DTPA
Forward Placement Program

Radioactive Contamination and Exposure

NEW MEXICO DEPARTMENT OF HEALTH

BUREAU OF HEALTH EMERGENCY MANAGEMENT

Radioactive exposure and contamination could occur if radioactive materials are released into the environment.

Such a release could expose people and contaminate their surroundings and personal property.

What Is Radioactive Contamination?

- Radioactive contamination occurs when radioactive material is deposited on or in an object or person.

- A contaminated person has radioactive materials on or inside their body.

What Is External Contamination?

- Occurs when radioactive material (dust, powder, liquid) comes into contact with a person's skin, hair, or clothing.
- The contact is external (outside) the person's body.
- Externally contaminated people can become internally contaminated if radioactive material gets into their bodies.

What Is Internal Contamination?

- Occurs when people breathe or swallow radioactive materials.
- Can also occur when radioactive materials enter the body through an open wound.
- May occur if radioactive materials are absorbed through the skin.

What Is Radiation Exposure?

- Radioactive materials give off energy in the form of waves or particles. This energy is called radiation.
- When a person is exposed to radiation, the energy may penetrate the body.

Contamination vs. Exposure

- A person ***exposed*** to radiation is not necessarily ***contaminated*** with radioactive material.
- For a person to be ***contaminated***, radioactive material must be on or in the person's body.
- A person who has been ***exposed*** to radiation has had high energy electromagnetic waves or particles penetrate pass through their body (x-rays and gamma rays).

How Exposure Or Contamination Can Happen

Radioactive materials can be released into the environment in the following ways

- Intentional
  - Nuclear power plant sabotage
  - Atomic bomb explosion
  - Nuclear weapons testing
  - Intentional release of radioactive material as an act of terrorism.
- Unintentional
  - Nuclear power plant accident
  - Accidental release from a medical or industrial device

How Radioactive Contamination Is Spread

- Externally contaminated people can contaminate other people or surfaces that they touch.
- Internally contaminated people can contaminate other people or the surfaces they touch if the isotopes are excreted in the sweat or if good hygiene practices are not used.

How Your Home Could Become Contaminated

- Externally contaminated persons can spread the contamination by touching surfaces, sitting in a chair, or even walking through a home.
- Contaminants can easily fall from clothing and contaminate other surfaces.
- Homes can become contaminated with radioactive materials in body fluids from internally contaminated persons.
- To help prevent contamination of other persons in the household, make sure other persons do not come in contact with body fluids of an internally contaminated person.

Limit Radiation Contact

- Radiation cannot be seen, smelled, felt, or tasted
- People at the site of an incident will not know immediately if radioactive materials were involved. Contact with radiation can be limited by:
  - *Decreasing time* of exposure and/or contamination
  - *Increasing distance* from a source
  - *Using adequate shielding* between yourself and the source
- Take the following steps to limit contact with radiation:
  - ***Leave the immediate area quickly***
  - ***Remove the outer layer of your clothing***
  - ***Place the clothing in a plastic bag***
  - ***Wash all exposed body parts with soap and water***

For more information, visit:

CDC Web Site
www.bt.cdc.gov/radiation

New Mexico State SNS Web Site
www.nmhealth.org/bhem/sns/index.shtml