



# TOOLBOX TALK



## FALL PROTECTION

In the construction industry in the United States, falls are the leading cause of worker fatalities. Fatal falls, on average, account for more than half of all work-related falls nationally. The standard for fall protection deals with both the human and equipment-related issues in protecting workers from fall hazards.

The OSHA standard (29 CFR 1926.501(b) (1)) states: "Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems or personal fall arrest systems."

There are two types of fall protection, **Fall Restraint** and **Fall Arrest**.

**Fall Restraint** includes such items as a guardrail or parapet wall. It can also consist of a personal fall restraint system which keeps you from reaching an unprotected "fall" point.

Guardrails (on scaffolds, aerial lifts, and on the perimeter of buildings) are considered to be a Fall Restraint type of fall protection. They must have a top rail at least 39" to 45" above a working surface. The top rail must be able to withstand a force of 200 lbs in any direction. Mid rails must be placed mid way between the top rail and the working surface, and be able to withstand a minimum force of 150 lbs. Top and mid rails must be at least 1/4" in diameter to prevent cuts and lacerations. Guard rails are used to protect individuals from falls greater than 6 feet.

**Fall Arrest** STOPS you when you are falling. If you are at risk for falling 6 feet or more, you must use appropriate fall protection equipment.

One type of appropriate fall protection equipment is the personal fall arrest system. The entire personal fall arrest system must be capable of withstanding the tremendous impact forces involved in a fall. A person without protection will free fall 4 feet in 1/2 second and 16 feet in 1 second! A personal fall arrest system includes a full body harness, a shock absorbing lanyard (or a rope grab and vertical lifeline), and a sound anchor able of supporting a load of 5,000 pounds.

### DO

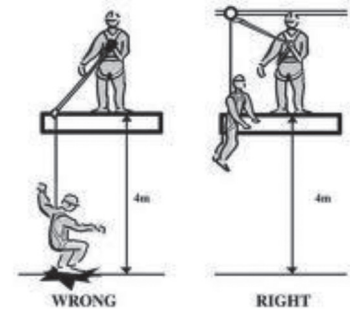
- Pick an anchorage point that will support 5,000 lbs. per worker (strong enough to support a pick up truck).
- Fall arrest systems should be rigged so employees can't free fall more than 6 feet or contact any lower level.
- Tie off above your head. A six foot person who ties off at their feet will free-fall 10 feet or more.



- Tie off anchors directly above/behind your work area to avoid potential swing fall hazards.
- Use the shortest lanyard possible. The shorter the tie off, the shorter the fall
- Have anchorage points selected by a competent person.

### DON'T

- Do not tie off to vent pipes or to a non-structured or non-designated area.
- Do not tie a knot in lanyards which will reduce its strength.
- Do not use water pipes, electrical conduits, light fixtures, or guardrails as anchor points.



Spot the difference.

- Do not use any lanyards without self-locking snap hooks.
- Do not join multiple lanyards together to reach an anchor.
- Do not allow more than one worker to tie-off to the same anchor unless it is designed and approved by an engineer.
- Do not unhook your fall protection while exposed to a fall greater than 6 feet.
- Do not allow someone else to rig your equipment unless you verify it is correct.
- Do not use an anchor that is not independent of any anchorage used to support or suspend platforms.

### EQUIPMENT CHECKLIST

Inspect your equipment daily:

- Look for fraying ropes, cracks or other defects in hardware.
- Tag and remove defective equipment from service.
- Make sure you are attached to a sound anchor.

If there is any doubt about the integrity of the equipment, do not use it. Replace any equipment (including ropes) involved in a fall.

### FIVE PARTS OF A PERSONAL FALL ARREST SYSTEM

1. Anchorage - 5,000 lb. minimum
2. Lifeline
3. Rope Grab
4. Lanyard
5. Full Body Harness

## GUARDRAIL SYSTEMS

1. Top Rail must be 39" to 45"
2. Top Rail must be able to withstand 200 lbs of force
3. Mid Rail must be able to withstand 150 lbs of force
4. Top and Mid Rails must be a minimum of 1/4" diameter
5. Toe boards must be 3.5" high and able to withstand 50 lbs of force

## REVIEW QUESTIONS

1. Anchor points must support 5,000 pounds for Fall Arrest.  
**a) True**  
b) False
2. Fall Arrest and Fall Restraint are the same kind of fall protection.  
a) True  
**b) False**
3. How close can you come to an unprotected side or edge of a fall greater than 6 feet?  
**a) There is no safe distance unless you are wearing adequate fall protection PPE of there is a parapet wall or guard rail at least 39" in height.**  
b) 4 feet if it is not windy  
c) 2 feet if there is someone close to you holding your belt  
d) 5 feet as long as there is no lightning



**OSHA Standard**  
No. 1926.501  
Duty To Have Fall Protection

Talk Given By:	Date:
Company Name:	Location:
Printed Name	Signature

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