

# Shoulder Preservation after SCI: Overview

Author: Craig Newsam, PT, DPT  
Edited from SCI SIG newsletter article by: Kendall Hart, SPT

## Fact Sheet

Produced by



a Special Interest  
Group of



Contact us:

ANPT

5841 Cedar Lake Rd S.  
Ste 204

Minneapolis, MN 55416

Phone: 952.646.2038

Fax: 952.545.6073

info@neuropt.org

www.neuropt.org

a component of



## Introduction

Upper limb pain is common among individuals living with a spinal cord injury (SCI). Prevalence of shoulder pain has been reported to range 30-73%,<sup>1</sup> while wrist pain has a similar occurrence<sup>2</sup> and elbow pain is less common. Despite its high prevalence, upper limb pain can be managed and prevented. Its effect on quality of life cannot be overlooked, especially since upper limb pain can be managed and prevented in people with SCI. Long-term preservation of upper limb function is critical for maintaining daily activities, minimizing pain, and maximizing overall quality of life.

## General Recommendations

### Recommendation #1: Movement Optimization

Movement optimization strategies are often sufficient to preserve function or reduce upper limb pain. For example, function may be improved by minimizing extreme or potentially injurious positions<sup>3</sup> such as shoulder abduction with internal rotation (impingement position) or wrist hyperextension during weight bearing activities.

### Recommendation #2: Adaptive Equipment

The use of adaptive equipment can greatly reduce the demands of various daily functions for person with SCI. Although there are many products available for purchase, meeting the specific needs of an individual with SCI will often require creative and individualized solutions.

Multiple strategies can reduce the demands of function through the use of equipment or by optimization of movement to increase efficiency and/or avoid tissue damage. It is important to keep in mind that there are many options that can be utilized to meet the demands of function for people with SCI, and these strategies should be individualized to each person's needs. The use of evidence-based practice (through current literature support as well as patient preference) should guide the decision-making process. Refer to the other Fact Sheets in this series (Shoulder Preservation After SCI) for examples of strategies that optimize movement or use adaptive equipment to maximize ability and movement while preserving shoulder function.

## *Patient Education Resources*

Produced by



a Special Interest  
Group of



**Contact us:**

ANPT  
5841 Cedar Lake Rd S.  
Ste 204  
Minneapolis, MN 55416  
Phone: 952.646.2038  
Fax: 952.545.6073  
info@neuropt.org  
www.neuropt.org

a component of



Education materials directed toward people with SCI are available:

- Exercise After Spinal Cord Injury
  - <https://msktc.org/sci/factsheets/exercise-after-spinal-cord-injury>
- Maintenance Guide for Users of Manual and Power Wheelchairs
  - <https://msktc.org/sci/factsheets/maintenance-guide-users-manual-and-power-wheelchairs>
- Pain After Spinal Cord Injury with Supplement: Activity Modification for Musculoskeletal Pain
  - <https://msktc.org/sci/factsheets/pain>

**References:**

1. Sie IH, Waters RL, Adking RH, Gellman J. Upper extremity pain in the postrehabilitation spinal cord injured patient. Arch Phys Med Rehabil. 1992; 73:44-48.
2. Schroer W, Lacey S, Frost FS, Keith MW. Carpal instability in the weight-bearing upper extremity. J Bone Joint Surg (Am). 1996; 78:1838-43.
3. Paralyzed Veterans of America Consortium for Spinal Cord Medicine. Preservation of upper limb function following spinal cord injury: a clinical practice guideline for health-care professionals. J Spinal Cord Med. 2005;28:434-470.