SOP on Semi-Automatic Microtome (AEM450)

Department of Anatomy

Faculty of Medicine

UWUSL

Standard Operating Procedure (SOP) on Semi-Automatic Microtome (AEM450)

(1) Title

Standard Operating Procedure (SOP) on Semi-Automatic Microtome (AEM450).

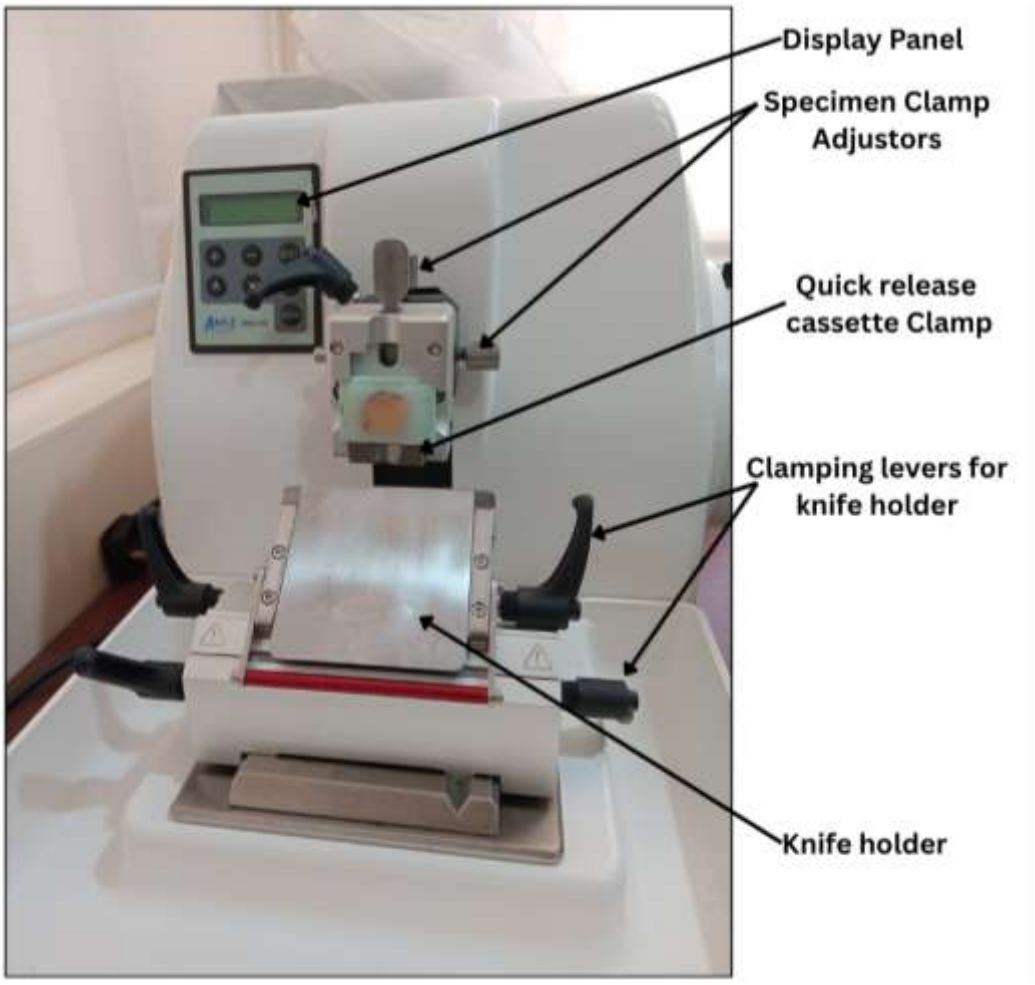
(2) Issued By

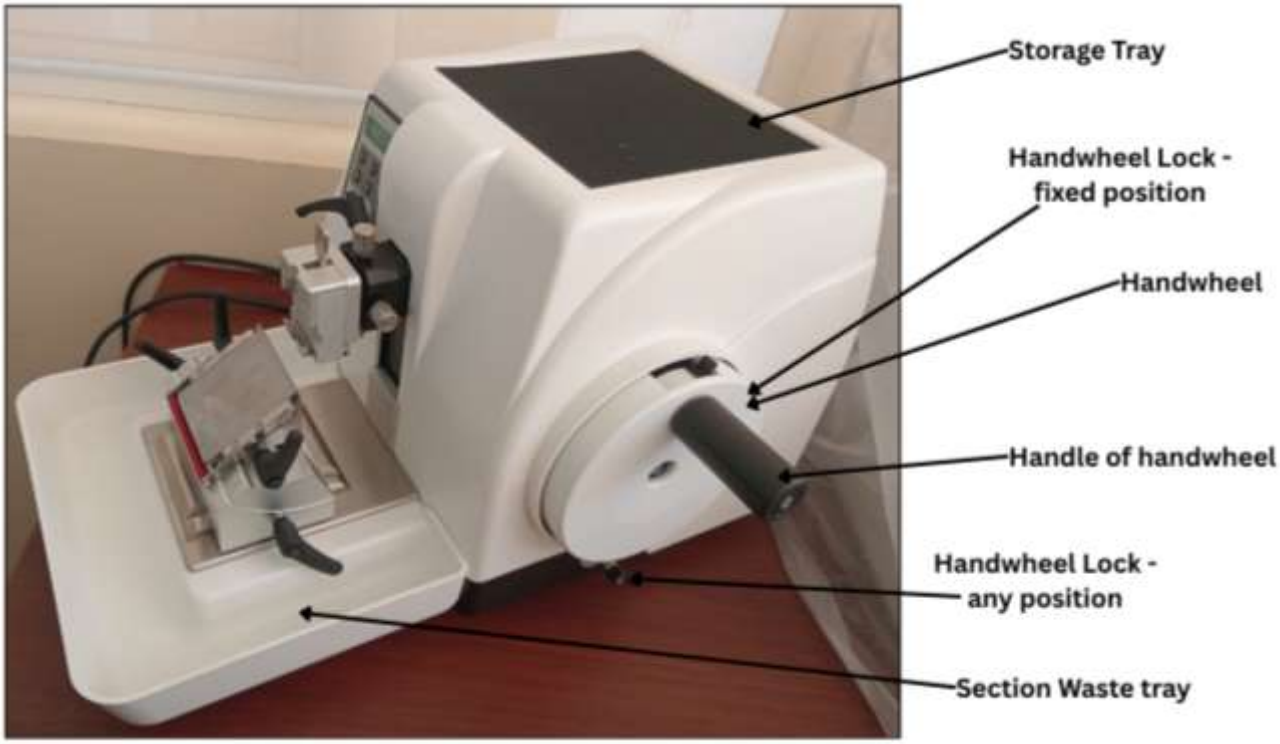
Department of Anatomy, Faculty of Medicine, Uva Wellassa University of Sri Lanka

(3) Purpose & Scope

Provide standardized instructions for technical officers to safely operate, maintain and troubleshoot the AEM450 semi-automatic microtome. Applies to all technical officers handling paraffin embedded tissue sectioning in histopathology laboratories.

(4) Parts of the Automated Tissue Processor





(5) Pre-operational Checks

(5.1) Confirm stable installation.
(5.2) Adequate workspace
(5.3) Correct power supply.
(5.4) Knife holder secure.
(5.5) Waste tray installed.
(5.6) Specimen clamp clean.
(5.7) Blade undamaged.
(5.8) Handwheel lock functioning.

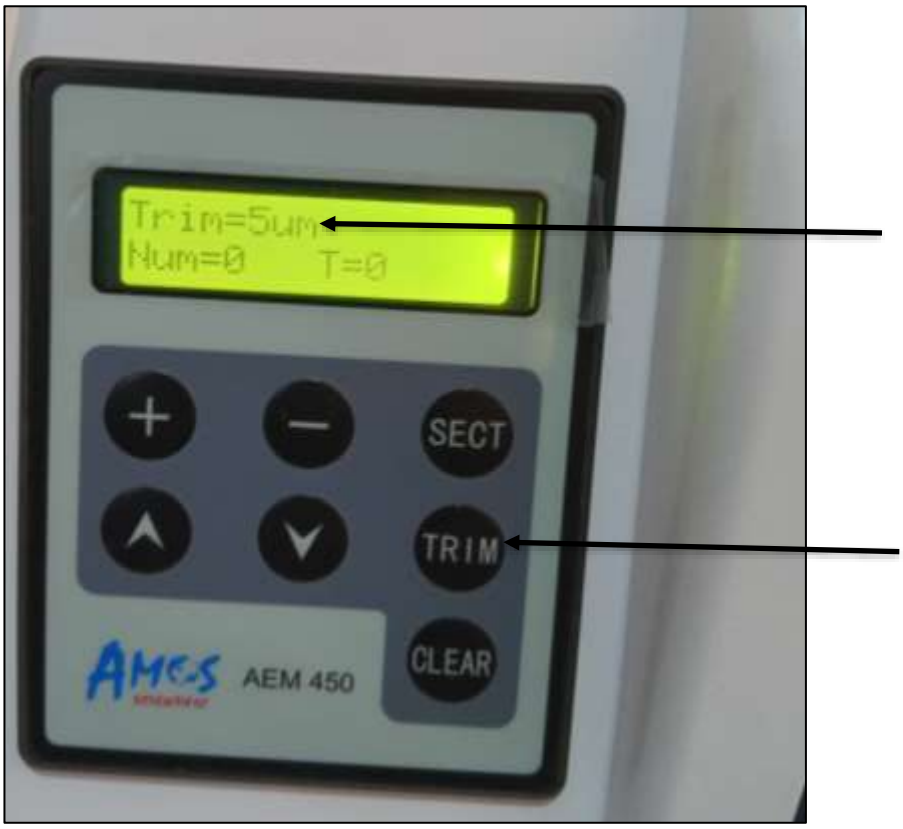
(6) Operating Procedure

(6.1) Switch on instrument and allow automatic initialization.

(6.2) Install knife holder and blade securely.

(6.3) Mount specimen and orient block.

(6.4) Select TRIM mode and trimming thickness.



(6.5) Coarse feed specimen until close to blade.

(6.6) Trim block face.

(6.7) Select SECT mode and desired section thickness (typically 3–5 µm for routine histology).

(6.8) Rotate handwheel clockwise smoothly to obtain ribbons.

(6.9) Transfer sections to warm water bath.

(6.10) After completion, move specimen to top position, lock handwheel, remove blade or engage guard, clean instrument.

(7) Safety Precautions

(7.1) Lock the handwheel before changing specimens or blades.
(7.2) Keep blade guard engaged when not sectioning.
(7.3) Handle blades using forceps.
(7.4) Disconnect power before cleaning or maintenance.
(7.5) Never allow liquids into the instrument.
(7.6) Use grounded electrical supply.

(8) Quality Control

(8.1) Check,
(8.1.1) Ribbon continuity.
(8.1.2) Section thickness.
(8.1.3) Absence of tears or folds.

(8.2) Replace dull blades and readjust knife angle when necessary.

(9) Cleaning

(9.1) Remove paraffin debris after each session.
(9.2) Clean clamp and knife holder separately.
(9.3) Wipe exterior with a damp cloth.
(9.4) Never use acetone/xylene.

(10)Maintenance

(10.1) Inspect locking levers.
(10.2) Lubricate moving parts as recommended.
(10.3) Maintain maintenance log.
(10.4) Arrange annual servicing.

(11)Troubleshooting Summary

Problem	Corrective Action
Poor sections.	Check blade sharpness, knife angle, specimen hardness, clamp stability, paraffin quality and cleanliness.
Electrical faults	Verify power, fuse and grounding.

(12)References

(12.1) AEM450 Operation Manual.

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