

Rural Spinal Cord Injury Project

A collaborative project between:

Prince Henry and Prince of Wales Hospital

Royal North Shore Hospital

Royal Rehabilitation Centre Sydney

Spinal Cord Injuries Australia

Paraplegic and Quadriplegic Association of NSW

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An overview of

OCCUPATIONAL THERAPY INTERVENTION

for adults with Spinal Cord Injury



Useful Strategies for
Occupational Therapists

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OCCUPATIONAL THERAPY FOLLOWING SPINAL CORD INJURY

The information provided in this fact sheet is to assist OT's treating people with a SCI. It is important to consider each person as an individual, with their own specific needs, within their environment and culture.

PURPOSE OF THE FACT SHEET

This document was published as a fact sheet for the Rural Spinal Cord Injury Project (RSCIP). It is not a stand-alone resource but is part of a series of fact sheets produced by specialists to fulfill the educational component of this project. The layout, level of content and format of the document is consistent with the others produced.

Contributions to this publication are given as a result of knowledge, skills and experiences of the authors and contributors, supported by the RSCIP consortium. This document is not a comprehensive guideline or prescriptive document for occupational therapists working with spinal cord injury. The document was produced from the RSCIP needs analysis and is designed as a starting point for Occupational Therapists with limited spinal cord injury experience. **This fact sheet is designed to provide Occupational Therapists with useful strategies on spinal cord injury intervention and should not replace individual assessments.**

An extensive contact list of suppliers and equipment has been provided to give Occupational Therapists in rural regions some direction/guidelines. The authors do not endorse the companies or products listed. The items may provide a starting point for clinical trial and assessment.

The authors' clinical skills are as follows:

Daria McIntosh has worked in spinal cord injury over the past eight years, working in both a spinal cord injury rehabilitation setting and as an occupational therapist working with clients with a spinal cord injury in the community, at both SCI Aust and ParaQuad.

Annette Keay has worked with spinal cord injured clients over the past five years. She has worked in both the acute and rehabilitation stages of intervention as well as an Occupational Therapist at ParaQuad, treating clients with a spinal cord injury who live in the community.

Shirley Ford was an Occupational Therapist at Burwood Spinal Cord Injury unit, Christchurch, New Zealand, prior to working at the Royal North Shore Hospital in the acute spinal cord injury unit. Over the past four years she has developed extensive skills in the area of spinal cord injury intervention.

FUNCTIONAL INDEPENDENCE FOLLOWING SPINAL CORD INJURY

A person's functional independence has a major impact on quality of life, sense of self worth and consequential social participation. Some people will have the ability to achieve a high level of independence and others will be able to achieve a level of independence through directing their care. Whilst it is reasonable to expect that the degree of functional independence achievable is dependent on a person's SCI level, **a person's neurological level should not be viewed as strictly predictive but rather as indicative of potential function.** It is important to avoid comparisons between individuals with similar levels of injury, as there are many factors impacting on an individual's functional performance (see Table 1).

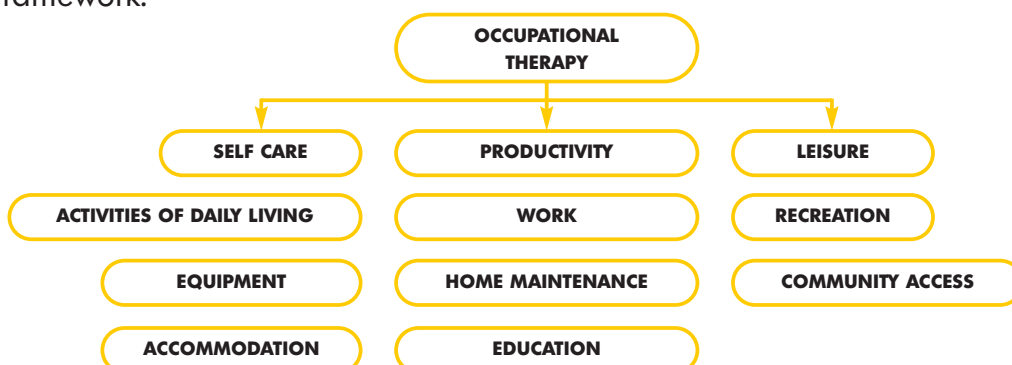
Table 1 Factors Impacting on Functional Performance

- Neurological level (tetraplegia / paraplegia)
- Degree of impairment (complete or incomplete)
- Age at time of injury and years since injury
- Other injuries or medical conditions (For example: fractures, nerve injuries, cardiac disease, arthritis, traumatic brain injury, mental illness, etc)
- Anthropometrics (body proportions/weight distribution)
- Cognition
- Drug and alcohol use
- Social supports
- Cultural expectations
- Financial resources
- Environmental factors

Musculoskeletal changes associated with ageing have a greater impact on persons with a SCI and their level of independence than on the able bodied population. Therefore level of function may change as a person with SCI ages. There is a complex interaction of age at injury, duration post-injury and impairment. Musculo-skeletal problems with overuse syndromes are common (e.g. 30% at 5 yrs, > 50% at 15 yrs in persons with complete paraplegia). On average, the need for assistance doubles over 25 yrs. The last functional skills mastered are often the first to go!

Models of Occupational Therapy Practice

In OT, there are a number of theoretical models or frameworks from which to base clinical practice. The NSW Spinal Unit OT Departments operate within the following basic clinical framework:



SELF CARE

Expected Levels of Functional Independence and Associated Equipment Needs

Note: Tables 2a-g below are not absolute nor prescriptive – people will have different needs depending on the factors outlined in Table 1. **It is essential to assess each individual in their own environment.** Contact therapists working in the field of spinal cord injury management if queries arise.

Not included in this table is assistive technology (computer equipment and environmental control units), however this may be indicated at all levels of SCI.

Table 2A: Expected Levels of Functional Independence and Equipment Needs for C1-4 Levels

Task/Activity	Expected Functional Outcome	Equipment
Toileting	Total assist	Padded seat tilt-in-space shower commode chair (head rest required for C1-3)
Bed mobility	Total assist	Electric hi/lo bed with Trendelenburg and side rails
Bed/wheelchair transfers	Total assist	Electric hoist with sling
Pressure relieving/Positioning	Total assist; may be independent with specialised equipment	Power tilt-in-space wheelchair Specialised pressure relieving cushion Postural support and head control systems Specialised bed and pressure relieving mattress Hand Splints
Eating/feeding	Total assist	
Dressing	Total assist	
Grooming	Total assist	
Showering	Total assist	Padded seat tilt-in-space shower commode Handheld shower
Mobility	Manual: Total assist Power: Independent with highly specialised equipment	Lightweight wheelchair with tilt in space and postural supports High back maybe indicated Power tilt-in-space wheelchair with ventilator tray, headrest and specialised positioning and control equipment (ventilator tray only for C1-C3)
Transport	Total assist	Modified access van with appropriate lock in system and headrest
Domestic duties	Total assist	

Note: C1-3 Level will require 24 hour Ventilator Assistance. C4 Level can breathe unaided.

Table 2B: Expected Levels of Functional Independence and Equipment Needs for C5 Level

Task/Activity	Expected Functional Outcome	Equipment
Toileting	Total assist	Padded seat shower commode chair May be able to manage legbag with Electric Legbag Opener
Bed mobility	Total assist	Electric hi/lo bed with Trendelenberg and side rails
Bed/wheelchair transfers	Total assist	Electric hoist with sling
Pressure relieving/ Positioning	Total assist; may be independent with specialised equipment	Power tilt-in-space wheelchair Specialised pressure relieving cushion Hand splints Postural support and head control systems Specialised bed and pressure relieving mattress
Eating/feeding	Total assist for set up, then independent eating with equip	WHO wrist cock-up splint Adaptive feeding equipment (e.g. palmar band/ringed cutlery)
Dressing	Lower: Total assist Upper: Moderate assist	Adaptive techniques and equipment (e.g. ring pull zippers and clothing loops)
Grooming	Moderate to total assist	Adaptive techniques and equipment (e.g. palmar band)
Showering	Total assist	Padded seat shower commode. Tilt-in-space may be indicated. Handheld shower
Mobility	Manual: independent to total assist Depending on ground and floor surfaces Power: Independent	Ultra lightweight rigid or folding frame wheelchair with modified push rims (e.g. capstans) and push mitts Power tilt-in-space wheelchair with specialised arm drive (with WHO wrist cock-up splint as required)
Transport	Independent with highly specialised equipment	Modified self drive van with wheelchair power lockdowns. Vehicle with hand controls and ultralight steering (assistance with transfers and wheelchair transport required)
Domestic duties	Total assist	

Table 2C: Expected Levels of Functional Independence and Equipment Needs for C6 Level

Task/Activity	Expected Functional Outcome	Equipment
Toiletting	Total assist	Padded seat shower commode chair Adaptive equipment
Bed mobility	Total assist	Electric hi/lo bed
Bed/wheelchair transfers	Moderate to total assist	Electric hoist recommended Assisted sliding board transfer
Pressure relieving/Positioning	Mod to total assist; may be independent with equipment	Power wheelchair with tilt in space Specialised pressure relieving cushion Postural support equipment Pressure relieving mattress or overlay
Eating/feeding	Mod to total assist for set up, then independent with equipment	Adaptive feeding equipment and techniques (e.g. palmar band, ringed cutlery, stable table) Wrist driven flexor hinge splint may be used to increase functional grasp
Dressing	Lower: Moderate to total assist Upper: Moderate to independent	Adaptive techniques and equipment (e.g. clothing loops)
Grooming	Minimal to total assist	Adaptive techniques and equipment (eg C Clip, palmar band, built up toothbrush)
Showering	Moderate to total assist	Padded seat shower commode. Handheld shower. Equipment (e.g. soap mitt, long handled brush)
Mobility	Manual: Independent to total assist - depending on ground and floor surfaces Power: Independent	Ultra lightweight rigid or folding frame wheelchair with modified push rims (eg rubber coated rims) and push mitts Power wheelchair with arm drive, with power tilt-in-space
Transport	Independent driving from wheelchair or from vehicle seat	Modified Self-drive van with wheelchair power lockdowns Hand controls to drive, adaptive technique to transfer self and chair into vehicle or with chair hoist (e.g. slide board with sheepskin)
Domestic assistance	Total assist	

Table 2D: Expected Levels of Functional Independence and Equipment Needs for C7-8 Levels

Task/Activity	Expected Functional Outcome	Equipment
Toileting	Independent to minimal assist	Padded seat shower commode chair cushions with side cut out for access. Adaptive equipment may be useful (suppository inserter)
Bed mobility	Moderate assist to independent	Electric hi/lo bed recommended King single or larger ensemble bed maybe used
Bed/wheelchair transfers	Minimal assist to independent	With or without sliding board
Pressure relieving/Positioning	Minimal assist to independent	Pressure relieving cushion; Postural support equipment (e.g. lateral supports); Pressure relieving mattress or overlay
Eating/feeding	Independent	With or without adaptive equipment and techniques (e.g. ringed or built up cutlery)
Dressing	Moderate assist to independent	With or without adaptive techniques and equipment
Grooming	Minimal assist to independent	With or without adaptive techniques and equipment (e.g. built up handles)
Showering	Moderate assist to independent	Padded seat shower commode recommended. Shower chair without armrests. Handheld shower
Mobility	Manual: independent on flat and even surfaces. Variable assistance on uneven ground Power: Independent	Ultra lightweight rigid or folding frame wheelchair with modified push rims (e.g. rubber coated rims) Power wheelchair recommended for long distances / outdoor mobility
Transport	Independent driving from wheelchair or in vehicle	Handcontrols to drive, adaptive technique to transfer self and chair into vehicle or with chair hoist
Domestic assist	Moderate to total assist	

Table 2E: Expected Levels of Functional Independence and Equipment Needs for T1-9 Levels

Task/Activity	Expected Functional Outcome	Equipment
Toileting	Independent	Padded seat shower commode chair recommended or padded toilet seat.
Bed mobility	Independent	Electric hi/lo bed may be indicated or King single or larger ensemble bed
Bed/wheelchair transfers	Independent	With or without sliding board
Pressure relieving/Positioning	Independent	Pressure relieving cushion Postural support equipment Pressure relieving mattress or overlay
Eating/feeding	Independent	
Dressing	Independent	Adaptive techniques (e.g. log rolling and long sitting for L.L. dressing)
Grooming	Independent	
Showering	Independent	Padded seat shower commode or shower chair with cushion and no armrests. Handheld shower
Mobility	Independent. Good to excellent wheelchair skills (e.g. wheel stands)	Ultra lightweight rigid or folding frame wheelchair
Transport	Independent driving in vehicle	Hand controls to drive, adaptive technique to transfer self and chair into vehicle or with chair hoist
Domestic duties	Minimal to moderate assist	Adapted equipment (long handled brush and broom, easy reacher)

Table 2F: Expected Levels of Functional Independence and Equipment Needs for T10-L1 Levels

Task/Activity	Expected Functional Outcome	Equipment
Toileting	Independent	Padded seat shower commode chair or padded toilet seat
Bed mobility	Independent	King single or larger size ensemble / bed
Bed/wheelchair transfers	Independent	
Pressure relieving/Positioning	Independent	Pressure relieving cushion Postural support equipment Pressure relieving mattress or overlay
Eating/feeding	Independent	
Dressing	Independent	Adaptive techniques (log rolling and long sitting for Lower Limb Dressing)
Grooming	Independent	
Showering	Independent	Padded shower commode or shower chair without arms and with a padded cushion, Handheld shower
Mobility	Independent	Ultra lightweight rigid or folding frame wheelchair
Transport	Independent driving in vehicle	Hand controls to drive, adaptive technique to transfer self and chair into vehicle or with chair hoist
Domestic Assist	Minimal assist	Adapted equipment (long handled brush and broom, easy reacher)

Table 2G: Expected Levels of Functional Independence and Equipment Needs for L1-S5 Levels

Task/Activity	Expected Functional Outcome	Equipment
Toileting	Independent	Padded Toilet seat
Bed mobility	Independent	Ensemble Bed
Bed/wheelchair transfers	Independent	
Pressure relieving/Positioning	Independent	Pressure relieving cushion Postural support equipment as indicated
Eating/feeding	Independent	
Dressing	Independent	Adaptive techniques
Grooming	Independent	
Showering	Independent	Padded shower chair or bench Handheld shower
Mobility	Independent	Ultra lightweight rigid or folding frame wheelchair
Transport	Independent driving in vehicle	Hand controls to drive, adaptive technique to transfer self and chair into vehicle
Domestic duties	Minimal Assistance	Adapted equipment (long handled brush and broom, easy reacher)

Adapted from: Paralyzed Veterans of America (1999) and Reading from:
Hammell, K.W. (1995).

Refer to: The Motor Accident Authority *“Guidelines for Levels of Attendant Care for People who have a spinal cord injury and can claim under the New South Wales Motor Accidents Scheme”*.

www.maa.nsw.gov.au/pdfs/spinal_cord_injury.pdf

SKIN MANAGEMENT (Paralyzed Veterans of America, 2000)

Following a spinal cord injury people are at risk of pressure area development:

- Skin sensations are felt differently or not at all
- Decreased mobility causes pressure on the skin not to be relieved as it normally would be
- Spasm may cause friction damage as it is rubbed against bedding, clothing and W/C parts
- Muscle wasting causes tissue to lose vitality
- Compromised blood circulation delays healing

When a pressure area has occurred it is important for the client to have a full review from all members of the multi-disciplinary team. **Please seek specialised medical and/or nursing advice regarding reasons for skin breakdown and recommended treatment. Both Prince of Wales Hospital and Royal North Shore Hospital have multi-disciplinary pressure care clinics.**

A person with a pressure area is placed, where possible, on complete bedrest. They should be positioned off the wound. The mattress should be re-assessed and upgraded to a higher level as clinically indicated (alternating air is used frequently to prevent areas occurring on other sites during bedrest). When the pressure area is healed, they are then placed on a seating protocol to grade their return to sitting in a wheelchair. This is based on a persons' function / level of care / supports available etc.

Occupational therapists play a vital role in pressure area treatment and prevention. It is critical to review equipment and transfers to maintain skin integrity and reduce the risk of skin breakdown occurring again.

Once the person's pressure area has healed, things that need to be considered are:

- Pressure relief? All seating surfaces need to be assessed – car seats, lounge chairs, wheelchair cushions, toileting and showering equipment.
- Mattresses – Are they getting adequate pressure relief? (i.e. no red areas on bony prominences)
- Transfers – Are they clearing all surfaces well?
- Ability to check their own skin? Long handled mirrors or assistive techniques can assist.
- How is their seated posture? For example: someone with a pelvic obliquity may bear more weight (and more pressure) on one ischial tuberosity.
- Does the equipment suit their needs? Can they pressure relieve?
- Is the equipment poorly maintained or ill-fitted?
- Have they had a decline in function?

When assessing surfaces it may be useful to use a system to measure interface pressure, such as the Talley meter, or a pressure mat mapping system such as the FSA. This may require a referral to a seating clinic. For further information on pressure area care, and or prevention, contact one of the spinal units, or ParaQuad or Spinal Cord Injuries Australia.

SELF CARE EQUIPMENT - FUNDING PROCESSES

Equipment for people with Spinal Cord Injuries is provided through one of four main sources:

1. PADP (Program of Appliances for Disabled People)

“The Program of Appliances for Disabled People (PADP) is a NSW Government program for people with disabilities. The role of PADP is to assist eligible residents of NSW who have a permanent or long-term disability to live and participate within their community by providing appropriate equipment, aids and appliances” (NSW Health, 2001).

- Persons with a permanent disability may be eligible and are prioritised according to income status.
- Initial equipment for people with new spinal cord injuries are provided through the Spinal Set-up Funds attached to the two acute spinal units in NSW at RNSH and POW. Following discharge from hospital, equipment and ongoing repair services are provided from the local area PADP Lodgment Centre.
- A copy of the PADP Policy is available from local lodgment centres or on the NSW Health Web at <http://www.health.nsw.gov.au/fcsd/rmc/cib/circulars> (Circular 2004/53)

Carer's respite may be able to assist with purchasing or renting urgently needed items that assist a non-paid carer. Phone 1800 059 059 for your local branch.

2. Privately funded by the client (if not eligible for any other assistance)

3. Department Of Veterans Affairs (DVA) See contact list for DVA details

4. Compensation for Personal Injury

a. Third Party Personal Injury Compensation (CTP)

See www.maa.nsw.gov.au/pdfs/spinal_cord_injury.pdf for details regarding the Motor Accident Authority Guidelines for CTP claims.

b. Workers Compensation See contact list for WorkCover details.

c. Common-law Negligence Actions See contact list for Law Society details.

d. Sporting Injuries Insurance Scheme See contact list for details.

e. Victims Compensation Scheme See contact list for details.

SELF CARE - TYPES OF EQUIPMENT

BEDROOM EQUIPMENT

Beds

Features:

- Hi-Low function (electric or manual)
- Trendelenberg function (horizontal tilt of complete bed surface)
- Knee bend
- Head raise
- Self-help pole
- Head board and foot board and bolster
- Cot (bed) sides
- Switch adaptations
- Compatibility with an environmental control unit (ECU)

Considerations:

When prescribing a bed it is important to consider the following:

- Hi-Lo height for safe functional transfers. This may also decrease the incidence of shoulder injury over a period of time.
- A person may be able to independently adjust their position (eg. Sitting up, lying down) which can decrease the amount of care required.
- Head raise for persons who are unable to sit up independently. Knee bend to prevent sliding down the bed. Leg elevation for persons with oedema.
- Under bed clearance to enable hoist access for transfers.
- Castor size for manoeuvrability. Larger castors are easier to manoeuvre.
- Minimum and maximum height for independent transfers and carer OH&S.
- Size of bed to enable personal care tasks to be completed (by a carer or bed user).
- Attachment sites for over night drinking system, or mattress pump etc.
- Size of the bed to enable partners to continue to sleep in the same bed, or in some cases the attachment of a partner bed.

Control Options: (See picture below)

Electric beds can be customised to be controlled by any switch, and in some cases through an environmental control system. Where this is available, it can greatly enhance a person's life. Examples of the type of switch adaptations available for persons with limited hand function are Sip and Puff, Joystick, Rocker and Toggle.



PRESSURE CARE MATTRESSES AND OVERLAYS

Types:

Pressure care mattresses are designed to relieve or reduce interface pressure. A pressure reducing mattress redistributes the pressure from the bony prominences, for example a foam overlay or foam based mattress. A pressure relieving mattress uses a pump and air cells to remove pressure on alternating cycles.

When assessing a mattress clinical assessment of skin over bony prominences is essential and an adequate trial period is recommended. Mattresses that leave the skin pink or red over a bony prominence after a trial period are assessed as not suitable. It is also important to consider if a person is being turned over night and whether this is a long term option.

Considerations:

In addition to pressure care, a mattress must also enable a person to maintain their level of independence. For example consider:

- Stability of surface for function, ie transferring onto wheelchair
- Surface height for functional transfers and energy efficiency for upper limb preservation
- Any change in surface level for carer's OH&S
- Bed should be comfortable and keep pain to a minimum.
- Stability of surface for bed mobility and dressing
- Bed size and height for partners

HOISTS

Types	Slings	Customisations
Manual Electric Mobile Ceiling mounted Pivot frame Yolk spreader bar Vehicle	Standard type Toileting type Two piece Banana type (for pivot spreader bar)	'Silk' or 'sheepskin' sleeve for inner sling/thigh (minimise shear) Some companies custom make slings, to measurements and/or have a large range of various sized slings (ie small/long, extra large/long etc)

Clinical Rationale:

A hoist may be required for the following reasons:

- An inability to transfer due to increasing age, decrease in upper limb strength, shoulder dysfunction, carer limitations, increased weight, frailty (of client or carer), presence of pressure areas.
- It may be that a more expensive and specialised hoist may decrease human cost and increase quality of life for the user. This is worth consideration, especially for high level SCI.

Considerations:

The type of hoist and sling required is dependent on the following:

- Level of injury/function
- Age, height, weight
- Skin integrity
- Carer's abilities and availability
- Psychosocial needs
- Ability to comply with usage

- Client comfort when using hoist
- Carers OHS requirements
- Cost efficiency
- Environment for client transfers ie. Bed, wheelchair, vehicle etc.
- Clearance for mobile hoist under bed and circulation spaces.

Promed Elf with standard yolk



Commonly Prescribed Hoists for SCI

ARJO: Trixie, Lisa, Tempo and Bianca (ceiling hoist)

PROMED: Delta, Skipper, Alpha and Voyager (ceiling hoist).

MOBILITY EQUIPMENT

Manual Wheelchairs for people with a SCI

For a person with a SCI using a manual wheelchair (MWC) for mobility a custom made lightweight wheelchair is essential. This will maximise independence in wheelchair propulsion, transportability, skin care and minimise long-term shoulder dysfunction.

Types:

Rigid frame:

A rigid frame is light and the most energy efficient frame type for propulsion due to there being no movement in the frame when propelling. It is the easiest frame type to dismantle and position in a car, often independently.

Folding frame:

A folding frame is less energy efficient for wheelchair propulsion due to the movement in the cross-arm when propelling. However a folding frame MWC can be folded, stored more easily, and transported using a car hoist on top of a car eg WYMO hoist.

Quickie GPV



Quickie XTR and Jay Extreme back



A checklist of features of manual wheelchairs (Adapted from Karcz, 2002)

Wheels

Adjustable axle position – alters position of rear wheels horizontally. This will change the centre of gravity, wheel camber, wheelbase, and seat to floor height. Thus it can increase responsiveness and stability.

Camber – Degree of tilt laterally of the wheel in relation to the frame and floor. The higher the degree, the more efficient the chair is to propel. Camber affects the overall width of the wheelchair and must be considered in regards to access, eg. door widths etc.

Type of wheel – An important maintenance, weight and endurance consideration. eg. Spynergy spoke or mag type wheels.

Quick release – A push button on the outside of the wheel hub which releases wheels for transportation and storage

Type of Tyre

Pneumatic (give a softer ride, but may puncture), standard, high pressure (slightly harder, easier to push), bush'n'beach (BMX type), Solid (can be heavier to push, providing less cushioning, do not puncture)

Pushrims

The distance from the rim is important to allow thumb space when pushing. The type of pushing surface finish and/or a larger diameter rim tubing can assist with grip and strain on the wrist. Options are; slip resistant, ergonomic, plastic or rubber coated or hard anodised.

Push handles

Often used to assist with balance, by hooking the arm behind and around the handle referred to as "hitching". Height is an important factor for carers and OH&S maintenance.

Castors

Solid – No maintenance. Often narrow, which can catch in gutters during propulsion.

Pneumatic – Require maintenance and give a softer ride though are heavier to propel.

Roller blade – Often found on sports style wheelchairs. These decrease wheelbase length and increase manoeuvrability indoors. Less efficient outdoors or on uneven terrain, though highly skilled users may negotiate these areas well with wheel stands with this type of castor.

Size – Will affect manoeuvrability outdoors

Armrests

Fixed, detachable or swing away with variation in lengths. Eliminating armrests may enable improved function in some tasks, though may compromise posture long term.

Brakes

Push or pull on – Dependant on user hand function and ability

High or low mounted – Consider reach of user and position. I.e. High mounted are easier, but can interfere with wheelchair propulsion and transfers

Extended handle – Assists with limited reach or decreased hand function

Scissor brakes – Fold under frame when not in use, requires dexterity and balance to manipulate. These don't interfere with transfers and propulsion

NB: Not all people use brakes for transfers. They should be considered for all people for use on uneven floors and transport.

Leg-rest hangers

Fixed, swing-away and/or detachable

Height/length adjustable

or calf support, or calf strap often required

The "hanger angle" (ie 90 degrees straight down and 70 degrees out in front) is important for the overall turning circle of the chair and leg and foot positioning when seated. A smaller angle may be indicated due to spasm, pain or comfort

Footplates

Angle adjustable footplates - eg for fixed ankle contractures

Flip-up or fixed, 1 or 2-piece

Heel loops or ankle huggers often required

Made from various materials

Backrest

Straight or angled backrest canes/uprights

Height – Adjustable or fixed

Angle (seat to backrest) – Adjustable or fixed,

Fold down – Reduces overall size of folded chair, can affect strength of backrest

Custom made or commercially available rigid backrests provide specialised and specific postural support eg Jay back or jetstream (ultralight backrest). These add varying weights to the wheelchair though address a range of postural issues well. Adjustable upholstery may also be an alternative postural solution.

Accessories

Tray – Removable

Spoke guards

Anti tippers – Standard safety requirement on most MWC's

Frame protectors (front of legrest hangers)

Frog legs (castor fork with suspension)

Clothesguards – Plastic or rigid fabric

Calf straps, heel loops, headrests, chest straps and positioning belts

Commonly prescribed manual wheelchairs for people with SCI

See contact list for supplier details. (Resource use only)

Quickie Manual	Mobility Plus	Mogo
E&S Hyde Wheelchair Sales Rigid and Folding	GTK Rehab Rigid and Folding	Mogo Wheelchairs Customised Rigid and Folding
Invacare Action TiLITE	RGK Manual and Sports Colours Range	Glide Wheelchairs
GTK Rehab Rigid and Folding	DeJay Medical GTK Rehab Rigid and Folding	Active Mobility Systems Specialised Wheelchair Company Rigid and Folding

Powered wheelchairs for people with SCI

(Adapted from Independent Living Centre Power Wheelchair Guidelines)

Powered wheelchair options to consider

- Indoor/Outdoor
- Front-Wheel Drive
- Mid/centre-wheel drive
- Rear wheel drive
- Elevating-seat
- Four wheel drive
- Outdoor Heavy Duty
- Stand-up
- Reclining back (manual or electric)
- Powered wheelchair with manual option
- Attendant controlled
- Tilt-in-Space



Points to consider

- The nature of a person's disability, their level of injury and function and their foreseeable and ongoing future needs
- Method and ability of transfer
- Main use of wheelchair? Is it indoor or outdoor?
- Ability of client / carers to manage and maintain wheelchair and charge batteries
- The user's environment. Home, work and leisure – Internal access to hallways, doors and under benches, external grounds and surfaces, vehicle access and stowage, ramp requirements to transport, storage when not in use

Features of powered wheelchairs

<p>Design</p> <p>Fixed or folding frame Removeable rigid seat base unit Tilt in space design Wheel position: front, midwheel or rear wheel drive</p>	<p>Seat</p> <p>Rigid/sling (This can affect pressure care) Postural supports optional</p>	<p>Armrests</p> <p>Removable or fixed Adjustable height Length options (desk/full) Flip back Drop down for access to tables / desks.</p>
<p>Batteries</p> <p>Range 36 (min) or 50 amp hour Battery weight Battery life expectancy Charger</p>	<p>Motor</p> <p>Power capacity Durability Weight capacity Easily serviceable Guarantees on motors?</p>	<p>Brakes</p> <p>Electro-magnetic Additional manual brakes</p>
<p>Control method</p> <p>Joy-stick or adaptable hand control Chin/sip-puff/head/attendant Programming options Mag seven in conjunction with controller?</p>	<p>Backrest</p> <p>Fixed or adjustable angle Reclining (manual or power) Folding (for transport) Removable upholstery/solid back (e.g contoured foam or Jay back)</p>	<p>Legrests/Footplates</p> <p>Removable/fixed Adjustable height /length/angle Elevating; manual/power Heel and calf support</p>

Wheels

- The choice of wheels and castors affects the manoeuvrability and smoothness of the ride. Environmental considerations are the terrain and surfaces of the areas of use
- The overall wheel width and diameter affects clearance widths and ability to traverse rough terrain.
- Smaller wheels are suitable for indoor use as they enable a smaller turning circle
- Tyres can be solid (no punctures) or pneumatic (which give a smoother ride).

HINT: Pneumatic wheel users should carry a replacement inner tube and tyre with them at all times and the NRMA in most cases are available to replace tyres.

Commonly Prescribed Power Wheelchairs for people with SCI

(See contact list for supplier details)

Quickie Power Wheelchairs Lifestyle & Rehab Active Mobility Systems	Rollerchair Powered Wheelchairs GTK Rehab	Glide Power Wheelchairs Active Mobility Systems Specialised Wheelchair Co.
Invacare Range GTK Rehab	Pride Mobility Lifestyle and Rehab	AC Mobility Lifestyle and Rehab

Cushions

Commonly prescribed Pressure Cushions for People with a SCI

(Paralyzed Veterans of America 2000, Queensland Spinal Cord Injuries Service, 2001).

A person with a Spinal Cord Injury who is a wheelchair user should sit on a pressure cushion.

Pressure cushions provide pressure relief as they distribute body weight more evenly over a larger surface area. They prevent all the pressure being taken over the Ischial Tuberosities (IT's). They can also enhance function and prevent postural deformities.

A cushion and w/c should be considered together, as they function as a unit for pressure relief and postural support.



NB A number of pressure relieving cushions should be trailed (with skin checks) to determine which is the most suitable. If the user is at high risk of pressure areas, a Seating Clinic appointment may be indicated to map interface pressures, (see contact list).

Types of Cushions

Different cushions provide varying levels of pressure relief depending on their design, and the material from which they are manufactured. Some cushions may use a combination of materials to improve their performance. The most common materials used for pressure cushions are:

Gel Filled – Various viscosities, heavy, may be floppy to handle, better skin temperature control, airflow is limited. May reduce shear. eg Action cushion.

Foam – Standard foam or contoured foam is low cost, has various densities, has contouring properties, allows good airflow, is stable, almost maintenance free, low weight. eg Infinity range.

Custom foam – Made in a seating clinic for individual. Eg. Perth cushion, or “cut out”. Low cost of materials, can be high pressure care and can be highly individualised. Has a limited life expectancy (6 months to 1 year) and needs protection from incontinence.

Air filled Villous dynamic air cushion (adjustment required) eg High and Low profile ROHO cushion. Very high pressure relief. But not as good heat dissipation or stability as other cushion options. May puncture. Requires education to set up and maintain pressure care setting. It is lightweight and easy to clean.

Contoured foam with fluid insert eg Jay cushion. Provides good stability and durability. Can be very high pressure protection and can provide stability and postural support. Heavier than foam or air.

It is essential to assess each individual for the most appropriate pressure care cushion. Points to consider when selecting a pressure cushion:

Impaired or no sensation in buttocks i.e. risk Whether w/c is set up correctly History of pressure areas Weight/shape of wheelchair user Contenance issues Heat dissipation	User’s ability to relieve pressure Transfer technique and cushion’s stability Posture Preference of cushion user/ comfort Replacement / durability	Weight of cushion for transporting Wheelchair design / size Pain in sitting Cushion care / adjustment and user or carer’s abilities Cost
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(Queensland Spinal Cord Injuries Service, 2001)

An important point to remember with the ROHO cushion, is that while they provide very high quality pressure relief, they need to be inflated correctly. When the cushion is both **over** or **under** inflated, the cushion user is at risk of pressure areas.

Suppliers of Commonly Prescribed Wheelchair cushions for SCI

(See contact list for supplier details: This list is not exhaustive. For more suppliers refer to ILC)

Jay, Roho, Invacare Infinity GTK Rehab	Foam cutout or Perth cushion Seating clinics	Jay, Roho Lifestyle & Rehab (L&R)
Jay, Roho Specialised Wheelchair Co.	Jay, Roho, Custom Maroon commode cushions Able Rehabilitation	

Sliding Boards

The sliding board is a device designed to assist a person transfer with or without assistance. This may include wheelchair, bed, shower commode or vehicle transfers. There are two basic types of sliding boards, the straight and the over-wheel. The over-wheel is unique, as it protects the user's skin from abrasions on the wheel during transfers. This type of slider, however, is not recommended for commode transfers, when a straight slider is recommended.



Covers can assist with skin protection for use during showering.

Sheepskin sliding mats are another piece of equipment that can be used by a person to transfer in/out of a vehicle, particularly when a person is unable to physically assist with the transfer. When doing this transfer, the assistance of two carers would also be necessary, to ensure a safe transfer.

Both the over-wheel and straight sliding boards can be purchased from ParaQuad Engineering. The sheepskin sliding mats are available from PECS. See contact list for supplier details.

BATHROOM EQUIPMENT

Commodes

Options to consider:

- Folding for transport / or fixed frame
- Attendant propelled
- Self-propelling
- Tilt in space
- Front, right or left side opening
- Closed seat with cutout
- Closed seat with no cutout (for persons with a colostomy)
- Fixed recline in the backrest
- Higher back rest heights
- Elevating legrests
- Pan and pan carrier

Clinical indications:

- For showering and bowel care
- Reduce the need for transfers and strain on upper limbs / upper limb preservation
- Carer occupational health and safety for clients who are dependent in self-care

A person with paraplegia may elect to use a self-propelling commode to reduce shoulder use and to maintain independence. For a person who is unable to self-propel a shower commode, an attendant propelled shower commode is recommended. An attendant propelled shower commode is also indicated if there is limited space, as having four small wheels it can move in four directions, thus making handling easier for carer's.

Customisations:

If the commode seat does not provide adequate pressure care, cushions can be added to the seat, such as a Roho commode cushion or a padded gel seat, or gel can be added inside the custom made cushions. Customisations also assist with postural support and function.

Push handles at the rear of the commode can assist with function for a person who has reduced sitting balance.

For high level lesions postural support can be indicated, such as **lateral supports or troughed armrests** – the latter assist with access to the upper limb for hygiene, as well with comfort and posture.

Head rests can be added for persons with limited or no head control.

Back extensions can be added to the commode to increase its back height. Also the back-rest can be fixed in 5 – 15 degrees of recline to enhance posture. Back rests can have 1 or more removable strap extensions.

A **tilt in space** commode is indicated if a person has a history of postural hypotension, or has high seating needs, and requires the tilt to stabilise their posture. **Rake** or front to rear angle can be added to increase seating tolerance. Some commodes have this as a standard feature.

Padded legrests can be added to assist with pressure care for the lower limbs. Elevating legrests are also available.

Anti-tip bars can be placed on the rear of the commode to enhance safety where indicated.

A **pan and pan carrier** is recommended in the event that the user cannot access a toilet.

The **seat** is the most important part of the commode in terms of pressure care. In order to maintain good pressure care, the seat is designed to distribute as much pressure through the greater trochanters (GT's) whilst maintaining the Ischial tuberosities (IT'S) to "float" in the cutout. A hand made padded seat is essential and can be customised to suit an individual's specific needs. These seats have no joins on the surface where the client will be sitting and thus reduce the risk of pressure areas. A double foam layered seat, called a maroon custom seat, is recommended as the foam covers the inside edge of the cutout, which is better for pressure care. This seat has a higher quality foam and a longer life span. K-care is the most commonly prescribed commode for persons with a SCI.

K-care Tilt in space commode and self-propelled, with right side opening custom maroon seat.



ALTERNATE SHOWERING / TOILETING EQUIPMENT.

Types recommended:

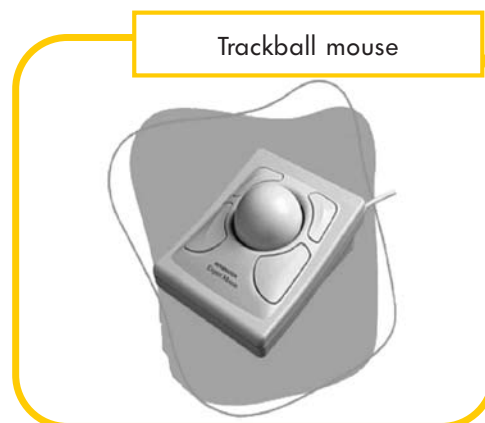
- Shower chair with no armrests and a padded seat
- Bathboard with foam overlay/insert with shower hose
- Transfer bench with closed cell foam and no seams
- Padded toilet seat
- Jiffy Biffy Pads – portable toilet seat cushions
- Shower trolley

Clinical indications:

For a person who can transfer independently, shower transfer benches, or shower chairs with no armrests and padded seats may also be used. Client preference is an essential consideration in any equipment prescription. Important education is required, supporting the risk of shoulder over use injury associated with transfers. An example of minimising shoulder use is with the use of a commode for morning care reducing transfers from six to two.

Computer equipment

Computers are a useful tool for communication, study, vocational and social opportunities and domestic duties (such as Internet shopping and banking). Most TAFE institutions have a disability officer, who can assess individual and specific need. TAFE have a commitment to continue courses commenced in the acute and rehabilitation spinal units, and/or support new courses locally. Computer equipment items commonly used are: a trackball mouse, cherry keyboard and voice-activated software. For updated information look at the following websites:



- www.abilitycorp.au • www.tecsol.com.au • www.northcott.com.au • www.oten.edu.au
- www.arata.org.au • www.regencyrehab.cca.org.au • www.tscnsw.org.au

ENVIRONMENTAL / DOMESTIC EQUIPMENT

Environmental Control Units

- Environmental Control Units (ECU's) aim to increase independence within a home environment. Domestic appliances are controlled using a single switch or a voice command (input) into an ECU which sends an output command to an appliance to be operated. Devices controlled may include lamps, lights, air conditioners, heaters, televisions (including satellite TV), videos, stereos, electric doors, electric beds, page-turners, computers and telephones.
- Simple switch operated systems tend to be less costly and provide sometimes adequate control options; more complex voice activated systems are widely available, highly specialised and more costly.
- Programmable large remote controls can be a cost effective option for those with adequate functional ability.
- Voice Activated Systems can be controlled from wheelchair or bed. Eg. 'Simplicity', 'Sicare Pilot or Light' and 'Nemo'.
- Scanning devices can be used in combination with mouthsticks or a variety of switches and switch systems. eg GEWA Prog
- It is important to trial ECU's with a skilled company representative before purchase to ensure individual needs are able to be met.
- ECU's are available from Technical Solutions (Victoria), Northcott Society (NSW), and Regency Park (SA). See contact list for supplier details.

Personal Alarms

A number of people with SCI have personal care support provided by agencies (Home Care, Attendant Care), family and friends. Even though support comes and goes throughout any given time period, there will be occasions when no one is about. A personal alarm system provides access to emergency assistance at any time. The aim of provision being to assist to alleviate anxiety and encourage and support independence. The transmitter button, which is pressed to activate the system, can often be adapted to suit individual functional needs. Where this is required it is suggested that an OT coordinate/consult between the manufacturer and an organisation such as TAD (Technical Aid to the Disabled) to achieve an access method. Sip/puff and large switch adaptations for example are available from the supplier 'Vital Call'. Contact the Independent Living Centre for further options and details.

Home Management – To maximise the independence of a person with a Spinal Cord Injury, it is essential that home modifications made meet individual needs. (Please see home modifications section).

A number of products are commercially available to facilitate independence in performing home management tasks. These products are especially useful for people with tetraplegia and limited hand function. Examples of these products include: chopping board with attached knife and spikes, large handled knives/ utensils, peeler with table clamp, jar openers, kettle tippers, Easy reachers, long-handled dustpans and brooms, built up pens and utensils.

Traymobiles and stable tables can be utilised to transport items or carry hot items to reduce the risk of burns on lower limbs. A front loading washing machine, and a lowered clothes line or front loading dryer, can facilitate independence in laundry tasks.

Many specialised products are available from stockists such as Able Rehabilitation, Total Patient Care, Smith & Nephew or Lifestyle & Rehab (refer to Contact List for suppliers). When additional customisation of equipment is required then organisations such as TAD (Technical Aid for the Disabled) may be able to give assistance or offer consultation.

Spinal Cord Injuries Australia's information service (1800 819 775) has an up to date database and library service who may be able to assist. *The Independent Living Centre* in Sydney is also a good resource.

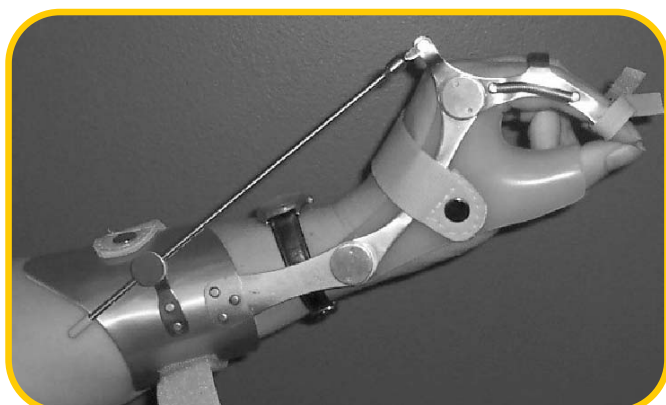
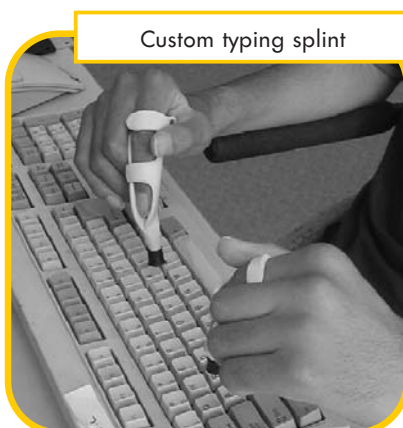
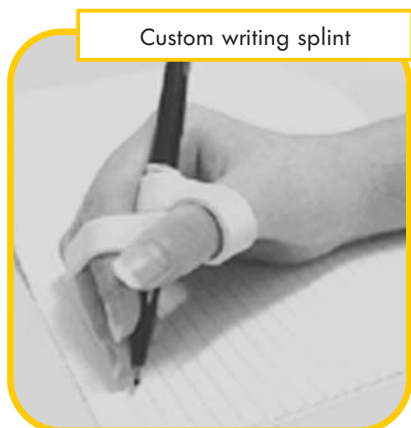
FUNCTIONAL SPLINTS

The provision of upper limb (UL) splints is common practice in spinal cord injury units. Splints are applied for a variety of clinical rationales, depending on the cervical SCI level. Not all clients are discharged with an UL splint, and may be discharged with a ranging (PROM) program. Most clients require assessment and review on an individual basis regarding any changes in their hand, e.g. if contractures develop.

In most cases for people with a **C4 SCI and above**, a WHO (wrist-hand-orthosis) will be provided – this is resting hand splint for night use. The purpose of this splint is to prevent contractures and maintain cosmesis (appearance). It places the hand in the position of rest or function. This splint is also often worn by people with C5 and C6 lesions at night, dependant on their status.

For most clients with a **C5 lesion**, where there is weak or no active wrist extension, a WHO – wrist cock-up splint is used during the day to stabilise the wrist and thus increase function. Commercially available splints, such as the Futuro or a custom made leather or thermoplastic splint are suitable options.

Functional writing and typing splints, made of thermoplastic may be indicated. Contact the spinal units or ParaQuad NSW to discuss your clients clients needs and request a pattern. Some of these splints are also available commercially.



A wrist driven Flexor Hinge splint (pictured left) is a splint that strengthens the tenodesis grasp enabling a user with absent finger movement to grip smaller objects.

The splint utilises active wrist movement to mechanically form a pincer grip.

This may be indicated for people at the C6 level.

Wheelchair gloves prevent skin breakdown and can be essential for effective wheelchair propulsion. These can be bicycle gloves, or commercially available wheelchair gloves, and are available from health product suppliers. Customised gloves are available from some spinal units. It is important to consider the thumb position when prescribing gloves as this can affect functional tenodesis grasp in other activities. Individual assessment is therefore required. For more detail, please contact, ParaQuad or the spinal units.

ParaQuad has a SCI splinting clinic six-weekly, which is free of charge for ParaQuad members. Call the information / intake line to enquire or make a referral (ph: 8741 5674, web address: www.paraquad.org.au).

WORK

The Return to Work Process

A number of services provide vocational counselling, rehabilitation and work retraining, and assistance with finding employment in the community.

CRS Australia provide vocational rehabilitation services to people with injuries and disabilities who are seeking employment.

Referrals

CRS Australia has offices in all major regional centres and throughout metropolitan Sydney. Referrals can be made directly to the nearest CRS Australia office. Offices are listed in the White Pages or for your nearest office phone the free call number 1800 624 824.

Web Address: www.crsrehab.gov.au

SCI Australia Workforce is an employment agency with the goal of finding employment for people living with physical and sensory disabilities. The program is free to both employees and employers, as it is funded by the Commonwealth Department of Family and Community Services.

Referrals can be made directly to SCIA Workforce by: Phone: (02) 9669 5277 or email: employment@spinalcordinjuries.com.au

Web Address: www.spinalcordinjuries.com.au

DRIVING

- Following a spinal cord injury – dependent on the degree of injury – a driving assessment with a qualified Driving Occupational Therapist is usually required.
- The driving assessment will determine readiness to resume driving and recommend modifications that are required to enable safe and functional driving, eg hand controls.
- Occupational Therapy Driving Assessments can be organised by your local CRS office or a specialised Driving Centre.
- Coorabel Driving Centre and Cumberland Driver Rehabilitation Program are specialised driving centres in Sydney. They also provide an information resource service for people living in rural areas. (See contact list for further information).
- Driving lessons will be prescribed and conducted where indicated prior to undergoing the RTA Disability Driving Assessment.
- It can also be possible for a person with a Spinal Cord Injury to drive other vehicles. eg a truck. This depends on the person's functional ability. Where indicated, this is worth considering.
- It is generally possible for a person with C5 Tetraplegia and below to drive a vehicle with appropriate modifications.

Car Modifications

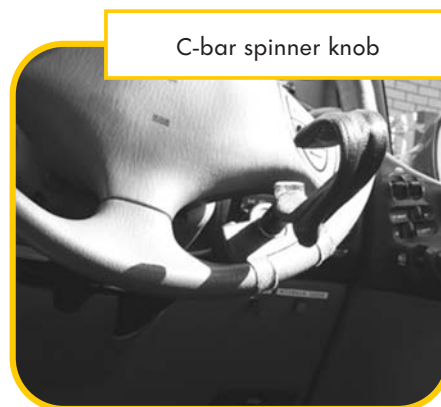
All vehicle modifications must meet RTA guidelines that comply with Australian Design Rules. Modifications must also be certified by a RTA approved engineer.

Contact your local CRS unit for specialist vehicle modification provider's contact details in your local area. Some resources are:

- ParaQuad Engineering and Problem Management Engineering complete vehicle modifications in Sydney.
- Driver retraining schools.
- Community Occupational Therapists at ParaQuad and Spinal Outreach Service provide information about suitable vehicles for people with SCI.

Some examples of Vehicle Modification Options:

- Hand controls to operate accelerator and brake. These may include the MPS Monarch, Push-Pull or Throttle (twist grip) controls.
- A spinner knob, fork attachment or C bar attachment to the steering wheel
- Some vans can have automatic wheelchair lockdown restraints installed, automatic ramp and a swivel seat. Where appropriate many other options are available also. A person unable to transfer to a drivers seat or swivel seat may still be able to drive independently with the automatic lockdown system and drive from their wheelchair, dependent on their specific circumstances.



A mobile phone is recommended in case of any emergency whilst driving.

Disabled Parking

A disabled parking permit is available from the RTA and allows disability parking in accessible parking spots.

LEISURE

Recreation and leisure activities assist people to not only pursue their individual talents, abilities and interests but also develop important and valuable social networks and relationships in the broader community. The following contact list may be useful in recreation and leisure pursuits:

- NSW Sport Council for the disabled www.nswcd.coo.au
- NSW Wheelchair Sports Association www.nswwsa.org.au
- Recreation Service: Moorong and Prince of Wales SCI units (see contact lists)
- Technical Aid to the Disabled (TAD) www.technicalaidnsw.org.au
- Achievable Concepts (Resource of recreation equipment for people with disabilities) www.acheivableconcepts.com.au
- Independent Living Centre (see contact lists)

ENVIRONMENT

The spinal cord injury units in Sydney provide state-wide services to people with SCI. The assistance of rural community and hospital occupational therapists is acknowledged as essential and valuable in the home modification process. The OT's in the Sydney SCIU's conduct home environmental assessments and make recommendations and applications for modifications for clients who live in metropolitan Sydney. They rely on the availability and experience of local rural OT's when out of area assessments are required.

The home visit process varies depending on specific needs, housing and social situations prior to injury and the status and nature of compensation. The difficulty of ascertaining an expected functional level upon discharge where incomplete injury exists often means planning for home modifications progresses slowly to enable allowance and accommodation of varying needs and degrees of independence as they become evident. Where a complete injury exists an anticipated functional outcome can be more accurately established and home assessments are often carried out and progress made earlier in the rehabilitation process.

Government assistance for home modifications for people who **own their own home** is provided under the Department of Ageing, Disability and Home Care (DADHC) via Home and Community Care (HACC). Any person with a disability is eligible for funding support in the HACC scheme.

The funding is organised in 3 levels as follows:

- Level 1 under \$5000
- Level 2 \$5000-\$20 000
- Level 3 \$20 000 +
- Modifications must be recommended by an Occupational Therapist and are supported by an extensive application to the relevant service.

HACC funding policy specific to 'high level modifications' is available at www.updates.nsw.gov.au and the home modification clearing house website is: http://plan.arch.usyd.edu.au/hmm/hmm_web/default.cfm

If a person lived in **rental accommodation** prior to injury, accessing an accessible home in the rental property market is limited. Many landlords tend not to allow major modifications to their property. In these cases often application for priority housing to the local Department of Housing is made.

Where **compensation** for injury is provided, an insurance company may decide to meet the cost of housing modifications to an existing property or depending on the living and social situation may elect to have a more suitable home built. In this instance an appropriately skilled architect is contracted, as often is a private occupational therapist to make relevant recommendations and support and monitor progress.

The role of the rural OT is vital in the smooth transition from rehabilitation to home. To maintain a client-centred approach during rehabilitation the OT within the SCIU remains responsible for the home modifications report in close liaison with rural OT's in regard to the actual physical environment. This works well as it enables sharing of relevant accurate information between treating team members, family and the client.

For clients with SCI who are well beyond their initial rehabilitation and need home modifications due to rehousing or a change in level of ability, information is readily available from ParaQuad and the Sydney SCIUs. **A guideline for Home Modifications for people with SCI, which was adapted from the Australian Standards, was written by the NSW Occupational Therapy Association SCI Focus Group. This is available on request from Sydney SCIU's / ParaQuad (see contact list).**



Ageing following a spinal cord injury:

(Waters & Sie, 2001; Thompson & Yakura, 2001)

The normal ageing process in the able bodied population is considered to be progressive and irreversible, in the spinal cord injured population these changes often occur prematurely and result in losses in functional abilities. Manual wheelchair users and people who transfer independently are more susceptible to over use syndromes of the shoulder, wrist and elbow due to repetitive movements on a non-weight bearing joint.

Principles of energy conservation and upper limb preservation are recommended throughout a persons lifespan. For example a hi / lo bed makes transfers more energy efficient and places less strain on the upper limb; a commode can reduce the amount of transfers required in a morning self care routine from six to two.

This is a common phenomenon of ageing with a spinal cord injury and can cause a significant decrease in functional ability and an increase in equipment required to maintain independence and quality of life.

CONTACT LIST

SPINAL UNITS / COMMUNITY GROUPS

Hunter Spinal Cord Injury Service

621-23 Hunter Street
Newcastle West 2302
Ph: 4925-7888
Fax: 4925-7880

Moorong Spinal Cord Injuries Unit

Occupational Therapy Dept
Ph: 9808 9269
Fax: 9809 9062
Northern Sydney Sector

Neil Fitzer Unit

Seating Clinic
Moorong – 9808 9292
Bio-medical Engineering Dept
RNSH
Ph: 9926 7226

Northcott

Paediatric SCI
Ph: 9630 2246
Fax: 9683 2827
Statewide Pediatric Service

ParaQuad, NSW

6 Holker Street
Newington, NSW, 2127
Ph: 8741 5674
Fax: 8741 5650
www.paraquad.org.au
Spinal Outreach Nurses and Occupational Therapists, Attendant Care Program, Accommodation Services, PECS, and PQ Engineering.

The Prince Henry / Prince of Wales Hospital

Spinal Cord Injuries Unit
Occupational Therapy Department
Ph: 9382 5930
Fax: 9382 5989
South Eastern Sydney Sector

Prince of Wales

Seating Clinic
Rehab Engineering Dept
Ph: 9382 5019 or 5206
Fax: 9382 5434

Royal North Shore Hospital

Spinal Cord Injuries Unit
Occupational Therapy Dept
Ph: 9926 8786
9926 5666
Fax: 9906 1448

Spinal Cord Injuries Australia

1 Jennifer Street
Little Bay NSW 2036
Ph: 9661 8855
Fax: 9661 9598
Info line, WorkForce, Advocacy, Rehabilitation and Peer Support, Residential Accommodation, SCI Access consultancy. Case management

Spinal Outreach Service

Royal Rehabilitation Centre
Sydney
600 Victoria Rd Ryde 2112
Ph: 9808 9666
Fax: 9808 9658

State-wide education and consultancy service to clients eligible at discharge and to rural clinicians.
Allied health, medical and nursing services.

SERVICE / EQUIPMENT PROVIDERS

Able Rehabilitation

5 Millennium Court
Silverwater NSW 2128
Ph: 9748 2600
Fax: 9748 6565

Products:

Seat Products
Mattresses
Shower equipment
Manual wheelchairs

AMS

30 James Street
Lidcombe
Ph: 9649 2111
Fax: 9649 8506

Products:

Hoists
Seating equipment
Power wheelchairs

Arjo

Head Office: PO Box 675
Bulimba, QLD, 4171
Sales Reps NSW:
Paul Currie: 0417 663 946
Service / Repairs:
(02) 9748 0636

Products:

Hoists

Specialised Wheelchair Co

Ph: 9905 5333
Fax: 9905 2208

Products:

Power wheelchairs
Manual wheelchairs
Seating equipment

Coorabel Driving Centre

Royal Rehab Centre Sydney
227 Morrison Rd
Ryde, NSW, 2112
Ph: 9808 9328
Fax: 9809 9012
Driving Assessments

Cush'n Soft

48 Canoelands Rd
Glenorie, 2157
Ph: 02 4566 6198
Fax: 02 4566 6125

Products:

Cushioned toilet seats

DeJay Medical

1 Prince William Dr
Seven Hills, 2147
Ph: 9838 8869
Fax: 9838 7869

Products:

Manual wheelchairs

Department of Veterans Affairs

GPO Box 3994
Sydney, NSW, 1141
Ph: 133 254 or 9213 7777
Non-metro: 1800 555 254
www.dva.gov.au

Driver Rehabilitation Program

University of Sydney
Cumberland Health and Research Centre
East St
Lidcombe NSW, 2141
Ph: 9351 9830

Dunlop Flexible Foam

Lot 103 Frank Street
Wetherill Park, NSW, 2164
Ph: 9609 6177
Fax: 9725 4264

Products:

Customised Foam products
Cushions, Mattress Overlays

GTK Rehabilitation

Unit 11/ 14 Boden Rd
Seven Hills, 2147
Ph: 9620 9177
Fax: 9620 9081
www.gtkrehab.com.au

Products:

Power wheelchairs
Manual wheelchairs
Seating products
Beds, Mattresses

Hamatic/Adjustable Bed Company

PO Box 666
Crows Nest, NSW, 1585
Ph: 9906 6133
Fax: 9906 8889

Products:

Electric Beds

Huntleigh HealthCare

Ph: 1800 072 040

Products:

Pressure mattresses

Independent Living Centre NSW (ILC)

1 Fennell Street
Parramatta, NSW, 2150.
Ph: 1300 885 886
www.ilcnsw.asn.au

Comprehensive information on assistive equipment for people with a disability and supplier contact information.

Law Society of NSW

1800 422 713
www.lawsocnsw.asn.au

LifeStyle and Rehab

Unit 5/44 Atkinson Rd
Taren Point, 2229
Ph: 9526 2522
Fax: 9526 2507
www.lr.com.au

Products:

Powered wheelchairs
Manual wheelchairs
Portable ramps
Beds
Mattresses
Seating equipment

Mogo

Unit 5, 42 Canterbury Rd
Bankstown, 2200
Ph: 9708 5255
Fax: 9796 2479

Products:

Manual wheelchairs
Basketball wheelchairs
Tennis Wheelchairs

Motor Accidents Scheme

Motor Accidents Authority
Level 22, 580 George St
Sydney, NSW, 2000
Ph: 1 300 137 131
www.maa.nsw.gov.au

NSW Sporting Injuries Committee

Level 4, 92-100 Donnison St
Gosford, NSW, 2250
Ph: 02) 4321 5392
www.sportinginjuries.com.au

Otto Bock

5 Burbank Place
Baulkham Hills, 2153
Ph: 1300 136 056
Seating equipment.

ParaQuad Engineering

6 Holker Street
Newington, NSW, 2127
Ph: 8741 5600

Products:

Slideboards
Vehicle modifications
Mobility Aids

PECS

6 Holker Street
Newington, NSW, 2127
Ph: 8741 5600
Personal Equipment and
Contenance Supplies Service

Pegasus Healthcare

Ph: 9601 6909
Fax: 9601 7870

Products:

Pressure Care Mattresses

Problem Management Engineering

8a Kookaburra Rd
Hornsby Heights NSW 2077
Ph: 9482 2808
Fax: 9476 6046

Products:

Vehicle modifications

Novitatech

(formerly Regency Park
Rehabilitation Engineering)
171 Days Road
Regency Park SA 5010
Ph: 1300 855 585
www.novitatech.org.au
email: info@novitatech.org.au

Products:

Assistive technology, Orthotics

**Seating & Mobility,
Research & Development,
Support Team**

Testing Laboratory:
08) 8243 8261

Specialised Wheelchair Co.

5/26 Wattle Road
Brookvale NSW 2100
Phone: 9905 5333
Fax: 9905 2209

Products:

Power wheelchairs
Manual wheelchairs
Seating products

Surgical Synergies

(Formerly Smith & Nephew)
PO Box 28
Regents Park, NSW, 2143
Ph: 1800 659 385
Fax: 1800 648 796

Products:

Commercially available
health products,
Eg: typing and writing splints.

TAD (Technical Aid to the Disabled)

PO Box 108
Ryde, NSW, 1680
For regional contacts
refer to web.
www.technicalaid/.nsw.org.au
Ph: 9808 2022
Fax: 9809 7670

Products:

Creators of adapted
equipment for people with
disabilities

**Technical Solutions
Australia**

109 Ferndale Rd
Silvan VIC 3795

Ph: (03) 9737 9000
Fax: (03) 9737 9111
www.tecsol.com.au
Assistive technology.
Fax: 9584 3466

Therapeutic Bed Company

7/12-14 Norman Street
Peakhurst, 2210
Ph: 9584 0454
Fax: 9584 3466

Products:

Electric Beds

Total Patient Care

PO Box 6306
Nth Ryde 2113
Ph: 9878 6188
Fax: 9878 6795

Products:

Commercially available
health products

Victim Services

Locked Bag A5010
Sydney South NSW 1235
Ph: 9374 3111
www.agd.nsw.gov.au

Wheelchair Sales

14 Musgrove Cres
Doonside, 2767.
Ph: 9621 8185
Fax: 9676 8460

Products:

Manual wheelchairs
Seating products

WorkCover NSW

Ph: 02) 4321 5000
or 131 050
www.workcover.nsw.gov.au

The following are websites of
some of the equipment
manufacturers:

www.glide.com.au

www.seatingdynamics.com.au
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RURAL SPINAL CORD INJURY PROJECT

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This document was published as a fact sheet for the Rural Spinal Cord Injury Project (RSCIP), a pilot healthcare program for people with spinal cord injuries (SCI) conducted within New South Wales. It is not a stand alone resource but part of a series of eight fact sheets produced by specialists to fulfil the educational components of the project.

All recommendations are for spinal patients as a group. Individual therapeutic decisions must be made by combining the recommendations with clinical judgement, including a detailed knowledge of the individual patient's unique risks and medical history, as well as the resources available. This document is published as a guide only and does not take the place of advice from your regular health professional and /or medical practitioner.

