Annual Report

2010-2011

SpinalCure
AUSTRALIA

Introduction

This Report conveys information about the activities of the Company, with particular reference to:

- Administration
- Financial position
- Research outreach
- Trends in the development of the Company

This Report covers the year from 1st July 2010 to 30th June 2011

SpinalCure Australia
ABN 66 064 327 448

Level 3, 100 William St,
Woolloomooloo NSW 2011

PO Box 393, Summer Hill
NSW 2130

1800 SPINAL
774625

T: 61 2 9356 8321
F: 61 2 9356 1133
E: research@spinalcure.org.au

www.spinalcure.org.au

The Company

SpinalCure Australia, founded in 1994, is a Company Limited by Guarantee and Incorporated pursuant to the provisions of the Corporations Law.

The primary aim of Company is to end the permanence of paralysis caused by spinal cord injury, and to achieve this through:

- Promoting and funding research;
- Fostering co-operation between all disciplines engaged in central nervous system research, regeneration and direct relief;
- Monitoring progress of all research projects funded by or through the Company;
- Co-operation with international efforts in the field;
- Dissemination of information about developments in research.

The Australian Taxation Office has advised us that we have been endorsed as an income tax exempt charitable entity under Subdivision 50-B of the Income Tax Assessment Act 1997. We have also received advice from the Australian Taxation Office that we are endorsed as a deductible gift recipient under Subdivision 30-BA of the Income Tax Assessment Act 1997. In both cases the date of effect of the endorsement is 1st July 2000.

The Board

A Board of Directors governs SpinalCure Australia. The Directors have overall responsibility for corporate governance and oversight of the company's research and funding objectives. This is achieved in accordance with the Constitution and relevant legislation, so as to provide optimum outcomes in the search for a cure for paralysis caused by spinal cord injury.

The Board comprises seven non-executive directors and, at 30 June 2011 the Directors are:

Mr Stewart Yesner
AM, BA (Hons) Law
Founder

Ms Joanna M. Knott
OAM, MBA, BA (Hons)
Chair

Professor Perry F. Bartlett
FAA

Mr David D. Prast

Mr Gary F. Allsop

Dr Stella Engel
MBBS DPRM FAFRM

Mr Gabriel McDowell
BA

During the year under review, State Committees were operating in New South Wales, Queensland and Victoria. These Committees provide a focal point for the development of the Company, and fundraising activities at a State and local level.

Scientific Committee

The Scientific Committee performs a pivotal role in the peer-review and critical assessment of all research funding applications received by the company. In addition, the committee has the responsibility to monitor and obtain progress reports from all research institutes that subsequently receive funding by or through the auspices of the company. The committee, under the chairmanship of Professor Perry Bartlett is charged with making recommendations to the Board with regard to funding of research.

At 30th June 2011 the committee comprised the following persons:

New South Wales

Assoc Prof John D. Yeo
AO MB MS DPRM FRACS FACRM FAFRM
North Shore Medical Centre.

Dr Sue Rutkowski
AM MBBS FAFRM(RACP) MHA
Past Director and Honorary Consultant,
Royal North Shore Spinal Unit.

Dr Stella Engel
MBBS DPRM FAFRM
Director, Rehabilitation and Spinal Medicine,
Prince Henry and Prince of Wales Hospitals.

Queensland

Professor Perry F. Bartlett
FAA
Director
Queensland Brain Institute
University of Queensland.

South Australia

Dr Ida Llewellyn-Smith
AB PhD
Principal Research Fellow, Flinders University.
Dept of Medicine, Flinders Medical Centre.

Dr Ruth Marshall
MBBS DPRM FACRM FAFRM (RACP)
Director, Orthopaedic, Amputee & Spinal Injuries,
Hampstead Rehabilitation Centre.

Victoria

Professor Mary Galea
PhD
Professor of Clinical Physiotherapy
Director, Rehabilitation Sciences Research Centre
The University of Melbourne and
Austin & Repatriation Medical Centre.

Western Australia

Dr Byron Kakulas
AO MD(Hons) FRACP FROpath FRCPA
Professor of Neuropathology,
Royal Perth Hospital.

Professor Alan Harvey
MA PhD
School of Anatomy & Human Biology,
and Red's Spinal Cord Research Laboratory, CTEC
The University of Western Australia.

Professor Lyn Beazley
MA PhD
Principal Research Fellow NH&MRC,
Chairman Medical & Scientific Committee,
ABF (WA) Department of Zoology,
University of Western Australia.

Professor Sarah Dunlop
PhD
Professorial Fellow (Research)
Senior Research Fellow, NH&MRC
School of Animal Biology
The University of Western Australia.

Mr John Ker
MB Bch(Hons) FRCS FACRM FAFRM
Director, Sir George Bedbrook Spinal Unit.

Germany

Professor Mellita Schachner-Camartin
PhD
Institute of Biosynthesis, University of Hamburg.

United Kingdom

Professor James W. Fawcett
FRCP, PhD, MRCP, MB, BA
Cambridge University Centre for Brain Repair.

United States of America

Professor Fred Gage
PhD
Laboratory of Genetics at The Salk Institute, California.
Chairman, Scientific Committee,
Christopher & Dana Reeve Foundation.

Professor Dennis D. O'Leary
PhD
Molecular Neurobiology Laboratory,
The Salk Institute, California.

Chair's Report

One of the buzz words in not-for-profit organisations these days is consolidation. With over 30,000 charities registered in Australia, there is confusion in the public mind about who does what and which services are run by whom. Part of the role of the new regulator, to be called the Australian Charities and Not-for-Profits Commission (ACNC), commencing in 2012, will be to encourage stream-lining in the many charitable, public benevolent and other not-for-profits (NFPs) that exist.

At SpinalCure Australia, while we continue to focus on research with the end game being a cure, there are other spinal organisations with other important priorities. A significant organisation in the spinal cord area is Spinal Cord Injuries Australia (SCIA) which offers a range of services to those people affected by spinal injury from peer support to accommodation and employment advice.

A newer organisation is The Spinal Injury Network (SCIN) - setup with NSW government funding three years ago - to enable greater communication between clinicians and researchers in anticipation of potential treatments.

While we are currently three organisations, we have embraced the idea of working together to improve efficiency and maximise capability.

Just before the beginning of this financial year, SpinalCure moved its offices to William Street, East Sydney to share the offices of Spinal Cord Injuries Australia. This means we share a receptionist, office space, and equipment - keeping costs down.

With The Spinal Cord Injury Network, we share some back office functions and even people: as Leah Mayne our Office Manager also works in a part time capacity with SCIN.

Our co operation extends to areas such as funding. With SCIA, we have launched a co-funded Sydney University scholarship focusing on exercise rehabilitation. This builds on the seed funding SCA donated to the initial 'Walk On' Program set up in Brisbane several years ago and being extended nationally by SCIA.

With the Network, we have successfully lobbied for continued funding for research from state governments. And all three organisations are working on a potential Federal Government spinal initiative which could complement the National Disability Insurance Scheme (NDIS) scheme currently being negotiated.

We have shared ideas for fundraising events and, support each other as strategic partners to maximise benefits for all three organisations and help the spinal dollar go further.

Of course SpinalCure's remit is in supporting medical science and this was another year of exciting times for spinal cord research. Breakthroughs are happening with increasing frequency and advances in regenerative medicine are announced almost on a weekly basis.

To continue to enable us to play our part in this, our generous supporters this year have included a significant donation from the Rosalind Elaine Nicholson Trust plus a major bequest from the late Ellice Vivienne Britcliffe from northern NSW. Prior to the bequest, Mrs Britcliffe was unknown to SCA but was keen to support an organisation that could potentially help people with treatments such as stem cells.

On behalf of myself, Leah, and our directors I'd like to thank all of our partners and many supporters - including our hard working volunteers on the interstate Neurotrauma Research programs - Elizabeth, Rick, Louise in Perth and Gary, of course, in Victoria, for enabling us to continue in our vital efforts to find a cure for spinal cord injury.

Joanna Knott, Chair

A Generous Bequest

The late Ellice Vivienne Britcliffe has generously donated a large part of her estate to SpinalCure Australia.

Mrs Britcliffe was originally from Launceston Tasmania but more recently lived in the Tweed Head district of northern NSW. She was an ex-army medical corps during the second World War and was affectionately known in her local community.

Following an accident confining her to a wheelchair, she was a strong believer in stem cell treatments having allegedly been given procedures to help improve an ulcerated leg.

Till her death at 86, she remained an enthusiastic shopper and therefore known to the majority of retailers in Tweed City Shopping Mall.

Mrs Britcliffe's deceased companion George Corness (with whom she shared a long partnership) was ex Royal Navy (RN) Petty Officer and became a successful rigger after joining the Australian Merchant Navy. While still in the RN, he was given special leave to search for his brother Jack, whom he finally found in a prisoner-of-war camp near the Burma-Siam Railway.

SpinalCure is extremely grateful for Mrs Britcliffe's bequest and will ensure it goes towards high calibre research that will help people with spinal cord injuries.

Left to right: Ellice and George

NRMA/SCA Fellowship: Dr Brown "Difference Maker"

Left to right: Dr David Brown and Rick Hansen

SpinalCure Australia Congratulates Dr David Brown on becoming a Rick Hansen Difference Maker.

Earlier this year, Rick Hansen visited Australia as part of the 25th anniversary celebrations of his 'Man in Motion' World Tour. Rick Hansen is a Canadian icon, Paralympic athlete and philanthropist who wheeled more than 40,000 kilometres through 34 countries on his 'Man in Motion' World Tour between 1985 and 1987 to raise awareness about accessibility issues and research for a cure.

Rick's current tour, Difference Maker, aims for significant improvements in the lives of those with spinal cord injury.

While in Sydney, Rick presented a Rick Hansen Difference Maker Award to Dr David Brown saying, "Dr David Brown's innovative research and fruitful collaboration with organisations and individuals – both at home and abroad – promise to power significant improvements in the lives of people with spinal cord injuries."

SpinalCure Australia knows Dr Brown well. In 2006, he was awarded the first ever NRMA

Insurance/SpinalCure Australia Senior Research Fellowship. This Fellowship, funded by NRMA Insurance, was developed to support Australian research into spinal cord repair, and provided Dr Brown with $300,000 over three years to continue his research. As a result, Dr Brown was able to return to Australia from the USA to continue his contribution to spinal cord injury research in this country.

Dr Brown leads the Laboratory of Neuroinflammation at St Vincent's Centre for Applied Medical Research at the University of NSW. His groundbreaking research studies how inflammation of the central nervous system affects the outcome of SCI. With the findings, he is taking steps to identify new therapeutic approaches to preserve function and improve the outcome of SCI and other neurological diseases.

Dr Brown's research has led him to be named inventor on several patents registered to St Vincent's Hospital. The patents – concerning a neuro-protective molecule he studies – are in the final stages of negotiations for licensing to multinational pharmaceutical companies for disease diagnosis and therapy. His work, in the field of neuro-inflammation, has the potential to reduce healthcare costs and improve the lives of people with a spinal cord injury.

Dr Brown is also creating lasting legacies by imparting his skill and knowledge to the next generation of scientists by teaching them. This information-sharing will allow the knowledge base in neuro-inflammation to broaden, further increasing the profile of Australia in this research field.

Government Neurotrauma Projects

WA Neurotrauma Research Program (NRP)

It was Western Australia's Road Safety Council that originally provided funding to the NRP, for six years between 1999 and 2006, allowing Western Australia's leading neuroscientists to join forces to help optimise road trauma services and reduce the impact of brain and spinal injuries caused by road crashes.

In May 2006 the Western Australian State Government renewed its commitment to the NRP by pledging support of $8 million over 5 years to continue and expand the program.

Earlier this year our team (pictured below), with the support of Spinal Cord Injuries Australia and the Spinal Cord Injury Network, addressed senior levels of the WA government to continue their funding of the NRP.


David Prast


Rick Mills


Dr Louise Mofflin


Elizabeth Boutet

NRP grants

In September 2010, applications were invited for research directed towards therapeutic interventions to reduce the severity of injury to the central nervous system and/or induce functional repair. The NRP particularly encouraged research with strong potential for clinical translation. Following a rigorous external scientific review, the following grants were awarded to WA research groups, according to reviewers' recommendations:

Basic science projects, 2011

Assist. Prof J Rodger, Dr R Sherrard, Prof S Dunlop

Optimising pulsed magnetic fields to promote repair and recovery from neurotrauma

Pulsed magnetic fields provide significant therapeutic benefits in a variety of neurological conditions, but little is known about the underlying mechanisms. This project will systematically quantify, for the first time, how magnetic fields of different frequencies and intensities affect the structure and function of single neurons using in vitromodels. Optimal parameters will then be applied to an in vivo model of neurotrauma. The study will advance our understanding of how pulsed magnetic fields repair brain connectivity and restore behaviour and stands to directly and significantly improve current clinical practice.

Assist. Prof M Fitzgerald, Prof S Dunlop, Prof A Harvey

Optimising treatment of secondary degeneration with 670 nm red light

Following injury to the central nervous system, the outcome often worsens due to secondary degeneration; control of this process is crucial for maintaining function. We have demonstrated that treating secondary degeneration with 670nm red light using an LED array improved functional outcomes, but the length of treatment required for long term benefit is unknown. This project seeks to define the optimal time of treatment with the red light and determine the long term effects. Optimising treatment of secondary degeneration using 670nm light could provide a safe, easy, readily available and non-invasive early intervention for reducing the impact of neurotrauma.

Assist. Prof J Rodger, Adj A/Prof B Meloni, Dr J Bourne

Testing novel transcranial magnetic stimulation protocols to improve neuro-protection and functional recovery after stroke

Pulsed magnetic fields provide significant therapeutic benefits following stroke in humans. However, because of the scarcity of animal studies, little is known about how repetitive transcranial magnetic stimulation (rTMS) works and how it could be optimised. This project will focus on an animal model of ischaemic stroke and assess tissue loss, regenerative sprouting and behavioural recovery following combinatorial rTMS treatments. The study will determine an ideal rTMS treatment protocol that will optimally repair brain connectivity and improve behaviour following stroke and other kinds of (traumatic) brain injury.

Prof S Dunlop, Assist. Prof M Fitzgerald, Assist. Prof J Rodger, Prof T Salt

Loss of function in spared neural circuits during secondary degeneration and potential rescue with infrared light

Following neurotrauma, spared tissue is vulnerable to secondary degeneration and its rescue is an important therapeutic goal. Dunlop and Fitzgerald have recently established a partial optic nerve cut

model in rats and have shown that near infrared light appears to limit early secondary damage and, crucially, preserves vision. However, the investigators do not know why spared axon terminals lose their function without treatment nor how infrared light rescues function. Electrophysiological recording and anatomical tracing will be used to examine spared axons terminals and determine how near infrared light helps them to work normally, thereby preserving vision.

Prof A Harvey, Assist. Prof J Rodger

Anatomical and behavioural analysis of axonal regeneration & target reinnervation after gene- and pharmaco-therapy

Over the past several years, Harvey and his group have developed and optimized a clinically relevant protocol for the treatment of neurotrauma, involving the combined use of AAV gene therapy, pharmacotherapy and tissue transplantation. Using an adult animal visual system as an experimental model these investigators will now use this optimized protocol to maximize the survival and regeneration of injured retinal ganglion cells and determine: (i) the extent to which regenerate axons can reinnervate visual centres in the brain in an orderly fashion and (ii) if the reinnervation is associated with recovery of visual function.

Assist. Prof J Rodger, Dr K Carter

The role of gene regulation by micro-RNA sequences during central nerve regeneration

MicroRNAs (miRNAs) are strands of genetic material that regulate messenger RNA expression in cells, often associated with gene silencing. miRNAs are differentially expressed in patients with neurodegenerative disorders, suggesting that they might have key regulatory roles in neurodegeneration. Rodger and Carter will perform a 'cross-species comparative bioinformatic analysis' to identify miRNAs that could potentially influence neuronal survival and regeneration. They will then use molecules that alter miRNA expression to explore the therapeutic potential of miRNAs in the injured brain.

Prof D Robertson, A/Prof W Mulders, Assist. Prof J Rodger

Molecular changes in the central nervous system associated with inner ear trauma

Inner ear trauma causes changes in nerve cell electrical firing in the brain. Such alterations are likely to underlie sensory disturbances such as tinnitus (noises or ringing in the ears), commonly associated with inner ear damage. This group will study the associated molecular changes that also occur in the brain, gaining a deeper understanding of the fundamental mechanisms of the brain's response to sensory trauma. A drug treatment to reverse both electrical and molecular changes will be tested. These findings may translate to other troublesome sensory disturbances such as neuropathic pain and phantom limb sensations that result from injury to peripheral sensory nerves.

Assist. Prof S Hodgetts

Immunomodulation to enhance improved functional recovery after spinal cord injury using transplanted human bone marrow stromal cells in combinatorial therapies

In previous NRP-funded studies, Hodgetts demonstrated that mesenchymal progenitor cells isolated from the bone marrow of human patients with spinal cord injury (SCI) markedly improve tissue sparing and functional (locomotory) recovery when transplanted in animal models of SCI. He now aims to enhance the effects of hBMSC therapy by modifying the host immune response in order to (i) reduce secondary inflammatory damage and (ii) increase the survival of donor hBMSCs following transplantation. For example, antibodies that block the deleterious effects of specific inflammatory factors and deplete 'Natural Killer' immune cells that target and attack donor hBMSCs will be used to further enhance neuro-regeneration and improve the recovery of locomotor function. If successful, this research will help pave the way for human clinical trials of combinatorial therapies to enhance recovery following SCI.

Assist. Prof M Fitzgerald

Combinatorial treatments for secondary degeneration using ion channel inhibitors

Following injury to the central nervous system, the outcome often worsens due to secondary degeneration involving uncontrolled calcium flux. Control of this process is crucial for maintaining function. Clinical trials using single ion channel antagonists have been disappointing and combinatorial strategies are widely acknowledged as necessary. However, long term outcomes of treatment of secondary degeneration with multiple ion channel inhibitors are unknown. This project aims to define the optimal combination of ion channel inhibitors and determine the long term effects. Optimising treatment of secondary degeneration with combinations of ion channel inhibitors could provide an effective intervention for treatment of neurotrauma.

Prof N Knuckey, Adj A/Prof B Meloni, Dr S. Boulos, Dr K. Campbell

Enhancing neuro-protective efficacy of mild hypothermia / magnesium therapy following cerebral ischaemia/stroke

Cerebral ischaemia, or oxygen starvation in the brain, occurs when there is a reduced blood supply following stroke, traumatic brain injury (TBI) or cardiac arrest. This group, comprised of clinical and basic researchers, has previously shown that combined magnesium therapy and hypothermia (cooling of the body) is neuro-protective following cerebral ischaemia. More recently, the investigators demonstrated that two specific proteins have neuro-protective properties in vitro. This project will assess, in an animal model, whether these proteins can increase the therapeutic window and the neuro-protective effect of magnesium/hypothermia therapy following cerebral ischaemia/stroke. Success may well pave the way to translation to human clinical studies.

Clinical Research Projects, 2011-2012

Prof M Stacey, A/Prof J Swaine, Senior Research Fellow Delia Hendrie

A randomised controlled trial of an individualised self-management program to prevent pressure ulcers following spinal cord injury

Pressure ulcers are a serious and common complication following spinal cord injury (SCI), often requiring long periods of bed rest, hospitalisation and associated physical deconditioning. This study will design a new evidence-based Individualised Pressure Ulcer Prevention Self-management Program for individuals with SCI, by integrating biofeedback from ultrasound, interface pressure mapping and transcutaneous oxygen monitoring into a standard program. The aim is to increase self-efficacy, pressure ulcer knowledge, satisfaction and participation. Seventy-two individuals with spinal cord injuries will be recruited and randomized into this new and innovative program or the standard (existing) pressure ulcer prevention program. In addition to clinical outcomes, resource utilization and cost effectiveness of the new program will be determined.

A/Prof Garry Allison, Prof S Dunlop, A/Prof John Buchanan

Central modulation of lower limb tone following acquired brain injury: role of sub-maximal loading on neurological outputs & function

Controlling leg movement is fundamental to many key functional activities and tasks, such as transferring from chair to bed, or from a sitting position to standing, and of course walking. Individuals who cannot do these tasks have severely compromised independence and require substantial assistance and healthcare resources. Individuals with acquired brain injuries have an altered ability to control the neural circuits supplying the leg muscles. To date, no assessment techniques are sensitive enough to measure the extent of neural control. This clinical and experimental study examines 1) leg control during a functional task and 2) how specific neurological rehabilitation exercises may improve leg control and thereby improve function.

Ms T Pereira, Ms J Holding, Ms J Brayshaw

What is the effect of cranioplasty on functional performance in an acquired brain injured population?

Patients with acquired brain injury (ABI) may undergo craniectomy or surgical removal of a bone flap to manage the dangerously high intracranial pressure that often occurs in the acute phase. Cranioplasty or replacement of the bone flap is performed at a later date. In 2008, thirty Western Australian patients received a cranioplasty. It has been noted that whilst awaiting cranioplasty, some patients may deteriorate in function and experience symptoms such as headache, vertigo, cognitive impairment and changes in mood. These symptoms have been observed to lessen after cranioplasty, with subsequent improvements in patients' cognitive performance and function. In this study, Occupational Therapists at Royal Perth Hospital will assess six ABI patients with a craniectomy, before and after cranioplasty is performed, to determine the nature of any significant functional changes that might occur following this procedure.

A/Prof G Thickbroom, Dr M Byrnes, Dr D Edwards

Cortical plasticity after spinal cord injury - measurement & modulation

Brain plasticity is known to contribute to recovery of function after stroke, but to date it is still unclear how the brain adapts to spinal cord injury (SCI). Building on Thickbroom's previous NRP-funded research, this project will explore and enhance activity dependent brain plasticity using magnetic brain stimulation. The aim is to promote functional recovery, on the basis that cortical plasticity contributes to recovery regardless of the level at which injury to the central nervous system occurs. The investigators will study the changes that occur in the motor area of the brain after SCI, and safe and non-invasive magnetic brain stimulation methods that Thickbroom has refined over the last few years will be used to enhance brain plasticity and thereby improve motor output and function. This study has important implications for clinical rehabilitation after SCI and brain injury.

Dr M Byrnes, Ms J Beilby, Mr M Hart, Prof S Schug

A randomised controlled trial in Acceptance and Commitment Therapy for neurotrauma patients experiencing chronic pain

Acceptance and Commitment Therapy (ACT) programs have recently proliferated in clinical and medical settings. These innovative programs have proven to be clinically effective in reducing co-morbid depression, anxiety, stress, and chronic pain in individuals suffering from chronic medical conditions. The aims of this research project are to:

1. engage and treat patients with spinal cord injury and stroke who are experiencing chronic musculoskeletal and neuropathic pain using an ACT group program;
2. evaluate the effectiveness of the ACT group program on aspects of pain severity, psychosocial functioning, quality of life and values-directed living during the chronic phases of the rehabilitation process; and
3. identify psychosocial and behavioural predictors of the treatment response.

Prof S Brown, Assist. Prof S Stone, Prof S Webb, Dr N Henry, Prof S Rao, Prof D Fatovich, A/Prof D Arendts

Leukocyte cell signaling after traumatic brain injury: correlation with clinical outcomes

Brain injury is the main cause of death and permanent disability in trauma patients presenting to WA hospital emergency departments. Patient outcomes after traumatic brain injury (TBI) are generally poor. One factor that contributes to poor outcomes is the activation of the immune system which releases inflammatory proteins that contribute to ongoing neuro-inflammation. The aim of this study is to investigate changes in the activation of genes that regulate production of these inflammatory proteins during the hours and days following TBI and correlate these results with patient outcomes. This process will identify proteins that may provide future targets for treatments that will reduce the negative long term effects of brain injuries.

A/Prof D Blacker, Dr D Prentice, Dr T Alvaro

A pilot study of combined intravenous minocycline and tPA for ischaemic stroke; a strategy to reduce haemorrhagic transformation

Intravenous tissue plasmingen activator (tPA) is an approved therapy for ischaemic stroke - the kind caused by a blood clot, which prevents blood and oxygen reaching brain tissue. A worrisome side effect of tPA is haemorrhagic transformation, ie bleeding into the damaged brain tissue. This occurs in over 6% of stroke patients treated with tPA and is associated with a mortality rate of approximately 50%. Minocycline is an antibiotic with properties that may protect brain tissue in stroke. Early studies confirm its safety in stroke patients. In vivo experiments combining the two agents have shown reductions in haemorrhage. This team of Perth neurologists will study the therapies in combination in human patients, with the aim of reducing brain haemorrhages and thereby minimising subsequent functional deficits associated with ischaemic stroke.

NRP Fellowships

In the same funding round, the NRP also established a new Research Fellowships scheme to:

- support outstanding Western Australian neuroscientists/ neuro-clinicians to develop their careers and neurotrauma research activities;
- provide a vehicle for outstanding neurotrauma researchers working interstate to travel/return to Western Australia to continue their research activities.

NRP Fellowships are available to researchers in the early to mid stages of their careers, and are of three years duration.

Applications were invited in September 2010, and then scientifically reviewed by an external panel. The NRP Executive announced the following Research Fellowships to successful postdoctoral applicants:

- **The NRP Early-Career Fellowship**:
  Assistant Professor Melinda Fitzgerald
  School of Animal Biology,
  The University of Western Australia (2011-2013)
- **The NRP Mid-Career Fellowship**:
  Assistant Professor Stuart Hodgetts
  School of Anatomy & Human Biology,
  The University of Western Australia (2011-2013)

Victorian Neurotrauma Initiatives (VNI)
– a research program of the Transport Accident Commission (TAC)

Although the VNI as a company has ceased, effective 30 May 2011, all committed funded activities will continue. The management of all committed research activities beyond this date has been transitioned to the TAC. Deeds of novation have been executed under which all VNI previous rights and responsibilities have been transferred to the TAC.

Program grants

The fourth round of the VNI's research funding was launched in February 2008 with a decision to award $19M dollars for research in brain and spinal cord Injury.

Three programs focus on spinal cord injury research:

Autonomic Dysfunction in Spinal Cord Injury: A Strategy for Improved Treatment and Understanding of Bowel, Blood Pressure and Bladder Disorders

Lead chief investigator: Professor John Furness, The University of Melbourne, VIC

Chief investigators:

Associate Professor Doug Brown, Austin Health, VIC

Associate Professor James Brock, The Univeresity of Melbourne, VIC

Dr Christopher O'Callaghan, Austin Health, VIC

Professor Norman Saunders, The University of Melbourne, VIC

Professor Albert Frauman, Austin Health, VIC

Administering organisation: The University of Melbourne

VNI funding: $4,949,117

Program summary:

To most observers, the dominant impact of spinal cord injury (SCI) is impaired mobility. However, it is impairment of control of internal functions, through the autonomic nervous system (ANS) that socially isolates, increases dependence, precipitates hospital re-admission and causes premature death. This program applies a combination of unique clinical and preclinical approaches to develop novel treatments of ANS dysfunction in SCI.

1. The daily need for assistance with defecation is difficult, time-consuming and expensive for patient and carer. Moreover, it does not avert the single most socially crippling consequence of SCI - uncontrolled defecation. We have discovered a novel pharmacological method to trigger colorectal emptying, which we propose will control bowel function and allow the spinally injured patient to go about daily life without fear of soiling and embarrassment.

2. Loss of blood pressure control means loss of a fundamental of bodily regulation – maintaining brain blood flow when upright. SCI patients have abnormally high blood pressure when lying down and low blood pressure to the point of losing consciousness when made upright. We have successfully trialed in patients a treatment that we will further develop for blood-pressure control in SCI, and which will reduce the high night-time blood pressure that leads to copious urine over-production, and blood pressure drop and fainting when patients become upright in the morning.

3. Loss of neural influence on the bladder lining and breakdown of its barrier function causes elevated rates of urinary tract infections in SCI; this is a major cause of hospital re-admission and loss of functional independence. We will develop novel treatments for this neuropathic cystitis following the identification of reasons for barrier breakdown and of therapeutic targets.

SCIPA (Spinal Cord Injury and Physical Activity): Intensive Exercise from Acute Care to the Community

Lead chief investigator: Professor Mary Galea, The University of Melbourne, VIC

Chief investigators:

Professor Sarah Dunlop, The University of Western Australia, WA

Associate Professor Garry Allison, Curtin University, WA

Dr Lisa Harvey, The University of Sydney, NSW

Associate Professor Glen Davis, The University of Sydney, NSW

Dr Linda Denehy, The University of Melbourne, VIC

Dr Andrew Nunn, Austin Health, VIC

Dr Ruth Marshall, Hampstead Rehabilitation Centre, Adelaide, SA

Dr Richard Acland, Burwood Spinal Injuries Unit, Christchurch, New Zealand

Dr Timothy Geraghty, Princess Alexandra Hospital, Brisbane, QLD

Professor Iven Mareels, The University of Melbourne, VIC

Administering organisation: The University of Melbourne

VNI funding: $4,676,832.

Program summary:

Rehabilitation after SCI has been based on expectations regarding functional outcomes predicted by initial level of injury and severity of impairment and therefore directed at teaching compensatory strategies aimed at independence rather than promoting recovery in the paralysed limbs. This paradigm of rehabilitation is being challenged by evidence from basic and applied science for activity-dependent plasticity of neural circuits below the level of injury. Translation of these findings to the clinic has resulted in novel rehabilitation strategies, directed at neuromuscular activation below the level of the lesion to exploit the potential of the nervous system for reorganisation.

Multi-centre randomised controlled clinical trials will examine the effectiveness of very early intervention in intensive care where appropriate for the lower limbs, task-specific training for the

arm and hand, and an intensive activity-based therapy program for the whole body including the paralysed limbs

Moreover, a Certificate Training Program to improve the knowledge and confidence of fitness instructors in the community regarding exercise for people with spinal cord injury will be designed and evaluated.

Techniques employed will include functional electrical stimulation, locomotor training and individualized gym programs that can be undertaken in the community following discharge.

The focus of the programs will be on promoting neurological recovery, maintaining health and wellness, and optimising independence.

The program will be evaluated using a comprehensive suite of outcome measures, including neurophysiological and functional assessments to examine the effects on multiple systems (neurological, musculoskeletal, cardiovascular), as well as quality of life, and measures of community participation. Economic analyses will be conducted to evaluate cost-effectiveness. Evidence from this research program has the potential to revolutionize rehabilitation after SCI.

Optimising Sleep in Quadriplegia: Mechanisms and Management

Lead chief investigator, application: The Late Professor Robert Pierce, Institute for Breathing and Sleep, Austin Health, VIC

Lead chief investigator, implementation: Dr David Berlowitz, Institute for Breathing and Sleep, Austin Health, VIC

Chief investigators:

Associate Professor Doug Brown, Austin Health, VIC

Professor Peter Cistulli, Centre for Sleep Health & Research, Royal North Shore Hospital, NSW

Professor Graeme Jackson, Brain Research Institute, Austin Health, VIC

Dr Fergal O'Donoghue, Institute for Breathing and Sleep, Austin Health, VIC

Professor Paul Kennedy, National Spinal Injuries Centre & University of Oxford, United Kingdom

Associate Professor Gerard Kennedy, Victoria University, VIC

Professor Meg Morris, University of Melbourne, VIC

Professor Don Campbell, Monash University, VIC

Professor Simon Gandevia, Prince of Wales Medical Research Institute, NSW

Administering organisation: Institute for Breathing and Sleep, Bowen Centre. Austin Hospital

VNI funding: $4,999,978

Program summary:

Most patients with quadriplegia have poor sleep quality which impacts on their daily functioning, quality of life and recovery from injury. This program will address how the sleep of people with quadriplegia can be assessed, managed and improved.

We will use our unique national and international collaborations between sleep and spinal clinical researchers to systematically investigate the mechanisms and management of the major causes, develop novel treatments and translate that research into improved outcomes for the sleep problems in quadriplegia.

The program will work with consumers, scientists and clinicians to ensure that this knowledge is translated into improved care. Both immediately after injury and in chronic quadriplegia the research program will investigate the utility of pharmaceutical and physical treatments.

The anatomical determinants of sleep apnoea in quadriplegia will be explored using cutting edge imaging technology and detailed studies of upper airway and pulmonary mechanics.

Good sleep is an essential element of a good life. Humans are asleep for almost one third of their lives, yet sleep in quadriplegia has received very little attention in research circles outside of Victoria. Our research group has previously characterised the sleep problems of those living with quadriplegia across the spectrum from acute injury to the community and demonstrated that sleep disorders impair daytime functioning and compromise quality of life.

In Victoria we are now uniquely positioned to meet these challenges by creating new knowledge and developing innovative treatments which will yield dramatic benefits in functional and rehabilitation outcomes.

Research grants

Research project funding is a core component of the VNI's strategy to improve the health and quality of life of those individuals living with brain and spinal cord injuries.

The VNI funds research projects in traumatic brain injury and spinal cord injury in basic, clinical and rehabilitation disciplines. In addition to these areas the VNI has funded targeted research activities designed to fill the gaps in neurotrauma research in Victoria.

To meet the strategic goal of ensuring that only the highest quality, internationally competitive neurotrauma research is funded, each application has been through a rigorous peer and scientific review process. This review process is tailored for each funding round and is directed by the VNI Governance Committees. By selecting and funding only high quality research the VNI aims to create a centre of neurotrauma research excellence within Victoria.

Details of the SCI projects 2010-2011, including project summaries, are available below:

Neurotrauma knowledge translation - an international collaboration

Team leads: Dr Peter Bragge (Victoria), Dr Mark Bayley (Ontario)

Lead organisations: National Trauma Research Institute (Victoria); The University of Toronto (Ontario)

VNI/ONF joint funding: $50,000

Project start date: 1 July 2010

The optimum clinical management of neurotrauma patients should be based upon the latest available research evidence. However, the challenge of transferring ever-increasing volumes of medical literature into improved patient outcomes is considerable.

Knowledge Transfer and Exchange (KTE) is the relatively new scientific field of developing and implementing specific strategies to effectively and efficiently translate research evidence into clinical practice. The ongoing development of this field is highly dependent upon dissemination of and advances in KTE knowledge, collaboration between the relatively small community of KTE researchers and expansion of KTE capacity via growth of this community. Interventions in neurotrauma are complex and multifaceted as they involve a large number of health disciplines and care settings. Therefore expanding KTE capacity is critical to the area of neurotrauma.

Harnessing the combined expertise and leadership of VNI and ONF funded researchers in KTE, the aim is to plan and convene an international workshop to drive the science of ensuring that care of brain and spinal cord injury is based on best research evidence, with the ultimate aim of improving the care of these patients.

Preventable job loss following return to work post traumatic spinal cord injury

Team leads: Associate Professor Gregory Murphy (Victoria), Dr Cheryl Cott (Ontario)

Lead organisations: La Trobe University (Victoria); Toronto Rehabilitation Institute (Ontario)

VNI/ONF joint funding: $93,050

Start date: 1 August 2010

This research aims (a) to identify the range of factors associated with the loss of a job to which an injured individual has returned following discharge from SCI rehabilitation, and (b) to identify interventions that could be implemented to prevent unnecessary job loss (and to assess the costs and benefits of such interventions from a societal perspective). Parallel Victorian-based and Ontario-based studies of the factors leading to job withdrawal by study SCI participants will be conducted as a pre-cursor to focus-group studies aimed at identifying the service delivery implications of major factors emerging from the interviews from the SCI study participants who did not persist with positions of employment gained post injury. Identical focus-group studies involving those with clinical service experience, community-based experience and workplace experience will be held in both jurisdictions.

The results of the interviews and the focus group workshops will be used to guide the development of a survey sent to both Victorian-based and Ontario-based samples of clinicians, vocational service providers and employer representatives to assess their knowledge of and attitudes towards listed potential interventions to prevent unnecessary job loss. A sample of those living with SCI in the Victorian community (and a similar sample of those living in the Ontario community) will also be surveyed about their attitudes to the listed service-development proposals.

A final component of the research will be an economic analysis (conducted from Victoria) of the costs of unnecessary (i.e., preventable) job loss.

Singing in spinal cord injury: an investigation into the mechanisms used when singing and the efficacy of singing training for people with quadriplegia

Chief investigator: Ms Jeanette Tamplin

Associate investigators: Dr David Berlowitz, Mr Jeff Pretto, Associate Professor Douglas Brown, Associate Professor Denise Grocke, Ms Merlyn Quaife, Ms Mary Buttifant

Lead organisation: Institute for Breathing and Sleep

VNI funding: $307,129

Project dates: 21 January 2008 - 4 February 2011

Background: Respiratory impairments following quadriplegia are common and disabling, yet there is little data on the effects of such impairment on for vocal function or muscle recruitment for vocalisation. Singing places great demands on the respiratory system, but its effects as a respiratory muscle training technique have not yet been examined in this population.

Aims: We aimed to investigate respiratory muscle recruitment strategies used by people with quadriplegia during speech and singing. We also planned to develop a methodology for assessing respiratory muscle activation during vocal tasks. This methodology was to be used in a study comparing people with quadriplegia with able-bodied matched controls on respiratory and vocal function, and subsequently in a randomised controlled trial investigating the effect of singing training in this population.

Methods: Standard assessment of respiratory function were conducted along with comprehensive vocal assessment and electromyographic analysis of respiratory muscle function during vocal tasks. Phase one compared this data for people with quadriplegia able-bodied matched controls. Phase two compared change over time on these variables for people with quadriplegia who were randomly assigned to 12 weeks of either: a group singing training intervention, or group music appreciation and relaxation.

Results: When compared with able-bodied controls, participants with quadriplegia exhibited respiratory impairments as predicted, but also perceived problems with their voice. They recruited more accessory respiratory muscles both when speaking and singing (especially when louder) and also had a reduced dynamic range and maximum phonation length.

Following 12 weeks of a group therapeutic singing intervention, people with quadriplegia exhibited improvements in inspiratory muscle strength and an overall general improvement in respiratory function and voice projection. Both music therapy group conditions had a positive effect on mood.

Conclusions: Participants with quadriplegia can speak and sing well, but employ unusual techniques to compensate for the respiratory compromise that their injury causes. Singing training can facilitate improvements in respiratory and vocal function, but the magnitude of the improvement is uncertain and further research examining larger groups of participants, and exploring different methods to deliver this therapy is needed.

NSW Innovation & Research

The Spinal Cord Injuries Network (SCIN) signed a Deed of Agreement with the NSW Government earlier this year. This Agreement enables the Network to lead significant initiatives around coordinating clinical trials, building research capacity and providing assistance to update and enhance the Australian Spinal Cord Injury Registry.

These key initiatives are now underway by SCIN which thanks the NSW Government most sincerely for its support.

SCA's directors Joanna Knott and David Prast were on the advisory panel in the setting up stage of SCIN and Joanna served as a board director of SCIN from 2008-2011.

Projects funded by/through Spinalcure Australia

$110,000 Neural Plasticity and Regeneration Group, The Garvan Institute of Medical Research, Sydney

The role of inflammation in neurogenesis in spinal cord injury and related conditions.

Neurogenesis persists in distinct regions of the adult brain and is regulated by experience-dependent processes including learning, exercise, environmental enrichment and stress. Emerging evidence suggests that neurogenesis may be impaired in neurodegenerative disorders and this might contribute to the pathogenesis of these chronic neurodegenerative disorders.

Aims: To determine if FGF-2 regulates neurogenesis through the anti-inflammatory actions of activin A after injury in the central nervous system.

$17,500 Walk On PhD Scholarship, Faculty of Health Sciences, The University of Sydney

The proper investigation of the physical, social and economic impacts of the program on quality of life and participation.

SpinalCure Australia and Spinal Cord Injuries Australia have combined to jointly fund a PhD scholarship to investigate Walk On in Australia, with the initial focus on the program being delivered at The University of Sydney's Faculty of Health Sciences.

The broad parameters of the study are around an investigation of the physiological and psychosocial benefits of Walk On, including functional improvements by clients, altered general health, improved quality of life and identification any associated health economic benefits.

The successful applicant for the scholarship was Ms Camilla Quel De Oliveira, a Brazilian physiotherapist from Sao Paulo, who recently arrived in Australia to commence the study. Camilla was awarded the scholarship ahead of an impressive international field of candidates from Australia and eight other countries. Camilla has previously been involved in clinics and research in regard to neuro physiotherapy and has worked as a physiotherapist with people with a spinal cord injury. She has already commenced working with the other Walk On therapists in Sydney as she progresses the elements of her research under the direction of her primary supervisor, Professor Glen Davis, Professor of Clinical Exercise Sciences and Director, Clinical Exercise and Rehabilitation Unit, Faculty of Health Sciences.

$20,521 Royal Talbot Rehabilitation Centre, Melbourne

SCIPA (Spinal Cord Injury and Physical Activity): Intensive Exercise from Acute Care to the Community

SpinalCure Australia has donated a FES exercise cycle for use in the SCIPA Full-On trial at the Royal Talbot Hospital in Melbourne.

It's no secret that regular physical activity improves fitness and psychological well-being and upper body training has been shown to do this in those with spinal cord injuries.

Moreover there are now reports that regular and intensive activity-based therapies actually promote neurological improvement. The evidence suggests that therapies such as partial body-weight- supported treadmill training and

FES-assisted leg exercises, may improve an individual's ability to move and perform functional activities. However this has not yet been rigorously tested in a randomised controlled trial.

From left to right: Gary Allsop, Prof Mary Galea, Mark McDonald, Jessica Hansson, Nicole Marlow, and Emma Grant (seated).

The aim of SCIPA Full-On project aims to rectify this by comparing the effects of a comprehensive exercise program based on a triad of intensive therapies exercising the paralysed limbs and upper body musculature with a generic upper body strength and fitness training program. The research involves spinal units in Melbourne, Sydney, Adelaide, Perth and New Zealand.

SpinalCure Australia Director Gary Allsop officially presented the bicycle to Professor Mary Galea and the SCIPA Full-On team in Melbourne. On completion of the trial the FES bicycle will remain in the hospital's gymnasium for the use of spinal patients during their rehabilitation. Here it will help patients stay in peak physical condition ready to take the best advantage of a cure when it eventuates.

Fundraising and Community Support

Pictured: Kelly McCann with major sponsors Gledhill Construction

12th annual golf day 2010 saw nearly $28,000 raised by the Macarthur Lions

With major sponsors Liverpool Catholic Club and Gledhill Constructions, the Golf Day was a great success. An enormous amount of work goes into a successful fundraising event and we deeply appreciate the support of the Macarthur Lions, volunteers and donors.

The success could not be done without the continued support from our gold sponsors, the business folk of the Camden District and greater-Sydney area for their generous donations of prizes and funds for SpinalCure.

(Supporters are listed on the last page).

Rotary Clubs rally round Ian Shawyer

Growing up near Maclean, motorbikes were second nature to Ian Shawyer who, in 2000, was left four months in a coma with a spinal cord injury and major complications during an accident at the 9th Australian Motocross Championships in Queensland.

Little hope was given for the former NSW champion for Enduro Motocross, then 16, yet Ian beat the odds to recovery. After enduring extensive rehabilitation and returning to his family and hometown, Ian decided to raise funds for medical research.

It was through the generous assistance from the Rotary Clubs of Maclean and Yamba that Ian's goal came to fruition when rallying support from local businesses and patrons of northern NSW.

Rotarian Brian Ferrie and Ian Shawyer presented Leah Mayne of SpinalCure with $5690. Leah offered SpinalCure's appreciation to the Rotary Clubs of Maclean and Yamba for supporting Ian's fundraising efforts, acknowledging that Ian's personality and broad smile contributed to the townships generosity.

Oscars 83rd Academy Awards fundraiser

Hollywood's former 'Superman', the late-Christopher Reeve who visited Sydney, was a strong advocate for spinal cord injury and believed a cure was possible.

SpinalCure continues to fight for this cause and held an Oscars fundraiser at the Bentley Restaurant & Bar in Surry Hills, Sydney raising over $4000.

Financial Report

for the year ended 30 June 2011

Contents

Independence Declaration

Auditor's Independence Declaration Under Section 307c of the Corporations Act 2001 to the Directors of Spinal Cure Australia Limited

I declare that, to the best of my knowledge and belief, during the year ended 30 June 2011 there have been:

i. no contraventions of the auditor independence requirements as set out in the Corporations Act 2001 in relation to the audit; and

ii. no contraventions of any applicable code of professional conduct in relation to the audit.

FLEMING MOYNIHAN & KAY
Chartered Accountants
Darren A. Kay

12 October 2011

Suite 16, Level 2
25 Solent Circuit
Baulkham Hills NSW 2153

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Directors Report

Your directors present this report on the entity for the financial year ended 30 June 2011.

Directors

The names of each person who has been a director during the year end and to the date of this report are:

Mr Stewart Yesner
Ms Joanna M. Knott
Professor Perry F. Bartlett
Mr David D. Prast
Mr Gary F. Allsop
Dr Stella Engel
Mr Gabriel McDowell

Directors have been in office since the start of the financial year to the date of this report unless otherwise stated.

Principal Activities

The principal activity of the Company during the financial year was to continue to work towards ending the permanence of paralysis caused by spinal cord injury, and to achieve this through:

- Promoting and funding research;
- Fostering co-operation between all disciplines engaged in central nervous system research,regeneration and direct relief;
- Monitoring progress of all research projects funded by or through the Company;
- Co-operation with international efforts in the field;
- Dissemination of information about developments in research.

Information on Directors

Mr Stewart Yesner
AM, BA (Hons) Law
Founder

Ms Joanna M. Knott
OAM, MBA, BA (Hons)
Chair

Professor Perry F. Bartlett
FAA

Mr David D. Prast

Mr Gary F. Allsop

Dr Stella Engel
MBBS DPRM FAFRM

Mr Gabriel McDowell
BA

Auditors Independence Declaration

The lead auditors independence declaration for the year ended 30 June 2011 has been received and can be found on page 3 of the financial report.

Signed in accordance with a resolution of the directors:

Ms J Knott
Director / Chairperson
Dated this 28th day of October 2011

Mr D Wallace
Executive Director
Dated this 28th day of October 2011

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Statement of Comprehensive Income

	Note	**2011**	2010
		$	$
Revenues			
Revenues from Ordinary Activities	2	**671,153**	537,081
Expenses			
Employee Benefits Expense		**92,686**	25,368
Depreciation and amortisation		**1,179**	891
Fundraising Expenses		**12,756**	-
Research Grants		**148,021**	108,000
Administration Expenses		**49,455**	43,997
Occupancy		**3,968**	2,863
Sponsorship		**3,000**	53,000
Other Expenses from Ordinary Expenses		**25,340**	11,170
Total Expenses		**336,405**	245,289
Profit /(loss) Before Income Tax		**334,748**	291,792
Income tax revenue / (expense)		-	-
Profit /(loss) for the year		**334,748**	291,792
Profit/(Loss) Attributable to Members of the Company		**334,748**	291,792
Other Comprehensive Income		-	-
Total Comprehensive income / (expense) for the year		**334,748**	291,792

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Statement of Financial Position

	Note	**2011**	2010
		$	$
CURRENT ASSETS			
Cash and cash equivalents	3	**537,785**	1,232,965
Trade and other receivables	4	**4,605**	1,251
Other Assets	5	**1,034,352**	-
TOTAL CURRENT ASSETS		**1,576,742**	1,234,216
NON-CURRENT ASSETS			
Property, plant and equipment	6	**2,135**	1,776
TOTAL NON-CURRENT ASSETS		**2,135**	1,776
TOTAL ASSETS		**1,578,877**	1,235,992
CURRENT LIABILITIES			
Trade and other payables	7	**1,852**	1,612
Short-term Provisions	8	**7,897**	-
TOTAL CURRENT LIABILITIES		**9,749**	1,612
TOTAL LIABILITIES		**9,749**	1,612
NET ASSETS		**1,569,128**	1,234,380
EQUITY			
Retained earnings		**1,569,128**	1,234,380
TOTAL EQUITY		**1,569,128**	1,234,380

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Statement of Changes in Equity

	Issued Capital	Retained Earnings	Total
	$	$	$
Balance at 1 July 2009	-	942,588	942,588
Profit/(loss) after tax for the year	-	291,792	291,792
At 30 June 2010	-	1,234,380	1,234,380
Profit/(loss) after tax for the year	-	334,748	334,748
At 30 June 2011	-	1,569,128	1,569,128

Statement of Cash Flows

	Note	**2011**	2010
		$	$
Cash Flows From Operating Activities			
Receipts from donors and supporters		**641,124**	496,937
Payments to suppliers and employee		**(213,420)**	(134,673)
Payments for research grants		**(148,021)**	(108,000)
Interest received		**26,674**	35,893
Net cash provided by/(used in) operating activities	10(b)	**306,357**	290,157
Cash Flows From Investing Activities			
Payments from plant and equipment		**(1,537)**	(2,089)
Redemption of term deposit		**-**	28,000
Investment in term deposit		**(1,000,000)**	-
Net cash used by investing activities		**(1,001,537)**	25,911
Cash Flows From Financing Activities			
Repayment of Borrowings		**-**	(25,000)
Net cash provided by (used in) financing activities		**-**	(25,000)
Net increase/(decrease) in cash held		**(695,180)**	291,068
Cash and cash equivalents at the beginning of the financial year		**1,232,965**	941,897
Cash and cash equivalents at the end of the financial year	10(a)	**537,785**	1,232,965

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Notes to the Financial Statements

Note 1: Statement of Significant Accounting Policies

The financial statements are for Spinal Cure Australia as an individual entity, incorporated and domiciled in Australia. Spinal cure Australia is a company limited by guarantee.

Basis of preparation

The financial statements are general purpose financial statements that have been prepared in accordance with Australian Accounting Standards (including Australian Accounting Interpretations) of the Australian Accounting Standards Board and the *Corporations Act 2001*.

Australian Accounting Standards set out accounting policies that the AASB has concluded would result in financial statements containing relevant and reliable information about transactions, events and conditions. Compliance with Australian Accounting Standards ensures that the financial statements and notes also comply with International Financial Reporting Standards. Material accounting policies adopted in the preparation of the financial statements are presented below and have been consistently applied unless otherwise stated.

The financial statements have been prepared on an accruals basis and are based on historical costs, modified, where applicable, by the measurement at fair value of selected non-current assets, financial assets and financial liabilities.

(a) Revenue Recognition

Donations and Fundraising

Donations and fundraising revenue are recognised when received by the Company.

Bequests

Bequest revenue is recognised as it is received.

Interest Revenue

Interest revenue is recognised during the period to which it relates.

(b) Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of the amount of GST, except where the amount of GST incurred is not recoverable from the Australian Tax Office. In these circumstances the GST, is recognised as part of the cost of acquisition of the asset or as part of an item of the expense. Receivables and payables in the statement of financial position are shown inclusive of GST.

Cash flows are presented in the statement of cash flows on a gross basis, except for the GST component of investing and financing activities, which are disclosed as operating cash flows.

(c) Income Tax

No provision for income tax has been raised as the entity is exempt from income tax under Division 50 of the Income *Tax Assessment 1997*.

(d) Plant and Equipment

Each class of plant and equipment are carried at cost or fair value less, where applicable, any accumulated depreciation and impairment losses.

Plant and Equipment

Plant and equipment are measured on the cost basis, less depreciation and impairment losses.

The carrying amount of plant and equipment is reviewed annually by directors to ensure it is not in excess of the recoverable amount from these assets. The recoverable amount is assessed on the basis of the expected net cash flows that will be received from the assets employment and subsequent disposal. The expected net cash flows have not been discounted to present values in determining the recoverable amount.

Subsequent costs are included in the assets carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will to the company and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the statement of comprehensive income during the financial period in which they were incurred.

Depreciation

The depreciable amount of all fixed assets are depreciated on a diminishing value basis over their useful lives to the company commencing from the time the asset is held ready for use.

The depreciation rates used for each class of depreciable asset are: -

Class of Fixed Asset	Depreciation Rate
Office Equipment	37.50%
Low Value Pool	18.75 - 37.5%

The assets residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

Gains and losses on disposals are determined by comparing proceeds with the carrying amount. These gains or losses are included in the statement of comprehensive income. When revalued assets are sold, amounts included in the revaluation surplus relating to that asset are transferred to retained earnings

(e) Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits held with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are shown within short term borrowings in current liabilities on the Statement of Financial Position.

(f) Financial Instruments

Initial recognition and measurement

Financial assets and financial liabilities are recognised when the entity becomes a party to the contractual provisions of the instrument. For financial assets, this is equivalent to the date that the company commits itself to either purchase or sell the asset (i.e. trade date accounting is adopted).

Financial instruments are initially measured at fair value plus transaction costs, except where the instrument is classified at fair value through profit or loss, in which case transaction costs are expensed to profit and loss immediately.

Financial assets at fair value through profit and loss

A financial asset is classified as fair value through profit or loss when they are either held for trading for the purpose of short-term profit taking, derivatives not held for hedging purposes, or when they are designated as such to avoid an accounting mismatch or to enable performance evaluation where a group of financial assets is managed by key management personnel on a fair value basis in accordance with a documented risk management or investment strategy. Such assets are subsequently measured at fair value with changes in carrying value being included in profit or loss.

Notes to the Financial Statements (continued)

Available-for-sale financial assets

Available-for-sale financial assets are non-derivative financial assets that are either not capable of being classified into other categories of financial assets due to their nature or are designated as such by management. They comprise investments in the equity of other entities where there is neither a fixed maturity nor fixed or determinable payments.

Fair value

Fair value is determined based on current bid prices for all quoted investments. Valuation techniques are applied to determine the fair value for all unlisted securities, including recent arm's lengths transactions, reference to similar instruments and option pricing models.

	Note	**2011**	2010
		$	$
NOTE 2: REVENUE			
Revenue from fundraising activities	2a	**37,116**	28,405
Donations received			
- general		**259,681**	465,007
- bequest		**314,618**	7,776
Interest received		**59,288**	35,893
Voting membership		**450**	-
TOTAL REVENUE FROM ORDINARY ACTIVITIES		**671,153**	537,081

	Note	**2011**	2010
		$	$
NOTE 2a: Revenue from fundraising activities			
City to Surf			
Income		**-**	7,770
Expenditure		**-**	-
Profit		**-**	7,770
Lions Club Mandurrah Quiz Night			
Income		**-**	3,500
Expenditure		**-**	-
Profit		**-**	3,500
Macarthur Lions			
Income		**27,326**	14,675
Expenditure		**8,810**	-
Profit		**18,516**	14,675
Oscars Day			
Income		**4,100**	-
Expenditure		**3,636**	-
Profit		**464**	-
Other fundraising events			
Income		**5,690**	-
Expenditure		**310**	-
Profit		**5,380**	-

	Note	**2011**	2010
		$	$
Summary of Fundraising Income			
Income		**37,116**	28,405
Expenditure	34%	**12,756**	-
Profit	66%	**24,360**	28,405

The net surplus from Fundraising Activities will be used to fund the payment of research grants.

	2011	2010
	$	$
NOTE 3: CASH AND CASH EQUIVALENTS		
Cash at bank	**537,785**	240,716
Cash on deposit	**-**	992,249
	537,785	1,232,965
NOTE 4: TRADE AND OTHER RECEIVABLES		
Current		
GST receivable	**4,605**	1,251
NOTE 5: OTHER ASSETS		
Current		
Term Deposit	**1,000,000**	-
Prepayments	**1,738**	-
Accrued Interest	**32,614**	-
	1,034,352	-

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Notes to the Financial Statements (continued)

	2011	2010
	$	$
NOTE 6: PLANT AND EQUIPMENT		
Furniture and fittings	**-**	10,499
Less accumulated depreciation	**-**	(10,499)
Total furniture and fittings	**-**	-
Office equipment	**2,991**	1,454
Less accumulated depreciation	**(1,269)**	(345)
Total office equipment	**1,722**	1,109
Pooled Assets	**413**	667
TOTAL PLANT AND EQUIPMENT	**2,135**	1,776

RECONCILIATION

Reconciliations of the carrying amounts for each class of plant and equipment are set out below:

	Office Equipment	Pooled Assets	Total
	$	$	$
Balance at 1 July 2009	2,025	315	2,340
Additions at cost	1,454	635	2,089
Disposals	(1,744)	(18)	(1,762)
Depreciation expense	(626)	(265)	(891)
Carrying amount at 30 June 2010	1,109	667	1,776
Balance at 1 July 2010	**1,109**	**667**	**1,776**
Additions at cost	**1,537**	**-**	**1,537**
Disposals	**-**	**-**	**-**
Depreciation expense	**(924)**	**(254)**	**(1,178)**
Carrying amount at 30 June 2011	**1,722**	**413**	**2,135**

	Note	2011	2010
		$	$
NOTE 7: TRADE AND OTHER PAYABLES			
Current			
PAYG Withheld		**715**	-
CAMRA	7a	**1,137**	1,612
		1,852	1,612

NOTE 7a – CAMRA

CAMRA stands for the Coalition for the Advancement of Medical Research Australia. Funds contributed will be used to lobby governments on issues relating to Spinal Research. Any funds remaining (if any) upon cessation of the group will be returned to the contributors.

NOTE 8: BORROWINGS		
Current		
Annual Leave	**697**	-
Long Service Leave	**7,200**	-
	7,897	-

NOTE 9: AUDITORS REMUNERATION

Amount received or due and receivable for audit services by auditors of the company.	**Nil**	Nil

	Note	2011	2010
		$	$
NOTE 10: CASH FLOW INFORMATION			
(a) **Reconciliation of Cash**			
Cash at the end of the financial year as shown in the Statement of Cash Flows is reconciled to he related items in the Statement of Financial Position as follows:			
Cash on hand		**537,785**	240,716
Deposits with financial institutions		**-**	992,249
		537,785	1,232,965
(b) **Reconciliation of cash flow from operations with profit from ordinary activities after income tax**			
Profit/(Loss) from ordinary activities after income tax		**334,748**	291,792
Non-cash flows in profit from ordinary activities			
Depreciation		**1,179**	891
Accrued Interest Income		**(32,614)**	-
Loss on disposal of plant & equipment		**-**	1,762
Donation in lieu of loan repayment		**-**	(3,000)
		303,313	291,445
Change in assets and liabilities:			
Decrease/(increase) in receivables		**(3,354)**	(1,251)
Decrease/(increase) in other assets		**(1,738)**	-
Increase/(decrease) in provisions		**7,897**	-
Increase/(decrease) in payables		**240**	(37)
Net cash provided by/(used in) operating activities		**306,358**	290,157

The accompanying notes form part of the financial statements. These statements should be read in conjunction with the attached audit report of Fleming Moynihan & Kay.

Notes to the Financial Statements (continued)

NOTE 11: KEY MANAGEMENT PERSONNEL COMPENSATION

Totals of remuneration paid to key management personnel (KMP) of the entity during the year are as follows:

	Short-term Benefits	Post employment Benefits	Other Long-term Benefits	Total
	$	$	$	$
2011				
Total compensation	28,526	-	-	28,526
2010				
Total compensation	25,420	-	-	25,420

Short-term benefits relate to expense reimbursements as approved by the Chief Executive Officer and Chair.

NOTE 12: RELATED PARTY DISCLOSURES

The names of each person who held the position of Director of the company during the past financial year:

	Meetings Attended:	Apologies:
Mr S Yesner	3/4	1/4
Ms J M Knott	4/4	-
Professor P F Bartlett	3/4	1/4
Mr D Prast	4/4	-
Mr G F Allsop	3/4	1/4
Dr S Engel	2/4	2/4
Mr G McDowell	3/4	1/4

NOTE 13: FINANCIAL INSTRUMENTS

The company's financial instruments consist mainly of deposits with banks, local money market instruments, short-term and long-term investments, accounts receivable and payable and leases.

The totals for each category of financial instruments, measured in accordance with AASB 139 as detailed in the accounting policies to these financial statements, are as follows:

	Note	**2011**	2010
		$	$
Financial Assets			
Cash and cash equivalents	3	**537,785**	1,232,965
Other Assets - Term Deposit Acct	4	**1,000,000**	-
Trade and other receivables	5	**4,605**	1,251
Total Financial Assets		**1,542,390**	1,234,216
Financial Liabilities			
Financial liabilities at amortised cost			
- Trade and other payables	7	**1,852**	1,612
Total Financial Liabilities		**1,852**	1,612

Specific Financial Risk Exposures and Management

The company's exposure to interest rate risk, which is the risk that a financial instrument's value will fluctuate as a result of changes in market interest rates and the effective weighted average interest rates on those financial assets and financial liabilities, is as follows:

	Weighted Average Effective Interest Rate		Floating Interest Rate	
	2011	2010	2011	2010
Financial Assets	%	%	$	$
Cash and cash equivalents	1.35	3.5	537,785	1,232,965
Other Assets - Term Deposit Acct	6.2	-	1,000,000	-
Total Financial Assets	1.35	3.5	537,785	1,232,965

a. Credit Risk

The exposure to credit risk relating to financial assets arises from the potential nonperformance by counterparties of contract obligations that could lead to a financial loss for the company.

Credit Risk Exposures

The maximum exposure to credit risk, excluding the value of any collateral or other security, at balance date to recognised financial assets is the carrying amount of those assets, net of any provisions for doubtful debts, as disclosed in the Statement of Financial Position and notes to the financial statements.

The company does not have any material credit risk exposure as its major source of revenue is the receipt of donations.

The company has no significant concentration of credit risk exposure to any single counterparty or group of counterparties. There are no Trade Receivables and Sundry Receivables is comprised of amounts owed by the Australian Taxation Office.

Notes to the Financial Statements (continued)

Credit risk related to balances with banks and other financial institutions is managed in accordance with approved Board policy. Such policy requires that surplus funds are only invested with counterparties with a Standard & Poor's rating of at least AA. The following table provides information regarding the credit risk relating to cash and money market securities based on Standard & Poor's counterparty credit ratings.

	Note	**2011**	2010
		$	$
Cash and cash equivalents			
– AA rated		**537,785**	1,232,965
Other assets			
– AA rated		**1,000,000**	-

b) Liquidity Risk

Liquidity risk arises from the possibility that the company might encounter difficulty in settling its debts or otherwise meeting its obligations in relation to financial liabilities. The company manages this risk through the following mechanisms:

- Maintaining a reputable credit profile;
- Managing credit risk related to financial assets, and
- Only investing surplus cash with major financial institutions.

Cash flows realised from financial assets reflect management's expectation as to the timing of realisation. Actual timing may therefore differ from that disclosed. The timing of cash flows presented in the table to settle financial liabilities reflects the earliest contractual settlement dates.

Financial liability and financial asset maturity analysis

	Within 1 year		**Total**	
	2011	**2010**	**2011**	**2010**
	$	**$**	**$**	**$**
Financial liabilities due for payment				
Trade and other payables	**1,852**	**1,612**	**1,852**	**1,612**
Total expected outflows	**1,852**	**1,612**	**1,852**	**1,612**
Financial Assets — cash flows realisable				
Cash and cash equivalents	**537,785**	**1,232,965**	**537,785**	**1,232,965**
Trade and other receivables	**4,605**	**1,251**	**4,605**	**1,251**
Other assets	**1,000,000**	**-**	**1,000,000**	**-**
Total anticipated inflows	**1,542,390**	**1,234,216**	**1,542,390**	**1,234,216**
Net (outflow)/inflow on financial instruments	**1,540,538**	**1,232,604**	**1,540,538**	**1,232,604**

NOTE 14 – COMPANY LIMITED BY GUARANTEE

Spinal Cure Australia Ltd is a company limited by guarantee with the liability of members limited to $100 as set out in the company's constitution. As at 30 June 2011 there were 21 members.

NOTE 15 – FINANCIAL REPORTING BY SEGMENTS

Spinal Cure Australia Ltd operated in one industry. The principal activities of the company is receiving donations and fundraising income and the payment of research grants. The company operates predominantly in one geographical area, being Sydney, NSW, Australia.

NOTE 16 – COMPANY DETAILS

The registered office and principal place of business of the company is:

L3 Westfield Towers
100 William Street
East Sydney NSW 2011

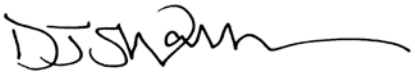
Directors' Declaration

The directors of the company declare that:

1. The financial statements and notes, as set out on pages 24 to 31 are in accordance with the Corporations Act 2001 and:
   a. Comply with Accounting Standards, which, as stated in accounting policy note 1 to the financial statements, constitutes explicit and unreserved compliance with International Financial Reporting Standards; and
   b. Give a true and fair view of the financial position as at 30 June 2011 and of the performance for the year ended on that date of the company.
2. In the directors opinion there are reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable.
3. The statement of financial performance gives a true and fair view of all income and expenditure of the organisation with respect to fundraising appeals.
4. The statement of financial performance gives a true and fair view of the state of affairs of the organisation with respect to fundraising appeals conducted by the organisation.
5. The provisions of the Charitable Fundraising Act, the regulations under the Charitable Fundraising Act and the conditions attached to the authority have been complied with.
6. The internal controls exercised by the organisation are appropriate and effective in accounting for all income received and applied by the organisation from any of its fundraising appeals.

Signed in accordance with a resolution of the directors:

Ms J Knott
Director / Chairperson
Dated this 28th day of October 2011



Mr D Wallace
Executive Director
Dated this 28th day of October 2011

Independent Audit Report

Report on the Financial report

We have audited the accompanying financial report of Spinal Cure Australia Ltd which comprises the statement of financial position as at 30 June 2011, the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, notes comprising a summary of significant accounting policies and other explanatory information, and the directors declaration.

Directors' Responsibility for the Financial Report

The directors of the company are responsible for the preparation of the financial report and have determined that the accounting policies described in Note 1 to the financial report, are appropriate to meet the financial reporting requirements of the company's constitution and are appropriate to meet the needs of members. The directors responsibility also includes such internal control as the directors determine is necessary to enable the preparation of a financial report that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion to the financial report based on our audit. We have conducted our audit in accordance with Australian Auditing Standards. Those standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgment, including the assessment of risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation the financial report that gives a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independence

In conducting our audit, we have complied with the independence requirements of the Corporations Act 2001. We confirm that the independence declaration required by the Corporations Act 2001, which has been given to the directors of Spinal Cure Australia Ltd, would be in the same terms if given to the directors as at the time of the auditors report.

Additional scope pursuant to the Charitable Fundraising (NSW) Act 1991

In addition, our audit report has also been prepared for the members of the company in accordance with Section 24(2) of the Charitable Fundraising (NSW) Act 1991. Accordingly we have performed additional work beyond that which is performed in our capacity as auditors pursuant to the Corporations Act 2001. These additional procedures included obtaining an understanding of the internal control structure for fundraising appeal activities and examination, on a test basis, of evidence supporting compliance with the accounting and associated record keeping requirements for fundraising appeal activities pursuant to the Charitable Fundraising (NSW) Act 1991 and Regulations.

It should be noted that the accounting records and data relied upon for reporting on fundraising appeal activities are not continuously audited and do not necessarily reflect after the event accounting adjustments and the normal year end financial adjustments for such matters as accruals, prepayments, provisioning and valuations necessary for year end financial report preparation.

The performance of our statutory audit included a review of internal controls for the purpose of determining the appropriate audit procedures to enable an opinion to be expressed on the financial report. This review is not a comprehensive review of all those systems or of the system taken as a whole and is not designed to uncover all weaknesses in those systems.

The audit opinion expressed in this report pursuant to the Charitable Fundraising (NSW) Act has been formed on the above basis.

Qualification

Spinal Cure Australia Ltd has determined that it is not practicable to establish controls over the collection of donations prior to entry into its financial records. Accordingly, as the evidence available to us regarding revenue from this source was limited, our audit procedures with respect to donations received had to be restricted to the amounts recorded in the financial records. We are therefore unable to express an opinion whether the donations Spinal Cure Australia Ltd obtained are complete.

Qualified Audit Opinion

In our opinion, except for the effects on the financial report of such adjustments, if any, as might have been required had the limitation on our audit procedures referred to in the qualification paragraph not existed, the financial report of Spinal Cure Australia Ltd is in accordance with the Corporation's Act 2001, including:

(a) giving a true and fair view of the company's financial position as at 30 June 2011 and of its performance for the year ended on that date in accordance with the accounting policies described in Note 1; and

(b) complying with the Australian Accounting Standards to the extent described in Note 1 and complying with the Corporations Regulations 2001.

Qualified audit opinion pursuant to the Charitable Fundraising (NSW) Act 1991

In our opinion, except for the effects on the financial report of such adjustments, if any, as might have been required had the limitation referred to in the qualification paragraph not existed:

(a) The financial report gives a true and fair view of the financial result of fundraising appeal activities for the financial year ended 30 June 2011;

(b) The financial report has been properly drawn up, and the associated records have been properly kept for the period from 1 July 2010 to 30 June 2011, in accordance with the Charitable Fundraising (NSW) Act 1991 and Regulations;

(c) Money received as a result of fundraising appeal activities conducted during the period from 1 July 2010 to 30 June 2011 has been properly accounted for and applied in accordance with the Charitable Fundraising (NSW) Act 1991 and Regulations; and

d) There are reasonable grounds to believe that Spinal Cure Australia Ltd will be able to pay its debts as and when they fall due.

Darren A Kay

Fleming Moynihan & Kay
Baulkham Hills
12 October 2011

Valued Friends

The following individuals and organisations have made substantial gifts to SpinalCure Australia, which enables us to maximise our funding of research projects. Without their generosity and kindness, our work would not be possible:

Ballyus Designs & Ballyus Propagators
Bidvest Australia Limited
Bushell, Dianne
Buttsworth, Christine
Cameron, John T.
Casabene, Angela
Cauchi, Dallas
Complete Aviation Services
Earl-Smith, Guy
Falconer, Andrew D.
Freemantle, Lachlan
Front Design
Geddes, Beverley A.
Grant, Susan
Hore, Jessica B.
Howland-Rose Foundation
Kingham, Megan
Lalich, Eve
Masnada, Michael
Moloney, Will
Prast, David
Roach, Jenny
Rosalind Elaine Nicholson Trust
Rotary Clubs of Maclean and Yamba
Scarpino, Aldo
Shook, Sue-Ellen
Slechta, Joan
Smith, Joanne
The Carlo & Roslyn Salteri Foundation
The Profield Foundation
Walters, Vera L.
Weedon, Rebekah
Wiggly Tail Butchery
Wormald, Nicholas

2010 Macarthur Lions Golf Day

Major sponsors:
Liverpool Catholic Club
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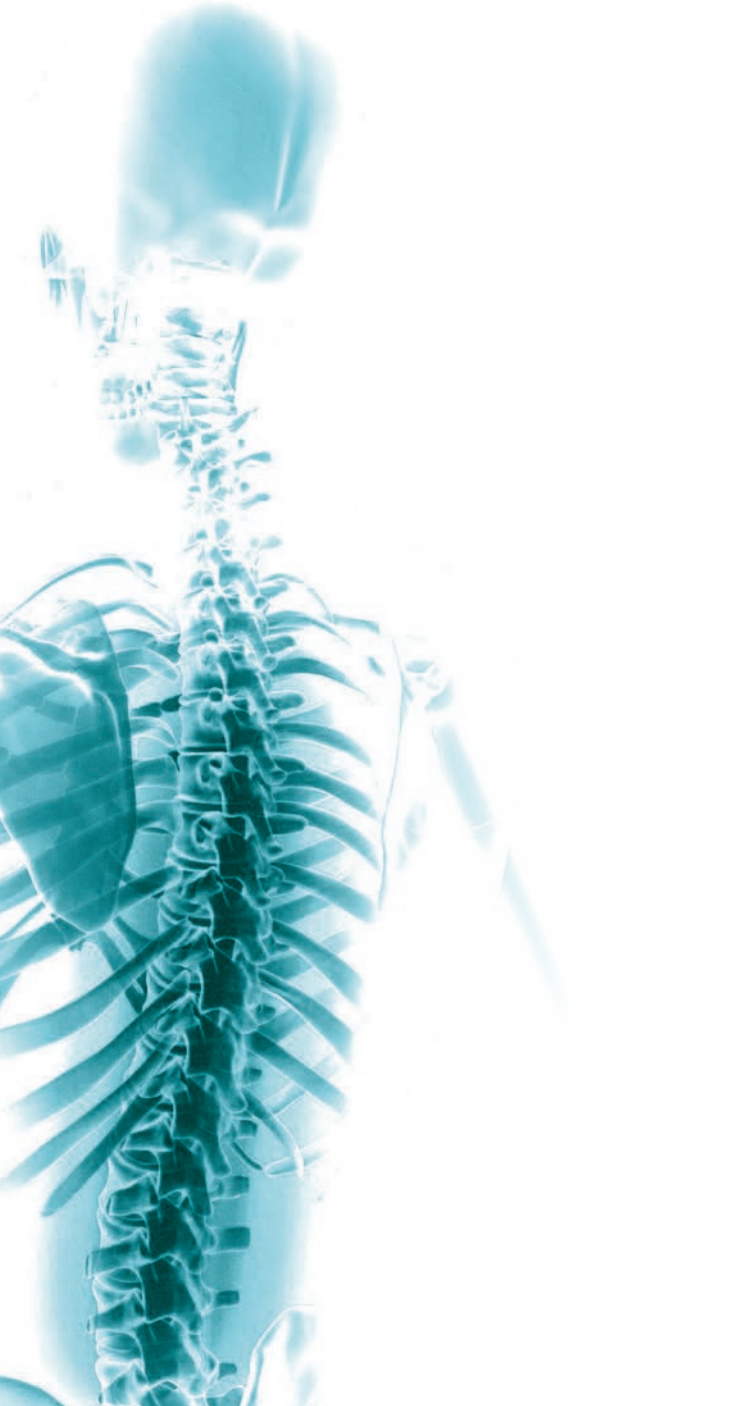
ITS Trenchless, Seven Hills
Kensington Business Solutions, Kings Langley
Macarthur Lions, Camden
Nursing Group, Casula
Panania Plumbing
Raffan & Kelaher, Sydney
SpinalCure Australia
The Athlete's Foot
Trade West, Kellyville
Trade Wind Constructions
Trio Plumbing, Wollongong
TRN Constructions, Camden

Supporters:
Airborne Aviation, Camden
Argyle Tavern, Camden
BREFNI Excavagtions, Picton
Bunnings, Narellan
Camden Kitchens, Smeaton Grange
Camden Lakeside Club, Catherine Fields
Camden Park RSL, Camden
Camden Printing, Camden
Campbelltown Trophies
Crown Hotel Restaurant, Camden
ENZO's Restaurant, Camden
Geoff Corrigan MP, Camden
Gledswood Homestead, Catherine Fields
Macarthur Country Meats, Camden
Mitre 10 Hardware, Camden
Mystic Beauty Motel, Bright Victoria
Narellan Golf Factory, Smeaton Grange
One Steel/Metaland, Smeaton Grange
Radio C91.3, Campbelltown
SEMCO Equipment, St Marys
Trisha's Hair Cottage, Camden
Westrac, Holroyd



SpinalCure AUSTRALIA

SpinalCure Australia
ABN 66 064 327 448

L3 Westfield Towers, 100 William St,
East Sydney NSW 2011

PO Box 393, Summer Hill
NSW 2130

1800 SPINAL
774625

T: 61 2 9356 8321
F: 61 2 9356 1135
E: research@spinalcure.org.au

www.spinalcure.org.au