network, and offered a listening ear when we just needed to talk. We have been gifted with amazing coordinators who demonstrated their care in providing the best teaching by the finest doctors, which will serve us well in our future careers.

The mantra of St. Vincent's Hospital – compassion, justice, integrity, and excellence — embodies an environment of care which epitomizes its teachings and values. We look forward to taking our experiences from this past year into our future vocations, as medical practitioners, and as life-long learners.

Janaya E. Perron



PHASE 1 Students

I write this reflection on Phase 1 tutoring for St Vincent's Clinical School as I am finishing my second set of night shifts; what an absolutely indescribable journey it has been to this point, and to think it all started from where the Phase 1 medical students are right now!

Tutoring these students has been nothing short of a privilege. Doubtless, each session served as a stark reminder of how daunting the long, perilous and arduous voyage (and one that is not yet close to being complete) of the medical profession. I can still remember my very first clinical tutoring session when my own clinical tutor asked us to draw a heart in all its anatomical glory. Of course, coming off 3 years of doing writing philosophy essays for an Arts degree, my sciences were more than a little rusty. Alas, how pitiful my attempt was! Fortunately, my tutor was one of the most genial and knowledgeable physicians I have encountered, and so my face was saved. Thus began my own journey from first year medical student to intern (and the students I have had the pleasure to teach so far clearly know far more than I did at their stage!).

Having these experiences so freshly on board, it gives us the unique opportunity to pass on our knowledge, tips and tricks to the Phase 1 students. We cannot so easily forget how much there is to learn in the medical canon. I am sure that all of us have been reminded countless times that 'doctor' literally translates to 'teacher' – and this Phase 1 tutoring has provided us that first stepping stone to being a 'doctor'.

These clinical tutorials were always my favourite experiences as a fresh medical student, whereby we were finally granted the opportunity to interact with real people. I hope that most of the Phase 1 students feel the same way! At the same time, I am also aware that for some (or many) it is also quite intimidating. However, from personal experience, these small tutor groups are without doubt the safest way to establish confidence and develop communication skills.

To all the Phase 1 medical students...

Be encouraged in your endeavors, for you know far more than you think.

But be modest, for you will always know less than you could ever learn.

But more importantly, always be humble, for you will have intimate access to people's lives that few will ever attain.

Brian Lesmana

Independent Learning Projects

Project Name: *Quality of Life and Long-Term Follow-up post Extracorporeal Life Support (ECLS)*

Supervisor: Dr Hergen Buscher

Student: Olivia Harley

The last 10 years has seen a surge in popularity and research of this “rescue remedy”, more than doubling the number of ECMO centres (131 to 305) registered with ELSO. This increasing trend favoring ECMO as a rescue therapy brings with it the responsibility to assess the long-term outcomes. Where the majority of research focus is on survival following ECMO, there remains a need for further investigation of survivorship.

This study aims to evaluate the long-term functional status, quality of life and survival of patients who received ECMO. Secondary aims include identification of predictors of survival and the effect on QOL.

This single-centre, retrospective study used a cohort of all SVH ECMO patients between 2012-2016. Of the 241 patients on the database, the 151 surviving patients were contacted and offered participation in a QOL survey; comprised of SF-36 and PTSD checklist surveys.

ECMO therapy is associated with a significant long-term impact on quality of life, particularly in the physical domains and a risk for PTSD. Both would justify long-term follow-up and rehabilitation in this vulnerable population. Mortality increases significantly up to day 90 and remains relatively stable thereafter. Future study may look to use the 90-day survival as indicator of short-term survival rather than a survival to discharge rate.

Project Name: *Flow Cytometry in Myelodysplastic Syndromes*

Supervisors: A/Prof William Sewell and Dr Joanne Joseph

Student: John Pembroke

The myelodysplastic syndromes (MDS) are heterogeneous myeloid malignancies, diagnosed by cytomorphology and cytogenetics, with promise for flow cytometry to play a role particularly in borderline diagnostic cases. Our study aimed to retrospectively analyse the MDS diagnostic sensitivity and specificity of the flow cytometry Ogata Score from Della Porta et al., and to prospectively add antibody markers to improve Ogata MDS diagnosis and detection of AML minimal residual disease (MRD).

Among 244 retrospective patients, the Ogata Score was 67.4% sensitive and 93.8% specific ($P < 0.0005$). Among 37 prospective patients, monocyte CD34 expression was significantly associated with final diagnosis and the Ogata Score ($P < 0.02$). Results obtained for AML MRD detection among 8 patients were not significant. Compared to the other diagnostic modalities, the Ogata Score exhibited higher sensitivity and specificity than most modalities. While more research is required particularly for prospective antibodies and AML MRD analysis, the Ogata Score could contribute meaningfully to MDS diagnosis.

Project Name: *Determining the overall cost of healthcare to Australian gout patients*

Supervisor: Prof Richard Day

Student: Nicholas Nathan

This project determined the direct and indirect costs of being afflicted with gout, as well as the effect that gout has on the quality of life of Australian gout patients. A cross-sectional, Australia-wide, web-based survey was conducted between May and September 2017. Sixty-three patients completed the survey. The median total direct cost of gout was AU\$280 (mean: AU\$689). The median number of workdays lost due to gout was one, with 79% of participants affected by gout whilst present at work. Patients who had severe gout (≥ 3 attacks/year) had a higher median total direct cost (AU\$380 vs. AU\$200), and a worse health-related quality of life score (40 vs. 34), than those with less severe gout (≤ 2 attacks/year). 12.7% of participants experienced cost related treatment attrition and 35% reported economic hardship. Participants who experienced economic hardship or cost related treatment attrition had higher median total direct costs than those who did not. The direct cost of gout to Australians was less than the direct costs of other conditions in Australia, however, gout had a substantial effect on quality of life. Also, the rate of cost related treatment attrition is similar to findings from other recent cost of illness studies. Therefore, even though gout may be less expensive in monetary terms, the cost of gout is still significant.

Project name: *The effect of mirabegron on mice transplanted with human fat*

Supervisor: Prof Jenny E. Gunton **Co-supervisor:** Dr Michael M. Swarbrick

Student: Mike Wu

Obesity is a serious problem for modern society, with 3 in 10 Australian adults currently obese. In mammals there is a type of fat, beige fat, which is created by the transformation of ordinary white fat. This beige fat is capable of burning energy and regulating lipid and glucose levels. Thus, it can be powerful in promoting weight loss and maintaining a healthy metabolic profile in humans.

We hypothesised that beige fat can be created from human white fat. We aimed to achieve this using the beta-3 agonist mirabegron, because beta-3 adrenergic receptor stimulation is one mechanism by which 'beiging' occurs in other mammals. We transplanted human white fat into mice that were immune-deficient to prevent immune rejection of the fat tissue. We administered mirabegron orally and discerned its effect on oxygen consumption, cytology, fat depot size and gene expression.

Project Name: *Quality of Life and Mental Well-being of Heart Transplant Recipients of Marginal Donor Organs*

Supervisors: A/Prof Kumud Dhital, Prof Kay Wilhelm

Student: Jaclyn Lam

Purpose: Attempts to expand the donor pool for heart transplant have increasingly relied on the use of sub-optimal donor hearts based on standard acceptance criteria. Referred to as 'marginal hearts', these organs, from both donation after brain death (DBD) and more recently after circulatory death (DCD) have required a more complex preservation strategy through the use of ex-situ heart perfusion platform. The aim of this study was to compare the quality of life (QoL) and well-being of recipients of marginal hearts and of those with standard hearts.

Methods: Heart transplant recipients of marginal hearts from both DBD and DCD donors (n=12, mean age, 56.7 ± 13 years; mean time since transplant, 2.1 ± 1.0 years) were compared with an age-, gender- and time post-transplant- matched group of recipients of standard hearts (n=12, age, 58.8 ± 11 years; time since transplant, 2.1 ± 0.7 years). Recipients from both groups completed a semi-structured interview and a set of 4 questionnaires concerning well-being, depression, cognition and lifestyle behaviours.

Results: Comparison of the marginal and standard group demonstrated no significant differences in WHO-5 score (73.8 ± 12.2 vs. 74.8 ± 12.6, p=.812), DMI-10 score (3.2 ± 3.3 vs. 4.8 ± 3.1, p=.198), MoCA score (28.5 ± 0.9 vs. 26.6 ± 2.4, p=.070) and FANTASTIC Lifestyle score (41.4 ± 5.1 vs. 38.7 ± 6.7, p=.123). Analysis of the semi-structured interviews identified four themes relating to recovery, changes in self, participants' feedback to the transplant program and their understanding of marginal hearts. Most participants reported a positive transplant experience with improved QoL comparable to pre-transplant. However, patients associated the term 'heart in a box' with positive attitude such as new technology and better outcomes, without understanding the term 'marginal heart'.

Conclusion: This study demonstrated that the QoL and mental well-being do not differ between marginal and standard heart recipients. Improvements in the consent process to help recipients understanding of marginal hearts and incorporating a comprehensive support program to all transplant recipients are essential to maximise recipients' well-being and QoL.

Project Name: *Safety of Metformin in Heart Failure*

Supervisor: Prof Ric Day

Student: Aidan McLachlan

Metformin is the drug of choice in patients with type II diabetes mellitus (T2DM) but it is contraindicated in patients with heart failure owing to the perceived risk of lactic acidosis. This study aimed to assess the safety of metformin in the heart failure population. There were three arms. The first arm, Study A, looked at patients with heart failure and T2DM currently taking metformin particularly focussing on their plasma metformin and lactate concentrations. The second arm, Study B, looked at patients with heart failure without T2DM or metformin and measured their plasma lactate concentrations. The last group, Study C, involved a 12-week intervention where patients with heart failure and without T2DM were dosed with metformin (1000mg/day) and their plasma metformin and lactate concentrations were monitored approximately fortnightly.

At the conclusion of my role in the project there were n=21 participants in Study A, n=47 in Study B, and n=5 in Study C. The study will continue next year. Preliminary findings revealed no correlation between plasma metformin and plasma lactate concentrations in Study A or Study C questioning metformin's role in increasing lactate. Moreover, plasma lactate concentrations were found to be higher in the T2DM with heart failure cohort compared to the heart failure cohort. In addition to this, plasma lactate concentrations in the heart failure without T2DM cohort were found to be lower than an additional dataset of T2DM (heart failure non-specific) cohort questioning the role of heart failure in elevated plasma lactate concentrations. Greater numbers in the study will help clarify the relationship between plasma metformin and lactate and thus metformin's safety.

Project Name: *The use of TRAP to identify β -cell gene expression changes in pregnancy*

Supervisor: Prof Jenny Gunton

Student: Jacquelyn Ooi

Gestational Diabetes Mellitus (GDM) is a devastating and costly health burden in developed and developing countries. Detailed analysis of how β -cell function changes during the development of GDM will allow for novel ways to prevent and treat this disease.

Translating Ribosome Affinity Purification (TRAP) is a novel approach for analysing gene expression in any genetically definable subtype of cell present in heterogeneous tissue. In this study, we applied TRAP technology to study changes in β -cell gene expression during the development of GDM in mice. The tryptophan hydroxylase genes Tph1 and Tph2, and flavin-containing monooxygenase 1 (Fmo1) have been previously implicated in the development of GDM in mice.

Our study aimed to determine if the β -TRAP mouse model is an appropriate model to study β -cell changes and to measure genetic expression of Tph1, Tph2, and Fmo1 in β -cells during a murine pregnancy, using TRAP.

Project Name: *The impact of multidisciplinary care on pituitary surgery outcomes*

Supervisor: Prof Richard Harvey

Student: Agnish Nayak

Despite multidisciplinary care being commonly recommended in medical practice, there remains limited evidence supporting its benefits, particularly in pituitary disease. A retrospective cohort study was performed comparing outcomes of pituitary surgery amongst consecutive patients at St. Vincent's Hospital, Sydney, in the five years before and after introduction of a multidisciplinary team (MDT).

This study found rates of common complications (diabetes insipidus, syndrome of inappropriate antidiuretic hormone, and hypothyroidism) and length of hospital stay were found to have decreased after introduction of the MDT, while more gross total resections were achieved. Thus, pituitary MDTs may benefit both patients and the health system by improving quality of care and reducing costs.

Project Name: *Blinded Assessment of Contact Efficacy Comparing Electrode Contact Location for Subthalamic Nucleus Deep Brain Stimulation in Parkinson's Disease*

Supervisor: Dr Stephen Tisch

Student: Geok Jim LIM

Subthalamic nucleus deep brain stimulation (STN-DBS) has been proven to be effective in patients with Parkinson's Disease and medication refractory motor symptoms. The optimal site for best stimulation effect is still debated. This study aimed to assess the clinical efficacy of each electrode contacts and the correlation between the radiologically defined optimal contacts and clinically best contacts. In 7 patients with STN-DBS for their Parkinson's Disease, the electrode contacts (n=48) were blinded-rater assessed for their clinical efficacy based on the reduction in rigidity score and the voltage required to achieve this. The distance of the contacts from the ideal target position on the fused preoperative CT and postoperative MRI was evaluated. The contacts were ranked clinically based on clinical efficacy and radiologically based on distance from the ideal location and compared for correlation.

The clinical effectiveness of stimulation was significantly different between the four contacts ($P=0.05$). Comparison of best and worst contacts also showed significant differences in their clinical efficacy ($P=0.03$). All four contacts were ranked significantly different in the clinical ($P=0.008$) and radiological ranking ($P=0.000$). Contact 1, with the coordinates 12.0 ± 1.3 mm lateral, 2.9 ± 1.9 mm posterior and 3.4 ± 1.2 mm inferior, was ranked equally as "best contact" in clinical and radiological ranking ($P>0.05$). There was a correlation between position of the clinical and radiological best contacts ($P<0.05$). In conclusion, The four electrode contacts were differed in their clinical efficacy and proximity to radiological ideal position. There is correlation between the imaging predicted optimal electrode location and its clinical efficacy.

Project Name: *Adherence to guidelines for the referral of patients with triple negative breast cancer (TNBC) for breast cancer gene testing*

Supervisors: Prof Allan Spigelman

Student: Michel Lu

Triple negative breast cancers (TNBCs) are typically clinically aggressive with limited treatment modalities and preferentially affect younger women. A significant subset (12%) of these are BRCA mutation carriers, which can be identified through genetic testing.

High-risk individuals, identified by evidence-based guidelines, are referred to genetic counselling services based on age at diagnosis and family history in the TNBC setting. The aim of this project is to evaluate the referral practice for TNBC patients with reference

to New South Wales (NSW) referral guidelines at the time of diagnosis and to assess the effectiveness of such guidelines in identifying BRCA mutations.

Referral to a state-wide cancer genetic service was evaluated through a retrospective clinical audit of TNBC patients identified by SydPath, the pathology laboratory of St Vincent's Hospital (SVH), between 2006 and 2016. Family history was considered for age guideline-inappropriate referrals to SVH while the results of BRCA gene testing were assessed for all referred. Results showed 41.5% of age-guideline appropriate referrals alone were missed, however, there were substantial improvements from 2012. Of note, 33.4% of patients were referred outside of guidelines, pointing to other determinants of referral status, identified as patient age (OR 0.945; 95% CI 0.914-0.978) and calendar year (OR 1.332; 95% CI 1.127-1.575) at TNBC diagnosis. Referral guidelines captured 66.67% of identified deleterious BRCA mutations in those tested. Ultimately, the study revealed substantial under-referral of guideline-eligible patients, with evidence-based guidelines effective in identifying high-risk individuals for BRCA mutation testing.

Project Name: *Examining the Effect of Vehicle Impact Speed on Injury Severity in Pedestrian Motor Vehicle Accidents within Sydney*

Supervisors: A/Prof John Raftos & Prof Paul Preisz

Student: Emily Casey

Objectives: Pedestrian Motor Vehicle Accident Injuries (PMVAIs) are a significant cause of morbidity in urban Sydney. It is commonly accepted that higher speeds have a higher incidence of fatality in these accidents, and assumed that injury severity follows a similar trend. This study aims to document the trends in pedestrian motor vehicle accidents within the vicinity of St Vincent's Hospital, Australia, to establish if a correlation exists between speed and injury severity.

Methods: We performed a retrospective observational record review of patients aged >16 years admitted to St Vincent's Emergency Department, recorded in the NSW Minimum Trauma registry as a Pedestrian Motor Vehicle Trauma between January 2012 – December 2015. Injury severity was assessed using the International Injury Severity Score (ISS), and categorized into corresponding groups. Impact speed estimates were subcategorized into 20km speed categories.

Results: 533 pedestrians injured in PMVAs of all ISS were included in analysis. Mean age were 39.57 and mean Injury Severity Score (ISS) of 6.38. After applying exclusion criteria, 114 patients of ISS were included in analysis. Severe injury (ISS >15) accounted for 42.1% of the group (n=48). Most low (74.1%) and medium (58.6%) speed incidents resulted in non-severe (ISS <16) injuries, with 71.4% of very high speed incidents resulting in severe injury (ISS ≥16). Speed category had low level correlation with overall Injury Severity Score (ISS) ($r_s=.249$, $p<.01$), and injury category ($r_s=.232$, $p<.05$). Severe injury also had low level correlation with speed category ($r_s=.207$), but not average speed ($p<.05$). Speed category was significantly correlated with injury presence in AIS1 (head or neck) ($t=.221$), AIS 4 (abdomen) ($t=.182$), and AIS 6 (external) ($t=.252$) ($p<.05$). Binary logistic regression analysis of severe injury type with vehicle type, pedestrian alcohol consumption and speed category accounted for 23.8% variance ($R^2=.238$, $p=0.003$), with high speed (Exp(B) = 3.744), very high speed (Exp(B)=13.169), heavy vehicle type (Exp(B)=5.802) and pedestrian not consuming alcohol (Exp(B) = .284) having significant odds ratio on outcome variability. However severe injury with speed category only ($R^2=.076$) saw only very high speed have significance (Exp(B) = 7.143). Injury category was associated with speed category ($r_s=.232$), vehicle type ($r_s=.205$), length of hospital stay ($r_s=.300$), and ICU length of stay ($r_s=.444$), but not with average speed ($p<.05$). Conclusions: Within our cohort, documented speed of impact demonstrated low level correlation with the severity of overall injuries obtained by pedestrians. Additionally, on binary regression, speed was only significant. This suggests speed may only play a minor role in the severity of injuries sustained by pedestrians in an urban environment. However, speed is often poorly estimated, and pedestrian injuries are under-reported and poorly documented in the national trauma databases.

Further research is necessary to explore the findings of this study, as well as to further examine the relationship and significance of potential confounding factors, such as vehicle type, alcohol involvement, geographical location, pedestrian factors, and incidence of overseas visitor accidents.

Project Name: *Patterns of Venous Incompetence and Predisposing Factors in Restless Leg Syndrome*

Supervisors: A/Prof Kurosh Parsi, Dr David Connor

Student: Elizabeth Lun

Objective: To retrospectively assess patterns of venous incompetence and predisposing factors in patients with Restless Leg Syndrome (RLS) compared to venous disease patients.

Materials and Methods: A retrospective audit of 300 medical records of patients presenting to Sydney Skin and Vein Clinic (SSVC) for investigation of venous incompetence. This included patient medical records and ultrasound files. Data and statistical analysis was carried out. Patient medical records including CEAP Classification, venous incompetence mapping and patient demographics were assessed.

Results and Discussion: The incidence of RLS within the population studied was found to be 38.8%. Significant predisposing factors discovered included being of the female gender, possessing a history of recurrence of varicose/ spider veins after injections/ laser and leg pain. A wide variety of symptoms were found to be significant in those with RLS, as well as common exacerbating and relieving factors and aspects of patient history. The most common CEAP classification for RLS Patients was C2EpAsPr however there were no significant findings for venous disease severity and RLS. Gastrocnemius and right distal Great

Saphenous Vein incompetence were significantly higher in the non RLS population.

Conclusion: There were several significant predisposing factors in the RLS population when compared to patients with only venous disease. Results confirmed characteristic RLS exacerbating and relieving factors in the RLS population as well as a variety of typical RLS sensations including leg pain, heaviness and swelling. Significant differences were not found in CEAP classifications and venous severity. Venous incompetence was not associated with RLS in this study.

Project Name: *Three-year follow-up to the Macrophage Inhibitory Cytokine-1 as a predictor of Colonic Adenomas (MAPCA) study*

Supervisors: A/Prof Mark Danta and Prof David Brown

Student: Daniel Kim

Macrophage inhibitory cytokine-1 (MIC-1/GDF15) is a biomarker with utility in screening individuals for precancerous colonic polyps, which may address current limitations in colorectal cancer (CRC) screening. In a prospective cohort study between 2014 and 2017, 744 participants were recruited from St Vincent's Hospital. Pre- and post-endoscopic blood samples were obtained, and the MIC-1/GDF15 levels determined with an in-house immunoassay. Blood samples were also obtained from participants returning for follow-up colonoscopies.

Serum MIC-1/GDF15 was significantly elevated in individuals with adenomatous polyps and CRC when compared to individuals with no polyps. There was a significant decrease in serum MIC-1/GDF15 after the removal of adenomatous polyps. This suggests that adenomatous polyps contribute to the overall circulating volume of MIC-1/GDF15. Serum MIC-1/GDF15 was no different in those with hyperplastic polyps or serrated polyps. It was found that there was a slight increase in serum MIC-1/GDF15 in those with recurrent adenomatous polyps when compared to those with no polyp recurrence, although this was insignificant, largely due to the small sample size of participants returning for follow-up colonoscopies.

These results confirm that serum MIC-1/GDF15 has the potential to predict the presence of adenomatous polyps, which may improve current CRC screening by stratifying individuals at a greater risk of developing CRC for further colonoscopic surveillance. Further research elucidating the utility of MIC-1/GDF15 in predicting polyp recurrent with a larger sample size is therefore warranted.

Project Name: *The next generation of measuring hair density and greying: developing a holistic, objective picture of scalp hair.*

Supervisor: Dr Margot Whitfeld

Student: Isobel Pye

Summary: Androgenetic alopecia has been classified via the Hamilton-Norwood scale (HNS) which is based on the observation of patterns. However the HNS is categorical and does not measure hair density. On the other hand, the clinically applicable measures for hair greying are subjective, and patterns have not been elucidated.

Our research lead to the development of objective, reliable and valid scales to accurately measure hair density and greying of scalp hair (independently). The scales were then applied to the five major scalp regions of 100 males. Hierarchical cluster analysis and heat maps were used as novel techniques to identify statistically driven, distinct patterns of combined hair density and greying.

To conclude, using novel scales and a novel technique of cluster analysis, objective, valid and meaningful patterns of hair balding and greying were established. Such a method may be used to enhance our understanding of hair, and why such patterns are produced. The scales will facilitate further research into the associations between hair and other conditions, particularly cardiac disease.

Project Name: *Frequency, significance and prognostic impact of controller alarms in HVAD patients*

Supervisor: Prof Christopher Hayward

Student: Zi Lim

Continuous flow left ventricular assist devices (CF-LVADs) are now an accepted form of chronic mechanical circulatory support for end stage heart failure, and are used in 50% of patients awaiting heart transplantation. It is known that CF-LVAD flow responds to filling pressures and preload associated with activity, but many patients continue to experience recurrent suction and low flow alarms. It is unknown why some people have alarms while others do not, as there does not appear to be any pattern to it. It is also unclear whether pump alarms are associated with adverse survival outcomes.

Our aims are:

- 1.To document the frequency of pump alarms across the implanted population, as well as the time course of alarms during pump support.
- 2.To associate patient baseline demographics such as right heart function and pre-implantation haemodynamics with LVAD pump alarms.
- 3.To investigate the relationship between LVAD pump alarms and patient adverse outcomes, and correlate the frequency of pump alarms with survival rates.

Honours Projects

Project Name: *Clinicomorphological predictors of secondary headache in sellar disease and the outcome of endoscopic transphenoidal surgery*

Supervisor: Prof Richard Harvey

Student: Maria Joseph

Headache represents the commonest complaint in general practice. Magnetic resonance imaging (MRI) now forms a mainstay in excluding insidious causes. However, 10% of patients display a subclinical micro adenoma, whilst 0.2% a macro adenoma. This fosters a diagnostic challenge in distinguishing if incidental sellar pathologies are coincidental to primary headache or causing secondary headache. However, reliable predictors of true, secondary sellar-related headache remain undefined. Hence, the aims of this prospective study were three-fold. A cross-sectional arm aimed to determine the prevalence, phenotype and burden of headache in patients with sellar disease and secondly, the patient and disease factors predicting sellar-related headache. Finally, a longitudinal case-cohort arm aimed to determine the extent to which endoscopic Transphenoidal surgery facilitated headache improvement. In doing so, the objective of this investigation was to provide a more definitive, systematic approach to assessing secondary headache in sellar disease.

Patients undergoing Transphenoidal resection of a sellar mass were consecutively recruited. Baseline headache was assessed using validated questionnaires (HARDSHIP, HIT-6, MIDAS). Radiological, endocrine and histological factors were collected via preoperative MRI, serum sample and intraoperative tissue sample and associations with headache analysed. A case-cohort study reassessed headache severity 6-months postoperatively and relationships with headache predictors were analysed. Of the 60 participants (62% female, age 47.1 ± 18.6 years), 63% possessed headache. HIT-6 scores were higher in younger patients, smokers, those with family headache and in patients with dural invasion and sphenoid invasion. MIDAS scores were lower in patients with cavernous invasion. Surgery improved headache most significantly in patients with highest baseline headache severity and dural invasion. Conclusively, these findings provide further evidence that headaches in the context of sellar disease are majoritively primary disorders. However, invasion into the contiguous dura or sphenoid sinus may strengthen clinical suspicion of secondary headache. Neurosurgical resection does not reliably alleviate headache in most patients. However, baseline headache severity may significantly predict postoperative improvement.

Project name: *Cardiac Allocation Score: A Survival-Benefit Model for Heart Transplantation*

Supervisor's: A/Prof Kumud Dhital (Sup), Prof Peter Macdonald (Co-sup)

Student: Edward Zhou Xing

Summary 1 (overview and project aims only):

The current heart allocation system for heart transplantation in Australia and New Zealand is based on recipient wait-time and urgency status determined without the benefit of a standardised model for profiling pre-transplant risk or post-transplant benefit. We previously presented a novel Cardiac Allocation Score (CAS), a numerical score between 0 and 100 designed to calculate and rank candidates by their predicted survival-benefit from receiving a donor heart. If implemented, the CAS would provide a tool to aid physician decision-making and improve the utility of our scarce donor organs. This study aimed to re-derive the underlying models of the CAS algorithm using a refined methodology and a larger cohort of Australian patients.

Our goals were to identify variables predictive of waiting list and post-transplant mortality in patients referred for transplantation at St Vincent's hospital, and to use these findings to re-construct the Cardiac Allocation Score. All adult patients on the heart transplant waiting list between 2008 and 2017 at St Vincent's Hospital were included in this study. Univariate and multivariate survival analyses were performed on listing variables to identify those associated with 2-year waiting list and post-transplant mortality; these were then used to calculate a patient's expected survival-benefit. Finally, each patient was assigned a CAS, with a higher number indicating a higher expected survival-benefit from transplantation.

Summary 2 (overview, aims and results):

The current heart allocation system for heart transplantation in Australia and New Zealand is based on recipient wait-time and urgency status determined without the benefit of a standardised model for profiling pre-transplant risk or post-transplant benefit. We previously presented a novel Cardiac Allocation Score (CAS), a numerical score between 0 and 100 designed to calculate and rank candidates by their predicted survival-benefit from receiving a donor heart. This study aimed to re-derive the underlying models of the CAS algorithm using a refined methodology and a larger cohort of Australian patients.

All adult patients (16+) on the heart transplant waiting list between 2008 and 2017 at St Vincent's Hospital were included in the study ($n=324$). Two prediction models were produced—a waiting list (WL) mortality model (left ventricular assist device, primary diagnosis, left ventricular stroke work index, oxygen therapy, ejection fraction, albumin: $p<0.0001$) and a post-transplant (PT) mortality model (mechanical assist device, body mass index, creatinine, albumin, total frailty score, mean pulmonary arterial pressure: $p<0.0001$). A higher CAS significantly predicted WL mortality (HR:1.099946, $P<0.001$) and PT survival (HR:0.9629644, $P<0.03$).

In conclusion, we present a revised survival-benefit heart allocation algorithm based on our single-institution experience. If implemented, the CAS would provide a tool to aid physician decision-making and improve the utility of our scarce donor organs.

Project Name: *Unilateral nasal peak inspiratory flow*

Supervisor: Prof Richard J Harvey

Student: Shirley Mo

Nasal obstruction is rarely equal across nostrils and a simple, quick, non-invasive and affordable method to detect this remains lacking. Unilateral nasal peak inspiratory flow (NPIF) has recently been proposed as a method of assessment. This study aimed to correlate unilateral NPIF against validated airway assessment tools and patient reported outcome measures (PROMs), to determine its contribution to overall nasal airway assessment.

A cross-sectional study of adult patients attending an upper airway respiratory lab was performed.

In this study 465 patients (37.8±13.8years, 63.5%female) were assessed. NPIF of the more obstructed nostril was significantly lower than the less obstructed nostril (77.4±30.8 vs 89.6±32.2L/min, $p<0.001$). Unilateral NPIF correlated significantly with bilateral NPIF ($\rho=0.674$, $p<0.001$). There was also a significant correlation with ipsilateral nasal airway resistance ($\rho=-0.128$, $p=0.006$). A significant association was found between unilateral NPIF and all PROMs. As unilateral NPIF uniquely contributes to the existing airway assessment, further studies should investigate the diagnostic characteristics of unilateral NPIF including MCID, reproducibility, sensitivity and specificity.

Project name: *Alcohol and illicit drugs – prevalence, demographics and clinical characteristics in a Sydney Emergency Department.*

Supervisor: A/Prof John Raftos

Student: Nathan Crabtree

Alcohol and illicit drugs have a substantial impact upon Australian society. At the forefront of managing the consequences of drug and alcohol-related harm, it is no surprise that these substances have a significant impact upon emergency departments. Despite this, little current data is available in the literature that clarifies this burden. This study aimed to determine the prevalence, demographic and clinical characteristics of substance-related presentations upon St Vincent's Emergency Department.

We conducted a prospective, cross-sectional study, collecting data on all drug and alcohol-related presentations to the Emergency Department (ED) over a four-month study period. 15 607 patients presented to the ED during this time, of which 1491 were drug or alcohol-related, representing 9.6% of all presentations. Alcohol was the most common substance, mentioned in 6.3% of all cases, and 4.5% mentioned the use of any drug. Methamphetamine, heroin and GHB were the most common illicit substances, however benzodiazepines and prescription medications remain highly prevalent. Our study found multiple statistically significant differences in the demographic and clinical characteristics between substance types. This data may help to improve the service delivered to drug and alcohol patients, and sheds some light upon the burden of drugs and alcohol upon the Emergency Department in 2017.

Project name: *Identification of potential diagnostic markers for reflux-associated non-allergic rhinitis*

Supervisor: Prof Richard Harvey

Student: Mark Azer

Gastro-oesophageal reflux beyond the oesophagus (known as extra-oesophageal reflux) has been implicated as a causative agent of non-allergic rhinitis (NAR). Extra-oesophageal reflux is a common disease with uncertain pathophysiology for which there is no current diagnostic gold standard. This project aimed to identify and evaluate the diagnostic potential of gastric irritants and associated histopathological changes in the mucosal samples of allergic versus non-allergic rhinitis patients. Inferior turbinate tail (ITT) samples collected from 150 patients undergoing turbinate reduction with well-described reflux and allergy profiles were analysed. Samples were stained for the presence of pepsin, *Helicobacter pylori*, IgE, and carbonic anhydrase III by immunohistochemistry. H&E staining was also used to assess for potential reflux-induced inflammatory changes in the turbinate tissue. Homogenised tissue samples were also tested for IL-8 by flow cytometry. It would be highly advantageous if diagnostic tools that would identify the most common and abundant gastric irritant agents in the upper respiratory airways were available. By determining which target molecules are associated with NAR, patients could potentially be classified into different phenotypic groups and receive more appropriate therapeutic approaches in their clinical management. It is likely that oesophageal reflux treatment avenues could benefit a subpopulation of non-steroid responsive NAR patients.

Key Dates 2018

TERM DATES

Phase 1

Teaching Period 1: 26 February - 26 April

Mid-semester break: 23 April - 29 April

Teaching Period 2: 30 April - 24 June

Recess: 25 June - 15 July

Teaching Period 3: 16 July - 9 September

Teaching Period 4: 17 September - 11 November

Phase 2

Semester 1: 26 February - 24 June

Mid-semester break: 2 April - 8 April

Recess: 25 June - 15 July

Semester 2: 16 July - 11 November

Mid-semester break: 27 August - 2 September

Phase 3

Summer Teaching Period: 8 January - 4 March

Teaching Period 1: 5 March - 6 May

Mid-semester break: 2 April - 8 April

Teaching Period 2: 7 May - 1 July

Recess: 2 July - 8 July

Teaching Period 3: 9 July - 2 September

Mid-semester break: 3 September - 9 September

Teaching Period 4: 10 September - 4 November

EXAMINATIONS

Phase 1

OSCE Exam:

28 & 29 November 2018

Phase 2

ICE Exam:

20 & 21 November 2018

Phase 3

Clinical Exam:

12 & 13 September 2018

Oral Exam:

18 & 19 September 2018

Portfolio:

25 & 26 September 2018

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As of 7 December 2017

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Wiliff, James
Wilson, Brooke
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Zygocki, Natalia

CLINICAL ACADEMICS



Professor Jerry Greenfield

Clinical Associate Dean

Commenced: October 2016

Specialty: Endocrinology

Research Interests: Diabetes, Obesity, Insulin resistance, Monogenic metabolic diseases



Professor Terry Campbell

Senior Associate Dean, Faculty of Medicine & Professor of Medicine

Commenced: 1998

Specialty: Cardiology

Research Interests: Cardiac ion channels; Antiarrhythmic drugs; Cardiac Arrhythmias; Cardiac pharmacology



Professor Allan Spigelman

Head of Surgery, Professor of Surgery

Commenced: 2006

Specialty: Surgical Oncology

Research Interests: Cancer Care; Clinical Governance/Patient Safety/Quality of Care/Risk Management; Surgery; Cancer Genetics



Professor Ric Day

Professor of Clinical Pharmacology

Commenced: 1990

Specialties: Clinical Pharmacology & Rheumatology

Research Interests: Inflammatory rheumatic diseases; adverse drug reactions



A/Professor Jane McCrohon

Associate Professor of Medicine

Commenced: 2008

Specialty: Cardiology & Medical Imaging

Research Interests: Cardiac imaging (MR, CT and ultrasound); detection of cardiotoxicity



A/Professor Bill Sewell

Associate Professor of Immunology

Commenced: 1998

Specialty: Immunology

Research Interests: Allergic disease; Novel markers in leukaemia and lymphoma.



A/Professor Mark Danta

Associate Professor of Medicine; Postgraduate Coordinator

Commenced: 2006

Specialty: Gastroenterology

Research Interests: Viral Hepatitis; Hepatitis HIV co-infection



A/Prof Elgene Lim

Associate Professor of Medicine

Commenced: 2017

Specialty: Medical Oncology, Breast Cancer

Research Interests: Breast Cancer, Endocrine related Cancer



Dr Anthony Chambers

Senior Lecturer in Surgery

Commenced: 2010

Specialty: Surgical Oncology

Research Interests: Breasts, Thyroid Cancer, Endocrine Tumors



Dr Darren Gold

Senior Lecturer in Surgery

Commenced: 2007

Specialty: Colorectal Surgery

Research Interests: Proctology; pelvic floor disorders



Dr Rohan Gett

Director of Medical Student Education; Senior Lecturer in Surgery

Commenced: 2006

Specialty: Colorectal Surgery

Research Interests: Colorectal Surgery

ADMINISTRATIVE STAFF

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(Clinical Pharmacology)



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