b. Treat per Seizures Guideline

Patient Safety Considerations

Treat life-threatening medical problems and traumatic injuries prior to assessing for and treating radiation injuries or performing decontamination

Notes/Educational Pearls

Key Considerations

1. Irradiated patients pose no threat to medical clinicians
2. Contaminated patients pose very little threat to medical clinicians who use appropriate PPE including N95 masks or respirators, gloves, gowns, and face and eye protection
3. Sources of radiation
   a. Legal
      i. Industrial plants
      ii. Healthcare facilities that provide radiologic services
      iii. Nuclear power plants
      iv. Mobile engineering sources (i.e., construction sites that are installing cement)
   b. Illegal
      i. Weapons of mass destruction
      ii. "Dirty bomb" design to contaminate widespread areas
4. Physiology of radiation poisoning
   c. Contamination: Poisoning from direct exposure to a radioactive source, contaminated debris, liquids, or clothing where radiation continues to be emitted from particles on surface
   d. Exposure: Poisoning from radioactivity, in the form of ionizing rays, penetrating through the bodily tissues of the patient
5. Common types of radioactivity that cause poisoning
   e. Gamma rays
      i. Highest frequency of ionizing rays
      ii. Penetrates the skin deeply
      iii. Causes the most severe radiation toxicity
   f. Beta rays: can penetrate up to 1 cm of the skin's thickness
   g. Alpha rays
      i. Lowest frequency of ionizing rays
      ii. Short range of absorption
      iii. Dangerous only if ingested or inhaled
   h. Radioactive daughters
      i. Products of decay of the original radioactive substance
      ii. Can produce gamma and beta rays (i.e., uranium decays into a series of radon daughters)
6. In general, trauma patients who have been exposed to or contaminated by radiation should be triaged and treated based on the severity of their conventional injuries
7. A patient who is contaminated with radioactive material (i.e., flecks of radioactive material embedded in their clothing and skin) generally poses a minimal exposure risk to medical personnel, although should not be placed in a contained space before decontamination
8. EMS clinicians may be asked to assist public health agencies in the distribution and