

# SECONDARY HEALTH COMPLICATIONS AND PHYSICAL ACTIVITY: BASELINE DATA FROM SHAPE-SCI

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## Introduction



- Individuals with spinal cord injury (SCI) typically experience a variety of secondary health complications such as spasticity, pain, UTIs, pressure sores and osteoporosis (among others).
- Individuals with SCI have been noted to be the most physically inactive members of society.
- Health care providers and health promotion programmers often suggest participation in physical activity may enhance health and help prevent secondary health complications however there is little direct evidence to support this contention.

- SHAPE-SCI is a multi-centre, prospective study with the following objectives:
  - To determine physical activity levels among Ontarians with SCI.
  - To identify modifiable influences on physical activity.
  - To determine levels of activity associated with the risk of secondary health complications and chronic disease.
- This poster reports on baseline data examining the association between physical activity participation and secondary complications

## Purpose

- To describe the association between secondary health complications experienced over the past 12 months and current participation in leisure-time physical activity (LTPA, i.e., physical activity that people choose to do in their free time).

## Method

**Participants:** 704 men and women with SCI living in Ontario

- >12 months post injury
- Mean years post injury = 15yrs ± 11
- 77% male; 23% female
- 47% tetraplegia; 53% paraplegia
- 39% complete injury; 61% incomplete injury



**Measures:**

### 1. Secondary Complications

Participants reported:

- Their experience with 13 secondary complications (e.g., UTI, spasticity) over the previous year (yes/no).
- The impact of each experienced complication on daily life (1 = none at all; 5 = very severe impact).

### 2. SF-36 Perceived Health and Pain Scales

### 3. Leisure-Time Physical Activity

Physical Activity Recall Assessment for People with SCI (Martin Ginis et al., 2005) was used to measure LTPA over a 3-day recall period

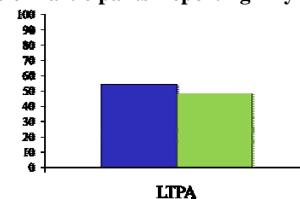
**Procedure:**

- All assessments completed by telephone survey

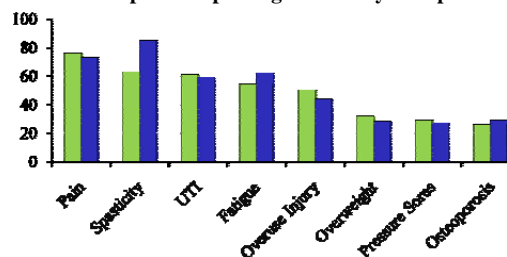
## Results

■ People with Paraplegia ■ People with Tetraplegia

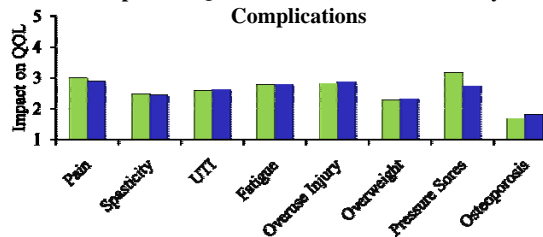
% of Participants Reporting Any LTPA



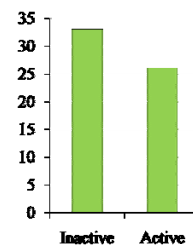
% of Participants Reporting Secondary Complications



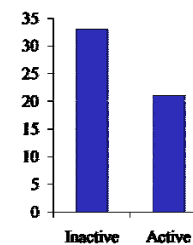
Impact on QOL Associated with Secondary Complications



Percentage of Inactive and Active People Reporting Pressure Sores Over the Past Year



People with Paraplegia  
 $p = .09$



People with Tetraplegia  
 $p < .01$

## Results

Pressure Sore Impact, Perceived Health and Pain as a Function of Physical Activity

	Paraplegia		Tetraplegia	
	Inactive	Active	Inactive	Active
Pressure Sores Impact on QoL (1-5)	3.2	3.1	2.9*	2.4*
Perceived Health (2-10)	4.4*	4.8*	4.5*	4.8*
Pain, past week (2-11)	6.0*	5.5*	5.5	5.3

\*Significant differences between active & inactive people,  $p < .05$ , 1-tailed

## Discussion

- Individuals with SCI (especially those with tetraplegia) who did not participate in LTPA were more likely to have sustained a pressure sore over the past year than those who did at least some LTPA.
- No significant relationships were found between levels of participation in LTPA and other secondary complications

**Study Limitations:**

- Causality cannot be inferred from the observed association
- This is a preliminary analysis limited to cross-sectional (baseline) data
- Self-report measure of complication frequency (i.e., a non-validated tool)
- Participants were excluded if they were independent ambulators

**Primary Study Strength:**

- When completed, this study will comprise the first **longitudinal, large-scale** investigation of the association between LTPA participation and the occurrence of secondary health complications in community-dwelling individuals with SCI.

**Conclusions and Future Directions:**

- This preliminary analysis demonstrates a significant association between LTPA and pressure sores.
  - It is uncertain if this reflects the preventative capacity of LTPA participation on pressure sore development or if pressure sores represent a barrier to LTPA activity participation.
- Other significant associations with LTPA were noted for the overall rating of perceived health and self-reported pain over the prior week (to a lesser degree)
- Study participants will be followed for 1.5 years (interviews at 6 and 18 months).
  - These longitudinal findings will contribute to the overall study objective of determining LTPA levels and their relationship with health as an important step toward providing an evidence base for SCI-relevant LTPA guides.



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