

Guideline

Subject: Frozen Section: minimisation of infection hazards associated with cryostats
Approval Date: May 2014, September 2018
Review Date: September 2022
Review By: BPPQ
Number: 4/2014

Background

The frozen section diagnosis is a specialised technique to be undertaken by trained laboratory staff fully conversant with standard universal precautions that are employed whenever handling fresh tissue of unknown infectivity. The provision of a frozen section service needs to take into consideration minimisation of infection hazards for staff. Points of particular vulnerability for staff are:

- i) potential aerosol creation during the processing of specimens
- ii) blade changes
- iii) cryostat cleaning/decontamination.

All staff using the instrument must be trained in the concepts of standard, aerosol and contact precautions and the particular risks of frozen section. There must be a blood and body fluid exposure protocol in the laboratory and managers and staff trained in how to use it. All staff must be vaccinated against Hepatitis B and have regular assessment of their Tuberculosis (TB) status.

It is essential that all fresh tissue must be treated as though it is potentially infectious, regardless of the clinical history ("standard precautions"). To stratify the risk of potential exposure, clinicians should indicate if there is known or suspected TB or viral infection when requesting a frozen section. Highly infectious or potentially dangerous samples should be offered alternative examination (eg cases of clinically suspected TB should be offered a "touch imprint" cytology examination in preference to frozen section).

Handling tissue for frozen section

Ideally frozen sections should be performed in a separate area away from the main laboratory workflow to minimise exposure risk to other staff.

Handling of all fresh specimens should be undertaken in a Biological Safety Class II (BSCII) cabinet with staff wearing appropriate personal protective equipment. Creation of aerosols must be kept to a minimum and use of rapid "Spray freeze" pressurized propellant solutions is not recommended.

Staff cutting frozen sections must be aware that the cutting blade poses the greatest risk and must be fully trained in using the blade with a "no-touch" technique. Staff must wear puncture-resistant gloves when changing the blade. Staff should also use gloves, a surgical mask and eye protection. Where the tissue is suspected to harbor *M.tuberculosis*, and alternative examination methods are not available, the surgical mask should be replaced by an N95 (also known as P2) mask.

Decontamination

Removal of accumulated material in the instrument should be carried out daily by staff wearing appropriate personal protective equipment. The cryostat must never be cleaned with the knife in place.

There should be a clearly documented procedure for regular cryostat decontamination. Cryostat cleaning and decontamination should also be performed after frozen section of a proven infectious tissue sample.

Routine decontamination should be performed at least weekly according to the cryostat manufacturer's recommendations and may employ the use of formalin fumigation, UV light irradiation and/or appropriate disinfectants. Regular chemical disinfection with a non-corrosive disinfectant is still recommended after UV disinfection. Seventy per cent alcohol is a more effective germicide than absolute alcohol. Decontamination should not include the use of aerosolizing sprays. Staff must wear appropriate personal protective equipment.

During decontamination procedures there should be clear signage indicating this is in progress.

Decontamination records must be maintained and be available for inspection.