

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

For 2010, 21 Research grants were awarded totalling \$683,000.

### **The Ladies' Committee Sr Mary Bernice Grant - \$100,000**

*Assoc Prof Reginald V N Lord - Principal Investigator*

#### **"Pharmacogenetic studies of cancer of the oesophagus"**

Oesophageal cancer is increasing in incidence and is highly fatal. Previous studies indicate that various measurements of two genes, TS and ERCCI, are significant independent factors associated with response to standard chemotherapy drugs and thus patient outcomes including survival. In this study we will determine whether these genetic tests are clinically valuable for treating patients with oesophageal cancer.

*Research undertaken at St Vincent's Centre for Applied Medical Research*

---

### **Adult Stem Cell Research Grant - \$100,000**

*Dr John Moore - Principal Investigator*

#### **"T-lymphocyte developmental restrictions of Adult Haematopoietic Stem Cells – relevance to transplantation and autoimmune disease"**

Adult bone marrow is the primary tissue source for haemopoietic stem cells (HSCs) which reconstitute the immune system. T cells, an important part of the immune system, are slow to recover after transplant (ie for cancer treatment). We have found a method of treating adult HSCs which improves their yield of T cells. Characterization of the mechanism involved would open the possibility of treatment of cells to improve recovery after transplant, cancer therapy and autoimmune disease.

*Research undertaken at St Vincent's Hospital*

---

### **Tancred Research Grant - \$50,000**

*Prof Bruce Brew - Principal Investigator*

#### **"Tryptophan metabolism in adult stem cell biology"**

The use of stem cells isolated from adult tissues holds promise as a novel therapeutic approach in multiple sclerosis (MS). This project seeks to optimize adult stem cell proliferation and differentiation to facilitate therapeutic transplantation for MS. Our existing results strongly suggest that metabolism of the essential amino acid tryptophan is a key factor controlling the ability of adult stem cells to proliferate and differentiate. We will use inhibitors of tryptophan metabolism in cell cultures and animal models to prove this. If correct, the results will considerably advance the therapeutic use of stem cells.

*Research undertaken at St Vincent's Hospital*

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

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

*Prof David Ma - Principal Investigator*

**"Prognostic value of novel biomarkers in the treatment of Ph+ leukaemia with tyrosine kinase inhibitors"**

Tyrosine kinase inhibitors are molecular targeted drugs which have revolutionised the treatment of Philadelphia positive leukaemia. These drugs are highly successful in controlling chronic forms of this leukaemia but ineffective against advanced cases. We aim to find out if the six biomarkers that we have discovered can predict the response of patients to therapy and identify who will develop resistance, thereby improving the cure rate of these patients.

*Research undertaken at St Vincent's Centre for Applied Medical Research*

---

### **Di Boyd Cancer Grant - \$30,000**

*Dr David Williams - Principal Investigator*

**"Multi-disciplinary Pancreatic Cancer Screening Program of High Risk Groups"**

Pancreas cancer is a leading cause of cancer death. Since it is seldom diagnosed at an early curable stage, nearly all patients die of their disease. Early detection of pancreatic cancer and its precursors will save lives. Approximately 5-10% of all pancreatic cancers have familial aggregation and/or genetic susceptibility. Primary aim of this project is to establish a multi-disciplinary pancreas cancer screening service.

*Research undertaken at St Vincent's Hospital*

---

### **Froulop Vascular Research Grant - \$30,000**

*Assoc Prof Diane Fatkin - Principal Investigator*

**"Zebrafish models of atrial fibrillation"**

Atrial fibrillation (AF) is the most common heart rhythm disturbance and a major risk factor for stroke and heart failure. Inherited gene variations in families are an important cause of AF but exactly what these genes are, and the ways in which these changes can alter the heart's electrical activity and promote AF are not well understood. We are proposing to establish techniques to study the effects of gene variants identified in families with AF using genetically-modified zebrafish models.

*Research undertaken at Victor Chang Cardiac Research Institute*

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

### Annual Grant I - \$30,000

*Assoc Prof Anthony Dodds - Principal Investigator*

**"The use of ultraviolet light photochemotherapy [PUVA] in the oral cavity in conjunction with an oral photo-sensitiser for oral graft-versus- host disease [GVHD] in allogeneic bone marrow transplant patients [ABMT]"**

Assessment of the safety and efficacy of oral Polarised UVA therapy after a oral photo-sensitiser (5-methoxypsoralen or 8-methoxypsoralen) in the treatment of oral Graft Versus Host Disease affecting the oral cavity post Allogeneic Stem Cell Transplant.

Patients eligible will have up to 40 treatments using a hand held PUVA lamp, delivering increasing doses through increased length of exposure.

All Patients will be offered treatment – there is no placebo arm treating CMV.

*Research undertaken at St Vincent's Hospital*

---

### Annual Grant II - \$30,000

*Dr Mark Danta - Principal Investigators*

**"Liver Elastography in Cardiac Disease (LECD) study"**

Cardiac failure is often associated with congestion and inflammation of the liver, which can lead to scarring and cirrhosis. However, significant liver fibrosis can be very difficult to diagnose in cardiac failure as it presents with similar symptoms. Diagnosis often involves invasive test such as liver biopsy. A new ultrasound-based technology called Fibroscan has been developed which can assess liver fibrosis non-invasively. This study will evaluate the use of Fibroscan for liver disease in cardiac failure.

*Research undertaken at St Vincent's Clinical School*

---

### Annual Grant III - \$30,000

*Prof Terence Campbell - Principal Investigator*

**"The human-ether-a-go-go related gene K<sup>+</sup> channel, a potential drug target for the treatment of schizophrenia"**

Schizophrenia is a debilitating illness that is difficult to treat. Recently, it has been shown that a new ion channel protein is expressed at significantly higher levels in the brains of patients with schizophrenia. We will investigate whether it is possible to specifically target this new ion channel protein in the brain without having adverse effects on the heart that expresses a similar protein. If successful, this could pave the way for development of a new treatment for schizophrenia.

*Research undertaken at Victor Chang Cardiac Research Institute*

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

### Annual Grant IV - \$30,000

*Prof Ken Ho - Principal Investigator*

**"Significance of brown fat in humans"**

The research concerns brown fat which, unlike ordinary 'white' fat, functions like heat generators, by burning fat, releasing energy as heat. It plays a major role in controlling body temperature and weight in animals. Contrary to what was believed, it has recently been discovered that significant amount of brown fat is present in adult humans. It can be readily detected using a type of nuclear medicine scan, positron-emission tomography, (PET), widely used in clinical practice.

The nature, function and regulation of brown fat in adult humans is poorly understood. Our research aims to understand how brown fat is controlled in adult humans by using medications to stimulate brown fat activity on PET. The development of medications to stimulate brown fat activity is a potential way of treating obesity in the future.

*Research undertaken at Garvan Institute of Medical Research*

---

### Annual Grant V - \$30,000

*Assoc Prof Jane McCrohon - Principal Investigator*

**"Prospective evaluation of cardiovascular biomarkers and the prognostic value of computer tomography coronary angiography"**

Cardiovascular disease remains the major cause of death in Australia, however early diagnosis and selecting the appropriate time to commence treatment can prove difficult. This study involves setting up an online database to collect information and blood samples from people having cardiac CT scans. The information collected will help answer whether new blood tests can predict the extent of coronary disease. Over the long term, the study will provide better information for people having coronary CT scans and provide new tools to give a more precise estimate of the individual risk of future heart attacks with and without treatment.

*Research undertaken at St Vincent's Hospital*

---

### Annual Grant VI - \$30,000

*Dr Jerry Greenfield- Principal Investigator*

**"Role of the autonomic nervous system in the development of obesity and type 2 diabetes mellitus"**

Obesity and type-2 diabetes (T2D) are associated with alterations in the Autonomic Nervous System (ANS), which controls the automated nervous responses in the body. Obesity is associated with an impaired ANS response when stimulated using insulin. The question is whether changes in the ANS are a cause or a consequence of obesity. First-degree relatives of individuals with T2D (FDR) are at increased risk of developing T2D and obesity. We will study ANS function in FDR when they have normal sugar levels and are non-obese. We predict that these 'at risk' individuals have early changes in ANS activity that may contribute to later development of abdominal obesity and T2D.

*Research undertaken at Garvan Institute of Medical Research*

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

### **Annual Grant VII - \$15,000**

*Dr Gonzalo Aguirrebarrena - Principal Investigator*

#### **"Diagnosis of penicillin allergy in the Emergency Department"**

This project aims to determine whether patients with true penicillin allergy can be detected in the Emergency Department setting, allowing a definitive diagnosis of penicillin allergy, improvement of a current or future antibiotic treatment, and lowering the antibiotic treatment cost-effective ratio.

*Research undertaken at St Vincent's Hospital*

---

### **Travelling Fellowship I - \$10,000**

*Dr Mark Winder- Department of Neurosurgery*

#### **"Complex Spine Fellowship, University of Calgary Canada & Skull Base Fellowship, Swedish Centre Seattle Washington Canada"**

---

### **Travelling Fellowship II - \$10,000**

*Dr Andrew Jabbour - Department of Cardiology*

#### **"Cardiac Magnetic Resonance Clinical Research Fellowship at The Royal Brompton Hospital, London"**

---

### **Travelling Fellowship III - \$10,000**

*Dr Mark Perrin - Department of Cardiology*

#### **"Electrophysiology Research Fellowship at Ottawa Heart Institute in Ottawa Ontario Canada"**

---

### **Travelling Fellowship IV - \$10,000**

*Dr Andrew Jabbour - Department of Cardiology*

#### **"Cardiac Magnetic Resonance Clinical Research Fellowship at The Royal Brompton Hospital, London"**

---

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

### **Multi-disciplinary Patient Focussed Grant I - \$25,000**

*Mr Jed Duff - Principal Investigator*

#### **"The PaMP VTE Trial (Patient Mediated Prevention of VTE Trial)"**

Venous thromboembolism (VTE) results significant mortality, morbidity, and healthcare resource expenditure. Despite the widespread availability of clinical guidelines clinicians still fail to provide their patients with evidence-based prophylaxis measures. Implementation researchers have studied a number of strategies to increase guideline uptake. One strategy that has been shown to work in the primary care setting, but not previously studied in acute care, is patient-mediated interventions. This study examines the effect of a patient-mediated intervention on healthcare professionals' adherence to evidence-based VTE prevention guidelines.

*Project undertaken at St Vincent's Private Hospital*

---

### **Multi-disciplinary Patient Focussed Grant II - \$25,000**

*Ms Melissa Brunner - Principal Investigator*

#### **"Coordinated Multi-disciplinary Circuit Therapy Class"**

Coordinated stroke unit care provides the best outcomes for stroke patients. One of the most important components of stroke unit care is early commencement of rehabilitation by a cohesive multidisciplinary team. The clinical guidelines for acute stroke care<sup>1</sup> have made recommendations for best practice in acute stroke care, including assessments and interventions to be completed by team members. In order to ensure best practice standards of care are met, therapists need dedicated time and an efficient method for providing therapy.

Recent research has demonstrated the effectiveness of physiotherapy for stroke patients in a group circuit class format when compared to individual sessions<sup>2</sup>.

The aim of this before-and-after study is to determine the feasibility of conducting multidisciplinary therapy in a group circuit class on the acute stroke care unit. The study will compare process and outcome measures for acute stroke patients receiving standard multidisciplinary therapy with those who receive multidisciplinary therapy in a multidisciplinary circuit class. It will also examine patient and team satisfaction with this style of service delivery.

The current evidence in the literature has identified that this mode of service delivery has the potential to provide coordinated treatment with limited resources targeting physical function within the acute care setting<sup>3</sup>. The circuit class mode of service delivery has yet to be definitively evaluated utilising the multidisciplinary team and targeting all deficits post stroke (i.e. not just physical difficulties). With this in mind, the team are proposing that this will be a pilot study collecting preliminary data in preparation for running a definitive RCT examining patient outcomes within this type of care delivery structure in acute stroke.

*Project undertaken at St Vincent's Hospital*

# St Vincent's Clinic Foundation

## 2010 Research Grant Recipients

### **Multi-disciplinary Patient Focussed Grant III - \$25,000**

*Ms Fiona Bailey- Principal Investigator*

#### **"Examining the management of reported medication incidents in an acute care hospital"**

The aim of this pilot project is to gain an understanding of how medication incidents are managed at St Vincent's Hospital. Medication incidents are currently entered into an online incident reporting system, RiskMan, and it is then the role of the manager to manage a response to each incident. A literature review revealed deficiencies in how medication incidents are being managed globally. Reports indicate that no decrease in the actual numbers of medication incidents have occurred despite efforts to increase the voluntary reporting of medication incidents. In 2008, 772 medication incidents were reported at St Vincent's Hospital. In order to gain an understanding of how medication incidents are being managed, an audit and content analysis of the management strategies are reported by managers in the RiskMan will be undertaken for the period 1 January 2009 to 31 December 2009. Following the audit, two focus groups will be convened. The first focus group will include managers responsible for managing medication incidents. The aim of this focus group is to gain an understanding about what manager's regard as their role in managing medication incidents and to identify strategies to improve the management of incidents. The second focus group will involve clinical nurses and other staff members who report medication incidents, to ascertain what factors influence their willingness to report medication incidents and particularly to determine whether staff reporting of medication incidences is influenced by the manner in which the incidences are managed.

*Project undertaken at St Vincent's Hospital*

---

### **Multi-disciplinary Patient Focussed Grant IV - \$13,000**

*Dr Steven Faux - Principal Investigator*

#### **"Patient outcomes from a group program for chronic pain at St Vincent's Campus Pain Service. How do they benchmark with those from an established intensive program at North Shore Hospital Pain Clinic?"**

Exercise and Psychology based pain management programs are the treatment of choice for people with chronic pain which adversely affects their quality of life. There is a body of evidence indicating that pain management programs lead to improvements in pain experience, mood, coping, appraisal of pain, and activity levels. Pain programs are delivered as outpatient treatment or more intensive inpatient treatment. Whilst evidence suggests that more intensive programs lead to greater improvement, there is evidence that outpatient programs of a minimum of 30 hours lead to positive outcomes. There is also increasing recognition of the need to examine patient characteristics associated with positive outcomes from pain management programs and to examine which programs work best for which patients.

The primary aim of this study is to evaluate whether a 10 week group pain management program (80 hours) at St Vincent's leads to significant changes in measures of pain-related distress and disability, and whether it is of equal efficacy to more intensive programs (3 week fulltime 124 hrs).

The secondary objective is to examine which patient characteristics predict patient engagement to the program and positive outcomes from this program.

*Project undertaken at St Vincent's Hospital*