



Loss Control Department  
*Technical Information Paper Series*

# Ladder Safety

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# Ladder Safety

*I know, you've heard this before. Use of ladders is dangerous. But, you don't really believe it, do you? After all, you've been up and down ladders most of your life and you haven't been hurt yet. The fact is that any person who has been hurt while using ladders could have been you. The fact is that some of them are dead and others have been injured permanently. Think of that word "permanent." They will live the rest of their lives unable to walk, unable to move their arms, some in terrible pain, and some in silence. In a second, they went from being like you to being what they are now, simply because they forgot, ignored, or didn't know how to use ladders safely. Regardless of the reason, the results are the same. They would give anything to be able to reverse their decision. They can't. But you can still make the right decision. You've been lucky so far. Will you be so lucky next time?*

## ***Why Ladders And Step Stools Are Dangerous***

There are four principal causes of danger associated with any tool used to climb to elevation:

- unfamiliar, and sometimes unstable, footing
- questionable handholds
- potential energy
- distraction

However, it's important to remember that climbing the ladder is not the primary task. One uses a stool or climbs a ladder to reach something. Ladders and stools serve the same purpose as a wrench—that is, as a tool; as an aid to get the job done. Focusing on the *task* while ignoring the *tool* is *the major* cause of injuries to those who use ladders and stools. Climbing or descending must remain the *only* task.

When you are on a ladder, secure footing and safe handholds are your safety net. Losing your footing or your grip while you are elevated is going to make your next stop really hurt.

Any fall is bad, but falls from heights add two deadly elements: first, increased velocity during the fall; and second, the possibility of hitting something while en route down. Be particularly careful when climbing on high ladders. The construction industry reports that 50% of the falls from 10 feet or more result in death.

*Climbing is a "zero mistake" activity. You can't afford to err.*

### *Some Rules for Safe Use of Ladders*

- Avoid climbing unless absolutely necessary. You can't fall off a stool or a ladder if you don't get on one.
- Make all your "safe climbing" decisions before you ever set foot above the floor or ground. Slipping or falling even from the first rung can be deadly.
- Climbing frequently to perform a task should encourage redesign of the task. Can a design change, or a reaching tool, eliminate the need to climb? If so, do it before someone gets hurt.
- Chairs, shelves, toilet seat covers, sinks, tables, window sills—all can be deadly if used as climbing devices. None of them is designed to climb upon. Use a step stool or ladder. Proper climbing devices are available at most hardware stores. Finding proper climbing implements is far easier and cheaper than finding a good orthopedist or neurosurgeon.
- Check the condition of the ladder. Examine every climbing device as carefully as you would your rock climbing equipment right before stepping over the edge of a cliff. Is there damage or any weakness which could prove dangerous? Look for cracks, worn rungs, loose connections, worn slip-resistant surfaces, any bends or kinks in metal ladders, missing parts, etc. Designers don't put parts on ladders just for the fun of it. Each part is an important element of the system. Any weakness compromises its integrity.

Except for tightening loose nuts, sanding smooth rough edges, or replacing safety feet, ladders and stools should not be repaired. Repairs almost never leave the tool in as strong a condition as a new unit. Buy a new one. Even the most expensive new ladders and stools cost less than a couple of days in the hospital.

Damaged equipment should be taken out of service and discarded immediately. Broken or damaged ladders and stools should be considered unusable and should be thrown away. Incidentally, don't leave a damaged ladder or stool in the store room, nor by the curb. Someone may try to use it. Leaving an operational, but damaged, climbing device where it is accessible to others is like leaving your discarded refrigerator with the self locking door intact.

- Stability—both yours and the tools—is critical. Tippy ladders, or tippy climbers, are dangerous. Make sure all of the legs on the ladder or stool are solidly in contact with the surface. A level surface is mandatory.

Think about your own condition. Shoes with high heels or slippery soles have no place when climbing. So, you don't feel well? Don't climb. A dizzy spell or sudden weakness might be your downfall—literally.

Never lean beyond the sides of the ladder. Stay centered on a stool. Don't be lazy. Move the ladder or stool rather than lean to reach something.

- Your weight needs to be less than that for which the ladder or stool is designed. If the device is not designed for your weight, you have three options: obtain a stronger unit, lose weight, or cajole a lighter person into doing the job.
- Carrying items in your hands while climbing significantly increases the chances of falling, for two reasons. First, a handhold has been lost. Second, you are likely to be concentrating on what you are carrying rather than on climbing. And, if what you are carrying begins to fall, you will instinctively reach for it, possibly losing your balance. Have someone hand you items after you are stable on the ladder or stool. Use a pulley and rope to raise the materials from the floor or ground. Use a belt to carry tools. Whatever method you choose, leave your hands free to help keep you stable.
- Always stay as low on the ladder as practical. Never climb beyond where you have a good handhold.

All of these items can be accomplished quickly with some concentrated thought. Think about them *before* you take that first step. Remember the word “permanent.”

This information is intended to encourage ladder and stool users to think before climbing. It is not a thorough discussion of all ladder and stool safety considerations. OSHA standards contain more detailed information, particularly 29 CFR 1910.25 (Portable wood ladders) and 29 CFR 1910.26 (Portable metal ladders). Ladder users should be familiar with applicable OSHA standards. Additionally, modern ladders have very important user information on their labels. Please read the labels before using the ladder.

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# Supervisor's Checklist for Safe Ladder Use

As an owner, manager, supervisor, or team leader, one of your responsibilities is to eliminate as many hazards as possible from the work place. You need to ensure that equipment is appropriate for the job, that it is in a safe condition, that your employees are trained to use the equipment properly, and that they actually use the equipment properly. Improper use of ladders causes many serious injuries and deaths. There is no room for error when using ladders.

Why use a ladder? Where a ladder or stool is now used, explore all practical methods to reduce the need for employees to climb to do their jobs. If you can reduce the need to climb, people will be less exposed to injury and can work more efficiently. In addition, costs for ladders and stools will be reduced.

If ladders cannot be eliminated from your workplace, follow these guidelines for selecting, using, and maintaining ladders safely.

## ***Choose the appropriate type of ladder (aluminum, wood, or fiber glass)***

- Inexpensive ladders tend to be flimsy, and therefore more expensive over the long term. Purchase sturdy, commercial grade ladders.
- Aluminum is dangerous when used near electricity.
- Wood is heavy. Larger ladders which must be carried are cumbersome. If frequent movement is necessary, use of wooden ladders may present a concern.
- Fiberglass is lighter than wood, but is heavier than aluminum. Fiberglass is safer around electricity than aluminum.
- No ladder should be considered safe around electricity.* People who *must* work around electricity should at least wear electrically insulated hand protection and footwear. They should never depend upon the insulating qualities of the ladder for protection against electrical shock. If a person were to receive a shock while on the ladder, he or she would likely lose their balance and fall off, injuring him or herself, and perhaps others.
- Ladders which have wheels are easier to move. (Be sure that the wheels are locked when the ladder is in use.)
- Ladders which have flat steps tend to provide better footing than those which have round rungs.

### ***Length***

- Choose a ladder whose length fits the job. If ladders are too short, people will climb too high, leaving them without proper handholds and with uncertain balance. Ladders which are too long are unnecessarily difficult to handle and so might not be used. They also tend to be erected askew, and may be highly unstable.

### ***Condition and Inspection***

- A crack in any type of ladder is reason to discard it.
- A bend or any deformation in an aluminum ladder destroys its integrity. Do not use distorted metal ladders.
- If any components are loose, tighten them before use. If they cannot be tightened, discard the ladder.

### ***Storage***

- Store ladders in convenient locations. People tend to use makeshift climbing tools when the proper tools aren't easily obtained or are unavailable.

### ***Placement During Use***

- Think ahead when placing ladders for use. Protect doorways and high travel areas so that the ladder user is not knocked off balance and so that passersby are not injured.

### ***Training***

- Proper use of ladders is not instinctive. Train employees on proper use of ladders. If you aren't qualified to provide the training, hire someone who is qualified to provide the training. However the training is accomplished, be sure that everyone who will use a ladder knows how to do so properly and safely.

### ***Enforce The Rules***

- Remember that mistakes made during use of ladders are frequently fatal. A second chance to do it right may not be available.
- Watch employees who are using ladders. If they are doing something wrong, fix it now. Don't wait—you may be too late.