

Cryostat Safety Precautions and Guidelines

SET-UP

1. Prior to operating the cryostat, proper minimum PPE must be worn: safety glasses, lab coat, disposable gloves and cut resistant (Kevlar or stainless steel mesh) gloves if changing blades.
2. Cool the cryo chamber to the desired temperature. Then, cool tissue blocks, brushes, forceps, and any sectioning tools inside the chamber
 - a. **ENSURE THE HANDWHEEL IS LOCKED AND THE BLADE IS GUARDED BEFORE PLACING TOOLS INSIDE THE CHAMBER.**
3. Keep a clear distance between hands and the **GUARDED** blade during movements in and out of the chamber.
4. Follow the precautions below prior to any tissue block manipulation on the specimen head:
 - a. Lock the handwheel, then guard and retract the blade from the specimen head using the appropriate button. Ensure there is a clear distance between hands and specimen head.
 - b. If applicable, ensure the foot pedal is guarded to prevent unintended activation.
5. Dispose of unwanted blades in an appropriate sharps container. A magnetic blade tool must be used to remove unwanted blades. **NEVER TOUCH A BLADE WITH YOUR FINGERS.**

OPERATION/SECTIONING

- ❖ Know the various functions of the buttons and handwheels on your instrument (review with trainer).
1. Ensure the tissue block is positioned as needed.
 2. Use the appropriate button to move the blade towards the specimen head. The blade must remain guarded until ready for sectioning. **NEVER USE FINGERS TO MANIPULATE BLADE.**
 3. Begin sectioning.
 4. For additional adjustments to the plane of the tissue block, lock the handwheel and guard and retract the blade using the appropriate button. Ensure there is proper clearance space between hands and blade.
 5. When a section of interest is sliced, use a brush (or other appropriate tool) to re-position the section as needed. Then, retrieve tissue sections using brushes or any applicable tools and transfer them to a slide; **NEVER USE FINGERS TO MANIPULATE THE SECTION.**
 6. When brakes are applied, ensure the brake is actually tight before proceeding.



7. Review safety features with your microtome trainer. In case of an emergency during sectioning, press the stop emergency button
 - a. Do not continue sectioning until the danger has been resolved.

CLEAN-UP

1. Lock the handle. Engage the blade guard and use the appropriate button to retract the blade.
2. Ensure there is proper clearance space between hands and blade. Remove the tissue block.
3. Use a large brush to sweep discard tissue sections into the drop pan below the head. **NEVER USE FINGERS TO SWEEP CHAMBER SURFACES.**
4. Generally, dH₂O can be used to rinse the specimen disks, brushes and other tools. Check with your user manual.
5. Dispose of unwanted blades in an appropriate sharps container. A magnetic blade tool must be used to remove unwanted blades. **NEVER TOUCH A BLADE WITH YOUR FINGERS.**
6. Never attempt catching a falling blade.
7. Reagents will be disposed as chemical waste, used blades will go into a sharps container and discarded tissues will be processed as biohazardous waste.
8. Make sure the blade is guarded and that the handwheel is locked before you leave.
9. The surrounding area must be clean and free of sharp objects.



Cryostat Training Confirmation

New Trainee has read and understood the “Cryostat Safety Precautions and Guidelines” document. Please sign below to confirm.

New Trainee Name

Trained by

Date

New Trainee Signature

Trainer Signature

Date
