

Fall Protection: Rescues

Anatomy of a Fall

The basic parts of a personal fall arrest system are the:

- Anchor point
- Lanyard
- Harness with D-ring

Make sure your personal fall arrest system will:

- Prevent deceleration injuries
- Function without mechanical failure
- Prevent you from contacting obstructions

If the fall arrest system is set up correctly:

- The lanyard halts your fall
- You are clear of obstructions
- You remain securely in the harness

Injuries

External injuries from contact obstructions during a fall may be obvious. For example, it's likely you will notice broken bones, lacerations or impalement.

Internal injuries, such as internal bleeding or bone fractures, are often less obvious. These injuries can be every bit as life-threatening as those you notice right away.

Suspension Trauma

Fallen workers stop in a vertical position with their head above their legs.

The muscles you use to move your limbs pump the blood there back to the heart. If your legs are immobile, gravity can make blood accumulate or pool.

The pressure of the harness straps on your body can also prevent blood from flowing from the limbs to the heart, brain and other organs.

When blood flow is restricted, suspension trauma occurs:

- Decreased blood pressure
- Increased heart rate
- Fainting

For fallen workers awaiting rescue, suspension trauma can become a life-threatening emergency in as little as 10 to 15 minutes.

Remember that fall-related deaths do not always begin with bleeding and broken bones. The effects of suspension trauma get worse the longer the victim stays motionless. A worker who can't move or who faints after a fall needs immediate help.

Minimizing Suspension Trauma

Alert someone IMMEDIATELY. Contact rescuers or someone who can reach them.

Communicate any way you can:

- Voice communications
- Whistles
- 2-way radios

Safely keep your blood flowing:

- Make controlled movements
 - Do not jerk/make erratic movements
 - Do not move in a way that causes more injury
 - Do not damage the lanyard
- Use suspension relief straps to "stand"
- Stand on or push off nearby structures

Rescue Planning

Each worksite must have a **fall protection plan** that:

- Addresses:
 - Specific fall exposures at the site
 - Fall suspension trauma
 - Time and resources for rescue and first aid
- Identifies individuals who will assist in emergencies
- Names an incident commander
- Explains how to coordinate with local emergency services
- Includes rescue backup plans
- Identifies medical care options

Your company may invite local responders to visit your site for planning purposes.

Companies should identify, obtain and set aside rescue equipment. Train incident coordinators and assistants about how to use the equipment.

Determine how to safely get victims to the ground or nearby structures:

- Elevated work platforms, such as scissor/aerial lifts
- Ladders
- Extension poles
- Crane suspended platforms (only as a last resort)
- Technical rescues, such as those involving winches, rigging and climbing (only as a last resort)

To access fallen victims safely, consider:

- Terrain
- Hazards, such as structures and powerlines
- Weight of rescuers, equipment and victims

We don't want the toxins in pooled blood to release all at once and overwhelm the body's organs. Place rescued victims in a **sitting position with knees close to the chest** to gradually restore blood flow. Inform rescuers how long victims were suspended so they can decide what to do.