

TOOLBOX TALK #33

FALL PROTECTION MISUSE – HARNESS FITTING

When workers wear harnesses that are not properly fitted and hang loose on their bodies, serious injury can result during a fall. When equipment is hanging loose more potential energy is introduced, which becomes kinetic energy in the event of a fall. If a dorsal D-ring is too high, it could hit the back of the head during a fall. If it is too low, an individual who falls may be facing the ground after the fall is arrested, increasing the probability of suspension trauma. If the chest retainer strap is too high, it can choke the worker. If it is too low, it could pull apart and allow the worker to fall out of the harness.



When discussing proper equipment fit, people typically think of harness adjustment. However, another significant aspect of proper fit is matching the workers to the task, taking into consideration health and physical factors that impact the risk profile. When considering personnel assignment to tasks that require the use of PFAS, several factors should be considered, including weight, height, underlying medical conditions such as hypertension, back injuries, vertigo and medical side effects.

The weight range is 130 to 310 pounds per the standards. This is not necessarily an effective range. A sizable percentage of the population is not supported under these numbers. Many females weigh less than 130 pounds while many males weigh more than 310 pounds especially when working with heavy tools. The market has realized this and now offers harnesses in the 310 to 450 pound range.

Here are some recommendations to avoid improper harness usage:

- Perform the five-point fit check
 1. One dorsal D-ring between shoulder blades
 2. Two shoulder straps that cannot be pulled off the shoulders outward
 3. Subpelvic strap under buttocks
 4. Four fingers between leg straps and leg (but not able to pull away from leg)
 5. General observation of harness fit, looking for potential issues such as twisted straps and loose leg straps to ensure symmetry
- Engage medical personnel in establishing a medical clearance process for PFAS users to properly control and mitigate medical risks
- Train all authorized persons in the proper fit of their harness
- Suspend authorized persons in their harnesses to demonstrate how it feels to be suspended. This exercise has proven to impact worker behavior, as they have personally felt the effects of misuse.