

Welcome to the Physiology Tissue Culture Lab

Here are a few notes regarding use of this lab:

1. You will see the rectangular biohazard waste containers next to each hood. These containers are for the following: flasks, pipettes, tips, and anything else that comes into direct contact with the culture you are working with. Paper (kim wipes, paper towels, germicidal wipes, pipette wrappings, etc.) can go into the regular trash.
 - **Broken glass and large amounts of liquid (< 10ml) **cannot** go into the biohazard waste since these boxes are incinerated. Please use the broken glass container for glass and please disinfect, then sewer large amounts of liquid.
2. At start up, please perform the following to help create an optimal working environment:
 - a. Shut the hood sash (if not already shut) and turn on the UV light for 15 minutes. There is no added benefit to running the lamp any longer than 15 minutes: UV light is an effective germicide and virucide for organisms directly exposed to the UV light. The UV inactivation doses have been determined for a variety of organisms. It takes 12.5 minutes to reach the 30,000 $\mu\text{J}/\text{cm}^2$ found to inactivate even spore forming organisms. Use of UV light in excess of this is unnecessary and wasteful. Use of UV to disinfect the interior surface or contents of a container is likely to be futile, as UV has very little penetrating power. (Applied Biosafety, 11:222-227). **While the UV light is on, do not expose your skin or eyes to the light.**
 - b. After the UV light has been on for 15 minutes, turn it off and switch on the fluorescent light. Turn on the blower. Let the blower run for 10 minutes before doing any work.
 - c. Use the supplied germicidal wipes or 70% ethanol to disinfect the surfaces of the hood and any items to be used. Also wipe under items being stored inside the hood. UV light will not reach these areas. Things brought into the hood should be wiped down as well (bottles of media, pipettors, etc.).
3. While working in the hood:
 - a. Make sure you don't cover the front vent with too many items (pipettes, papers, etc.). It's important that this vent remain as clear as possible to ensure that the hood functions properly.
 - b. Work at least 4 inches from the front of the vent.
 - c. Gas burners are not to be used in the hoods for the following reasons:
 - i. All hoods in this lab are Class II, Type A2. They use inward air flow to protect personnel, HEPA-filtered vertical laminar air flow to protect your work, and HEPA-filtered exhaust for environmental protection. The use of gas burners or open

flames will cause turbulence that compromises this air flow pattern and therefore compromises the function of the hood.

- ii. Gas burners are a significant fire and explosion hazard due to the amount of recirculated air inside the cabinet.
 - iii. Burners cause excessive heat buildup that may damage HEPA filters and/or melt the adhesive holding the filter together.
 - iv. The NDSU University Safety Office advises that gas burners not be used in biosafety cabinets.
4. When you are done working, please use the wipes and alcohol to disinfect your work surfaces. If no more work is planned in the hood that day, please turn off the light and blower and shut the front sash.

If you have any questions regarding using this lab, please feel free to visit with Jodie (lab 109, 1-8549, Jodie.Haring@ndsu.edu).