Accident Report

Incident details:

During injection of human cancer cells into a mouse tail vein (in the SPF), resistance in the syringe (that contained the cancer cells) caused the contents to splash into the student's eye as she was pulling the syringe out of the tail.

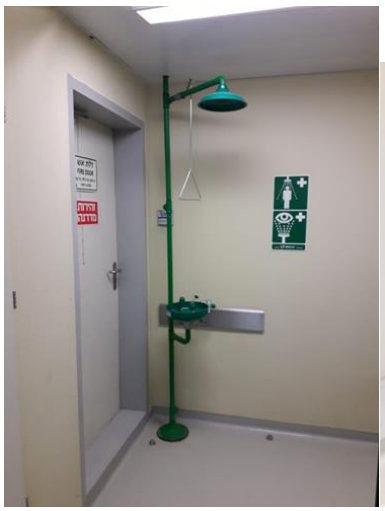
The student rinsed her eyes with running water from the lab faucet, applied liquid eye drops from a bottle that was in her possession, and evacuated to the medical clinic located on campus.

Safety Violations:

A. Flushing the eyes with water after a splashing event requires the use of a standard eyewash. The eyes should be rinsed for a relatively long period of time (about 15 min), to allow complete removal of any substance/factor that entered the eye.

- The use of an eyewash bottle is prohibited by law since it does not comply with required standards: it does not fulfill the requirement to wash both eyes at the same time, or to wash for a period of 15 minutes.
- The use of garden hoses, as a substitute for an eyewash, is forbidden and may pose a physical risk to the eye of the user.
- An eyewash creates a flow of water (at a safe flow rate) from one side of the eye to the other, while sweeping the incoming factor out of the eye:

B. Eyewash and emergency shower, located on each floor in the SPF unit (see attached photo). This emergency system is in immediate access, in the passage between the clean rooms and the exit.



It is the responsibility of the laboratory director to make sure that every student or employee entering the SPF unit, knows the location, emergency of the eyewash station, emergency shower and emergency exits.

In addition, the laboratory manager is required to instruct users on injection methods and complications that may arise during work.

C. According to the requirements of the University Safety Unit and of Israeli Labor Laws, laboratory workers must wear goggles while working in the laboratory, especially when working with chemicals/biological materials or during any activity that may potentially create an event of spraying/splashing (such as removing test tubes from liquid nitrogen, use of syringe, removal of hot agar solution from the microwave etc).

Additional information can be found on the TAU Safety Unit website https://safety.tau.ac.il and in the chemical and biological safety tutorials available through the moodle system.

Information how to safely inject a cancer cell suspension:

Dr. Deborah Rapaport, who has had extensive experience in injecting cancer cell suspensions, explained that the resistance in the syringe was probably due to the clogging of the syringe by a high density of cells.

This problem can be overcome by:

- Diluting the cell suspension
  or
- Mixing the suspension up and down, to obtain a uniform distribution of cells.

During the injection process, wear goggles or a face shield, or work inside a biological fume hood.

Goggles are not required only when the fume hood sash is down and you do not bend under the fume-hood sash.

Personal Protective Equipment (PPE)

- ❖ Long sleeved lab coat
- ❖ Closed-toed shoes
- ❖ Goggles/Face shield
- ❖ Nitrile gloves.

Safety procedure following contact with potentially hazardous materials:

In case of eye contact

Remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

In case of skin contact

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

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