

**Attachment C: Messages for
Radiation Concepts/Comparison
Message Testing**

Message 1: Dose Makes the Poison

Scientists have been studying the effects of radiation for over 100 years, so we know quite a bit about how radiation interacts with and affects our bodies. Because we can measure radiation and because we understand its health effects, we can work safely around it.

- As with other types of toxins, “the dose makes the poison.”
- We receive low doses of radiation from our natural environment every day.
- We know that radiation at high doses can cause cancer, could harm fetuses, and can even lead to death.

Message 2: Dose Message

Radiation exposure is one of the best-understood health hazards. We have been studying the effects of radiation for over 100 years, so we know quite a bit about how radiation interacts with living tissue. It is the radiation dose, or the amount of radiation, that is the critical issue in determining health consequences. It is helpful to put radiation dose in perspective.

We receive low doses of radiation from our natural environment. However, we know that radiation at high doses can be lethal. We know that radiation can cause cancer, and we also know radiation can be harmful to the fetus at various stages of pregnancy. And, although we haven’t seen it in humans, radiation can cause hereditary effects in lab animals.

After a radiation emergency in your area, officials might estimate the dose you received from being near the incident site. For example, they might tell you:

1. If you lived in this vicinity, you likely received a dose that would be about the same as the extra dose you would receive in moving from Atlanta to Denver and living there for 12 months.
2. If you lived in this vicinity, you likely received a dose that would be about the same as the average person in America receives in 12 months from radon in their home.
3. If you lived in this vicinity, you likely received a dose that would be about the same the average person receives from natural background radiation during a period of 3 years.
4. If you lived in this vicinity, you likely received a dose that would be about the same as eating 100 bananas.

5. If you lived in this vicinity, you likely received a dose that would be about the same as flying from New York City to Los Angeles.

Message 3: Cancer

After a radiation emergency, officials might explain the increased cancer risk from radiation in one of these three ways:

- Based on current conditions and contamination levels, health officials believe it is inconceivable that there would be any increased cancer risk for the population in the affected area.
- Based on current conditions and contamination levels, health officials believe it is highly unlikely that there would be any increased cancer risk for the population in the affected area.
- Based on current conditions and contamination levels, health officials do not believe that there would be any increased cancer risk for the population in the affected area.

Message 4: Contamination

Radioactive contamination occurs when radioactive material is deposited on or in an object or a person. Radioactive materials released into the environment can cause air, water, surfaces, soil, plants, buildings, people, or animals to become contaminated. A contaminated person has radioactive materials on or inside their body.

It is important to get radioactive material off your body as soon as possible to lower your risk of harm. Even just removing your outer layer of clothing can remove up to 90% of radioactive material. This is called decontamination.

After a radiation emergency, officials might tell you to decontaminate yourself. For example, they might say:

1. When removing radioactive material you should act as though you are covered in dust. You want to remove it without getting it in your eyes, nose, or mouth or tracking it into your home or touching other people or objects.
2. When removing radioactive material you should act as though you are covered in mud. You want to remove it without getting it in your eyes, nose, or mouth or tracking it into your home or touching other people or objects.
3. When removing radioactive material you should act as though you are covered in pollen. You want to remove it without getting it in your eyes, nose, or mouth or tracking it into your home or touching other people or objects.