



Microtomes and cryostats are used for cutting thin sections of fixed and unfixed tissue. The use of these instruments in the laboratory presents a laceration hazard which can result in an exposure to bloodborne pathogens or other infectious materials. Observe the following procedures when using microtomes and cryostats:

Start of Work Safety Checklist

- ✓ Is the hand wheel locked?
- ✓ Is the knife guard in place?
- ✓ Is the knife holder empty – no hand blade in place?
- ✓ Is the work area clear of loose disposable blades or any other sharp edged tools?
- ✓ Is the Cryostat and work area clean?

Working Safely with Microtome and Cryostat Blades

- Always keep hands away from blades.
- Position the sample first and then put in the blade with the blade edge positioned away from hands.
- Use engineering controls like forceps, tweezers, dissecting probes, and small brushes to retrieve samples, change blades, dislodge blocks, or clean equipment.
- Use protectors/guards for knife-edges that may extend beyond microtome knife holder.
- Wear appropriate Personal Protective Equipment (PPE) such as gloves, lab coat or gown, mask, safety glasses or goggles. Consider the use of surgical grade Kevlar gloves when using a cryostat to provide additional protection from cuts and scrapes.
- Do not leave motorized microtomes running unattended.
- Discard and handle trimmings and sections of tissue as biohazardous waste.
- Do not move or transport a microtome with knife in position.
- Always lock the chuck rotating mechanism (wheel) to immobilize the block when not actively cutting tissue and before insertion or removal of blade.
- Never walk away from an exposed blade.
- At the end of each session with the microtome or cryostat, either dispose of the blade immediately in a sharps container, or reusable blades can be secured in a container when not in use.
- Properly decontaminate equipment including reusable blades after each use.
- Before the cryostat is cleaned, the rotary wheel must be locked and the blade removed from the blade holder (see removal of blade above). Use caution as other components of the cryostat may also have sharp edges.

Additional Information:

- Training on the instrument must be provided by a knowledgeable, responsible person within the laboratory.
- A written procedure specific to the individual piece of equipment should be available to laboratory personnel.
- Refer to the manual or contact the manufacturer for additional information and specific safety information
- Incidents should be reported to your PI or supervisor immediately.
- Suggested Reading: <http://onlinelibrary.wiley.com/doi/10.1111/j.1524-4725.2012.02342.x/full>

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