



## CONTAMINATION PREVENTION AT THE TISSUE CULTURE CORE FACILITY

### Background

Contamination in tissue culture is very costly. Those who do not practice proper aseptic technique or good personal and environmental hygiene risk loss of productivity, loss of entire projects, and suspicious data resulting from the presence of undetected low levels of microbes.

To maintain the safety of all users and to uphold the integrity of all work conducted within the University of Saskatchewan Tissue Culture Core Facility, it is important to adhere to the following protocols and guidelines that help eliminate contamination.

### Personal hygiene

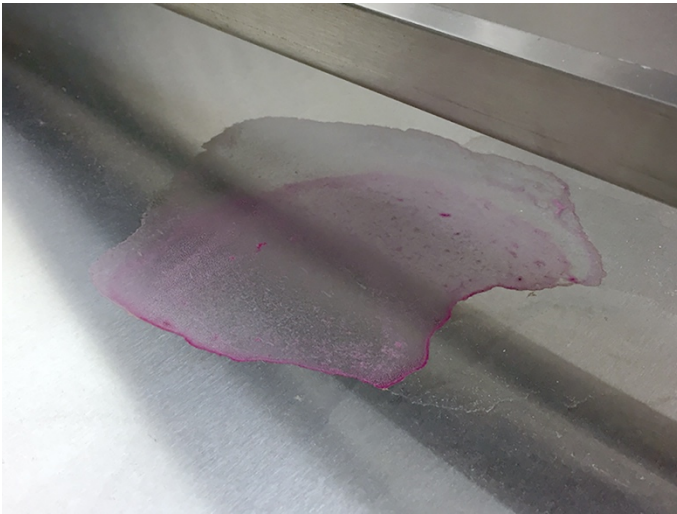
- Tie back long hair.
  - Long hair can introduce mycoplasma and compromise incubator doors, microscopes, culture flasks or plates, and hands.
- Wrist watches and cell phones are contamination hazards. Please keep your cell phone in your pocket.
  - Use designated lab timers and counters—not your watch or cell phone—for timing or counting cells.
- Use a clean designated lab coat.
  - As well as protecting you, a lab coat protects your work from environmental contamination that may be on your clothes such as outside pollen, spores, and pet dander or hair.
- **Clean your hands.** Thoroughly wash your hands *before and after your work* for at least 20 seconds with soap and water. Lather the backs of your hands, between your fingers, and under your nails.
  - Put on a clean pair of gloves and spray your gloved hands—including fingers, thumbs and in between—with 70% ethanol.
  - Once gloved hands are sprayed, do not touch your face, hair, clothes, furniture, cell phone, or other contamination hazards.

### Environmental hygiene

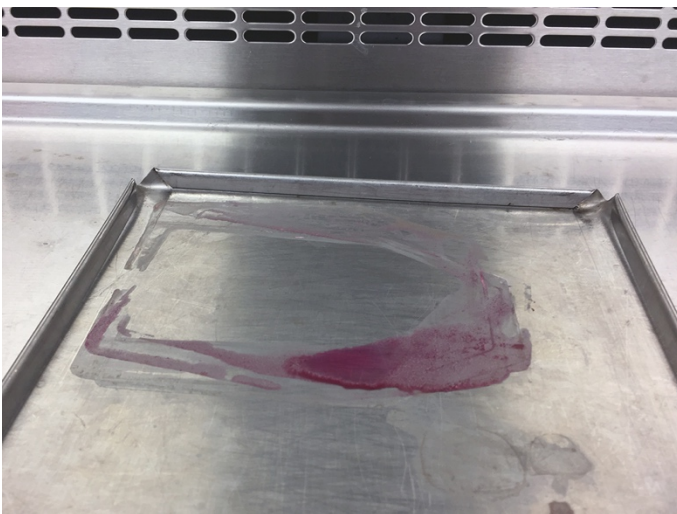
- Spray all items that are loaded into the biosafety cabinet with 70% ethanol.
- Do not store cardboard boxes in the Tissue Culture Core Facility.
- Do not store items on the floor.
  - Everything that is kept off the floor reduces the chances of dust balls floating into the lower incubators.
- Keep the areas around the incubators free of items and clutter.

- Inspect the incubators and biosafety cabinets for contamination and report any issues immediately.
- Clean all spills and residues.
  - Media for tissue culture is nutrient-rich. Spilled media *on any surface in the facility* and media left in vacuum flasks encourages growth of micro-organisms.

### Examples of contamination



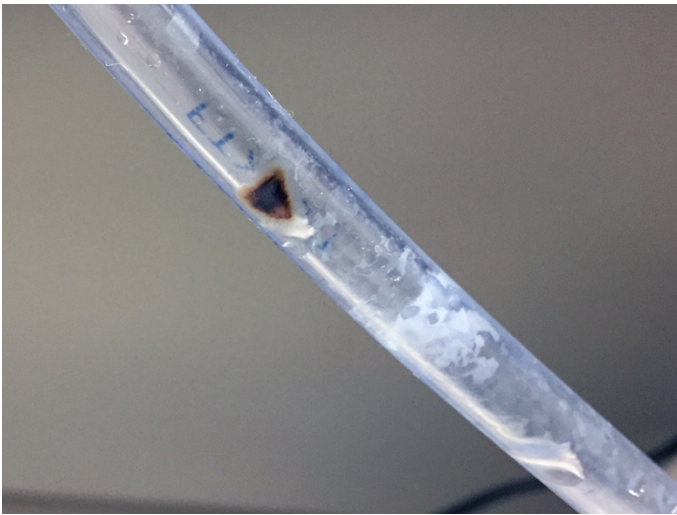
Spilled media under work surface of biosafety cabinet.



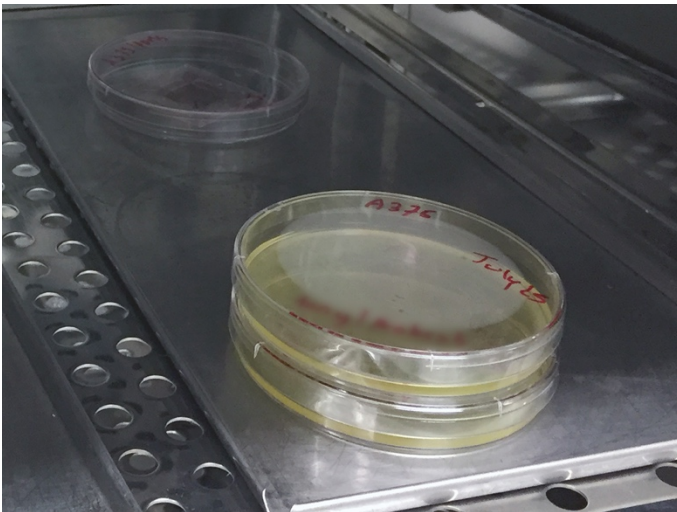
Spilled media on incubator tray.



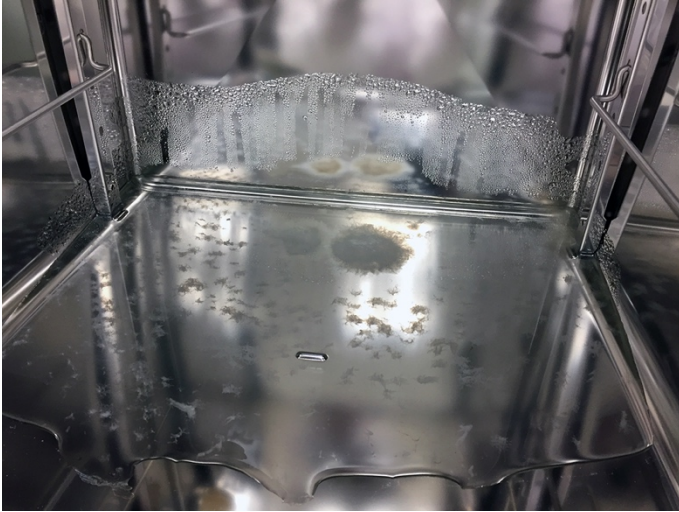
Contaminated vacuum flask and tubing (seen in the second vacuum flask containing pink media).



Contaminated vacuum flask tubing.



Cell cultures contaminated with bacteria will change the pH, turn the media yellow, and produce a cloudy white floating film.



Moldy humidity reservoir in incubator.