



Radiation Exposure, Medical Counter- measures and Treatment

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Radiation Injury Treatment Network (RITN)

- Partnership between:
 - National Marrow Donor Program
 - American Society for Blood and Marrow Transplantation
- Collaboration with the Office of the Assistant Secretary for Preparedness and Response, US Health and Human Services
- Supported by the Office of Naval Research

RITN Goals

1. **Educate** hematologists, oncologists, and stem cell transplant practitioners about their potential involvement in the response to a radiological incident.
2. **Provide facilities and staff** for intensive supportive care and treatment expertise in the aftermath of a marrow toxic incident resulting in mass casualties.

What Needs Does RITN Fulfill?

- Provides ready facilities with practicing specialists for intensive supportive care and treatment
- Increases transplant community awareness about the need for their services in a time of crisis
- Involves transplant community in emergency preparedness

Similar Efforts and Collaborations

Nuclear Accident Committees of

- EBMT
- APBMT
- WBMT

Threat Planning by the U.S. Government

1) 10-Kiloton Improvised Nuclear Device (IND)

- 2) Aerosol Anthrax
- 3) Pandemic Influenza
- 4) Plague
- 5) Blister Agent
- 6) Toxic Industrial Chemicals
- 7) Neurotoxin
- 8) Chlorine Tank Explosion
- 9) Major Earthquake
- 10) Major Hurricane

11) Radiological Dispersal Devices

- 12) Improvised Explosive Devices
- 13) Food Contamination
- 14) Foreign Animal Disease (Foot and Mouth Disease)
- 15) Cyber Attack

GOOGLE: National Planning Scenarios

A Role for Transplantation Specialists

In the aftermath of a IND incident, RITN centers may:

- Accept patient transfers to their institutions
- Provide intensive supportive care to victims
- Provide treatment expertise to practitioners caring for victims at other locations
- Travel to other centers to provide medical expertise
- Provide data on victims treated at their centers
- Facilitate HPC support, if appropriate

For treatment guidelines, training & references:

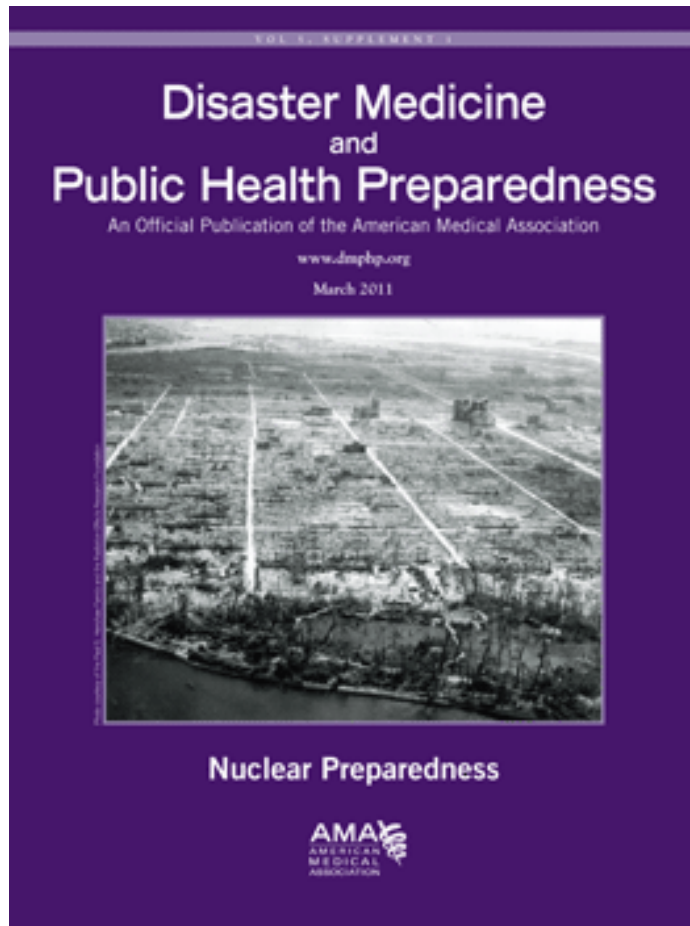
www.RITN.net



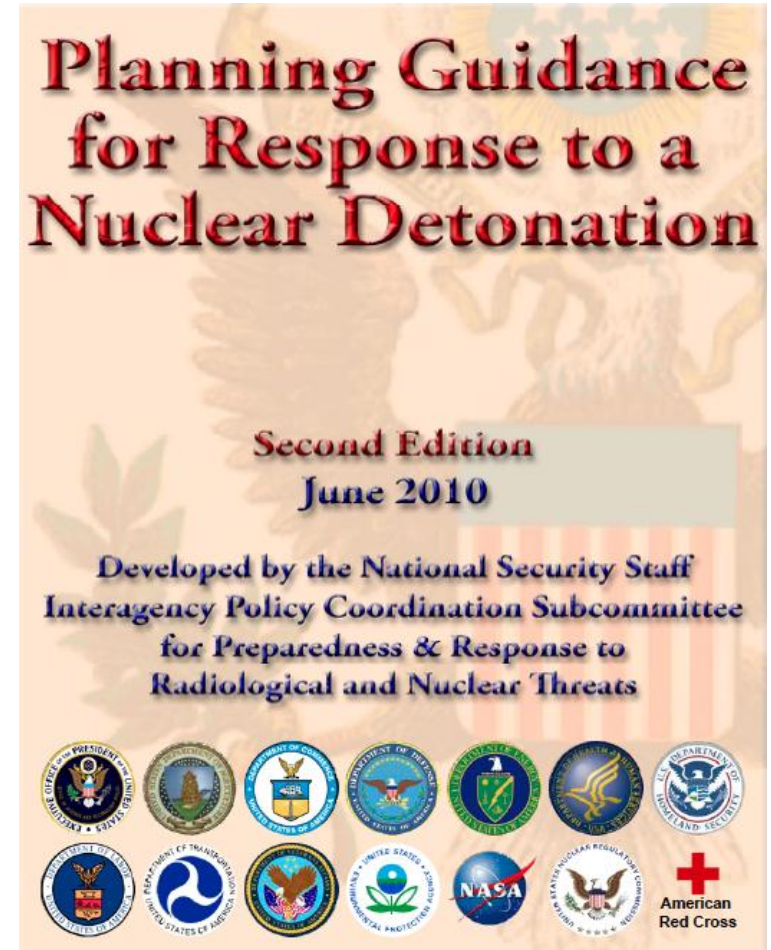
www.REMM.NLM.gov



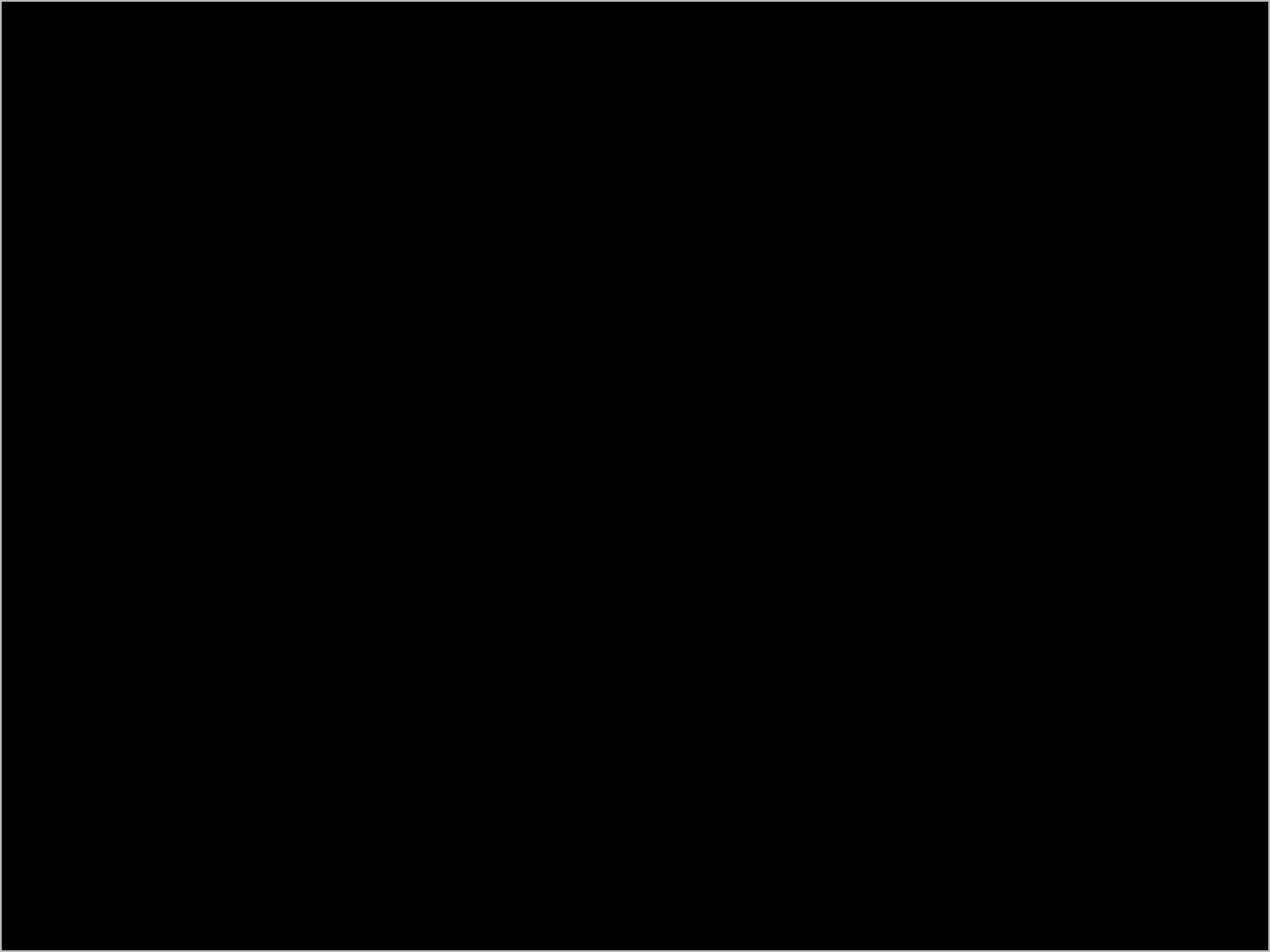
Important Free Resources



http://www.dmphp.org/content/vol5/Supplement_1/index.dtl



<http://www.remm.nlm.gov/PlanningGuidanceNuclearDetonation.pdf>





Concluding Remarks

Dennis L. Confer

2nd Workshop of the WBMT

Salvador-Bahia, Brazil

2013 October 3 - 4

Day 1, Plenary Session

- Welcome from the Meeting Organizers
- The WHO interests from Dr. José Nunez
- Overview of the global condition of HSCT by Dr Niederwieser
- Initiatives and aspirations in Latin America including regional transplantation activities



Day 1, Establishing and Expanding a transplant program

- Personnel with training and experience
- Infrastructure and adequate facilities
- A strong base of support at all levels
- A robust plan for blood transfusion support
Access to appropriate pharmaceuticals
- Apheresis capability for HSC/platelet collections
- Strongly desirable –
 - Cryopreservation capability



Day 1, Starting with Autologous or Allogeneic?

- Depends almost entirely on the “evolution” of the new program
 - What is the need?
 - Where are the available resources?
 - What are the limitations for each strategy?
- Most programs begin with one and develop the second
- Either way, “Twinning Programs” are helpful and desirable



Day 1, What Indications?

- Depends on the available resources and technologies
 - HLA and other diagnostic laboratory support
 - Cryopreservation and apheresis capabilities
- Patient factors: age, distance from transplant center, comorbidities, donor availability
- Specialty Centers are desirable for rare diseases
- Likelihood of success
- Availability of cost-effective alternative therapies



Day 1, Training and Dissemination?

- Requirements for transplantation staff
 - Physicians, Nurses, Technicians and Staff
- Available training and “twinning” tools
- Training and collaboration is facilitated by the Internet
 - www.cure4kids.org
 - www.esh.org
 - www.eurocord-ed.org



Day 2, Donor Safety & Follow-Up

- Evaluation of donors
 - Minimizing donor risk while maximizing transplant success
 - Risks for donor transmitted infections and strategies for mitigation
- Special considerations for children
- Recommendations for donor follow-up
 - Need for related donor care and follow-up



Day 2, Donor Selection

- Decisions about graft source, donor type, donor characteristics and HLA-matching are complex –
 - Depends on center resources and transplant team expertise and experience
- Ethical frameworks for donor selection and management are well developed
 - WHO guiding principles
- Challenges faced by registries and banks
- Complexity of regional HLA variations



Day 2, Cell Processing

Complex and highly technical

- Reviewed capabilities in Latin America
- Review of minimal requirements
- Requirements for graft characterization

Regulatory Frameworks

- Variable systems
- Increasing requirements
- Evolving Import and Export Rules



Day 2, Quality Systems

- Bridging the gap with Competent Authorities
- Overview of Quality Systems
- Essential Elements Project
- AHCTA
- Several organizations are dedicated to establishing standards and programs for accreditation that cover aspects of HSCT
 - Transplant centers, HSCT collection sites, cord blood banks, processing laboratories, HLA laboratories, & donor registries



Day 2, Collecting Outcomes and Sharing Information

- Includes reporting of activities (Global Survey) and reporting of results (Outcomes Registries)
 - Rationales for collection and uses for data
 - Frameworks and existing tools
 - Challenges and need
- Developing the LABMT Registry
- Sharing Information –
 - Vehicles for dissemination
 - Rationale and principles for communication
 - Important target audiences for HSCT communications



Overall Observations

- Be thoughtful and plan well
- Establish a clear relationship with Health Authorities
- Maximize the resources available and seek a multidisciplinary environment
- Ensure that training and expertise of all staff are maximized
- Avoid competition & encourage transparency
- Set realistic goals and show success
- Use the early challenges to prioritize the additional needs



Conclusions

- Resources are required – Funding, HLA typing, other laboratory support, imaging and essential graft processing
- Training of the physicians and staff is essential
- Logistics must be addressed – late referral, distance from the center
- Regional characteristics must be considered
 - Team density reflects economic realities
- There is an overall lack of donors for matched allogeneic transplantation, possible solutions -



Cord blood banks, donor registries, haploidentical transplantation

Success!

- 137 total attendees!
- 24 Countries
- 2 government officials
- 15 Nurses
- 5 Exhibitors



Obrigado!

Gracias!

- Luis Bouzas
- Adriana Seber
- Marco Salvino
- German Espino
- Jose Nunez
- Marcelo Pasquini
- Dietger Niederwieser
- Paula Watry

