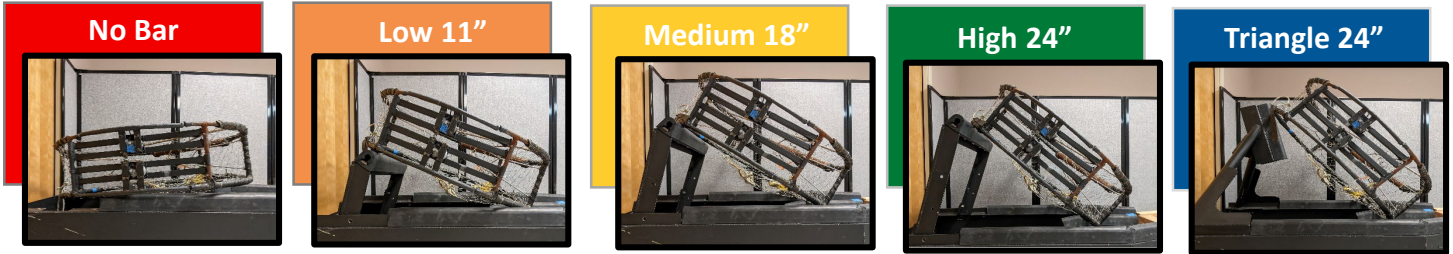
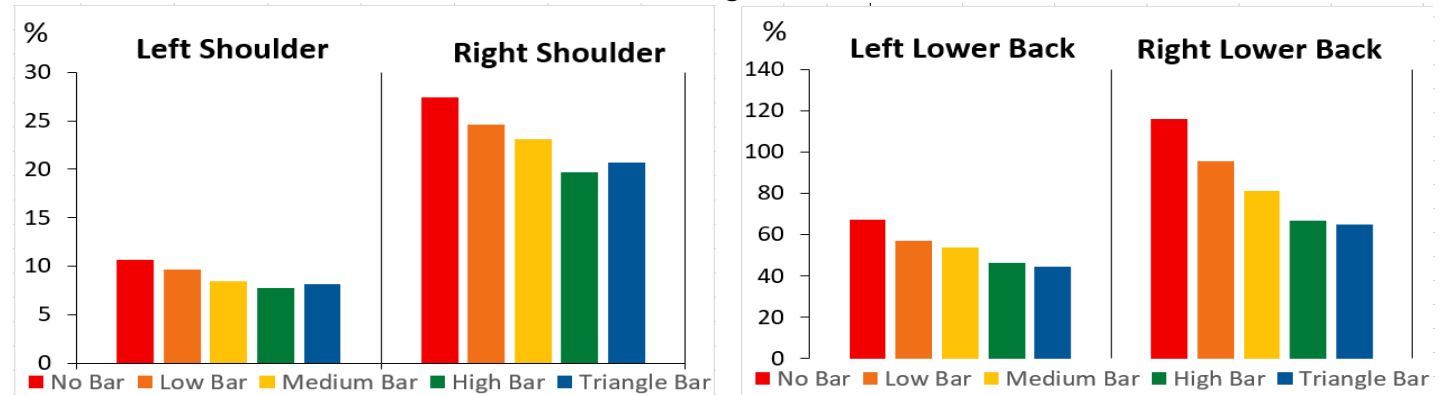


How Does a Bang Bar Help Deckhands?

Many fishing vessels in the Pacific Northwest have installed bang bars (also known as banger bars) to assist crew while they empty Dungeness crab pots into the dump box. Researchers at OSU tested the height and design of bang bar for deckhand safety. Various situations were tested at the lab: no bar, straight bars at varying heights, and a triangle bar. Twenty-five deckhands' stability, posture, and muscle activity were measured while performing crab harvesting actions. See images below of the testing conditions of bars.



Muscle Activity Results: Muscle activity (% effort relative to one's maximum muscle strength) indicates how much effort was needed to complete the task with the different bar situations. Higher effort is related to greater strain and fatigue. **The higher bang bar and the triangle bar required the least effort for both the shoulder and low back muscles** as shown in the figure below.



Deckhand Stability Results: Larger movement areas indicate instability, which can lead to loss of balance and falls. **Movement areas were 2 x less during pot handling using the triangle and high 24" bar, showing increased stability.**

Posture Results: Bending torso more than 20° or raising arms more than 60° can increase stress loads on the body and risks for injuries. **The high and triangle bar had the least torso bending and raised arms. The other bar conditions resulted in greater than 20° torso bending, increasing back injury risk. No bang bar resulted in arm movements greater than 60° increasing shoulder injury risk.**

KEY POINTS

- The higher bang bars (24") reduced risk of back and shoulder injuries as well as fall risks.
- Rotating deckhand jobs (i.e., switching sides at the table) may decrease injury risk.
- Research looking at factors that may affect crab health during harvesting didn't indicate any negative impacts from bang bar use.

