

Document Detail

Type: SOP | Document No.: SOP-00001 | Status: CURRENT | Effective Date: 01-Jan-2026

Title: Microscope Operation and Maintenance

Document Approval System

Role	Signatory	Decision	Sign-off Date
Document Author	User A	Approved	01-Jan-2026
Document Reviewer	User B	Approved	01-Jan-2026
Document Reviewer	User C	Approved	01-Jan-2026
Document Approver	User D	Approved	01-Jan-2026

STANDARD OPERATING PROCEDURE

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1.0 PURPOSE This Standard Operating Procedure describes in detail the operation, care, handling, and maintenance of microscopes used within a controlled laboratory environment. It ensures consistent performance, accuracy of observations, and longevity of equipment.

2.0 SCOPE This procedure applies to all personnel performing microscopic analysis including routine inspection, research, and documentation activities involving optical microscopes.

3.0 RESPONSIBILITIES Trained personnel are responsible for correct operation. Supervisors ensure compliance and training. Quality personnel ensure records are maintained and reviewed.

4.0 DEFINITIONS / ABBREVIATIONS N/A

5.0 SAFETY

5.1 Ensure power cords are intact and positioned to avoid tripping hazards.

5.2 Always carry microscope using one hand under base and the other on the arm.

5.3 Avoid touching optical lenses with bare hands as this may cause contamination.

6.0 MATERIALS

6.1 Microscope with objective lenses (10X, 40X, 100X)

6.2 Lens cleaning tissue

6.3 Immersion oil

6.4 Lint-free cloth

6.5 Approved cleaning agents

7.0 PROCEDURE

7.1 Record Retention

7.1.1 Maintenance and service documentation shall be retained according to defined retention policies.

7.1.2 Current logbooks are maintained within the laboratory while historical records are archived.

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7.2.1 Remove dust cover and connect power supply to a grounded outlet.

7.2.1.1 Clean workstation using approved disinfectant and document completion.

7.2.1.2 Clean optical lenses using lens tissue.

7.2.2 Turn on illumination and adjust brightness appropriately.

7.2.3 Adjust eyepiece spacing to achieve a single clear image.

7.2.3.1 Users may record preferred spacing settings.

7.2.4 Use fine focus adjustment for precision focusing.

7.2.5 Use coarse adjustment to position stage safely.

7.2.6 Place slide centrally and raise stage gradually.

7.2.7 Ensure objective does not contact slide surface.

7.2.8 View through eyepiece and focus specimen carefully.

7.2.9 Increase magnification and refine focus using fine adjustment only.

7.2.10 Upon completion clean surfaces, remove oil and document.

7.2.11 Lower stage, return to lowest magnification and power off device.

8.0 MAINTENANCE Routine maintenance includes regular cleaning and inspection of optical components.

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8.1 External surfaces shall be cleaned using lint-free cloth.

8.2 Lenses shall be cleaned before and after use.

8.2.1 Only approved lens tissue shall be used.

8.2.2 Immersion oil shall be removed immediately after use.

8.2.3 Cleaning agents may be used if necessary.

8.3 Optics shall be inspected regularly for dust and contamination.

8.3.1 Dust may be removed using air or soft applicators.

8.4 All maintenance and servicing activities shall be documented.

9.0 REFERENCES N/A

10.0 REVISION HISTORY

Rev 1 – Anonymized pixel-close SOP clone for testing