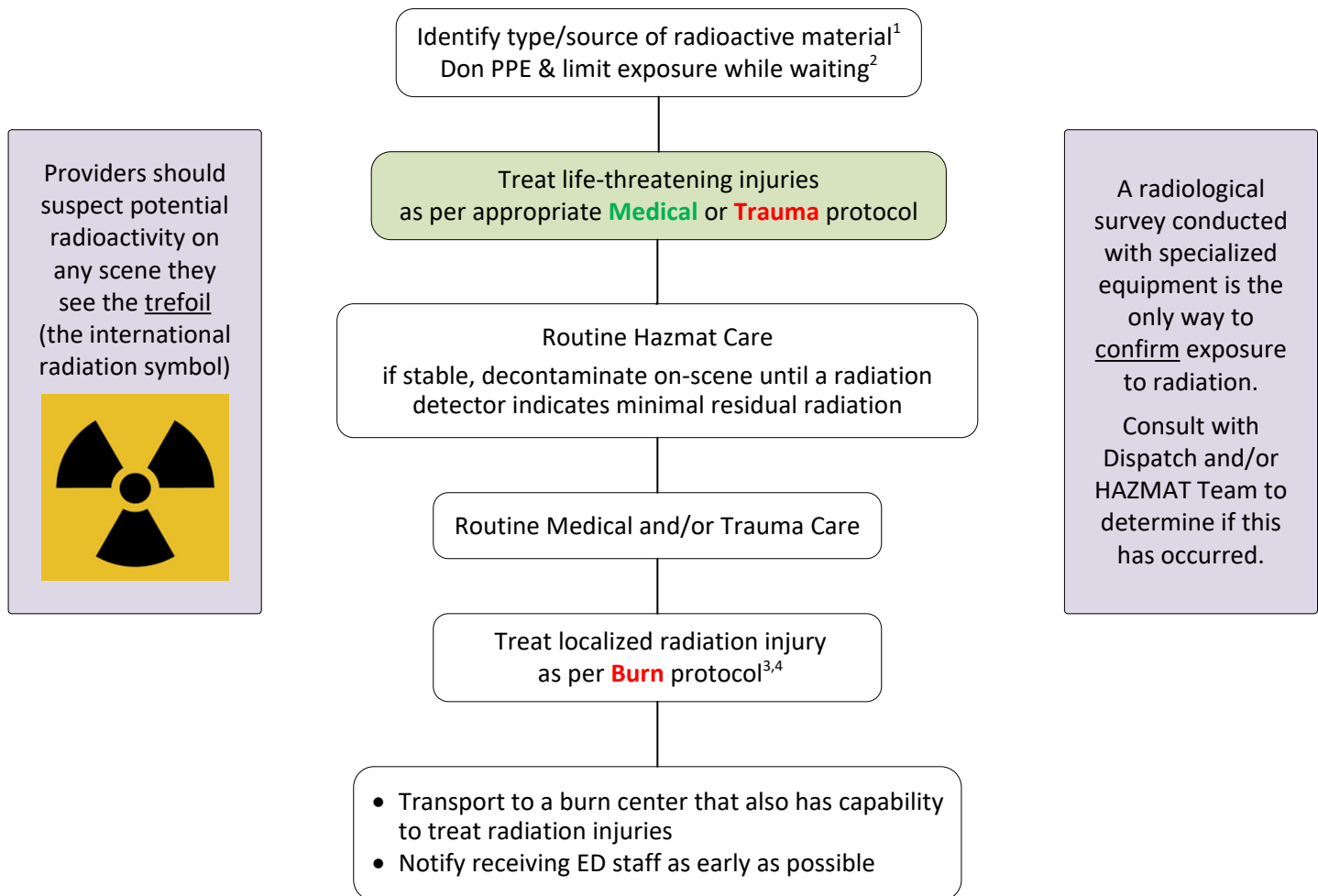


Radiation Exposure

The underlying principle of care involves management of injuries to skin and supportive care for additional injuries. Treatment of life-threatening injuries or illness takes priority over assessment for contamination or initiation of decontamination.



¹ Common sources of radiation include industrial plants, nuclear power plants, healthcare facilities, WMD's, and "dirty bombs" - conventional explosives that contain radioactive material.

² Standard PPE including surgical facemask (N95 if available), outer garment protection, and gloves should be worn by first responders if available. Standard PPE protects the provider from secondary contamination but does not prevent direct exposure. Providers should limit the time they are exposed to a radiation source, maximize a distance from the source, and create a shield using physical barriers.

• It is important to differentiate irradiation from contamination. Irradiation (exposure) occurs when a person is near a radiation source. One does not have to come into contact with radiation materials to be exposed. Contamination occurs when radioactive material is physically present on or in the body. External contamination occurs when radioactive material is deposited on surfaces like skin or clothing. Internal contamination occurs when radioactive material is inhaled, ingested, or lodged in an open wound.

• Patients that have been exposed to radiation but are not contaminated with radioactive material do not need to be decontaminated. Irradiated patients pose no threat to medical providers. Contaminated patients pose little threat to providers who use appropriate PPE.

³ Local Radiation injury (LRI)/burns can manifest as erythema, epilation (hair loss), ulceration, desquamation (scaling skin), or necrosis. LRI burns generally take longer to develop – sometimes days to weeks. Acute burns on a patient should be suspected to have a thermal or chemical component in addition to LRI and be treated as per the **Burn** protocol.

⁴ Any patient with a local radiation injury is at risk of developing Acute Radiation Syndrome (ARS). ARS is caused by high doses of radiation. Symptoms (acute or delayed) may include nausea, vomiting, dizziness, loss of consciousness, hypotension/shock. Patients with this condition are not contagious.

• Providers should measure the length time between radiation exposure and onset of emesis. This time is a reliable indicator of the received dose of ionizing radiation. The more rapid the onset, the higher the whole body dose of radiation.