Hazard Bulletin: Needlestick Injuries

Hazard Summary

Needlestick injuries are a very common incident in a research-intensive environment. In addition to a physical injury from a needlestick, these incidents also pose a biological, chemical, or radiation hazard (depending on the substance in use). When a hazardous substance is injected directly into the skin or body it can pose a serious risk to the individual. For this reason, use of needles must have appropriate controls in place to prevent needle stick injuries. For details on a recent incident involving a needle stick, see the Lessons Learned: Exposure to a highly-toxic substance.

Call to Action

While there were concerns regarding this incident that are specific to diptheria toxin, this type of incident could occur with other highly toxic substances as well. Supervisors, staff, and students must be aware of the hazards and trained in the use of appropriate controls to protect themselves and others.

To prevent incidents while using needles, supervisors, staff, and students should do the following:

1. **Review how needles will be used for the work.** If there is a risk of a needlestick injury, such as where a worker's hand or other body part may be in the line of fire, use engineered needles. Be sure to review the Sharps Awareness guideline.
2. **Implement controls to prevent needlestick injuries of any kind.** To prevent needlestick injuries while injecting a substance, put procedures in place to keep the user's hand out of the line of fire. For animal work, this can be accomplished by
    a. Using a hands-free restraint.
    b. Anesthetizing the animal prior to injection.
    c. Wearing appropriate PPE (such as puncture resistant gloves).
    d. See the Needle Safety in Animal Projects SWP for more details.
3. **Ensure all staff/students are aware of the hazards associated with their work and that an appropriate emergency response plan is in place.** The emergency response plan must include exposure from all potential routes, including injection when needles are in-use.
    a. Safety Data Sheets (SDSs) are a very important resource but they do not necessarily contain all the information.
    b. A hazard assessment is both a planning tool (to identify/control potential hazards) and a communication tool (to educate staff/students on the hazards of their work). Where an SDS does not have all the sufficient information, additional information must be sought out by the supervisor to inform hazard assessment and implement proper controls.

If you have questions about implementing the above actions, please contact HSE at hse.info@ualberta.ca.