Body Weight: The Driving Force Behind High Medical, Workers’ Comp and Disability Claims and Costs!

Industrial Physical Capability Services

Body Weight

- No other health issue has impacted so many individuals in as many different negative ways as body weight.
- Ironically, body weight is the easiest to manage when it comes to your health.

Recent Research Studies

- Berecki-Gisolf, et. al. JOEM, March 2012; The Impact of Aging on Work Disability and Return To Work.
- G.S. Smith, et. al. JOEM, Jan 2011; Impact of Weight Gain or Loss on Health Care Costs…
- R.M. Henke, et. al. JOEM, May 2010; Relationship Between Health Risks and Health Productivity…
- S. P. Tsai, et. al. JOEM, April 2011; Risk Factors for Illness Absence Due To MSD in a 4-Year…

Impact of Obesity on Increased Medical and WC Costs

Percent Association with Increased Medical and WC Cost Due to Obesity

- Obese - I
- Severe
- Morbid

Medical Costs Workers Comp Costs

- 28%
- 39%
- 36%
- 59%
- 74%
- 139%
- 0%
- 50%
- 100%
- 150%

*Henke et al. JOEM, May 2010, Pepsi Study

IPCS – PCE Data

- Data from Industrial Physical Capability Services, Inc. (IPCS)
- 206,000 new hire industrial applicants
- Participated in a physical capability evaluation (PCE) during hiring process throughout the U.S.
- Height and weight measured
- Body weight part of the proprietary mathematic validated model
Severe and Morbid Obesity

Results in Increased Costs and Losses

The severe and morbid obese worker:

- Has twice as many workers’ comp claims
- Has 13 times more lost work days
- Average injury claim cost is 7 times greater
- Healthcare claim is $2,500 or more

Purpose/Application of the Physical Capability Evaluation (PCE) Program

To correctly match the physical capability of the worker to the physical demands of the job resulting in:

- a healthier and more fit worker
- lower claim’s costs

Process Validity for Physical Capability Testing

- Testing must be valid and current
- Testing must demonstrate Job Relatedness
- Testing must demonstrate Business Necessity
- Testing must work off Job Task Analysis to determine Target Score to test against

The IPCS PCE meets these criteria (McDonald Hopkins letter dated July 2011)
Job Task Analysis

Job Relatedness

The Analysis

Force Curve Analysis
Muscle Symmetry Analysis
Strength to Body Weight Analysis

RTW Case Study - Knee Injury
- Male, 28 yrs old, 74 inches tall, 232 pounds
- Delivery Driver, Food Service Industry
- ACL repair – 6 months previous
- Passes FCE, MD release
- A & B Curves – knee extension
- Not Rec IPCS

PCE – Force Curve Analysis (FCA)
- Force curve analysis determines if injured joint has had complete rehab or is additional rehab necessary
PCE – Muscle Symmetry Analysis (MSA)
- Body/Joint Symmetry - considers imbalances between:
  - extremities,
  - agonist/antagonist muscle groups,
  - and upper and lower body ratio

Strength to Body Weight Analysis (SBWA)
- Strength should be proportionate to body weight to prevent injury or re-injury
- The more the SBWA deviates from normal the greater the probability of re-injury

Health and Injury Risk
- Higher Risk For Injury and Disease
- Lower Risk for Injury and Disease
- Good Strength & Power
- Poor Strength & Power
- Normal Body Weight
- Excess Body Weight

Muscle Strength Is A Critical Factor To Disease and Injury Prevention
- Muscle is an organ – largest organ in the body
- Muscle is made to work
- Movement
- Joint stability
- Osteoporosis

Factors Which May Reduce Strength During the Aging Process
- Loss of 25% of muscle mass by age 65 (Sarcopenia)
- Added fat weight with aging
- Loss of muscle functionality with aging
What happens when we pair Sarcopenia + Sedentary Lifestyle?

Will muscle loss be accelerated?

Weight Gain + Lack of Physical Activity + Sarcopenia = Accelerated Loss of Muscle Mass & Strength

What then happens to an individual’s health risk as they age and fail to maintain or gain muscle mass & strength?
Loss of Muscle Mass/Strength is a Serious Risk Factor

- Increased risk for injury
  - Work related
  - Non-work related
- Loss of muscle functionality
  - Difficulty climbing stairs
  - Doing household chores
  - Getting out of a chair
- Reduced capability of being active
- Increased fat weight

It may not be life threatening, but what impact does strength have on:

- Daily functionality?
- The ability to move?
- The ability to work?
- A company’s bottom line – the economy?

How Much of These Increased Costs are Due to Poor Strength to Body Weight Ratio?

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PSRA Health Risk Quadrants:

PSRA Health Risk Quadrants:

- High Risk for Injury/Disease
- Moderate Risk for Injury/Disease
- Low Risk for Injury/Disease
- Good Strength/Normal Body Weight
- Poor Strength/Morbid Body Weight
- Good Strength/Morbid Body Weight
- Poor Strength/Normal Body Weight

Physical Strength Risk Assessment (PSRA):
An Important Component of a Biometric Screening

**Measures:**

- Force generating capability
- Muscle symmetry
- Strength to body weight analysis

**Reports:**

- Health Risk Summary
- BMI
- Strengths and weaknesses in muscular strength and body symmetry

PSRA Timeline for John Smith
Original Test Date: 12/06/2010
Most Recent Test Date: 12/09/12

Health Risk Progression: Over the course of the last 2 years, Mr. Smith has progressed from PSRA results that placed him in the High Risk category to his current placement in the Moderate Risk category. Based on his progression we would recommend that he be tested again in 2 years from his last assessment date.
Healthy Muscle Mass Is Critical To:

- Successful rehabilitation
- Reduced risk for injury, re-injury and disease
- Achieving and maintaining a healthy body weight
- Healthy metabolic rate
- Muscle functionality
- Active lifestyle
- A healthier workforce!

THANK YOU!
Thomas B. Gilliam, PhD

tgilliam@ipcs-inc.com

www.ipcs-inc.com.com

330-463-5757

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