Compressed air is sometimes characterized as the fourth utility following water, electricity and natural gas. It is present in industrial, commercial, and agricultural settings and many use it off the job as well. Since air is a compressible fluid it can be very dangerous if there is an uncontrolled eruption. The effects on the human body can be catastrophic which means all perceivable precautions must be exercised during its use.

**Air Danger**

The danger associated with compressed air is often not recognized and air is often perceived as harmless. This is far from reality. Some examples of the types of injury that might result are:

1. Air may be forced through the skin and could result in an air embolism with potential fatal results

   ![Normal Artery](image1)

   ![Embolism (blockage)](image2)

   Embolism: The obstruction of an artery, typically by a clot of blood or an air bubble.

2. Air blown at the ears or eyes can result in ruptured ear drums and dislodged eye balls. Particles can be embedded in the ear and eye as well.

3. The noise level of exhausting air can reach levels that may result in damage to a person’s hearing.

4. Particles may be accelerated to a velocity that can result in injury to almost any part of the body.

**Air Supply**

The air supply system generally consists of some type of compressor, storage tank and piping to get the air to the point of use along with valves, regulators and gauges. The storage tank or air receiver must be hydrostatically tested and so noted on the tank. Airlines must be designed to handle the pressures that are expected to be encountered. Hoses must be maintained and protected from damage. They should be inspected periodically to assure their integrity. Pressure regulators and valves must be located in positions that fit the job. Storage tanks must have a drain, gauge and valve and the tank must be located where these devices are readily accessible for the regular inspections required.
General Use rules:
1. Never point an airline at the skin or another person. Do not use compressed air to clean particles or dust off a person.
2. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 psi and then only with effective chip guarding and appropriate PPE according to OSHA.
3. Utilize adequate hearing protection to protect against noise levels being encountered.
4. Fittings and clamping devices must be designed for the pressures expected to be encountered according to OSHA. An air hose that has come loose from the fitting can whip around and be a serious hazard.
5. Hoses must be kept in good condition and protected from damage during use. Keep hoses off the floor as possible tripping hazards. Coil the hoses and hang on hooks or use hose reels where practical.
6. Properly designed nozzles that assure the dead head pressure is less than 30 psi must not be modified in any way that might allow the dead head pressure to exceed 30 psi. The control trigger must not be taped or otherwise rendered constantly on.
7. There should be a shutoff valve within easy reach of the operator using the airline.

Safety tip with vent holes

Proper chip guarding