Welcome to our “Selection and Provision of Safety Training” tutorial. This tutorial is intended to explain the process by which a Supervisor identifies hazards in the workplace and the work, selects from available training, provides extra training, documents training and follows up annually. These training requirements are a part of the Canadian Biosafety Standard, the Containment Standards for Facilities Handling Aquatic Animal Pathogens and the Containment Standards for Facilities Handling Plant Pests.

Links:
Workers and Supervisors

- **Supervisors**
  - Direct the work
  - Authority over a workplace
  - In laboratories – the Principal Investigator
  - In undergraduate labs – course coordinator / faculty members

- **Workers**
  - Carry out the work
  - Comply with supervisor directions
  - Show procedures to others

**Narration:**

Workers and supervisors.

Supervisors are people who direct the work and have authority over a work place. In laboratories, it is the Principal Investigators. In undergraduate course laboratories, it includes the course coordinators and the faculty members. Workers are people who carry out the work under the direction of the supervisor. Workers sometimes show procedures to others. Although this module is geared for supervisors, workers will benefit from awareness of supervisor responsibilities.

**Links:**
Health & Safety Programs @ McMaster

- Risk Management Manual

**Narration:**

Health and Safety programs at McMaster university are found in the Risk Management Manual. The Supervisor is expected to review all of the safety programs available, and select the ones which apply to their workspace, their workers and their work. In each program, there is a section which outlines the responsibility of the Supervisor. Each program may also have a section for individuals, which includes workers. The Supervisor is to ensure the workers also understand and fulfill their role prescribed by the program.

**Links:**

Narration:

Identify the hazards.

The duty of a supervisor is to provide safety training for their workers. The safety training should address all hazards to which the workers are at risk of exposure, as well as any hazards that are present in their workplace. The first step is to identify the hazards. This can be achieved by conducting a workplace inspection. The workplace inspection will identify hazards associated with the physical space which must be addressed through safety training, or through repair and maintenance of the workspace. The workplace inspections are required by our University to be completed once quarterly by the Supervisor and once annually by the Joint Health and Safety Committee.

The supervisor must then analyze the work their workers are directed to undertake. Identify all additional hazards including, but not limited to: chemical hazards, ergonomic hazards, physical hazards, biological hazards, radiological hazards, noise hazards....

Once all hazards are identified, safety training, including training on personal protective equipment and containment devices, must be provided. The University offers a select set of safety training through the Mosaic system. They are outlined on
the corporate training matrix.

Links:
Narration:

Choose Hazard Training.

The next step for the Supervisor is to choose from training that is already available. This training is listed on the ‘corporate matrix’. This document is found on the RMM website under section 3, associated with RMM300. The matrix lays out the course list and training frequency required. It also allows the selection of trainings required by role within the organization such as faculty with a laboratory, or laboratory occupants. Please note that these trainings are theoretical and very general and are not meant to ensure proficiency at any given task.

Please see the PDF containing the slides and notes, for website addresses.

Links:

Select Training Modules

Select specific trainings on Mosaic for your workers.

Narration:

Selecting the training modules.

Once the supervisor has selected the types of training recommended by the matrix, the individual trainings can be taken via Mosaic. Please note that the course names are slightly different on Mosaic compared to the matrix, although all subjects are covered.

Links:

Mosaic - http://mosaic.mcmaster.ca
Create hazard training.

Once all of the university-offered training courses are chosen, the supervisor is required to fill the training gap through creation of SOPs. These SOPs should cover hazardous tasks that are unique to the laboratory. SOPs are to be reviewed by the supervisor or delegate on a specified schedule, as declared in the SOPs or otherwise reviewed annually. Review should be documented by initialing and dating. Training on SOPs is also to be carried out as prescribed by the supervisor. Documentation of training and proficiency on SOPs is to include at minimum, signature of the worker and trainer and the date. Guidance for writing an SOP can be found on the RMM 301 – Standard Operating Procedures Program. SOPs can also be found on the FHS Safety Office website, the McMaster Biosafety Office website and many departmental websites.

Please see the PDF containing the slides and notes, for website addresses.

Links:

FHS Safety Office – http://fhs.mcmaster.ca/safetyoffice/
Biosafety SOPs website - https://biosafety.mcmaster.ca/biosafety_SOPs.htm
Standard operating procedures or SOP’s versus Experimental Protocols or EP’s.

For the purposes of health and safety training, standard operating procedures are very different from experimental protocols. SOP’s are safety-centric whereas EP’s are process-centric. SOP’s are very basic, describing short, simple tasks. EP’s are very complex and may be very long. In general, EP’s will reference SOP’s. For example:

An EP for cell culture may reference a number of SOP’s including those describing centrifugation, aspiration, pipetting and vortexing.

An RMM for creating SOP’s is available on the RMM website.

Links:

Standard Operating Procedures versus Experimental Protocols

- SOPs are meant to capture processes involving hazards
  - Pipetting biohazards
  - Centrifugation of biohazards
  - Waste disposal of biohazards
  - Handling biohazard sharps
  - ....

- EPs are descriptive experimental protocols that use SOPs
  - ‘Add 10ml of culture to flask’
  - Assumes knowledge of pipetting biohazards and use of serological pipettes and waste disposal of biohazard serological pipettes

Narration:

Standard Operating Procedures versus Experimental Protocols

SOPs are meant to capture processes involving hazards. For example, SOPs describe how to managed hazards such as pipetting biohazards, centrifugation of biohazards, waste disposal of biohazards, handling of biohazard sharps...

On the other hand, an EP will assume the standard operating procedures are implemented. The line “add 10 milliliters of culture to flask” assumes knowledge of pipetting biohazards and use of serological pipettes and waste disposal of serological pipettes.

We have attempted to provide a number of standard operating procedures on the biosafety website. If you have standard operating procedures you would like to donate, if you have comments on the existing standard operating procedures or if you would like to recommend additional standard operating procedures, please contact the Biosafety Office.

Links:

Biosafety SOPs Website - https://biosafety.mcmaster.ca/biosafety_SOPs.htm
Narration:

Once the supervisor has identified all the hazards, has chosen all the RMMs and Mosaic training and has created hazard specific SOPs to fill the gap, they should create a list of training for their workers. This will become the lab’s training prescription. By passing the prescription to the workers, it enables them to manage their own training. This prescription is also the standard by which the worker’s training record is evaluated. The worker’s training record must match the training prescription.

Links:
**Annual Review**

- Annually, the biosafety office will initiate an annual review of biohazard labs and Supervisor.
- Workers update their training based on Rx.
- Workers send Supervisor their training records.
- Supervisor/delegate reviews.
- Supervisor ensures all workers are up to date.

“GET YOUR TRAINING DONE!”

**Narration:**

Annually the biosafety office will initiate an annual review of the biohazard labs. An email will be sent to all workers in the laboratory, asking them to complete all outstanding training, obtain their own training records and send all documents to their supervisor. The supervisor also updates their own training as well. The supervisor or delegate reviews the training records against the training prescription. The supervisor ensures all workers are up to date.

**Links:**
Summary

- Supervisor selects training from the matrix and supplements with created SOP’s
- Supervisor provides a mechanism to deem proficiency
- Documentation
- Training requirements reviewed on an annual basis

Narration:

In summary.

The supervisor selects training from the training matrix and supplements with their own SOPs which are reviewed on a regular basis. The supervisor provides a mechanism to deem the worker proficient. This is typically achieved by the selection of a competent mentor. All training and proficiency is documented. Training requirements are reviewed on an annual basis.

Links:
Narration:

Thank you for your participation.

Links:

McMaster Biosafety Website - https://biosafety.mcmaster.ca