



RADIOLOGICAL AND NUCLEAR COUNTERMEASURES PROGRAM

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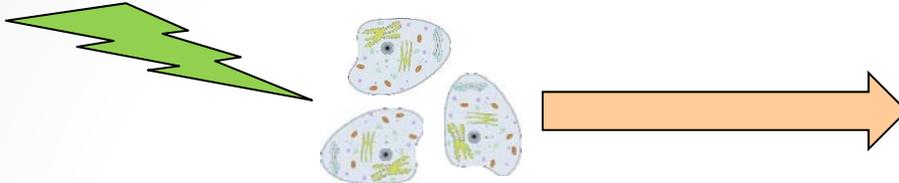
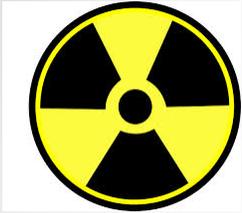
Resilient People. Healthy Communities. A Nation Prepared.

Radiological/Nuclear Events

- Overall focus on injuries from:
 - Improvised Nuclear Device (IND)
 - Radiological Dispersal Device (RDD) Events
- Priority on IND-related injuries – impact predicted to be greater.
- IND event will include:
 - Infrastructure damage (response will require flexibility and adaptability)
 - Resource limitations (medical management will require complex coordination)
 - Complex spectrum of injuries (treatment will require polypharmacy)
 - Spectrum will include combined injuries of acute radiation exposure, trauma, and thermal burn
 - Spectrum of injuries changes with different scenarios

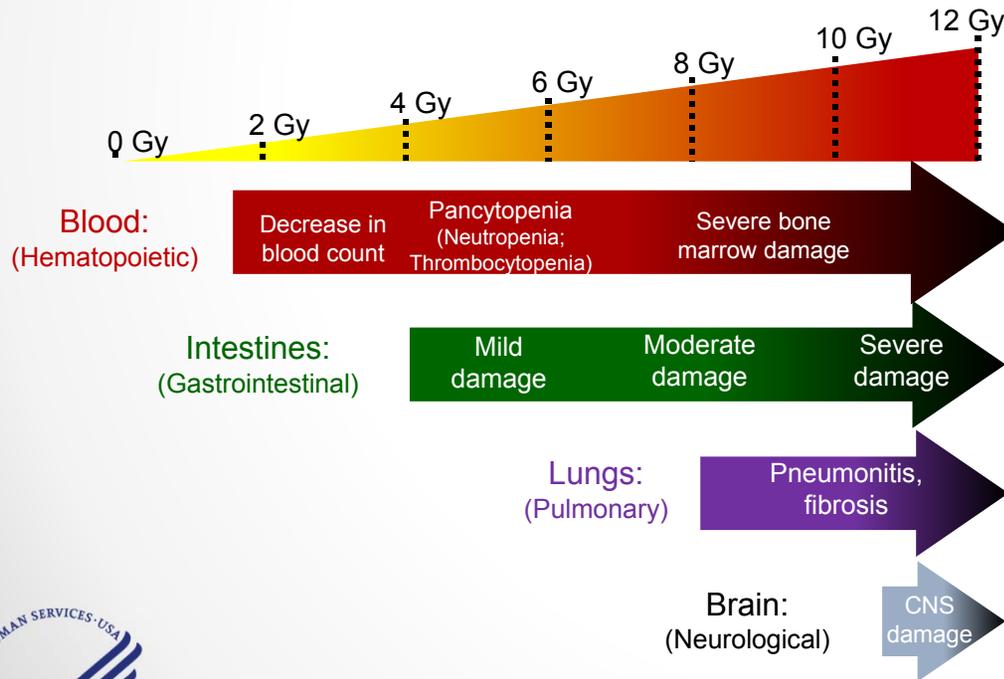


Acute Radiation Injury



Cellular Damage through Many Pathways:

- DNA Damage
- ROS pathway
- Inflammatory Response
- Stem Cell Loss
- Endothelial Damage
- Glutathione metabolism
- Bacterial Translocation
- Coagulopathy



Cell death & Differing Cell turnover rates

Leads to Manifestation in Organ systems



Focus Areas

- Addressing gaps in preparedness for treatment of injury due to exposure of acute ionizing radiation:
 - Hematopoietic
 - Cellular therapies for Neutropenia
 - Thrombocytopenia
 - Gastrointestinal
 - Pulmonary
- Repurposing commercial products and fostering interest from sponsors
- Defining natural history of radiation injury
- Building pipeline that focuses on candidates that are truly ready for advanced development



Trajectory for the Future

- Priority focus on developing therapies to treat ARS-induced thrombocytopenia and GI injury
- Continue to emphasize repurposing for entire portfolio
- Transition portfolio to more advanced development
- Expand use of Non-clinical Studies Network for activities
 - Comprehensive model development, including development of mini-pig model as an alternative to NHPs, to facilitate repurposing efforts
 - Comprehensive look at medical management practices to inform best procedures for population-based care
- Maintain strong relationships with Enterprise partners



Interfacing with BARDA

- [Office of the Assistant Secretary for Preparedness and Response Public Health Emergency Homepage](#)
 - Program description, information, news, announcements
 - [MedicalCountermeasures.gov](#)
 - Portal to BARDA
 - Register, request a meeting
 - Tech Watch
 - [Federal Business Opportunities \(FedBizOpps\) Homepage](#)
 - Official announcements and detailed information about all government contract solicitations. Open CBRN BAA:
 - [BARDA Broad Agency Announcement: BAA-13-100-SOL-00013](#)
- Technical POC for Research Area #4: Radiological/Nuclear Threat
Medical Countermeasures



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