

What Is the McGill Study?

The Study

The McGill Study is actually called "The Biomechanics of Low Back Injury: Implications on Current Practice in Industry and the Clinic." The study is written by Stuart M. McGill, from the Occupational Biomechanics and Safety Laboratories in the Department of Kinesiology and Faculty of Applied Health Sciences at the University of Waterloo in Waterloo, Ontario, Canada.

The purpose of this paper is to discuss "concepts of low back injury for use towards developing better injury risk reduction strategies and advancing rehabilitation of the injured spine."¹ To understand risk reduction and injury prevention, the study discusses the causes of injury.

Situation

Caregivers are repeatedly transferring, boosting, and transporting patients in positions that compromise their backs. Nurses lift an estimated 1.8 tons per shift, causing gradual wear and tear on their spines.² This puts her at higher risk for injury than a construction worker!³

Terms

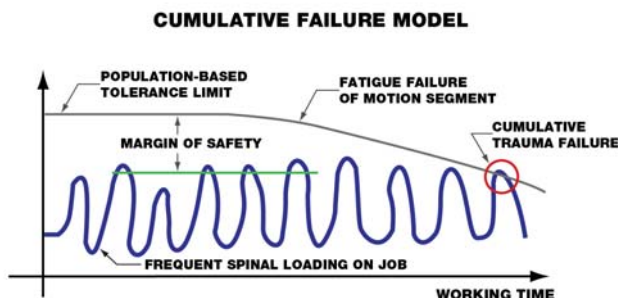
Spinal Loading: The force that is put on your spine.

Fatigue level: How much stress or spinal loading you can handle over time.

Margin of Safety: The space between your fatigue level and your spinal load.

Findings

When spinal loading and fatigue levels meet, an injury occurs. This can culminate from a single event or repeated spinal loading, which diminishes your safety factor.⁴



Stryker Solutions

Stryker's exclusive BackSmart® features on our Prime-Series stretchers help to reduce repetitive spinal loading that can lead to injury:

- Stryker Prime Stretchers virtually eliminate manual pushing with Zoom® Motorized Drive technology.
- Big Wheel® Advanced mobility can reduce start-up force by up to 50% and steering effort up to 60%.⁴
- Litter-mounted oxygen bottle holder helps eliminate caregiver bending and stooping.
- Stryker's patented Lift Assist™ backrest uses the patient's own weight, in combination with an exclusive drop-seat design, helping to reduce manual patient repositioning. Make your Prime Stretcher electric to reposition patients with just the push of a button.
- The Stryker Glide™ Lateral Transfer System allows two nurses to easily transfer a patient from one surface to another, greatly reducing the risk of back injury.

Contact Your Stryker Account Manager for more information.

1. McGill, Stuart M. "The Biomechanics of Low Back Injury: Implications on Current Practice in Industry and the Clinic." 1997.

2. Tuohy-Main, Kate. "Why Manual Handling Should be Eliminated for Resident and Career Safety," Geriaction. 1997.

3. Bureau of Labor Statistics. "Jobs With the Most Lost-Time Injuries." <http://www.bls.gov>

4. Baylor Medical Center. Irving, Texas. December, 2005.