**Advancing physical activity knowledge and participation
among Canadians living with spinal cord injury.**

Body Mass Index Obesity Cutoffs Need to be Lower for People with SCI

Purpose

To determine if the Body Mass Index (*BMI) cutoffs need to be lowered for people with SCI.
BMI measures body fat based on your height and weight. Cutoffs tell you whether you are underweight, normal weight, overweight or obese.

Summary

- The BMI cutoffs for obesity for able-bodied people did not correctly identify people with SCI who were obese.

Possible Applications

- For people with SCI:
    - BMI cutoffs for obesity should be lowered.
    - BMI results should be taken cautiously.
    - One possible way to decrease chances of obesity is to be more physically active.

Research Abstract

Lowering body mass index cutoffs better identifies obese persons with spinal cord injury

Objectives: (1) Determine the sensitivity and specificity of the general population body mass index (BMI) cutoff for obesity (30 kg m^2) in a representative sample of persons with spinal cord injury (SCI); (2) develop a more sensitive BMI cutoff for obesity based on percentage of fat mass (%FM) and C-reactive protein (CRP).
Methods: A total of 77 community-dwelling adults with chronic SCI underwent anthropometric measures (%FM by bioelectrical impedance analysis, length, weight, BMI (kg m^2)) and provided blood samples to determine CRP. Sensitivity and specificity analyses, piecewise regression, non-linear regression, and receiver–operator characteristic curves were used to determine new BMI cutoffs.
Results: A BMI cutoff of 30kgm^2 failed to identify 73.9% of obese participants vs 26.1% at a lowered cutoff of 25 kg m^2. BMI cutoffs based on risk levels of the %FM and CRP considered together ranged from 22.1 kg m^2–26.5 kg m^2.
Conclusions: People with chronic SCI and BMI values 422 kg m^2 should be considered as being at high risk for obesity and obesity-related chronic diseases.

Laughton GE, Buchholz AC, Goy RE, Martin Ginis KA, & The SHAPE-SCI Research Group (2008). Lowering body mass index cut-offs better identifies obese persons with spinal cord injury. *Spinal Cord*, 47, 757-762.