



Centers for Disease Control and Prevention

Date: February 15, 2045

To: Healthcare Providers and Public Health Officials

From: National Center for Environmental Health

Subject: Guidelines for Identification and Management of Acute Radiation Syndrome (ARS)

Overview:

Acute Radiation Syndrome (ARS), commonly known as radiation sickness, is an acute illness caused by exposure to high doses of penetrating radiation affecting the entire body within a short timeframe. Recent events have underscored the importance of prompt recognition and management of ARS to mitigate health impacts.

Clinical Presentation:

ARS manifests in four distinct stages:

1. **Prodromal Stage:** Symptoms include nausea, vomiting, anorexia, and possibly diarrhea, occurring within minutes to days post-exposure and lasting for several days.
2. **Latent Stage:** The patient may appear asymptomatic, with this phase lasting from hours to weeks.
3. **Manifest Illness Stage:** Clinical signs depend on the specific syndrome (hematopoietic, gastrointestinal, or cardiovascular/central nervous system) and can persist from hours to months.
4. **Recovery or Death:** Outcomes vary; recovery may take weeks to years, while severe cases may result in mortality within months.

Diagnostic Criteria:

ARS should be suspected if the following conditions are met:

- **Radiation Dose:** Exposure exceeding 0.7 Gray (Gy); mild symptoms may present at doses as low as 0.3 Gy.
- **Exposure Characteristics:** The radiation must be penetrating, affecting the entire body or a significant portion, and delivered over a short period, typically within minutes.

Management Protocols:

- **Immediate Care:** Stabilize vital functions and address life-threatening injuries.

- **Decontamination:** Remove contaminated clothing and cleanse the skin to prevent further radioactive absorption.
- **Supportive Treatment:** Administer fluids, electrolytes, and blood products as needed.
- **Infection Control:** Utilize prophylactic and therapeutic antibiotics to manage neutropenia-related infections.
- **Specialized Therapies:** Consider hematopoietic growth factors and, in severe cases, bone marrow transplantation.

Preventive Measures:

In the event of a radiation emergency:

- **Sheltering:** Advise the public to get inside, stay inside, and stay tuned to official communications.
- **Decontamination:** Instruct individuals to remove outer clothing and wash exposed skin promptly.
- **Medical Evaluation:** Encourage those with potential exposure to seek medical assessment, especially if symptoms develop.

Your vigilance and adherence to these guidelines are crucial in effectively managing and mitigating the health impacts of radiation exposure incidents.

Resources:

Centers for Disease Control and Prevention: [Acute Radiation Syndrome: A Fact Sheet for Clinicians](#).

Centers for Disease Control and Prevention: [Radiation Emergencies](#).

Centers for Disease Control and Prevention: [Treatment of Radiation Exposure and Contamination](#)

Centers for Disease Control and Prevention: [Preparing for a Radiation Emergency](#).

Centers for Disease Control and Prevention: [About Preventing and Treating Radiation Injuries and Illness](#).

Centers for Disease Control and Prevention: [Signs and Symptoms of Radiation Exposure](#).

Centers for Disease Control and Prevention: [Possible Health Effects](#)

Centers for Disease Control and Prevention: [Frequently Asked Questions about Radiation Emergencies](#).

Centers for Disease Control and Prevention: [Radiation and Your Health](#)