

# Radiation Exposure: Diagnose and Manage Acute Radiation Syndrome (ARS)

## EVALUATE FOR ACUTE RADIATION SYNDROME (ARS)

- [What is ARS?](#)
- ARS synonyms: Acute Radiation Syndrome, Acute Radiation Sickness
- [Is ARS the result of a radiological or nuclear incident?](#)
- [More about ARS](#)

## CAUTION: MANAGEMENT MODIFIERS

- [Burns](#)
- [Trauma](#)
- [Mass casualty](#)
- [Timing of surgery](#)
- [Blood products use](#)
- [At-risk/special needs populations](#)

## LOOK FOR SIGNS OF ARS

- Perform [targeted physical examination](#)

## ESTIMATE DOSE FROM EXPOSURE

### USE ANY CLINICAL DATA AVAILABLE (INTERACTIVE TOOLS)

- [Lymphocyte depletion kinetics](#)
- [Time to onset of vomiting](#)
- [Prodromal symptoms](#)
- [Chromosome analysis \(dicentric\)](#)

### DOSE RECONSTRUCTION BY PATIENT LOCATION

- [Match patient location to exposure map](#)

## BEGIN ASSESSMENT & MANAGEMENT

- Assess/manage 4 sub-syndromes of ARS: [hematopoietic](#), [gastrointestinal](#), [cutaneous](#), [neurovascular](#)
- Does patient need outpatient or inpatient management? ([Response category tool](#))
- Plan for [evolution of ARS over time](#)
- Expect [heterogeneity of signs/symptoms](#)
- Consider using [template for hospital orders](#)

## SPECIAL ISSUES

- [Manage ARS with scarce resources \(e.g., after nuclear detonation\)](#)
- Consider [cytokine treatment](#) for those acutely exposed to myelosuppressive doses of radiation (H-ARS), especially if dose > 2 gray
- Consider [multi-organ dysfunction and multi-organ failure syndromes of ARS](#)
- Consider [hematopoietic stem cell transplant](#) for severe ARS

## DECEASED

- Decedents with exposure only and no contamination require no special radiation precautions
- Register decedent in incident database

## SURVIVORS

- Discharge with appropriate [follow-up instructions](#)
- [Register patient in incident database](#)
- Radiation follow-up considerations
  - Whole-body dose
  - Immune status
  - Risk of cancer
  - Risk of specific organ dysfunction
  - Any future risks from external or internal contamination

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