Established in the 1960s, the mission of the University of Melbourne’s Department of Surgery is to foster academic surgery within the St. Vincent’s campus, by undertaking basic and clinical research, research training and contributing to the teaching and assessment of medical students.

About us
Since 1992, the Department of Surgery at St. Vincent’s has been led by the Hugh Devine Chair of Surgery, Prof Wayne Morrison, who stepped down from this role at the end of 2008.

The department employs 13 staff and hosts research students enrolled in PhD and MD programs, including the Faculty of Science’s Master and Honours programs as well as the specialist Master of Surgery. The department recognises and values the contributions of its honorary staff (numbering more than 60) to its teaching, research and community engagement activities.

The department’s mission is to foster academic surgery within the St. Vincent’s campus, by undertaking basic and clinical research and contributing to the teaching and assessment of medical students of the University. Its staff bring significant clinical expertise in the areas of microsurgery, reconstruction (particularly following cancer resection), head and neck surgery, orthopaedics, neurosurgery, general surgery and hand surgery.

Through its relationship with the Bernard O’Brien Institute (BOBI) the Department of Surgery also contributes to research in tissue engineering and organogenesis, involving the disciplines of vascular biology, trauma and wound healing, nerve and muscle regeneration, inflammation and prostate cancer. Studies in breast cancer invasion and metastasis form a key component of its basic science research, led by Associate Prof Rik Thompson and conducted in collaboration with St Vincent’s Institute and the Victorian Breast Cancer Research Consortium.

The Department of Surgery plays a pivotal role in the life of St. Vincent’s with its members being actively involved in various management committees.

Projects in progress or completed
The department’s basic research covers:

– reconstructive surgery, including tissue engineering, stem cell research, ischaemia, wound healing and nerve regeneration (directed by Prof Wayne Morrison and Dr Anthony Penington and largely carried out at the Bernard O’Brien Institute – see separate report on BOBI).

– breast cancer invasion and metastasis (directed by Assoc Prof Erik Thompson and carried out collaboratively with St Vincent’s Institute).

During 2008 Department of Surgery staff have been invited to share their expertise at the following international events:

Prof Wayne Morrison
– Plenary lecturer, European Association for Cranio-Maxillo-Facial Surgery Bi-annual Conference, Bologna, Italy, September 2008
– Keynote lecturer, American Society of Plastic Surgeons Annual Congress, Chicago, USA, November 2008

Assoc Prof Anthony Penington
– Visiting Professor, Conjoint ASC, Royal Australasian College of Surgeons and Hong Kong College of Surgeons, Hong Kong, May 2008

Assoc Prof Erik (Rik) Thompson
– Invited speaker and Chair, Cold Spring Harbor Laboratory Conference on the Epithelial-Mesenchymal Transition, New York, USA, March 2008
– Invited speaker, American Association for Cancer Research Conference on Frontiers in Cancer Prevention Research, National Harbor, USA, November 2008
**Research applications in the clinical setting**

A clinical trial (pilot study) in tissue engineering approaches to breast reconstruction is commencing in 2009. This could lead to changes in the way breast reconstruction is performed.

Work by Assoc Prof Thompson is geared towards the identification of novel diagnostic markers and therapeutic targets for breast cancer that may ultimately impact patients, but to date is still in the laboratory. However, collaborative work with Assoc Prof Prue Hill from St. Vincent’s Pathology and Keith Stanley from Ausdiagnostics Pty Ltd, Sydney, is testing Multiplex Tandem PCR as a potential new tool for diagnosing breast cancer. We have compared the results with those generated from routine tests currently available and this will be extended to markers coming from the laboratory. This work could ultimately improve clinical practice through the development of new diagnostic tests for breast cancer.

**The team**

Prof Wayne A Morrison, Head of Department up to 31 December 2008; Academic Staff: Wayne Morrison; Anthony Penington; David McCombe; Erik Thompson; Honorary Members: Prof Peter Choong; Prof Greg Dusting; Dr Keren Abberton; Dr Ahmed Nuzhat; Assoc Prof David Allen; Simon Banting; Dr Susan Bortolotto; Dr Elsa Chan; Dr Michael Denton; Dr Rodney Dilley; Dr George Dimitroulis; Dr John Gurry; Assoc Prof Michael Henderson; Alexander Heriot; Dr Fan Jiang; John Kennedy; Dr Kenneth Knight; John Mackay; Dr Geraldine Mitchell; Michael Murphy; Dr Wayne Phillips; Assoc Prof David Scott; Assoc Prof Brendan Silbert; Gregory Thomas; Dr James Thomas; Dr Phillip Thompson; Dr Daniel Tilkorn; Dominic Vellar; Dr Mark Waltham; Rodney Woods; Gavin Wright; Dr Michael Yii; Students: Dr Jonathan Clark; Dr David Moses; Dr Anand Ramakrishnan; Edwin Widodo; Lorenzo Galea; Chao Han; Monna Saadeddine Ayad; Dr Kristian Bulluss; Yu Suk Choi; George Dimitroulis; Michelle Dowsey; Eugene Ek; Lisbeth Evered; Michael William Findlay; Devika Gunasinghe; Sarah Hsiao; Sarah Kate McCann; Ben Hugh McKelvey; Srinivasa Raju Datla; Tanida Srisuwan; Samantha Licy Stubbs; Richard Tee; Razan Wafai

**Grants**

**Chaffer C**


**Mitchell G, Thompson EW, Morrison WA**

An in vivo tissue distraction chamber – a novel mechanism to significantly enhance tissue growth. University of Melbourne Research Grants Scheme, (2008), $27,198

**Morrison WA, Abberton K, Cook A**

Developing in vivo methods of adipose tissue engineering. NHMRC, (2008-2009), $360,000

**Thompson E, Dobrovic A, Choong P, Hill P, Henderson M, Pantel K**


**Thompson E, Newgreen D, Ackland L, Waltham M, Henderson M**


Molecular profiling and epidemiological refinement of mammary gland density as a predictor of breast cancer risk. St. Vincent’s Research Endowment Fund, (2008), $30,000

**Thompson E, Soon L, Braert F, Vallotton P**

A new model for 3D migration involving claw structures and metalloproteinases. Australian Research Council, (2008-2010), $498,071

**Wafai R**

Organs

Cells Tissues derived from skeletal muscle, is highly membrane-rich, extracellular matrix derived from skeletal muscle, is highly adipogenic in vivo and in vitro, Cells Tissues Organs, 188

Ahmed N, Riley C, Quinn M 2008, 'An immunohistochemical perspective of PPARα and one of its putative targets PDK1 in normal ovaries, benign and malignant ovarian tumours', British Journal of Cancer, 98


Dass C, Ek E, Choong P 2008, 'PEDF as an emerging therapeutic candidate for osteosarcoma', Current Cancer Drug Targets, 8


Dass C, Choong P 2008, 'uPAR mediates anticancer activity of PEDF', Cancer Biology & Therapy, 7


Dowsey M, Choong P 2008, 'Obesity is a major risk factor for prosthetic infection after primary hip arthroplasty', Clinical Orthopaedics and Related Research, 466


Hackisuka H, Dusting G, Abberton K, Morrison W, Jiang F 2008, 'Role of NADPH oxidase in tissue growth in a tissue engineering chamber in rats', Journal of Tissue Engineering and Regenerative Medicine, 2


Kalade, Lau W, Conron, Wright G, Desmond P, Hicks R, Chen 2008, 'Endoscopic ultrasound-guided fine-needle aspiration when combined with positron emission tomography improves specificity and overall diagnostic accuracy in unexplained mediastinal lymphadenopathy and staging of non small-cell lung cancer', Internal Medicine Journal, 38


Mccann S, Dusting G, Roulston C 2008, 'Early increase of Nox4 NADPH oxidase and superoxide generation following endothelin-1-induced stroke in conscious rats', Journal of Neuroscience Research, 86


Penington A 2008, ‘Negative results and the limitations of power’, ANZ Journal of Surgery, 78


