Draft Standard Operating Procedure (SOP) for Use of Biological, Chemical, Radiation and/or other Physical Agents with Live Animals

Approved by:
Date:

***Applicability*:** This Standard Operating Procedure (SOP) applies to Animal Use Subcommittee (AUS) protocols that use biological, chemical, radiation, and/or physical agents with live animals.

***Purpose*:** To provide guidelines to researchers for the use of biological, chemical, radiation and/or physical agents with live animals.

General Guidelines

Training:

All personnel listed on the AUS protocol must have the following training before they perform work under the protocol.

- Animal Care & Veterinary Services training as required by the Animal Use Protocol
- Site-specific procedures involved, such as sterile injections, safe chemical handling, biological safety cabinet use
- Biosafety
- Laboratory and Environmental/Waste Management
- WHMIS
- Radiation Safety (if applicable)
- X-ray Safety (if applicable)
- Laser Safety (if applicable)
- Employee Health and Safety (or equivalent)

A Position Hazard Communication Form must be completed and on-file with Workplace Health. For more information, please see: http://www.shs.uwo.ca/workplace/

In case of an animal bite, personnel must follow the Workplace Health Animal Bite policy found on the AUS website: http://www.uwo.ca/animal/website/AUS/index.htm

Work with Biological Agents

This schedule applies to all biological agents, including but not limited to bacteria and other microorganisms, viruses, prions, parasites or pathogens of plant or animal origin.
For information on biosafety, please see www.uwo.ca/humanresources/facultystaff/h-and-s/h-and-sindex.htm.

Biological agents administered by injection or absorption require special handling:

- Gloves, safety glasses, labcoat and other personal protective equipment required.
- Biological agents at Level 2 or above must by handled and administered in a certified Class II biological safety cabinet. It is recommended that Level 1 agents are handled and administered in a biological safety cabinet.
- Training on proper techniques, such as injection.
- Follow the Biosafety Guidelines for Containment Laboratories 1 and 2 for UWO and the biosafety guidelines of the facility/institution where the work is being performed.
- Disposal of carcasses and other waste as per the facility/institution procedures where the work is being performed.
- Personnel must follow the procedures and polices of the institution where they are working. For example, researchers using the Robarts Imaging Suites must follow the Use of Robarts Imaging Suites: Biosafety Requirements for *in vivo* and *in vitro* work.
- Researchers must follow the Policy on Research Utilizing Virus Vector Transduced Cells or Virus Infection of Animals found on the website: http://www.uwo.ca/humanresources/facultystaff/h_and_s/biosafety/biosafety_doc_idx.htm

Biohazard agents administered by aerosol, other routes, or infections by aerosol route, require extraordinary control measures. Each protocol will be reviewed on a project by project basis.

For more information, contact the Safety Officer for the facility/institution where the work is performed.

Work with Chemicals

The schedule applies to all chemical agents and toxins that may cause a harmful effect on humans. Harmful effects include, but are not limited to, irritation, allergic sensitivity, corrosive effects, and cancer.

The laboratory where the work is being done must have a Laboratory Self Assessment Checklist completed by the PI.

Chemicals administered by injection, absorption, or by feeding require special handling and the lab and the following practices must be followed:

- Follow the Lab Safety Manual guidelines for Western and the faculty/institution where the work is being done.
- Training on proper techniques such as injection
- Review of Material Safety Data Sheet by personnel to be aware of other safety measures, including chemical storage, emergency procedures and proper handling
- Wear gloves, safety glasses labcoat and clothing that covers from shoulder to toe (see Lab Safety Manual)
- Surgical masks or N95 respirators may be worn to prevent irritation (note: user must be fit tested for N95 respirator prior to use)
- Solutions must be prepared/mixed in a fume hood and chemicals in powder form must be handled in a fume hood at all times.
- Wherever possible, procedures, such of injection of chemicals, are to be done in a fume hood to minimize exposure to aerosols..
- Follow the hazardous waste disposal protocols for the facility/institution.

These measures also apply to animal facility staff, unless there is evidence that the chemical is rendered harmless by the metabolism of the animal.

For more information on chemical hazards, see
http://www.uwo.ca/humanresources/facultystaff/h_and_s/lab_safety/lab_safety_idx.htm

Chemicals administered by aerosol (such as mists, gases, vapours) or other routes require extraordinary control measures and need to reviewed on a project by project basis.

For more information, contact the Safety Officer for the facility/institution where the work is performed.

Nuclear Substances and Radiation Devices

This schedule applies to the use of nuclear substances and/or radiation devices including a gamma irradiator with live animals

- All procedures must follow the Radiation Safety Manual, available on the website: www.uwo.ca/humanresources/facultystaff/h-and-s/h-and-sindex.htm
- Carcasses must be disposed of per the radioactive waste protocol for the institution/facility.
- All personnel must be trained in Radiation Safety prior to doing work on the Animal Use Subcommittee (AUS) Protocol.
- All procedures must comply with the Nuclear Safety and Control Act, Canadian Nuclear Safety Commission Regulations and licence issued to the institution/facility. See website: www.nuclearsafety.gc.ca/engl.

For more information, contact the Radiation Safety Officer for your institution / facility where the work is performed.

Work with other Types of Radiation

This schedule applies to the use of other types of radiation, such as an MRI, CT Scanner, X-ray equipment, lasers and/or laser systems.

- All personnel must be trained to safely use the equipment specified, such as the MRI, CT Scanner, X-ray machine and class 3b and/or class 4 lasers.
- CT Scanner and/or X-ray equipment users require X-ray safety training.
- Class 3b and/or class 4 laser users require laser safety training.
- All procedures must comply with the Ontario OH&S Act and Regulations.

For more information, contact the Radiation Safety Officer for the institution / facility where the work is performed.