



# IN CASE YOU HAVEN'T “HERD”



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## Machine and Shop Safety By Peter J. Nowak



Tufts University has a wide range of machine shops on all 3 campuses. These locations are used in a variety of ways. In Medford there is a scene shop used specifically to assist in productions put on by the Theater arts group. Grafton has equipment used for cutting animal bones. Boston has grinding wheels and saws used for the Dental school. All 3 campuses have shops that are used for carpentry, painting and machining.

Mechanical and Civil Engineering have shops that are designed to be used by students as part of their education process. In Chemistry there is a machine shop used to help assist with projects specifically for the labs.

Equipment varies from a drill press, table saws, lathes, cross cut saws, milling machines, and powered hand tools. Most of the equipment has emergency shut off switches. In the large machine area at Bray labs there is master shut off that can close

down every piece of mechanical equipment in that location instantly.

The overriding concern in these locations should and must be safety. What is the best way to accomplish that goal? Supervision in the student's shops is imperative. Training particularly with the students using these facilities is essential. Documentation of these trainings is also critical. For safety purposes it is important that nobody work in a shop alone. Undergrads must have faculty or staff member working with them at all times in the shops. As part of training programs knowing how to shut off these quickly must be included.

The Occupational Health and Safety Administration (OSHA) has a number of safety standards that are specifically geared towards machine shop safety. CFR 1910.212 is the Machinery and Machine Guarding standard. The point of operation of machine's whose operation exposes an employee to injury,

shall be guarded. This regulation addresses concerns such as, pinch points, exposed wiring, and preventing workers from reaching under, around or behind barriers for safety.

As with any other safety program personal protective equipment (ppe) is also a key to preventing injury. As much as any other piece of ppe, safety glasses must be worn at all times when using machines. Eye injuries are one of the most common injuries, as milling, sawing and using powered hand tools can all create small slivers that can penetrate the eyes causing severe discomfort or worse. Some tools may require heavy gloves, or other protective equipment such as heavy aprons.

In summary the keys to remaining safe while working on machinery comes down to a few basic ideas.

1. Know the equipment you will be working on. Get training from someone who knows how to operate it.
2. Be vigilant at all times. Be aware of what you are doing and do not get distracted.
3. Wear the proper PPE. Safety glasses, gloves and other PPE as needed.
4. Do not work alone.
5. Ensure that all proper guarding is in place.
6. Never try to bypass, go around or behind a machine guard while in operation.
7. Know where emergency shut off switches are.

**Be Safe!**

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