



STEM CELL LABORATORY (STCL)



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Radiation Injury Treatment Network (RITN) Duke University Standard Operating Procedures JA1

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1) Participation in RITN statement:

- a. Duke University Hospital is a member of the Radiation Injury Treatment Network (RITN), and has agreed to participate in a response to a mass casualty incident resulting in marrow toxic injuries.

2) Purpose: The Radiation Injury Treatment Network® (RITN) provides comprehensive evaluation and treatment for victims of a mass casualty incident resulting in marrow toxic injuries. RITN develops treatment guidelines, educates health care professionals, works to expand the network, and coordinates situation response. RITN is a cooperative effort of the National Marrow Donor Program (NMDP) and The American Society for Blood and Marrow Transplantation (ASBMT).

3) Participation overview:

- a. As a Radiation Injury Treatment Network transplant center, Duke University Hospital prepares to receive patients with marrow toxic injuries.
 - i. Preparation involves training of staff in NMDP Basic Radiation Training, RITN grand rounds, advanced training where possible, adoption of the RITN Acute Radiation Syndrome Treatment Guidelines, coordination internally and externally (when necessary) to handle a surge in patients.
 - ii. A possible scenario resulting in the activation of RITN would be an Improvised Nuclear Device (terrorist nuclear bomb), resulting in thousands of patients with Acute Radiation Syndrome (ARS) that will need to be distributed across the nation.
- b. If activated RITN centers can expect a significant increase in the number of patients requiring diagnostic monitoring and intensive supportive care.
 - i. It is expected that all victims will have had initial trauma triage and gross decontamination prior to distribution to an RITN center.
 - ii. The flow of patients will most likely start slowly with the initial surge occurring one to two weeks after the incident.
 - iii. RITN patients should not have severe trauma.
 - iv. Patient's condition could vary from minor to severe ionizing radiation exposure.
 - v. The vast majority of victims will require diagnostic monitoring to determine the level of Acute Radiation Syndrome.
 - 1. Victims requiring monitoring will need daily CBCs conducted and may be handled in an outpatient treatment manner.
 - vi. Many will require intensive supportive care to assist with marrow reconstitution.
 - vii. Only a few will require a marrow transplant.
- c. Obligation to receive and treat patients:
 - i. Duke University Hospital has volunteered to participate as an RITN center to plan for and prepare to respond to a national incident.
 - ii. Duke University Hospital is planning to receive victims from such an incident.
 - iii. Duke University Hospital is not required to receive or treat victims.

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4) RITN Composition and organization:

- a. RITN is composed of transplant centers, donor centers and cord blood banks.
- b. Incorporating the entire transplant process into RITN in the event that a victim does require a transplant.
- c. RITN has a Memorandum of Understanding with the Department of Health and Human Services-Office of the Assistant Secretary for Preparedness and Response (DHHS-ASPR) for integration at the federal level.
- d. In response to a national disaster with mass casualties DHHS-ASPR will lead the medical portion of the federal response (Medical Support for disaster response is known as Emergency Support Function #8 or ESF#8).
- e. As part of this response the National Disaster Medical System (NDMS) with collect, triage and distribute victims for appropriate care across the United States.
- f. Victims with marrow toxic injuries or suspected marrow toxic injuries should be prioritized for distribution to RITN centers.
- g. Victims distributed by NDMS to NDMS hospitals may be reimbursed by NDMS at 110% CMS, after seeking reimbursement through the patient's primary care insurer.
- h. Many RITN centers are National Disaster Medical System (NDMS) hospitals, an updated list of which centers are identified as an NDMS hospital can be found on RITN.net under the About tab on the Participating Centers list.

5) RITN Acute Radiation Syndrome Treatment Guidelines:

- a. The following staff are to be familiarized with the RITN ARS treatment guidelines:
 - i. Transplant physicians
 - ii. Transplant nurses
 - iii. Others as needed
- b. Familiarization with the guidelines is documented through by a signed statement once the staff member has completed reviewing the document.
- c. Location of the RITN ARS Treatment Guidelines are maintained here:
 - i. Hard copy is located in a 3-ring binder in the RITN Coordinator office (North Pavilion room 9007) on the first shelf above the coordinators computer.
 - ii. Electronic copy maintained on the Internet
<http://www.ritn.net/Guidelines/>

6) Important contact information:

- a. Internal contacts:
 - i. **Hospital Emergency Manager contact information:**
Jason Zivica, EMT-P
Interim Emergency Preparedness Coordinator
Email: jason.zivica@duke.edu
Phone: 919-613-8935
 - ii. **Hospital Radiation Safety Officer contact information:**

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Terry Yoshizumi, PhD
Email: terry.yoshizumi@duke.edu
Phone: 919- 812-4985

iii. Others as needed:

1. Nelson Chao, MD
Chief of the Division of Cellular Therapy
919-668-1002
Nelson.chao@duke.edu
Dr. Chao will head the response team and will be in contact with the various departments and services. In his absence the Division of Cellular Therapy Clinical Director will be in charge. His first action will be to notify the Hospital CEO or COO who will activate the hospital emergency plan to alert the Nursing Departments, Laboratory, Pharmacy, and Radiation Safety Officer and request their services.
2. Michael W. Hanson, MD.
Medical Director of Nuclear Medicine
919 - 684 7619
Dr. Hanson is the physician responsible for implementing the DUHS Radiation Emergency Plan

b. External contacts:

1. James Payne, MS, CEM, CHEC-III
Federal Coordinating Center POC
VHA Office of Emergency Management
Area Emergency Manager
Office: 919-956-5541
Mobile: 919-423-6972
Responsibility: Our liaison with NDMS
2. Mike Boucher
Federal Coordinating Center secondary POC
Durham VA Medical Center
919-286-0411 x5975
michael.boucher2@med.va.gov
Responsibility: Our backup liaison with NDMS
3. David Marsee
Durham County Emergency Management POC
(O) 919-560-0667
(C) 919-201-9272
dmarsee@dconc.gov Responsibility: Our liaison with local EMS

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7) Emergency Communications Capabilities:

- a. RITN provides capabilities to ensure communications can continue even in the most austere environment. These include the Government Emergency Telecommunications System emergency calling card, a satellite telephone and access to HealthCare Standard software.
- b. Government Emergency Telecommunications System (GETS) emergency calling card:
 - i. Staff trained on use:
 - 1. Nelson Chao, MD, MBA
 - 2. Joel Ross, PhD
 - ii. Instructions for use located: room 9011, North Pavilion, DUMC
 - iii. Card physically maintained at this location: room 9011, North Pavilion, DUMC
- c. Portable satellite telephone
 - i. Staff trained on use:
Nelson Chao, MD
Joel Ross PhD
Amy Harder
 - ii. Instructions for use located: North Pavilion Room 9011
 - iii. Phone is physically maintained at this location: North Pavilion Room 9011
 - iv. Battery and spare battery are charged and rotated every 60 days.
 - v. Instructions for Use:
 - 1. Placing a call from an IRIDIUM satellite telephone:
 - a. Be certain the battery is charged prior to use. Battery capacity is indicated on the display.
 - b. Turn the phone ON (red circle button on the lower left hand corner of the keypad).
 - c. Rotate antenna to the vertical position and gently extend the telescoping antenna. Be certain the antenna is in a locked detent and is as vertical (upright) as possible for the best signal strength.
 - d. You should be outdoors and away large structures or tree cover, the satellite telephone will not usually function indoors.
 - e. The word "IRIDIUM" appears on the display when the satellite signal is locked and ready to place and receive calls.
 - f. ALWAYS DIAL (00) + (1) + (AREA CODE & PHONE NUMBER) + (OK)
 - g. To end calls press the "C" red button on left top corner TWICE.
 - 2. People calling TO YOU from a landline phone have two options:
 - a. Direct Dialing (this is an International call):

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- b. From the USA, dial (011) +8816+ (5145-8623).
 - c. Call charges to the phone are paid by the originator.
 - d. The user of the Iridium phone is not charged for this type of call.
 - e. Satellite Network (this is a long distance call to AZ):
 - f. Dial the satellite network phone number: 1-480-768-2500.
 - g. A recording will answer "Welcome to the Iridium Satellite Global Network".
 - h. Enter the Iridium 12 digit satellite phone number.
 - i. The call will be completed only if the Iridium Phone is powered up and locked on to the satellite signal.
 - j. The originator will pay a long distance charge to Arizona and the Iridium Phone will be billed at \$2.49 per minute.
- d. RITN uses HealthCare Standard (HCS) software to consolidate and communicate network capabilities.
- i. Report center status every 24 hours of current and future capabilities.
 - ii. Review submitted status and update where appropriate.
 - iii. Review entire network capabilities.
 - iv. HCS is accessible through the homepage of www.RITN.net
 - v. If the Internet is not functioning, a manual Capabilities Report can be faxed to (612) 294-4441 (a manual report is available on RITN.net in the Templates section of <http://www.ritn.net/Templates/>).

8) Concept of operations:

- a. The Department of Health and Human Services-Assistant Secretary for Preparedness and Response will notify the RITN Control Team that there are victims who require treatment through RITN.
- b. The RITN Control Team will notify RITN centers of activation via email or telephone (voice or fax).
- c. RITN centers must alert and notify internal staff:
 - i. Notify BMT staff
 - ii. Submit a Capabilities Report promptly to the RITN Control Team through HealthCare Standard
 - iii. Notify appropriate hospital staff and partner organizations:
 - 1. Hospital emergency services (Emergency Manager)
 - 2. Hospital radiation safety specialists (Radiation Safety Officer)
 - 3. Hospital admitting
 - 4. Key supporting departments (pharmacy, radiology, oncology, pediatric, laboratory, etc...)
 - 5. Hospital administration
 - 6. Partner facilities (local hospitals that may receive current patients to make more beds available)
 - 7. City, county or state public health representatives
 - 8. City, county or state emergency management staff

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- d. Once the quantity of patients and their flow (e.g. arrive all at once or 20 today and 10 in two days) are identified:
 - i. Determine bed plan
 - ii. Review patient status to determine if any can be discharged early
 - iii. Review staff availability
 - iv. Identify possible logistical shortages (RX, gloves, masks, gowns, OR time, lab time, staff, etc...)
 - v. Determine the best possible plan with existing resources
 - vi. Request for additional support from
 - 1. Internal department partners
 - 2. External hospital partners
 - 3. State agencies
 - 4. RITN – will direct requests to federal agencies for assistance

9) Institution SOPs that are applicable to the response process

- a. Institutional Emergency Operations Plans and Annexes are available to staff at: <https://intranet.dm.duke.edu/duhsemergency/duhemergencyprep/SitePages/Home.aspx> Staff should refer to online version for up to date information.
- b. Institution alert and notification procedure: DUH EOP Section H – “Plan Activation”,
 - i. Describes hospital plan to contact appropriate staff for medical surge management (emergency response team, emergency department team, decontamination team, emergency operations center team, administrative team, other teams as appropriate): DUH EOP Section I “Staff Roles and Responsibilities”,.
 - ii. Social worker notification procedure DUH EOP Section I “Staff Roles and Responsibilities”.
 - iii. Patient and staff mental support procedure: DUH EOP “Mental Health Services”.
 - 1. Critical Incident Stress Management (CISM) team notification or chaplain services for various religions where applicable. DUH EOP “Mental Health Services”.
- c. Procedure for notification of city/county/state agencies: DUH EOP Section K “External Communications”
 - i. Points of contact are on hand for city, county, state, region or federal agencies (name, phone numbers, etc.).
 - 1. NDMS FCC representative:
James Payne, MS, CEM, CHEC-III
Federal Coordinating Center POC
VHA Office of Emergency Management
Area Emergency Manager

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Office: 919-956-5541
Mobile: 919-423-6972

Mike Boucher
Federal Coordinating Center secondary POC
Durham VA Medical Center
919-286-0411 x5975
michael.boucher2@med.va.gov

2. VA hospital representative:
James Payne, MS, CEM, CHEC-III
Federal Coordinating Center POC
VHA Office of Emergency Management
Area Emergency Manager
Office: 919-956-5541
Mobile: 919-423-6972

Mike Boucher
Federal Coordinating Center secondary POC
Durham VA Medical Center
919-286-0411 x5975
michael.boucher2@med.va.gov

3. City/County/State Dept. of Health contact:
David Marsee
Durham County Emergency Management POC
(O) 919-560-0667
(C) 919-201-9272
dmarsee@dconc.gov

- d. Patient reception and inprocessing procedure: DUH EOP, Section L “Patient Management”.
 - i. Procedures for standard placement and care of patients exist.
 - ii. Describes hospital plan for receiving disaster patients into the medical system to ensure proper tracking, may be electronic or manual health record system.
- e. Patient triage procedure: DUH EOP, Section L “Patient Triage”.
 - i. Describes hospital plan to review each patient and determine required level of treatment and urgency of care required.
 - ii. Describes victim disposition process to determine the appropriate venue for needed treatment (inpatient vs outpatient).
- f. Radiological survey procedure: DUH EOP, Section L “Contaminated Patients” and Hazard Annex Code Orange.

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- i. Describes hospital plan for conducting a radiological survey of incoming patients to determine if there is any radiological contamination on the patients.
- g. Radiological decontamination procedure: DUH EOP, Section L “Contaminated Patients” and Hazard Annex Code Orange Decon.
 - i. Describes hospital's arrangements for radiological decontamination of some or all patients that are contaminated with radioactive material.
 - ii. Lab sample draw procedure is not predefined in the existing DUH EOP. In cases of confirmed or suspected radiological or nuclear exposure patients, Dr. Chao or his designee will provide guidance on timing of blood draws and the relevant clinical tests to be conducted.
- h. Criteria and process for offloading patients procedure: DUH EOP, Section L “Patient Triage”.
 - i. Describes hospital plan for offloading patients to other medical facilities.
- i. Procedure to discharge or transfer patients to outpatient status: DUH EOP, Section L “Patient Triage”.
 - i. Describes plan to evaluate current patients’ needs for continued inpatient services or triggers to discharge patients or transfer care to outpatient status.
- j. Outpatient housing procedure: DUH EOP, Section L “Alternate Care and Expanded Treatment Sites”.
 - i. Describes hospital's arrangements for coordinating housing outpatients in non-hospital/clinical settings.
- k. Outpatient transportation procedure: DUH EOP, Section L “Patient Management”.
 - i. Describes procedure to get outpatients to and from appointments, treatment or lab draws.
- l. Alternate care facility/site procedure: DUH EOP, Section L “Alternate Care and Expanded Treatment Sites”.
 - i. Describes procedure for establishing an alternate care site if BMT census exceeds available BMT beds or alternate beds identified in the facility.

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STCL-GEN-008 JA1 Radiation Injury Treatment Network (RITN) Duke University SOPs**Author**

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