

IOWA STATE UNIVERSITY

Introduction

- Lower back pain is a serious concern for injury and can result from long term trunk flexion postures¹
- The use of an exosuit can be a solution to low back muscle fatigue that can result from long tern flexion postures such as those seen in surgical environments

Experimental Design

- 16 Participants (10 men and 6 women)
- EMG electrodes secured to the skin over the lumbar erector spinae and rectus abdominis to measure
- Inertial measurement unit (IMU) sensor attached to the back of participants neck to measure trunk flexion angle
- Each participant was asked to bend to a series of different trunk flexion angles 0, 10, 20, 30, 40, 45, 50, and 60 degrees both with and without the Exosuit
- Each angle (except 45) was repeated three times in a randomized order. The 45 degree angle was repeated 26 times.



Assessing the HeroWear Exosuit for use in Operating Room Environments

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