



administration of potassium iodide in a mass casualty incident involving radiation release or exposure

9. Stages of Radiation Sickness

- i. Prodromal: nausea, vomiting, diarrhea, fatigue, fever, agitation, starting hours up to 4 days after initial exposure
- j. Latent: May last up to four weeks (this is the maximum period for immunocompromise due to radiation exposure); however, time span may be less as dose of radiation exposure increases. Symptoms include anorexia, fever, weakness, bleeding, diarrhea, potentially altered mental status after two to three weeks
- k. Recovery: may take weeks to months

**Pertinent Assessment Findings**

1. Treatment of life-threatening injuries or medical conditions takes priority over assessment for contamination or initiation of decontamination
2. Time to nausea and vomiting is a reliable indicator of the received dose of ionizing radiation. The more rapid the onset of vomiting, the higher the whole-body dose of radiation
3. Tissue burns are a late finding (weeks following exposure) of ionizing radiation injury. If burns are present acutely, they are from a thermal or chemical mechanism
4. Seizures may suggest acute radiation syndrome if accompanied by early vomiting. If other clinical indicators do not suggest a whole-body dose of greater than 20 Gy, consider other causes of seizure
5. Delayed symptoms (days to weeks after exposure or contamination)
  - a. Skin burns with direct contact with radioactive source
  - b. Skin burns or erythema from ionizing rays
  - c. Fever
  - d. Bone marrow suppression presenting as:
    - i. immunosuppression
    - ii. Petechiae
  - e. Spontaneous internal and external bleeding

**Quality Improvement**

**Associated NEMSIS Protocol(s) (eProtocol.01)** (for additional information, go to [www.nemsis.org](http://www.nemsis.org))

- 9914049—Exposure - Radiologic Agents

**Key Documentation Elements**

- Duration of exposure to the radioactive source or environment
- Distance (if able to be determined) from the radioactive source (if known)
- Time of onset of vomiting

**Performance Measures**

- Use of appropriate PPE
- Use of dosimetry by EMS clinician
- Scene measurements of radioactivity

**References**

1. Center for Disease Control and Prevention, Emergency Preparedness and Response,