Good sleep is an integral component of a healthy and productive life. It is increasingly apparent that people living with quadriplegia have a higher prevalence of sleep disorders than the general population. These disorders significantly impair sleep, breathing, cognition and quality of life and are apparent within weeks of the initial injury. The most common respiratory sleep disorders to affect those with quadriplegia are obstructive sleep apnoea and disturbed sleep patterns. The prevalence of sleep apnoea in chronic quadriplegia is 2 to 5 times higher than in the general population. Sleep apnoea has been shown to be a direct consequence of acute quadriplegia, occurring in up to 83% of people within weeks of injury.

The Sleep Health in Quadriplegia (SHiQ) program will investigate the key causes, develop novel treatments and translate that research into improved outcomes for the full range of sleep disorders experienced by those living with quadriplegia. SHiQ aims to improve the diagnosis, treatment and rehabilitation of those with quadriplegia through a series of linked experimental and translational projects.

SHiQ commenced in July 2009 after receiving AU$5 Million in funding from the Transport Accident Commission (TAC) to complete the program over 5 years. The program is administered by the Institute for Breathing and Sleep (IBAS) and consists of 7 projects being conducted in collaboration with 10 national and international organisations.

**COSAQ**
To establish the impact on sleep function of using a CPAP nasal mask and pump at night.

**Health Economics**
To analyse the cost effectiveness of interventions designed to improve the sleep health of people with quadriplegia.

**Imaging**
To identify some of the causes of sleep apnoea by investigating the upper airway anatomy.

**Knowledge Transfer & Exchange**
To translate research findings into improved identification & management of sleep disorders in people with quadriplegia.

**Mechanics**
To investigate why individuals with Quadriplegia have high rates of sleep apnoea.

**Melatonin**
To investigate whether a melatonin supplement improves sleep and quality of life.

**Oral Appliance**
To determine the feasibility, effectiveness and safety of a splint to treat sleep apnoea in people with chronic quadriplegia.

**Administering Institution**
Institute for Breathing and Sleep

**Program Leader**
Dr David Berlowitz

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**Program Team**
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**Collaborators & Participating Sites**
- Austin Health, Victoria
- Burwood Spinal Unit, New Zealand
• GF Strong Rehabilitation Centre, Canada
• Midland Centre for Spinal Injuries, United Kingdom
• National Spinal Injuries Centre, United Kingdom
• Northwest Regional Spinal Injuries Centre, United Kingdom
• Prince of Wales Spinal Unit, New South Wales
• Princess Royal Spinal Injuries Centre, United Kingdom
• Queensland Spinal Cord Injuries Service, Queensland
• Royal North Shore Spinal Unit, New South Wales

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