

## WHAT SHOULD I DO IF...

### there is an emergency?

If there is a personal injury or other major emergency (such as a fire), follow the normal emergency procedure and disregard any concern about radiation exposure. The potential for receiving any measurable radiation dose is minimal. After the emergency is over, evacuate the area and contact the Radiation Safety Officer for assistance.

### there is a spill?

If the spill is in a radiation laboratory or involves radioactive material, do not attempt to clean up the spill yourself. Secure the area and call Radiation Safety or the lab owner for assistance.

### I have to repair equipment?

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

### I have to repair facilities?

All structures potentially contaminated with radioactive material are labeled with the radiation symbol. Notify Radiation Safety before repairing drains, air ducts, or other structures labeled with the radiation symbol.

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## EMERGENCY PHONE NUMBERS

### If you require assistance call:

#### During working hours:

Jayne Samp, Radiation Safety Officer:

**280-5570**

Mary Joe, Radiation Safety Technician:

**280-2068**

#### After hours or if no answer:

Call RSO cell at **250-6741**

Call Jaeger Corp. at **(402) 669-5318**

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Criss I, Room 213  
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CREIGHTON UNIVERSITY  
Department of Radiation Safety

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## *Radiation Safety Guide for Ancillary Personnel*



## INTRODUCTION

Radiation Safety has developed this guide to provide basic radiation safety information for ancillary personnel (i.e. physical plant, janitorial, and public safety personnel) whose jobs may require them to access areas posted with the radiation symbol. Ancillary personnel are not allowed to use or handle radioactive materials.

## THE RADIATION SYMBOL

All radioactive materials and radiation generating devices must be labeled with this universal symbol for radiation.



Only personnel properly trained by Radiation Safety should handle devices or materials labeled with this radiation symbol.

## WHAT IS RADIATION?

Radiation is the emission of energy from matter. There are two types of radiation,

non-ionizing and ionizing radiation. Non-ionizing radiation such as visible, ultraviolet, or infrared light, radio waves, or microwaves may deposit thermal energy in the body or have no effect at all. Ionizing radiation, such as alpha, beta, and gamma radiation has sufficient energy to cause chemical changes to biological molecules. A large exposure to ionizing radiation may damage cells or tissues.

Radiation has always been present on earth and is part of our natural surroundings. *Background radiation* is the term used for radiation that is found in nature. Some natural sources of background radiation include the air we breathe, the food we eat, the wood and concrete in building materials, and the rocks and soil. Radiation is also found in household products like smoke detectors. Some sources of radiation on campus are radioactive materials and x-ray machines.

Besides being a valuable research tool, radiation is also used in medicine to diagnose and treat many illnesses.

## WHAT IS A RADIATION DOSE?

A *radiation dose* is an amount of ionizing radiation that is absorbed by your body. State and federal regulations limit the radiation dose to a member of the general public or a non-radiation worker to 100 mrem per year from University operations.

In comparison, the average background radiation dose to a person living in Nebraska is 360 mrem per year. A typical chest x-ray delivers a dose of 10 mrem.

## RESTRICTED AREAS

There are many laboratories at CU using radiation for research. They are identified by the radiation symbol on the door. Access to these rooms is restricted to personnel who have received radiation safety training. Be aware of these symbols and ask lab personnel or radiation safety personnel any questions you may have before working in these rooms. A complete listing of rooms on campus where radiation may be used is available from Radiation Safety.

## RULES TO FOLLOW

There are minimal risks associated with using ionizing radiation. In comparison, the risk of personal harm from other common activities such as using power tools, climbing a ladder, or using electricity is greater. By following these few basic rules, you can ensure your safety while working in areas posted with the radiation symbol.

1. Be aware of radiation symbols on lab doors and lab equipment.
2. Ask laboratory personnel to identify areas to avoid.
3. Do not handle anything labeled with the radiation symbol unless directed by Radiation Safety personnel.
4. Call Radiation Safety at 280-5570 or if you have any questions or concerns.