



Training on Proficiency Testing Scheme (Microscopy PT)

**Module 4: Use and maintenance of Microscope
PT equipment**

24th- 29th April 2018

**Uganda Supranational Reference
Laboratory**

Content outline

- Identification of the various equipment used in Microscopy PT Preparation
- Purpose of the various equipment
- Maintenance of the equipment
- Precautions taken when using various equipment.

Group exercise

- 1) In your groups identify at least 8 equipment used in the Microscopy PT laboratory
- 2) Name the purpose for each of the equipment named above
- 3) What are the maintenance procedures for the above mentioned equipment?

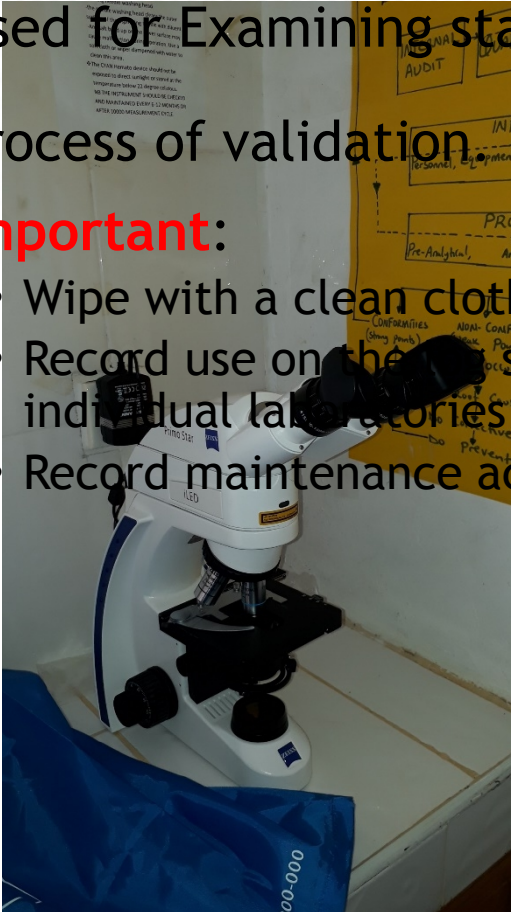


Microscopy PT preparation equipment

- Centrifuge
- Vortex
- Water bath
- Microscope
- Slide warmer

Microscope

- Used for Examining stained smears in the process of validation.
- **Important:**
 - Wipe with a clean cloth after use
 - Record use on the sheet provided by the individual laboratories
 - Record maintenance activities



Centrifuge

- Sedimentation by centripetal force
- RPM (revolutions per minute) or x g
- RPM = the number of full rotations completed in one minute
- x g = centrifugal force
- Different sizes: microcentrifuge/picofuge (0.2 ml - 200 ml)



Centrifuge

- **Important:**
 - Wipe with a clean cloth after use
 - Record use on the log sheet provided by the individual laboratories
 - Record maintenance activities

Vortex

- Distribute contents uniformly
- (mix reagents)

Water bath

- Temperature stability for liquids
- It is crucial to heat samples in order to totally lyse cells and inactivate vegetative bacteria



Vortex and water bath

- **Important:**

- The vortex must be disinfected on a regular basis
- Tightly cap the container
- Water in the waterbath must be replaced at regular intervals (e.g . weekly/ monthly)
- Clean with mild detergent
- Keep the heating element covered

Assessment

- 1) List at least 5 key Microscopy PT equipment.
- 2) Identify one way of maintaining each of the named 5 equipment.
- 3) What are the advantages and disadvantages of using a water bath compared to the water beaker?

Summary

- Maintenance logs should be in place for all the equipment.
- A service contract should be in place for all the equipment.
- Good laboratory practices should be maintained in the TB lab despite dealing with non viable organisms.

Acknowledgments

