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**COURSE : GLASSWARE CLEANING**

**MATRIC NO: 16/MHS06/010**

**ASSIGNMENT**

**Discuss the cleaning methods of 4 different laboratory glasswares.**

Good laboratory technique demands clean glasswares because the most carefully executed piece of work may give an erroneous result if dirty glassware is used.

**CLEANING METHODS OF DIFFERENT LABORATORY GLASSWARES**

These includes:

1. **.Culture Tubes:**

Culture tubes which have been used previously must be sterilized before cleaning. The best method for sterilizing culture tubes is by autoclaving for 30 minutes at 121°C (15 p.s.i. pressure). Media which solidifies on cooling should be poured out while the tubes are hot. After the tubes are emptied, brush with detergent and water, rinse thoroughly with tap water, rinse with distilled water, place in a basket and dry.

If tubes are to be filled with a media which is sterilized by autoclaving, do not plug until the media is added. Both media and tubes are thus sterilized with one autoclaving.

If the tubes are to be filled with sterile media, plug and sterilize the tubes in the autoclave or dry air sterilizer before adding the media.

1. **.Pipets:**

Place pipets, tips down, in a cylinder or tall jar of water immediately after use. Do not drop them into the jar. This may break or chip the tips and render the pipets useless for accurate measurements. A pad of cotton or glass wool at the bottom of the jar will help to prevent breaking of the tips. Be certain that the water level is high enough to immerse the greater portion or all of each pipet. The pipets may then be drained and placed in a cylinder or jar of dissolved detergent or, if exceptionally dirty, in a jar of chromic acid cleaning solution. After soaking for several hours, or overnight, drain the pipets and run tap water over and through them until all traces of dirt are removed. Soak the pipets in distilled water for at least one hour. Remove from the distilled water, rinse, dry the outside with a cloth, shake the water out and dry.

1. **.Blood Cell Count Diluting Pipets:**

After use, rinse thoroughly with cool tap water, distilled water, alcohol, or acetone, and then ether. Dry by suction. Do not blow into the pipets as this will cause moisture to condense on the inside of the pipet.

To remove particles of coagulated blood or dirt, a cleaning solution should be used. One type of solution will suffice in one case, whereas a stronger solution may be required in another. It is best to fill the pipet with the cleaning solution and allow to stand overnight. Sodium hypo chlorite (laundry bleach) or a detergent may be used. Hydrogen peroxide is also useful. In difficult cases, use concentrated nitric acid. Some particles may require loosening with a horse hair or piece of fine wire. Take care not to scratch the inside of the pipet.

1. **.Automatic Pipet Washers:**

Where a large number of pipets are used daily, it is convenient to use an automatic pipet washer. Some of these, made of metal, can be connected directly by permanent fixtures to the hot and cold water supplies. Others, such as those made with polyethylene, can be attached to the water supplies by rubber hose. Polyethylene baskets and jars may be used for soaking and rinsing pipets in chromic acid cleaning solution. Electrically heated metallic pipet dryers are also available.

After drying, place pipets in a dust-free drawer. Wrap serologic and bacteriologic pipets in paper or place in pipet cans and sterilize in the dry air sterilizer. Pipets used for transferring infectious material should have a cotton plug placed in the top end of the pipet before sterilizing. The plug will prevent the material being measured from being drawn accidentally into the pipetting device.