

LOYOLA UNIVERSITY CHICAGO LAKE SHORE CAMPUS

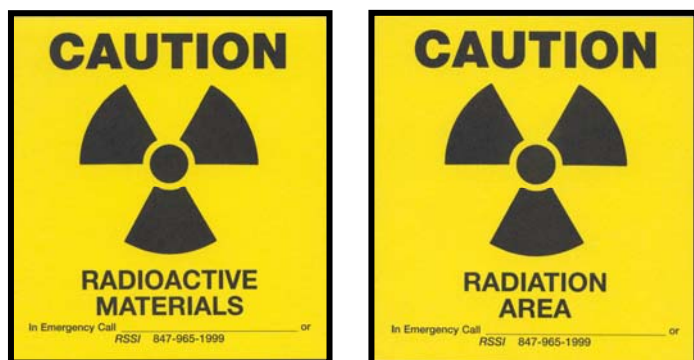
RADIATION TRAINING FOR ANCILLARY PERSONNEL

What is Radiation?

Radiation is the highly energetic and potentially dangerous emission of particles and energy from a radioactive atom. A large exposure to ionizing radiation may damage cells and tissues of the human body and can lead to illness and decreased life expectancy. Large exposures on this campus are extremely unlikely given the small amount and nature of the radioactive materials used on the Lakeshore campus. Radioactive chemicals (called radionuclides) and X-ray machines, similar to those in dental offices and hospitals, are sources of radiation at the Lakeshore campus in a small number of clearly marked science laboratories.

Radiation and radioactive chemicals are naturally occurring and are part of our natural environment. *Background radiation* is the term used for the low levels of natural radiation that surrounds us. Sources of natural radiation include cosmic rays from the sun, radiation from chemicals that occur naturally in the ground (including radon), and the low levels that naturally occur in our food, in the water we drink, and even in our bodies.

The Radiation Symbol



All radioactive materials and radiation-producing devices are labeled with this universal symbol for radiation. Additionally, the doors to rooms that use radioactive materials and equipment that may contain radioactive materials (for example refrigerators, equipment, radioactive waste containers, etc.) will bear the “CAUTION RADIOACTIVE MATERIALS” sign and may state “AUTHORIZED PERSONNEL ONLY”. **This training authorizes you to enter these areas for cleaning, maintenance, and security.**

Radioactive Material Use Areas

Laboratories bearing the “CAUTION RADIOACTIVE MATERIAL” sign are currently located in the Life Sciences Building, in Flanner Hall, and in the basement of Cudahy Science. There are a few X-ray units in Flanner Hall. Within these rooms, the radioactive use and storage areas will be clearly marked.

Working Procedures

- Contact the Radiation Safety Officer, Dr. Howard Laten, at 8-3640 at any time if you have questions or concerns about the proper procedures or any potential radiation hazards.

- Consuming and/or storage of food or beverages is not permitted in rooms that are marked with a radioactive materials sign. **You may not bring food or beverages into these areas.**
- Do not handle any items labeled as radioactive or attempt to move containers labeled as containing radioactive material.
- Prior to any maintenance work, ask laboratory personnel to identify areas that should be avoided.
- If you need a radioactive use area cleared for work, ask the laboratory personnel to do that for you or contact the Radiation Safety Officer.
- Do not remove "radioactive" labels from boxes or other items.
- Do not handle or empty radioactive waste containers.
- All equipment and furniture from radionuclide laboratories must be checked for contamination by the Radiation Safety Office before being moved to another area or discarded. **This includes items that are not labeled as radioactive.**
- State regulations require that radioactive material be secured when unattended. Make sure doors are closed and locked when leaving a posted room.
- All the normal safety precautions used in other areas also apply to radionuclide laboratories.

WHAT SHOULD I DO IF...

there is an emergency?

If there is a personal injury, fire or other major emergency follow the normal procedures appropriate for the immediate emergency and disregard any concern about radiation exposure. The potential of receiving any measurable radiation dose is minimal. After the emergency is over, evacuate the area and contact the Radiation Safety Office for further assistance.

there is a liquid spill in a room designated with a radiation sign?

If the spill is in a radioactive material use laboratory or involves radioactive material, do not attempt to clean up the spill yourself. Quarantine the area, notify the laboratory supervisor and any personnel in adjacent labs, and contact the Radiation Safety Office for assistance.

I have to repair facilities?

If the work does not involve a radionuclide use or storage area in the room, proceed with the repair. If the work is adjacent to or encompasses a radionuclide use or storage area in the room, contact the supervisory faculty member or the Radiation Safety Officer. If the work involves being inside the ductwork of a hood used for radionuclides, the work area must be surveyed by the Radiation Safety Office before work begins. If the work only involves the outside of the ductwork, a survey is not required. Hoods may be labeled at the hood face in the laboratory, at the exhaust duct on the roof, or both.

I have to repair equipment labeled with radiation warning tape or radiation warning sign?

You should never attempt to repair equipment with a radiation symbol unless it has been surveyed by the Radiation Safety Office and declared free of radioactive contamination.

If you are unsure whether a facility is potentially contaminated with radioactive materials, contact the Radiation Safety Office at 8-3640 before performing any work in that area.

CONTACT INFORMATION

Howard Laten
Radiation Safety Officer
8-3640