University of Washington Medicine - Pathology

100-03-01-12

Cryostat Maintenance and Decontamination Procedure

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PURPOSE

The purpose is to provide proper instruction for temperature recording and disinfecting / decontamination of the cryostats on a daily and weekly basis.

SCOPE

This procedure applies to all staff performing frozen sectioning.

PROCEDURE

Principle:

According to CAP regulations, our cryostat temperatures are recorded daily and routine Disinfection / Decontamination should be performed in keeping with usage (weekly if cryostat is use daily). If a cryostat is contaminated by a patient known or suspected to be positive for HIV, hepatitis B or C, SARS-related coronavirus, prion disease such as Creutzfeldt-Jakob disease, or mycobacterial or systemic fungal disease it will be placed out of order immediately and disinfected and decontaminated per protocol before any further use.

General Precautions:

- Fluid resistant barrier gowns or lab coats, gloves and eye protection must be worn when performing cryostat disinfection procedures.
- Viraguard reagent can be corrosive and can cause skin damage.
- Remove blade prior to any maintenance and decontamination.
- Prior to manipulating the blade and specimen, or changing the specimen or blade, and during breaks, always lock the hand-wheel and cover the cutting edge with the tissue roll plate.

Reagents:

- ViraGuard (Veridian Corporation)
- 100% Ethanol

Procedure:

1. **Daily Cryostat Maintenance:**
   a. With an ink pen ***(!pencil is not permitted!)*** record the cryostat temperature and your initials on the log sheet. {*Cautionary*: *for cryostats with UV lights, these lights expire. Leica units will signal with both lights blinking at same time when bulbs are no longer good*}.

b. If a temperature in out of range **(range -20C° to -25C°)**
    a. Notify your supervisor
    b. Place out of order sign on machine
    c. Investigate the cause
    d. Document the cause in the comment block on the log sheet (lid left open).
    e. Document when the temperature is back in range
c. Verify that no patient samples are present in the chamber.
d. Remove used blades from the blade holder. **Do not clean with blade in place.**
e. Dispose of blades in a provided sharps container.
f. Wipe down all utensils (pencils, forceps, brushes, gauze, etc) with 100% alcohol. Set aside, returning to the chamber after cleaning.
g. Remove all debris from the chamber. Debris must be removed because organic materials (blood and proteins) may contain high concentrations of microorganisms and could possibly inactivate the chemical disinfectant or prevent access to contaminated surfaces. It should be treated as biohazardous waste and disposed of according to the policies and procedures of the institution.
h. 100% reagent alcohol poured on a cloth should be used to clean the cryostat and provide some disinfection capabilities. Be sure to treat all surfaces that might touch fresh tissue including the cryostat lid.

2. Weekly Required Decontamination:

a. Per Cap regulation, Disinfection and Decontamination of cryostat must be done on a weekly schedule (if used daily). {See respective departmental decontamination schedules *per usage*}.
b. The cryostats must be defrosted and brought to room temp prior to decontamination. Decontaminate by wiping all exposed surfaces with an EPA-approved tuberculocidal disinfectant (we use ViraGuard). Trimmings and sections of tissue that accumulated inside the cryostat must be removed prior to decontamination.
c. Record information on the respective Cryostat maintenance log. These form can be accessed and printed from *S:\Histology\Forms\CryostatQCDocuments*.
d. All QC logs are to be reviewed by respective department supervisors on a monthly basis.

3. Chemical Disinfection / Decontamination:

a. Place out of order sign in cryostat, turn off machine and allow it to defrost overnight.
b. The next morning pour disinfectant (ViraGuard) onto surfaces or absorbent disposable towels and wipe the contaminated surfaces and leave wet for 10 minutes.
c. Accessories with multiple parts, such as the disposable blade holder, knife holder and their respective bases, must be taken apart, disinfect with Viraguard and wipe thoroughly.
d. Do not create aerosols by spraying disinfectant (or anything else) in an open cryostat chamber.
e. Any disposable material used in the disinfection process must be disposed of in accordance with the Compromised Specimen procedure, 6000-01-04-01, and Safety, Infection Control Management policy, 100-05-01-01.

4. **Following Disinfection:**
   a. After the disinfection procedure is complete, absolute 100% reagent alcohol can be used to remove excess moisture from surfaces.
   b. The liquid waste container should be emptied in accordance with polices and procedures of the institution. Before replacing the instrument, add a small amount of liquid bleach to the empty container.

5. **Maintenance:**
   a. Lubricate the main cylinder after decontamination.
   b. Move the chuck assemble to its further forward position and apply a drop of lubricant oil. Move the assembly back to the home position.
   c. Pull blade locking lever back and remove.
   d. Wipe off lever with dry gauze and place a drop of oil on shaft.
   e. Place locking lever back in cryostat and push forward locking the blade.

REFERENCE

Carson, Freda, Histotechnology a Self-Instructional Text 2nd edition, ASCP Press. Chicago, IL ASCP Press, 1990.
Compromised Specimen procedure, 6000-01-04-01
Safety Inspection Control Management policy, 100-05-01-01
Cryostat Log sheet, S:\Histology\Forms\CryostatQCDocuments
ViraGuard MSDS

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