

## **Occupational Health and Safety Update - November 1997**

The following is the third instalment in a series of articles to be offered by the Occupational Health and Safety Committee and is intended as a tool to assist laboratories to prepare the safety component of College of Physicians and Surgeons Laboratory Accreditation Program

The Laboratory Safety Manual should include written policies and procedures providing information on the safe handling of electrical equipment, glassware, sharps and compressed gas cylinders.

### **Electrical Safety**

1. Arrange for a qualified electrician to check all electrical outlets for proper grounding. Repeat annually and maintain documentation of the results and any corrective action taken.
2. Arrange for a qualified electrician or biomedical engineer to check all electrical equipment for current leakage when the equipment is new and annually thereafter. Maintain documentation of results and any corrective action taken.
3. There should be sufficient outlets for the equipment in use. The use of extension cords or multiple adapters is discouraged.
4. Arrange for the repair of frayed cords, cords with bare wires exposed and damaged outlets by a qualified electrician.
5. Electrical repairs are to be made by qualified personnel only.

### **Glassware and Sharps Safety**

1. Inspect glassware regularly and discard any chipped, broken or cracked glassware.
2. Before washing, decontaminate glassware that has been exposed to blood and body fluids.
3. Discard sharps into puncture resistant containers. Ensure containers are readily available throughout the laboratory and in each phlebotomy tray. Containers must carry a biohazard label. The universally recognized colour for sharps disposal containers is yellow. Do not fill more than three quarters of their volume and do not fill or partially fill with liquid disinfectants.
4. Do not discard full containers into the general waste stream unless the sharps are first encapsulated in materials such as epoxy, concrete or grout. This applies whether the sharps have been autoclaved or not. If encapsulation is not an option, discard into an approved solid waste site designated for that purpose or arrange for removal by an approved waste removal company.
5. If sharps disposal containers are autoclaved, they must be made of a material that will withstand high temperatures. Containers must not melt, thus allowing sharps to protrude through the container.

## **Compressed Gas Cylinder Safety**

1. Secure cylinders in an upright position at all times using a chain or similar device. Store away from heat or ignition source or flammable material.
2. Label contents of cylinders. Label empty cylinders as such.
3. Dispose of empty disposable cylinders by an approved method, ie. Return to supplier. Do not discard into the general waste stream.
4. Transport cylinders on carts or dollies designed for that purpose. Do not drag or roll cylinders.
5. Do not use cylinders without regulators. Leave valve safety covers in place until pressure regulators are attached.
6. Do not use oil, grease, or lubricants on valves, regulators, or fittings.
7. There should be no more than one spare tank of any type of gas used on hand at each workstation.

### References:

1. National Committee for Clinical Laboratory Standards; Clinical Laboratory Safety; Tentative Guideline GP17-T; Villanova, PA., April 1994.
2. National Committee for Clinical Laboratory Standards; Protection of Laboratory Workers from Infectious Disease Transmitted by Blood and Tissue; Proposed Guideline M29-P; Villanova, PA., October 1987.