Clinical Microscope Preventative Maintenance Procedure

(Meets or exceeds all College of American Pathology (CAP)™ preventative maintenance service requirements.)

* **Evaluation**

Complete a performance check of all optical and mechanical functions; notify the laboratory staff of major concerns prior to servicing.

* **Tear Down and Cleaning**

Carefully remove the oculars, head assembly, objectives (maintain sequence), slide holder, mechanical stage (if practical), condenser, blue / interference / neutral density or polarizing filters, field opening bracket with iris (if removable), and other accessories. Clean all optical surfaces using proper technique. Clean all non-optical solid surfaces including the body of the microscope using proper technique.

* **Lubrication**

If needed, apply appropriate lubrication to all moving parts … mechanical stage bearing track and rack and pinion gears, slide holder, focus mechanism, rotating nosepiece, condenser rack and pinion gears.

* **Re-assemble**
* **Kohler Alignment**

Complete Kohler Alignment using settings for the condenser alignment screws and the condenser and field iris diaphragms.

* **Centration Error Check**

Check and record the specific values for Centration Error … both horizontal and vertical.

* **Full Function Check**
  + Parfocality, Parcentration and Resolution of all Objectives
  + Confirm that all ocular surfaces are clean by rotating oculars under high magnification.
  + Check the function of the Inter-Pupillary Distance (IPD) mechanism.
  + Check the function of focusing oculars and / or focusing eye-tubes.
  + Confirm stage collimation by focus stability during slide movement.
  + Check mechanical stage motion and control knob tension adjustments.
  + Check bulb socket alignment and condition.
  + Confirm proper fusing.
  + Check all accessories for proper function and alignment: phase contrast alignment, polarization and red compensator function, UV bulb alignment, micrometer calibration and documentation, dual-view system alignments, pointer bulbs, camera / CCD function.
  + Electrical Safety Check
* **Notification of Concerns to Staff**
* **Written Documentation to Lab Manager** … conforming to CAP inspection requirements
* **End-of-Day Verification** – a walk around of all lab departments to confirm that all microscopes are working well and that any adjustments are acceptable.