

School of Biomedical Sciences  
**Standard Operating Procedures**



<b>Title</b>	Operating the Microtomes	
<b>Date</b>	11/04/2022	
<b>Location</b>	<b>Bld: 65 Skerman</b> <b>Room: 210</b>	
<b>Equipment Custodian</b>	<b>Contact: Darryl Whitehead</b>	<b>Expert User: Darryl Whitehead</b>

<b>Task</b>	<p>Working with microtomes, whether preparing or cutting a sample, is a true art. You need specific hands-on training from the laboratory supervisor before using a microtome. Because of the associated hazards, safety must be incorporated into every step of the process to keep fingers, hands and other items protected. Follow the safety tips provided below to keep your fingers, hands, and your artistic touch in perfect condition and to prevent exposure to solvents and biological tissues.</p> <p>Dispose of blades when appropriate or upon completion of work</p>
<b>Pre start checks</b>	<ul style="list-style-type: none"> <li>• Complete SBMS OH&amp;S Induction and local histology induction</li> <li>• Obtain equipment specific training provided by the Senior histologist</li> <li>• Read and understand SOP and Risk Assessments</li> <li>• Book appropriate device using the SBMS Online Booking System</li> </ul>
<b>Safety considerations</b>	<p><b>Personal Protective Equipment (PPE):</b></p> <ol style="list-style-type: none"> <li>1. Lab coat or gown</li> <li>2. Fully closed shoes</li> <li>3. Gloves</li> <li>4. Safety glasses as required</li> </ol> <p><b>General precautions:</b></p> <ul style="list-style-type: none"> <li>• Handle blades very carefully when installing or removing. Follow the manufacturer's guidelines explicitly. Either solid or disposable blades.</li> <li>• Tungsten-Carbide knives can cut through your shoes if dropped. Be careful where your feet are positioned when installing or removing blades.</li> <li>• Store blades in a covered container. Use a container that has guides to hold the blades rigid.</li> <li>• Never leave blades on countertops. Lacerations can occur when reaching across the countertop and inadvertently contacting an unprotected blade.</li> <li>• When setting up the microtome, ALWAYS position the sample first then put in the blade.</li> <li>• When applying the brake, ensure that it is tight. Most accidents occur</li> </ul>

	<p>when the brake slips and the operator's hand is drawn into the blade.</p> <ul style="list-style-type: none"> <li>• When leaving the microtome, even for a short time, ensure that the blade guard is in place. Place the Identification sign on the unit guarding the blade and sample.</li> <li>• When preparing a paraffin sample for the Microtome, remember to clamp the sample down tight. The movement allowed by a loose clamp increases your risks of cuts.</li> <li>• To avoid compression or knife marks, ensure that your blade is clean. Follow the histologist's guidelines for cleaning the work area. Always use a brush for cleaning the blade, thus removing your hands from potential contact.</li> </ul> <p>▪ <b>Emergency Procedures:</b>  In the case of emergency,  All incidents should be reported to the Facility Staff and Manager, Ext 51929, Safety Coordinator, Ext 53221, and/or Security 53333.  All injuries must be reported to SBMS HSW Management, Ext 53221 or 51269, Building Management, Ext 53105.  All incidents and injuries must be recorded in the UQ Incident and Injury Database.</p>
<p><b>Procedure</b></p>	<ol style="list-style-type: none"> <li>1. Validate that NO knife is present in the mount</li> <li>2. Retract knife mount to a safe distance from the clamp and lock</li> <li>3. Place sample into clamp and validate its locking</li> <li>4. Unlock fine feed wheel and lower clamp to be in-line with knife mount</li> <li>5. Unlock knife mount and bring towards the specimen in the clamp</li> <li>6. Unlock sample clamp and adjust angle of surface to be even with knife mount and relock</li> <li>7. Unlock knife clamp and insert knife from exposed side (no controls or levers)</li> <li>8. Bring knife to validate mounting and lock in place</li> <li>9. Adjust knife to be cutting on one side</li> <li>10. Adjust angle of cutting via the knife mount (~6 °)</li> <li>11. Set thickness of cutting</li> </ol>

	<ol style="list-style-type: none"><li>12. Bring sample to be adjacent to knife</li><li>13. Expose section waste tray, if present</li><li>14. Begin sampling of tissue</li></ol>
<b>Legislative requirements</b>	<ul style="list-style-type: none"><li>▪ AS 2243.6 Safety in laboratories, mechanical aspects</li></ul>

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