Biological risk assessment for laboratory-bred mouse and rat tissue

Background

Mouse and rat tissue is dissected from laboratory-bred animals raised at the University of Toronto. The animals are from laboratory strains, such as (but not limited to) the Charles River CD-1 mouse line. We do not harbour live animals or whole specimens of sacrificed animals; we have only dissected tissue from various organs, including rat mammary pad adipose tissue and mouse testicular tissue. After dissection, this tissue is snap frozen before entering our laboratory, where it is stored at -80 degrees Celsius.

Risk considerations

As purpose-bred laboratory strains, the mice and rats supplying this tissue are considered 'pathogen-free.' Of course, even the most stringent laboratory procedures cannot guarantee the absence of human-transmissible pathogens, and so specimens should be handled using personal protective equipment (gloves, googles, lab coat) under at least Biosafety Level 1 containment.

Exposure risk

Exposures may occur due to puncture by sharp object, skin contact, or aerolization. For reasons noted above, the risk of exposure and infection is low, but good standard laboratory practices, including use of PPE, containment, and decontamination should be followed.

Decontamination/disposal procedures

All animal tissue should be disposed of in biohazardous waste containers. Sharps used to handle animal tissue should be disposed of in biohazardous sharps containers. Disinfect surfaces before and after handling with 70% ethanol.

Personal protective equipment

Any breach of the skin (scratch, cut, wound) needs to be protected from contact with biological agents. Cover open wounds, cuts, scratches, and grazes with waterproof dressings and gloves. If you exhibit any open wounds (broken skin) in areas that cannot be covered by dressings or clothing, re-evaluate the work in process. Suggestions for mitigating the exposure in the case of broken skin that

cannot be covered include, for example where the wound is on the face, work with a full-face shield; work in the BSC, or have someone else do the work.

Summary

Though the risk of infection from laboratory-bred animals is low, all animal tissues should be treated as potentially pathogenic.

Tentative assessment: Risk Group 2