RESEARCH FINDINGS
BREAK GROUND

The Faculty of Pharmacy at the University of Sydney is uncovering and examining the role cholesterol plays in the spread of cancer, says Associate Professor Thomas Grewal.

Faculty of Pharmacy researchers are leading the way in cutting-edge research that will improve quality of life for people with diabetes and cancer.

Researchers have discovered one of the main reasons that cancer spreads throughout the body is through the help of ‘bad’ cholesterol. The research found that this ‘bad’ cholesterol (low-density lipoprotein or LDL) regulates the machinery that controls cell migration, a major finding in the quest to explain why cancer spreads.

The paper’s senior author, Associate Professor Thomas Grewal, Research Theme Leader, Cardiovascular and Diabetes, says the finding has important implications for cancer research and for those suffering from diabetes.

“One of the things that makes cancer so difficult to treat is the fact that it can spread around the body,” he says.

“Most of the cells in our bodies stick to neighbouring cells through the help of velcro-like molecules on their surface known as integrins. Unfortunately, integrins also help cancer cells that have broken away from a cancerous tumour to take root elsewhere in the body.

“Our study identified that ‘bad’ (LDL) cholesterol controls the trafficking of tiny vessels which also contain these integrins, and this has huge effects on the ability of cancer cells to move and spread throughout the body.

“Our research found that having high amounts of ‘bad’ cholesterol seems to help the integrins in cancer cells to move and spread.

“In contrast, we found that a high level of ‘good’ (HDL) cholesterol keeps integrins inside cells and may therefore protect against cancer cell spread.”

Researchers have extensively examined how integrins can move to the inside of cells. Most interestingly, out of several novel therapeutic opportunities, cholesterol, one of the major lipids in our body, is needed to keep integrins on the cell surface of cancer cells.

However, up to now it was unclear where this cholesterol was coming from and how scientists could manipulate this to treat cancer.

“Our findings contribute to the debate that cholesterol levels may be associated with cancer incidence,” Grewal says.

“In fact, malignant cancer cells are known to take up increased amounts of ‘bad’ LDL cholesterol. Our findings advance the theory that knowing how to manipulate and lower ‘bad’ cholesterol could significantly help to reduce the ability of cancer cells to spread.”

Grewal also says that removing ‘bad’ cholesterol in people with diabetes could result in improved production and response of insulin to type 1 and type 2 diabetes, and promote wound healing.

According to the Heart Foundation, diabetes is Australia’s fastest growing chronic disease and the nation’s sixth leading cause of death.

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Welcome to the mid-year edition of Fiat Mist. Semester one is quickly coming to an end and our students are busy preparing for exams. Meanwhile our researchers have also been busy and we have received some very positive media coverage from research published by Associate Professor Thomas Grewal and his team on good and bad cholesterol and how it affects cancer spreading around the body. You can read more about this research on our front page.

The Faculty of Pharmacy has had some positive feedback from a recent review by the University’s Academic Board and Senior Executive Group, highlighting the faculty’s strong academic and financial health. This review process is an essential component of the University’s commitment to academic and organisational quality, ensuring that we provide the best possible pharmacy education underpinned by world-class research. The positive feedback is a tribute to our staff, both academic and professional, and I am grateful for their contribution to our success.

As you will be aware, in its May budget the federal government has proposed major changes to higher education funding that will have significant implications for universities. However, regardless of changes ahead, we will continue to provide our students with a well-rounded and professionally relevant pharmacy degree that will put them in high demand with employers.

Recently the University launched the new Charles Perkins Centre research and education hub. The centre brings together disciplines from across the University to tackle the burden of some of the world’s greatest health challenges: obesity, diabetes, cardiovascular disease and related conditions. Thousands of students and staff from across the University made their way to a once-quiet corner of campus on 14 May to celebrate and participate in the hub’s open day.

The Faculty of Pharmacy and the Charles Perkins Centre have jointly appointed Professor Lisa Bero to the Chair of Medicines Use and Health Outcomes. Professor Bero will be based in the new hub. We are looking forward to welcoming Professor Bero to this position in August.

Lastly, I encourage you to join us in August for our fundraising dinner, ‘Under the Scope: Dinner for Diabetes’ in MacLaurin Hall on Friday 15 August 2014. This exciting event will not only be a great night out, it will help us raise much needed funds for diabetes research.

I wish you all the best for the coming months and look forward to meeting you in person at our events.

Professor Iqbal Ramzan
Dean, Faculty of Pharmacy
MESSAGE FROM OUR ALUMNI PRESIDENT

As we approach the middle of the year, our focus turns to the Faculty of Pharmacy’s ‘Under the Scope: Dinner for Diabetes’ to be held in August. All funds raised from this dinner will aid the faculty’s important research in this area. Not only will we hear of the latest research, we will be taken back to the 1920s with fine music and a wonderful meal while catching up with old friends.

To find out more and to register for the dinner, I encourage you to visit sydney.edu.au/pharmacy/under-the-scope

On the back page of this newsletter, you can read about our committee members – talented and experienced pharmacists with diverse backgrounds who are keen to develop alumni support.

Join us on Facebook (Pharmacy Alumni Association – The University of Sydney) and LinkedIn (University of Sydney Alumni Association) to connect with friends and former classmates, find out about upcoming events, and discuss topics of interest with other pharmacy alumni.

The committee and I look forward to meeting you at the Dinner for Diabetes.

Lillian Chen
BPharm ’90; BHA ’93
President, Pharmacy Alumni Association

For the latest alumni news, visit: sydney.edu.au/pharmacy/about/alumni

ASSOCIATION CELEBRATES 94TH BIRTHDAY

As the current Sydney University Pharmacy Association (SUPA) committee’s term comes to an end, we are proud of our success in the first six months of 2014.

The highlight without doubt was our 94th birthday week celebrations honouring what SUPA has accomplished and provided for pharmacy students. The birthday week commenced on Tuesday with a careers night at which we were fortunate to hear from inspirational speakers from community, hospital and industry.

On Wednesday, we held our annual harbour cruise, and on Friday evening we held our first Pharmaceutical Society of Australia Cup. This sporting contest saw Pharmacy go head-to-head with Medical Science in basketball, futsal and dodgeball. Needless to say, Pharmacy came out ahead.

Finally, on the Monday we held the Sydney University Pharmacy Annual Convention (SUPAC) in partnership with the faculty. SUPAC was a great success, with more than 25 representatives from different areas of pharmacy running the stalls, an overwhelming turnout and impressive support for Cystic Fibrosis Australia’s ‘65 Roses Challenge’.

As the incoming President of 2014–2015, I would like to congratulate the outgoing committee on all their achievements in the past year, and to extend a faithful promise that the incoming committee will work diligently to bring even more to SUPA.

William Shen
President 2014-2015
Join us at this special event as we travel back to the 1920s. Indulge in a range of culinary delights, enjoy music from this golden era of jazz, prosperity and the discovery of insulin, and hear all about the latest diabetes research in Australia.

Along with discussing our work at the Faculty of Pharmacy, we will provide you with insights into how our discoveries are improving quality of life for those living with diabetes.

FRIDAY 15 AUGUST 2014
6.30pm
MacLaurin Hall
The Quadrangle
Camperdown Campus
The University of Sydney

TICKETS
$180 (including GST)
This includes a cocktail on arrival, canapés, a three-course meal with wine, beer and soft drinks, and a few surprises during the evening.

Tickets are now available at:
sydney.edu.au/pharmacy/under-the-scope

DRESS
Cocktail

GUEST SPEAKER
Professor Don Chisholm AO
Professor Chisholm will inspire and educate you on how our researchers are pushing the frontiers of knowledge in the field of diabetes. He has been involved in diabetes research and clinical practice for more than 40 years, and is the Senior Researcher for the Diabetes and Obesity Research Program at the Garvan Institute of Medical Research.

MORE INFORMATION AND CASH PURCHASES
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Professor Donald Chisholm
will be the keynote speaker
at Under the Scope: Dinner
for Diabetes on Friday
15 August. We invite you
to hear him talk about his
fascinating research.

In 1971, Professor Chisholm became
physician in charge of the endocrinology
unit of St Vincent’s Hospital, Melbourne.
During this time, he also became first
assistant (equivalent to associate
professor) in the Department of Medicine
at the University of Melbourne.

Returning to Sydney in 1978, Professor
Chisholm was appointed assistant
director of the Garvan Institute of
Medical Research at St Vincent’s
Hospital. Concurrently, he became joint
head of the Diabetes Research Group.

Professor Chisholm was head of the
Diabetes and Metabolism program
at the Garvan Institute from 1990
to 2002. He was also head of the
Metabolic Orthopaedic Gerontology
Institute at St Vincent’s from 1992
to 1995.

From 2001 to 2005, he chaired the
National Diabetes Strategy Group for
the Commonwealth Department of
Health and Aged Care, and in 2002
became head of Clinical Diabetes
Research at the Garvan Institute.

Professor Chisholm has served as
president of the Australian Diabetes
Society and vice-president of the
International Diabetes Federation. He
has sat on the board of directors of
St Vincent’s Hospital in Sydney, and on
the national board of directors for the
Sisters of Charity Health Service. He
has published more than 250 papers.

Professor Chisholm was awarded the
Sir Kempson Maddox Award from
Diabetes Australia (NSW) in 1995,
and the College Medal from the Royal
Australian College of Physicians for
outstanding service in 1998.

In 1999, he was made an Officer of
the Order of Australia for “service
to medicine and medical research,
as a leader in the fields of diabetes
research, patient care, medical
education and the organisation of
medical services”.

He received the Kellion Award from
the Australian Diabetes Society for his
outstanding contribution to diabetes
research, clinical and service areas in
2001, and was granted honorary life
membership in 2004.
Over the past decade, successive trials of pharmacy-delivered support services for type 2 diabetes have produced big improvements in control of glycaemia and blood pressure as well as health-related quality of life. Translation into practice, however, has proved challenging, with lack of consumer interest proving one of the barriers.

Consumers need to be willing to access new services. Therefore, understanding consumer perspectives is pivotal to designing services and developing strategies to promote uptake.

Pharmacists can assist people with type 2 diabetes with adherence to and persistence with medications. Since patients need to visit their pharmacy at least monthly, there is a recurring opportunity to reinforce messages and to review and monitor medications. Yet little is known about medication adherence behaviour in the Australian type 2 diabetes mellitus population.

We conducted a mixed-methods study in 2013 to investigate consumer medication-taking behaviour as well as experience and attitudes to receiving diabetes support services from NSW community pharmacies. We conducted an online and postal survey among 540 people with type 2 diabetes and ran six focus groups with survey respondents. The results showed suboptimal medication adherence among people with type 2 diabetes. The top three problems with medicines that patients reported were:

- paying for medicines (36.3 percent)
- remembering to take all their medicines (18.6 percent)
- taking so many medicines at the same time (13.1 percent).

Patient groups found to be at higher risk of non-adherence included those:

- in working-age groups
- with difficulty paying for medication
- using more than one pharmacy
- using insulin.

In developing targeted intervention strategies, there is a need to identify and address patients’ concerns about taking diabetes medication.

Overall, respondents had limited experience of diabetes-related support services in community pharmacy, with only 12 percent reporting that they had received a Diabetes MedsCheck and 5 percent having received a printout of blood glucose results.

Notably, while many respondents had positive attitudes to accessing services for diabetes in community pharmacies, their perceptions of the pharmacists’ competence to provide support focuses mainly on their medication knowledge and expertise.

If pharmacists are to improve their diabetes support services, they may need to strengthen their knowledge about other aspects of diabetes self-management. They will also need to promote their capacity to provide more extensive self-management support to their diabetes clientele.

Project Leader and Professor in Pharmacy Practice, Ines Krass has more than 20 years’ experience in academia. She is renowned in Australia and overseas for research in community pharmacy.

Contact: ines.krass@sydney.edu.au
ALUMNI AND FOUNDATION NEWS

Sisters of Charity. Roberta contributed to the establishment of the inaugural Chair in Clinical Pharmacy at the University of Sydney, which is based at St Vincent’s. She was also instrumental in setting up the NSW Therapeutic Advisory Group. The highlight of her time at St Vincent’s was the opportunity to learn from and work with so many outstanding pharmacists.

After leaving St Vincent’s in 1996 Roberta held several senior executive positions at health insurer MBF Australia, where she was responsible for leading and coordinating the firm’s relationships with private hospitals, health professionals and professional associations nationally. At MBF she gained valuable experience in the business world.

Roberta’s interest in quality use of medicines resulted in several appointments to national and state medicine policy advisory and review committees. She has served on a number of NPS MedicineWise committees over the past 10 years and more recently has been appointed to boards and advisory committees in the not-for-profit sector.

Roberta welcomes the opportunity for formal involvement with the Faculty of Pharmacy Foundation. She is keen to assist the foundation in attracting philanthropic funds to support research and enhance the faculty’s impressive record.

GRADUATES REUNITE

Pharmacy graduates from 1974 and 1975 gathered on Saturday 29 March for lunch. The event, organised by Susan Parker and Gwen Higgins, was a great success: more than 40 graduates attended, some who had travelled from interstate. We all enjoyed a casual BBQ and had plenty of opportunity to catch up to the tune of the top 50 hits from 1974–5. Guests shared their memorable moments from the past 40 years: through humorous anecdotes, most revealed just how rewarding pharmacy is as a profession. It was a wonderful event and we look forward to welcoming more alumni at the next opportunity.

BUILDING OUR FOUNDATION

Roberta Lauchlan (pictured above) was appointed to the Council of the Faculty of Pharmacy Foundation earlier this year. Roberta graduated from the University of Sydney in 1970 with a Bachelor of Pharmacy; she also holds a Diploma of Hospital Pharmacy (1971).

Roberta took up roles at several hospitals in New South Wales and London before being appointed director of pharmacy at St Vincent’s Hospital, Sydney, in 1977. While at St Vincent’s she also served as co-director of the NSW Drug Information Service for a number of years.

Roberta contributed to various national research and development projects, including quality use of medicines initiatives. She also participated in several strategic planning exercises on behalf of St Vincent’s Hospital and the

Continued from front page

Current research projects within the Faculty of Pharmacy include molecular modelling, computational chemistry, and herbal medicines, drug design and development of new anti-atherosclerotic and anti-diabetic drugs. Diabetes-oriented research will increase as the faculty collaborates with the new Charles Perkins Centre research and education hub.

The faculty has a long history of developing disease management programs. Besides laboratory-based research projects focusing on drug target identification and drug development, the faculty is also developing better management, treatment and prevention models for metabolic syndrome and diabetes.

The faculty’s new diabetes management model to improve cardiovascular medication adherence aims to educate health professionals, general practitioners, pharmacists and nurses in current issues and strategies for improving medication management of patients with cardiovascular disease. Research is assessing how broadly these models can be implemented across pharmacies in Australia and how they can be refined. This may expand the role of pharmacists into chronic care.

The Faculty of Pharmacy Foundation has joined forces with the Pharmacy Alumni Association to host ‘Under the Scope: Dinner for Diabetes’. We invite you to join us for an exciting night that will help raise vital funds for diabetes research. For more information, visit: sydney.edu.au/pharmacy/under-the-scope
YOUR NEW ALUMNI ASSOCIATION TEAM

These members bring to the committee a wealth of diverse experience and are eager to engage with and support all Faculty of Pharmacy alumni.

Lillian Chen (BPharm ’90 BHA ’93) owns pharmacies in Hammondville and Wattle Grove in Sydney’s south-west, and is a busy mother of two teenage sons. She has been a committee member of the Alumni Association since May 2009 and is passionate about mentoring and training pharmacy students, interns and young pharmacists.

Lachlan Rose (BPharm ’04) is the managing pharmacist at Manly Vale Pharmacist Advice, Vice-President of the Pharmaceutical Society of Australia’s NSW branch and a committee member of the Australian Community Pharmacy Authority. He aims to complete his third marathon this year.

Ross Brown AM (Mat Me ’52 MPharm ’97 HonFellow ’09) is the Pharmacy Alumni Association patron. He is a University Ambassador, especially for the Faculty of Pharmacy. He fosters links between the University and other key institutions within Australia and abroad.

Jocelyn Bussing (BPharm ’90) is an Associate Lecturer in Pharmacy Management and Practice, a Project Pharmacist, Strategic Management in Community Pharmacy and locum Pharmacist. In 2013, she was the Project Pharmacist, Medicare Locals for the NSW Pharmacy Guild.

Michael Gould (BPharm(Hons) ’11) is the Clinical Services Pharmacist Manager at Illawong Pharmacy and Soul Pattinson Menai in Sydney’s Sutherland Shire. He is also a volunteer lecturer for UNSW medical students and has a keen interest in rural health care.

Lisa Kouladjian (MPharm ’08) is finishing her PhD in optimising prescribing in older people through a trial introduction of the Drug Burden Index into the Home Medicine Review service. She is an accredited pharmacist, a member of the Pharmaceutical Society of Australia’s NSW branch committee and the NSW representative for the Early Career Pharmacist working group.

Dr Rebekah Moles (BPharm ’95 Dip-HospPharm ’97 PhD ’06) is a Senior Lecturer in Pharmacy Practice. Her research areas are quality use of medicines in children and the advancement of hospital pharmacy services.

Katharina Nicholson (BPharm ’02) works in community pharmacies in Wahroonga and Turramurra on Sydney’s north shore, and as a Clinical Educator for the University of Sydney. She is also a member of the Australian Health Practitioner Regulation Agency’s pharmacy intern oral examination panel.

Ashley Cao Nguyen (BPharm ’12) works at Priceline Pharmacy St Clair in Sydney’s west. She is a member of the Early Career Pharmacist Working Group for NSW and is also studying music.

Daniel Rifkin (BPharm(Hons) ’08) is completing his PhD in investigating pharmacy leadership at the University of Sydney. He is Lieutenant Pharmaceutical Officer for the Australian Army Reserve.

Binh Luu (BPharm ’93) has been a pharmacy owner since 1995, is a director of MediADVICE, a committee member of Pharmacy Guild NSW branch and a proud member of Pharmacy Cricket.

FOR MORE INFORMATION CONTACT
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sydney.edu.au/pharmacy/alumni

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