Routine Microscopy
Direct Smear

As in any laboratory procedure, proper PPE must be worn. Please check with your laboratory's SOP for this information. In both the public health and clinical laboratory, you may need to make a direct smear from a specimen. Usually, making the direct smear is the last step in the primary plating step for culturing for microorganisms. The primary plating step, as well as making a direct smear from a specimen, is performed in the biological safety cabinet.

A clean microscope slide is marked with the same identification as the plates for a particular specimen. The culture plates are then inoculated with a specimen, either a swab or fluid, and a clean labeled slide is inoculated with the specimen.

Depending on your laboratory's SOP, a swab is either rolled across the clean labeled slide or dabbed on the slide. The slide is then allowed to air dry. If the specimen is liquid, use a sterile pipette to add a drop of the liquid specimen on the clean slide.

A sterile plastic loop is used to spread the material over an area of the slide. The slide is then allowed to air dry. This same procedure is followed when you are taking an isolated colony from culture media. You would put a drop of sterile water on a clean slide. Using a sterile loop, remove an isolated colony from the culture plate and gently mix it with the sterile water.

During this process, avoid aerosols if possible. Again, let the slide dry or put it on a slide warmer.

Link to video job aid [Routine Microscopy – Direct Smear | OneLab REACH (cdc.gov)]