

Aging After Spinal Cord Injury: An Overview

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Fact Sheet

Produced by



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Introduction

In recent decades, the short-term survival after spinal cord injury (SCI) has improved¹ and the mean age of the population with a spinal cord injury (SCI) has increased.² As a result, physical therapists need to be evermore aware of the issues that arise for people with SCI as they age. People with SCI experience many of the same changes with aging that occur in the general population, but these changes often happen earlier and at an accelerated rate.³ Additionally, some unique challenges associated with aging with a SCI exist. For example, people with SCI of longer duration are more likely to have contractures and generalized bone mineral density loss.³ And increased age is associated with more cardiovascular disease, diabetes, fecal incontinence, higher prevalence of obstructive sleep apnea and respiratory problems in people with SCI.³

Changes After SCI Related to Aging and/or Longer Duration After Injury^{3,4}

System	Changes with Aging Accelerated with SCI	Changes Specific to SCI
Cardiovascular	<ul style="list-style-type: none">• CAD• Diabetes• Lipid disorders• Obesity	
GI & Urinary	<ul style="list-style-type: none">• Decreased bladder capacity	<ul style="list-style-type: none">• Bowel incontinence
Integumentary	<ul style="list-style-type: none">• Decreased collagen and skin elasticity	<ul style="list-style-type: none">• Pressure ulcers
Musculoskeletal	<ul style="list-style-type: none">• Muscle mass reduction• Loss of strength and power• Bone mineral density loss	<ul style="list-style-type: none">• Heterotopic ossification• Shoulder pain• Contractures
Neurologic	<ul style="list-style-type: none">• Loss of CNS neurons• Decreased motor speed	<ul style="list-style-type: none">• Increased occurrence of spasms• Increased occurrence of autonomic dysreflexia
Other	<ul style="list-style-type: none">• Fatigue	
Respiratory	<ul style="list-style-type: none">• Decreased vital capacity• Obstructive sleep apnea• Respiratory complications/infections	<ul style="list-style-type: none">• Poor secretion management

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With these age-related changes comes an eventual increase in physical disability.^{5,6} In a sample of people with SCI onset between 15 and 55 years of age, a decline in motor abilities was most prevalent in people 25 years or more after their SCI.⁶ In another study, older age at initial onset of SCI was associated with a more rapid decline in functional status in later years.⁵ Despite this increase in disability, however, people with SCI sustain quality of life and participation in life activities.⁶ Indeed, they tend to have an increase in psychological adjustment^{6,7} and an improvement in some aspects of satisfaction with life.^{7,8}

Many of the problems that people with SCI experience as they age are modifiable, and physical therapists have an important role in the education, training, and equipment prescription that can help optimize the aging process for people with SCI. For instance, people with SCI are at a higher risk of developing diabetes and cardiovascular disease compared to the general population.⁹ Therefore, incorporating cardiovascular exercise into our exercise prescriptions for people with SCI and providing education regarding the importance of this exercise long-term may help decrease the incidence or severity of these problems in our patients. Physical therapists can help our patients anticipate potential problems that may arise that are associated with aging and either reduce or eliminate the impact to promote optimal healthy and increased quality of life.

Patient Resources

Model Systems Knowledge Translation Center Fact Sheet:

<https://msktc.org/sci/factsheets/aging-and-sci>

Northwestern Regional Spinal Cord Injury System Education Videos:

Everybody's Doing It! Aging with a Spinal Cord Injury:

<http://sci.washington.edu/info/forums/reports/aging-2012.asp>

Aging with a Spinal Cord Injury:

http://sci.washington.edu/info/forums/reports/aging_6.09.asp

United Spinal Association:

<https://askus-resource-center.unitedspinal.org/index.php?pg=kb.page&id=266>

Christopher and Dana Reeve Foundation:

<https://www.christopherreeve.org/living-with-paralysis/health/secondary-conditions>

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