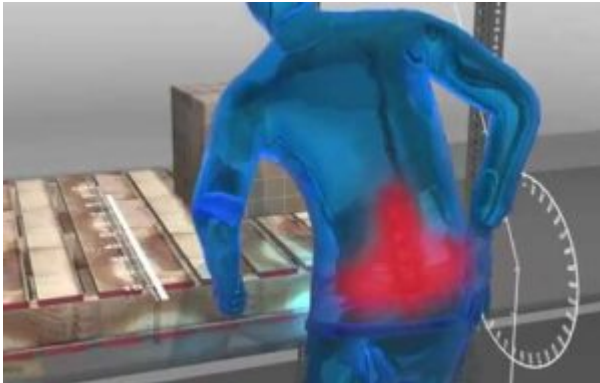


# Workers Who Do Heavy Lifting Need a Break-Literally



Many workers are required to lift heavy materials'and do so often'as part of their jobs. Frequent heavy lifting can expose workers to the risk of injury, particularly back injuries. But one way to protect them from such injuries is very simple'let them take longer or more frequent breaks.

In an Ohio State University study, 10 participants lifted boxes onto conveyor belts for eight hours, simulating a typical shipping center. Six had at least one year's experience in a job that requires lifting, such as stocking store shelves, while the other four were considered novice lifters.

The participants lifted boxes of three different weights'two pounds, 11 pounds and 26 pounds'and worked for the entire eight hours, except for a half-hour lunch break and two 15-minute breaks, one mid-morning and the other mid-afternoon.

Each wore oximeters, which measured the oxygen level of their back muscles through the skin. The oxygen level indicated how hard the muscles were working and whether they were becoming fatigued, explained William Marras, a professor of industrial welding and systems engineering.

Despite the fact that the participants were performing the same job at the same pace all day, their back muscles needed more oxygen as the day progressed. Taking a half-hour lunch break helped their muscles recover from the morning's work. But once they started working again after lunch, their oxygen needs rose steeply and kept climbing throughout the afternoon.

Marras said, 'That was alarming to us, because it means that their muscles were becoming fatigued much faster during the afternoon, and we know that fatigue increases the risk of back injury.'

The study came to several conclusions:

- Workers are especially at risk for back injury at the end of the day and the only way to counteract that effect is with more breaks throughout the day.
- Rest is good'a half-hour break does a good job of helping muscles recover. The two 15-minute breaks helped muscles recover a little, but not as much

as the half-hour lunch. But Marras acknowledged that such long breaks might not be practical in the workplace. However, he pointed to other studies that showed that shorter breaks, taken more frequently, have a similar positive effect.

- Workers who are new need to take breaks even more often than experienced workers.
- Participants used their muscles differently as they became fatigued. When people's back muscles begin to hurt, they tense up and try to lift with other muscles that don't hurt as much. But tensing muscles prevents proper blood flow, so the muscles get even less oxygen. And using different muscles to lift may ease pain at first, but it increases the stress on the joints and the spine, and the risk of serious injury in the long run.

In addition to giving workers who lift materials adequate breaks, protect them by ensuring they use proper lifting technique. And make sure you comply with the requirements in the OHS laws on manual materials handling.