Standard Operating Procedure: Autoclaves

What you should know about using the autoclave

Why are autoclaves dangerous?

The hot, pressurized steam (270° Fahrenheit, 30 pounds per square-inch pressure) that autoclaves generate to kill living organism contaminates makes them serious burn hazards.

How do autoclaves work?

Autoclaves have different patterns of high heat, vacuum, and pressure. The type of materials you sterilize will determine the sterilization type. "Liquids" runs are for any type of waterbased solutions. There are also "dry goods with vacuum," and "dry goods without vacuum." Autoclaves have additional "drying" cycles where hot air is drawn through the chamber. "Liquids" runs are longer than the other two but uses lower temperatures to minimize liquid evaporation.

Make sure seals on containers of liquids are loose so vapor expanding during heating will not cause an explosion. Never autoclave any flammable or volatile liquids because they could explode.

"Dry goods with vacuum" run moves steam and heat through items. Chamber alternates between high pressure, steam, and vacuum. Carefully loosen bag closures. "Dry goods without vacuum" run pressurizes chamber with steam for entire cycle. It is used primarily for cleaned items that need sterilizing.

Autoclave Safety

Firmly lock autoclave doors and gaskets in place before you run autoclave to prevent a sudden release of high-pressure steam. Follow these safety procedures:

- 1. Be sure autoclave is OFF before opening the door.
- 2. Be sure steam pressure is down to normal before opening door.
- 3. Open door slowly, keeping head, face, and hands away from opening.
- 4. Wait at least 30 seconds after opening door before reaching or looking in autoclave.
- 5. Remove solutions from autoclave slowly and gently; some will boil over when moved or exposed to room temperature.
- 6. Clean any spills immediately.

Report any malfunctions or accidents immediately to your supervisor.