

RESEARCH RELATIONSHIPS RENEWAL

re:connections



Workshop Session 2

Physical Consequences of SCI over the Lifespan

**Moderator: Dr Matthew Kiernan
Dr Doug Brown
Dr Vaughan Macefield
Matt Laffan
Dr Paul Brock**

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Re:connections Forum
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Key points discussed

Dr Matthew Kiernan, Consultant Neurologist, Prince of Wales Clinical School

- New problems tend to develop in the first 6 months following injury.
- The higher the lesions, the greater the number and severity of peripheral nerve problems.
- 20% of patients had generalized neuropathy in legs and arms. There is a deficiency in available techniques – why is nerve activity failing?
- New research indicates SCI triggers immune problems – various antibodies are generated.
- It is important to keep nerves active by means of electrical stimulation.

Dr Doug Brown, Director of Spinal Cord Services, Austin Repatriation Hospitals

- Aspects of SCI change with time as the patient's condition changes – a longer term understanding of consequences is required.
- Bowel function worsens with time. Issue of manual removal vs. suppositories – same long term result. Black pigmentation – *melanosis coli* – diagnosed by colonoscopy.
- Urinary tract – infection and obstruction cause of morbidity, better prognosis now with antibiotics, hospitalisation, etc. Problems still persist, even with good bladder management. Important to pick up problems and treat early.
- Skin – pressure sores require meticulous management. If the muscle underneath is destroyed, it can't be replaced; quality of skin declines normally.
- Respiratory system – higher injuries take more shallow breaths than lower. Patients need to avoid respiratory infections, smoking, etc, to further damage lungs.
- Sleep apnoea – why is it so high in SCI? Treat early to prevent longer term complications.
- Blood pressure – nocturnal hypotension – is more of a problem than estimated. Adaptation to spinal injury occurs that we still don't understand.
- Osteoporosis – increased fractures; most severe in paralysed limbs, particularly legs. We need to understand how to increase strength of leg bones.
- Pain – does pain change, or people's ability to cope?
- Muscle strength – declines with age, we need new techniques applied early. Obesity is a real problem for people unable to exercise.

Response to Questions

- Post-polio studies show that muscle strength can be restored – can this be replicated with SCI? Currently there is not enough scientific evidence to determine this.
- Colonoscopy – low incidence with SCI – detecting problems such as bowel cancer quite late. Screening should be more readily available.
- Health maintenance is not as good in SCI as it should be, or as it is with other patients.
- Prevention rather than management/cure.

Dr Vaughan Macefield, NHMRC Senior Research Fellow, Spinal Injuries Research Centre, Prince of Wales Medical Research Institute

- Sympathetic dysregulation (eg. altered temperature, excessive sweating, trophic changes) occurs with human spinal cord injury.

- Sympathetic nervous system (SNS) traffic is very important in SCI. It can affect blood pressure and oxygenation levels, etc. There can be an increase or a decrease in blood pressure.
- Poor thermal regulation and autonomic dysflexia (over-activity of the sympathetic nerves) can occur.
- Thermographic imaging to monitor pressure wounds, particularly after surgery, is required.

Response to Questions

- SCI has an impact on life expectancy, and results in accelerated ageing. The better the maintenance, the better the outcome. Lifespan has increased drastically in the last 50 years, although there has not been a particular increase in quality of life as there should have been. Quality of life more important than length of life.

Dr Paul Brock, NSW Department of Education and Training, Motor Neurone Disease Association

- Median survival from diagnosis of Motor Neurone Disease to death is 3 years.
- Psychological patterns of carer dependency and how you deal with its stress.

Matt Laffan, Lawyer, Office of the Director of Public Prosecutions

- Breaking the myth of an egalitarian Australian society, particularly for SCI sufferers.
- Government should implement exercise programs with appropriate carers and transport.