# Fixing Common Problems

1. Localizing Obstructions.
   1. Cannot see the image, but the light source is functioning
      1. Remove the eyepiece(s).
         1. Clean both the top and bottom lenses if they are dirty (see Cleaning Guide.)

If the obstruction is not in the eyepiece, verify that the obstruction is not within the tube or the head.

* + - * 1. Remove the body and head from the microscope. This may require you to remove the screws that hold it in place.
        2. Verify that there is a small mirror inside the head.

Shine a light through the bottom of the tube and make sure the mirror reflects the beam directly upward. If the mirror is oriented correctly, a complete, unobstructed image should appear when the user looks through the eyepiece.

If part of the image is blocked, there could be a problem with the orientation of the mirror.

If the orientation of the mirror is wrong: Shine a light on the mirror (without reassembling the tube) and look through the eyepiece and if the image is composed of two different directions, the mirror is misaligned.

Adjust the alignment of the mirror, so that a complete unobstructed image appears when the user looks through the eyepiece.

Clean the surface of the mirror (see Cleaning Guide.) Be careful to avoid getting cleaning solution anywhere but the surface of the mirror because it could corrode the seal between the mirror and the microscope.

* + - 1. Check the objective lenses.
         1. Cycle through the objective lenses and make sure light shines through all of them. Remove objective lenses by unscrewing to check them individually for obstructions.
         2. If the objective lenses are not functional, try to find a replacement objective lens. In general, objective lenses are color-coded and should be interchangeable within one microscope and between microscopes built by the same manufacturer.
         3. Broken objective lenses cannot be repaired and are very expensive to replace. If the problem is confirmed to be in the objective lens, it is more cost-efficient to replace the microscope.
      2. Check the dimmer and condensor.
         1. Make sure the dimmer is open fully and shine a light through to make sure it is free from obstruction.
         2. Clean the condensor lenses if they are dirty.
         3. Ensure the space between the stage and condensing lens is unobstructed.
         4. Make sure the light source is not obstructed.

If the light source is dirty, clean the surface of the glass. (See cleaning guide).

1. If the light source fails to turn on,
   1. Make sure the microscope is properly connected to a functioning power source.

If still not functioning, the light bulb may need to be replaced.

If there is no replacement, try positioning a flashlight under the stage. If a flashlight is not available, trying holding a mirror under the stage and reflecting sunlight up through the stage.

1. Problems with Focusing.
   1. If the microscope does not move up or down when the course focus dials are turned.
      1. If the knobs spin continuously without encountering tension, the problem is either in the focus gears or in the connection between the focus knob and the focus gears.
         1. Apply a lubricant to the area around the knob and continue trying to turn it.