



AVOIDING INJURIES FROM HYDRAULIC FLUID UNDER PRESSURE

Toolbox Talks for the members of Iowa Association of Municipal Utilities

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Although the most commonly used fluid that causes high-pressure injection injuries is hydraulic fluid, this type of serious injury can also happen during spray painting, pressure washing with detergents or with the use of high-pressure grease guns. High pressure injection injuries are not common but when they do happen, they are devastating in nature and should be treated as a limb-threatening injury.

High-pressure fluid injection injuries usually occur when fluid under pressure (usually 2,000 to 6,000 psi or more), whether the equipment is running or not, punctures the fingers or hand usually due to a leak. The injury may not be immediately noticeable because the size of the entrance wound can be as small as a pin head or entry can occur through an existing injury.

Once inside your body, this caustic fluid will cause tissue to die quickly, creating a situation where bacterial infections may cause gangrene. The fluid will also travel, causing tissue in the hand and arm to be affected.

Be prepared in the case of an accident. Prepare a packet that includes the Safety Data Sheet for the fluid, a note that gives the potential psi of the fluid and the particulars of the incident. If this injury happens to you, go to the emergency room. Don't risk valuable time seeking treatment with medical personnel not trained in the hazards of this type of injury.

The Fluid Power Safety Institute's copyrighted "Pressurized-System Safety" publication provides recommended best practices for investigating and repairing hydraulic leaks in flexible hose, steel tubing and steel piping.



Injected fluid injuries often lead to tissue death and amputation.

- Unlike the electric industry which can use a volt meter to ensure that a circuit is de-energized, presently there is not a meter or other piece of equipment to tell us whether or not a hydraulic line has been de-pressurized.
- Most equipment manufacturer's manuals state that escaping fluid can cause severe internal injuries but often do not include procedures on how to dissipate - and verify - de-pressurization of hydraulic systems.