

# **OCCUPATIONAL THERAPY QUICK REFERENCE GUIDE:**

**For The Treatment of Spinal  
Cord Injured Patients**



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**For The Treatment of Spinal  
Cord Injured Patients**

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# Contents:

Preface.....	4
Acknowledgements.....	4
Terminology.....	5
Basic Information.....	8
Spinal cord level and muscles innervated chart.....	10
Dermatone chart.....	11
Clinical Presentation of Spinal Cord Injuries – Things to consider.....	12
SCI Level C1-3.....	15
SCI Level C4.....	22
SCI Level C5.....	28
SCI Level C6.....	39
SCI Level C7-8.....	53
SCI Level T1-9.....	71
SCI Level T10-L1.....	88
SCI Level L2-S5.....	105
Appendices.....	122
References.....	151
About the Authors.....	152

**Table 6. Expected Functional Outcomes**

**Level C1-3**

**Functionally relevant muscles innervated:** Sternocleidomastoid; cervical paraspinal; neck accessories

**Movement possible:** neck flexion, extension, rotation

**Patterns of weakness:** total paralysis of trunk, upper extremities, lower extremities; dependent on ventilator

**FIM, Assistance Data: Exp** = Expected FIM Score/ **Med** = NSCISC Median / **IR** = NSCISC

Interquartile Range **NSCISC Sample Size:** FIM = 15 / Assist = 12

	Expected Functional Outcomes	Equipment	FIM/Assistance Data		
			Exp	Med	IR
<b>Respiratory</b>	<ul style="list-style-type: none"> <li>• Ventilator dependent</li> <li>• Inability to clear secretions</li> </ul>	<ul style="list-style-type: none"> <li>• 2 ventilators (bedside, portable)</li> <li>• Suction equipment or other suction management device</li> <li>• Generator/battery backup</li> </ul>			
<b>Bowel</b>	Total assist	Padded reclining shower/commode chair (if roll-in shower available)	1	1	1
<b>Bladder</b>	Total assist		1	1	1
<b>Bed Mobility</b>	Total assist	Full electric hospital bed with Trendelenburg feature and side rails			
<b>Bed/Wheelchair Transfers</b>	Total assist	<ul style="list-style-type: none"> <li>• Transfer board</li> <li>• Power or mechanical lift with sling</li> </ul>	1	1	1
<b>Pressure Relief/ Positioning</b>	Total assist; may be independent with equipment	<ul style="list-style-type: none"> <li>• Power recline and/or tilt wheelchair</li> <li>• Wheelchair pressure-relief cushion</li> <li>• Postural support and head control devices as indicated</li> <li>• Hand splints may be indicated</li> <li>• Specialty bed or pressure-relief mattress may be indicated.</li> </ul>			
<b>Eating</b>	Total assist		1	1	1
<b>Dressing</b>	Total assist		1	1	1
<b>Grooming</b>	Total assist		1	1	1
<b>Bathing</b>	Total assist	<ul style="list-style-type: none"> <li>• Handheld shower</li> <li>• Shampoo tray</li> <li>• Padded reclining shower/commode chair (if roll-in shower available)</li> </ul>	1	1	1
<b>Wheelchair Propulsion</b>	Manual: Total assist Power: Independent with equipment	<ul style="list-style-type: none"> <li>• Power recline and/or tilt wheelchair with head, chin, or breath control and manual recliner</li> </ul>	6	1	1-6
<b>Standing/</b>	Standing: Total assist				

<b>Ambulation</b>	Ambulation: Not indicated				
<b>Communication</b>	Total assist	<ul style="list-style-type: none"> <li>• Mouth stick, high-tech computer access, environmental control unit</li> <li>• Adaptive devices everywhere as indicated</li> </ul>			
<b>Transportation</b>	Total assist	Attendant-operated van (e.g., lift, tie-downs) or accessible public transportation			
<b>Homemaking</b>	Total assist				
<b>Assist Required</b>	<ul style="list-style-type: none"> <li>• 24-hour attendant care to include homemaking</li> <li>• Able to instruct in all aspects of care</li> </ul>		24*	24*	12-24*

**\*Hours per day**

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# Level of Injury: C1-C3

## Basic Information:

- At this level the focus will be on educating the patient in directing caregivers in ALL aspects of self-cares/daily tasks.
- Pt should be able to navigate a power chair with head, chin or breath control.
- Pt at risk for Autonomic Dysreflexia (ADR). Education will be required on signs, symptoms, and treatments.
- **Assistive tech evaluation will be required. This process is generally begun by obtaining a referral from the physician. Assistive tech specialist should be notified if available.**

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## Treatment Ideas:

### Exercises:

- Educate pt and caregiver on PROM home exercise program with visual handout for reference as needed.\*
- Mouth stick training to strengthen neck musculature (caution: keep setup in mind when pt has cervical collar secondary to movement limitation).
  - If pt is very limited, you could begin with increasing tolerance to jaw closure on mouth stick as adjunct to functional tasks.
  - Issue pt mouth stick.
  - Limited neck function – begin activities in reclined position, use magnetic games.
  - Good neck function – begin activities in an upright position.

### Respiratory:

- Vent dependent
- Assess need for oral suction holder to increase pt I with secretion mgt. Fabricate oral suction holder or contact AT specialist/Respiratory Therapy (RT) to assist with setup.
- Train pt and caregiver with assisted cough techniques specified by your facility.
- Contact Respiratory Therapy for further training if available/ co-treat as needed to increase personal confidence with pt/family training and treatment needs.

### Toileting:

- Review adaptive equipment options if toileting is to be completed out of bed.
- Review transfer and clothing management process if pt plans to complete bowel cares on the commode.

### Bed Mobility:

- Train pt and caregiver in assisting with bed mobility. Educate others in use of proper body mechanics for caregiver to decrease risk of injury.
- Pt should learn to direct caregiver assistance.

### Transfers:

- Train pt and caregiver on use of lift device/dependent slide board transfer if appropriate.
- Pt should direct caregivers in transfer technique after initial demonstration.
- Consult with Physical Therapy prn in order to insure that transfer training styles are similar to decreased pt/family confusion.

### Pressure Relief/Positioning: \*

- Position with pillows behind shoulders to promote scapular protraction.
- UE's in shoulder abd/external rotation.
- ELBOW EXTENSION with forearm pronation
- Wrist in neutral to slight extension
- Digit flexion if possible and thumb in opposition.



- May require fabrication of resting hand splints/some sources state no hand splints are required for the flaccid hand.
- Educate pt on pressure relief management with appropriate tilt mechanism on w/c.
- After initial demo, pt should be able to direct caregiver on assistance if needed.

### Eating:

- Educate pt/caregiver on current precautions (i.e. NPO) prn.
- Set up drinking system for independent hydration.



See also: Independent Hydration fabrication/setup at back of manual.

- Orient to option of self feeder training later in treatment after immobility devices have been removed. (Would not be during inpatient stay).

#### Dressing:

- Educate pt/caregiver on process prn.
- Pt should be able to direct.

#### Grooming:

- Educate pt/caregiver on process prn.
- Pt should be able to direct.

#### Bathing:

- Discuss with pt and family options of showering, if it is realistic at this level. May prefer to complete bed baths with shampoo tray rather than make costly modifications (obtaining a reclining shower chair) upon d/c.
- Educate pt/caregiver on shower/bathing process prn. This education can also be helpful in making the decision on whether this process is really feasible at home.

#### Communication/Assistive technology (AT):

- Assistive Technology specialist will need to be involved to assist with determining more complex AT needs.
- Educate on use of voice activated software (i.e. Dragon Naturally Speaking).
- Mini Relax system
- Voice-activated phone.
  - Mini Relax and voice-activated phone should be obtained and set up in pt room for use during stay when available.
- Train with mouth stick use to increase independence as well as to strengthen available neck musculature. \*
- It is important to train with mouth stick on both vertical and horizontal surfaces because adaptations for vertical placement will not always be available.
- Each pt should be issued a personal mouth stick.
- Review options for access to caregiver assist upon d/c. (i.e. call light system: cordless doorbell)

### Transportation:

- Educate on transportation options/issue handouts. (floor to top of head measurement [less than 54" = minivan possibilities, greater than 54" = full size van] )
- Educate on community transportation available/issue handout. Consult with social worker prn on community/personal transportation options.
- Schedule van evaluation prn if available. Contact facilities driving specialist. (It is important to obtain w/c measurements prior to van evaluation to determine if minivan or full size van would be required.

### Home Accessibility:

- Have family obtain needed measurements/home video prn if home visit is not an option due to location.
- Schedule home visit prn. This should be completed during the first half of the pt's stay.
- Obtain a doctor's order for home visit (if required by your facility).
- Communicate with home visit specialist (when applicable) for scheduling.
- For transportation purposes during the home visit, make sure you know overall floor to top of head measurement to see if minivan or full size van will be needed if pt will be attending home visit. (if less than 54" = minivan possibilities, greater than 54" = full size van, unless pt can access van and ride in reclined position]

### Other Education:

- Educate on autonomic dysreflexia/signs/symptoms/treatments.

## **Possible Goals:**

- **(LTG)** Pt will be I in instructing family/caregivers on necessary assistance.
- **(STG)** Pt stand by assist (SBA) for occasional verbal cues (v/c) when instructing family/caregiver in proper completion of bilateral upper extremity (BUE) home exercise program (HEP) with written handout for reference as needed (prn).
- **(STG)** Pt SBA for occasional v/c when instructing family/caregiver in proper positioning in bed, wheel chair (w/c) and in splints prn.

### **For EADL's – Electronic Aids to Daily Living**

- **(LTG)** Pt will be able to identify and operate 1 (or 2) EADL that could be used after (post) discharge (d/c) to increase I.
- **(STG)** Pt will be SBA with accessing 1 (or 2) EADL(s) for setup.

### **Computer Access**

- **(LTG)** Pt will be I with accessing computer with alternate input device (software, hardware, mouth stick etc.) to increase I with (continuing education, work, communication, etc.).
- **(STG)** Pt will complete voice input and tutorial for learning voice activated software to increase access to computer/communication.
- Pt will be able to identify steps in setting up the accessibility wizard to make his/her computer more accessible upon d/c.
- **(LTG)** I with mouth stick for turning pages and typing.
- **(STG)** Min A with mouth stick use for turning pages and typing.

### **Other:**

- **(LTG)** Voice understanding of recommended home modifications to allow for w/c access.
- **(STG)** Pt state/demo understanding of access to 2 web sites to obtain further information regarding (home modifications, funding sources, etc.).
  
- **(LTG)** I with hydration with AE prn.
- **(STG)** Pt direct caregivers in set up of AE for hydration prn.
  
- **(LTG)** Pt I in knowledge of autonomic dysreflexia prevention (ADR), symptoms and amelioration.
- **(STG)** Pt direct caregiver in sequence taken to ameliorate signs and symptoms (s/s) of ADR w/SBA for occasional v/c.