

NUCLEAR/BIOLOGICAL/CHEMICAL INJURIES

DEFINITION:

Casualties contaminated by nuclear radiation, biological agents, or chemical agents could be produced through the detonation of an explosive device, either accidentally or as a result of aggression by an enemy, through an accident/incident involving a nuclear power source, or through the use of chemicals for mob control or other purposes. It must be remembered that such an incident would probably produce a massive number of casualties and that these casualties would present special problems not usually associated with a disaster situation.

PURPOSE:

The purpose of these procedures is to assure the prevention of hospital staff, facilities, other patients and visitors from becoming contaminated during admission and medical attention of the radioactively contaminated patient or the radiated, non-contaminated patients. The hospital's protection program starts with an alert or warning telephone call to the hospital informing us that there has been an accident involving radioactive materials and radiation exposure to victims. On receipt of such a call, the Emergency Department staff will prepare to admit the patient(s) through our Radiation Emergency Area (REA) that has been established in the Outpatient Medical Clinic-if the patient(s) are contaminated.

I. TYPES OF POSSIBLE ACCIDENTS/INCIDENTS RESULTS:

A. Emergency Injury

The probable situation which the hospital would be confronted with would be an emergency injury requiring life-saving treatment prior to decontamination.

B. Criticality Accident

This is a much more serious problem in the event of such an accident at a local industry.

II. NOTIFICATION PROCEDURES FOR RADIATION EMERGENCY INCIDENTS:

- A. The E. D. Assistant Manager in the Emergency Department will receive a call from the accident site. Should the call be made to any other area of the hospital, it should be transferred to the Emergency Department. The following information will be given to the E. D. Assistant Manager (see Data Information Sheet on page 45).

1. Type of injury or problem
2. Name, age, sex of involved personnel
3. Estimated time of arrival
4. Contamination status

5. Whether or not a radiation protection person will be accompanying the patient, or if qualified personnel are being sent to the hospital.
- B. The E. D. Assistant Manager will immediately contact the following persons and document on Check List Notification Sheet (see sample on page 44):
1. Emergency Department Manager
 2. Director of Ambulatory Services
 3. Director of Finance and Ambulatory Care
 4. Hospital Radiation Safety Officer
 5. Outpatient Medical Clinic Co-ordinator (8:00 - 4:30)
 6. Housekeeping Department
 7. Ambulatory Surgery (6:30 - 5:00)
- C. The following personnel/departments should be notified if thought to be needed:
1. Admitting
 2. Laboratory
 3. X-Ray
 4. Operating Room
 5. Nursing Supervisor
 6. Security
 7. Engineering (Should be alerted to cut off ventilation to REA until it is determined by instrumentation that airborne radioactive material is not present.)
 8. North Carolina Department of Human Resources
Radiation Protection Emergency Team
8:00 A.M. - 5:30 P.M.
Monday - Friday
919-733-4283
919-733-4284
(Holidays, weekends, after normal work hours - Call nearest Highway Patrol Office and they will notify a team member)
- D. In the event that the victim is from G.E., but failed to go through procedure at G.E., the following personnel from G.E. should be called:

Manager, Industrial Safety - C. F. Shipp
G. E. - 343-5850
Home - 791-5889

Plant Medical Director - E. R. Plunkett, M.D.
G. E. - 343-5333
Home - 799-9681

Manager, Nuclear Safety - J. A. Mohrbacker
G. E. - 343-5957
Home - 799-4547

- E. In the event that the victim is from Carolina Power and Light Nuclear Plant, the following personnel should be called:

C.P. & L Plant number (manned at all times) - 457-9521

Plant Manager	A. C. Tollison, Jr.	457-5357
Plant Superintendant (Oper. & Maint.)	J. M. Brown	799-6456
Plant Superintendant (Tech. & Admin.)	W. M. Tucker	253-4294
ERC Supervisor	J. A. Padgett	457-9130
ERC Supervisor (Acting)	L. F. Tripp	287-3782

- F. Any requests by news media, for information relating to victims of a nuclear accident occurring at either General Electric or Carolina Power and Light should be referred to the following appropriate persons:

1. General Electric - Mr. Jack Larson, Information Officer
2. Carolina Power & Light - Mr. A.C. Tollison, Plant Manager

- G. Radiation Emergency Telephone Directory when information may be needed:

1. Nuclear Safety Engineer (weekdays) - 343-5957
2. G. E. Radiation Protection Office (nights & weekends)
343-5858 343-5278
343-5630 343-5550
3. G. E. Emergency Control Center
343-6183 343-6184 675-0501
4. Radiation Management Corporation - Emergencies Only
(Philadelphia Office) 215-243-2990 (24 hours)
5. Radiation Emergency Assistance - Training Site
(Oakridge, Tennessee) 615-576-3098 Attn: Dr. Karl Huebner

III. EMERGENCY DEPARTMENT RADIATION TEAM:

The Emergency Department Radiation Team will consist of personnel from the Emergency Department, and this team will be responsible for the following:

- A. Open and prepare the Radiation Emergency Area;
- B. Prepare medical and nursing personnel for entry into a contaminated area;
- C. A member of this team as appointed by the Emergency Room Nurse, will be the Control Point Attendant.
- D. Take Emergency Radiation Cart from Emergency Department to REA area and yellow trash container from patient's bath (back hall)

IV. HOUSEKEEPING DEPARTMENT

- A. Make sure waste disposal cans are available for use in the treatment room.
- B. Remove waste disposal cans from storage area and place under treatment table.
- C. Erect rope barriers separating the Buffer Zone from the Uncontrolled Area.
- D. Post barriers with: "CAUTION - RADIATION AREA - RADIOACTIVE MATERIALS - AUTHORIZED ENTRY ONLY" signs.
- E. Cover the area from the REA entry door to the ambulance unloading area with Herculite (or equivalent material).
- F. Provide extra waste containers with plastic liners.
- G. If the possibility of two patients exists, move a second gurney table into the REA from the hospital proper.
- H. The Housekeeping Department will be responsible for supplying additional material from its department.

V. CONTROL POINT ATTENDANT'S DUTIES

(Appointed by Emergency Department Assistant Manager or Manager)

- A. Restrict access to personnel authorized entry by the attending physician or nurse-in-charge.
- B. Assure that the personnel entering the REA are wearing protective clothing and personal dosimeters.

- C. Maintain a record showing name of each person entering REA, personnel dosimeter number and time of ingress and egress from REA.
- D. Other information to be documented is the Social Security Number and date of birth of anyone wearing dosimeters.
- E. Assure that no person or thing is allowed to leave the REA (after the radioactively contaminated patient is admitted) until it has been monitored by Wilmington Manufacturing Department or other appointed personnel and found to be "clean", i.e., free of detectable radioactive contamination.
- F. Assist nurse-in-charge and attending physician in the set-up of the REA.

VI. ATTENDING PHYSICIAN'S DUTIES:

- A. Assure that the Radiation Emergency Area is set up for admission of a radioactively contaminated patient.
- B. Assure that hospital personnel are wearing protective clothing and personnel dosimeters.
- C. Upon arrival of the patient:
 - 1) Question the accompanying personnel concerning the patient's contamination status and precautions that should be taken by the hospital staff.
 - 2) Administer emergency treatment.
 - 3) Decontaminate the patient and collect samples of the contaminant in accordance with "Procedure for Patient Decontamination and Sample Taking".
 - 4) Following decontamination and emergency treatment, transfer the patient from the REA to the appropriate section of the hospital for care or further treatment.
 - a. Provide pathway of freshly laid Herculite or Kraft paper (or equivalent material) from the Control Point to the patient. (Tape the paper to the floor to avoid a safety hazard.)
 - b. Wheel a stretcher across this pathway to location immediately adjacent to the patient.

VII. SECURITY:

Security Officer on duty will be notified of expected admission of a radioactively contaminated patient by the Emergency Department Nurse. Responsibilities of this person are as follows:

- A. Direct ambulance to decontamination entrance (outside door to Medicine Clinic, South Entrance).
- B. Erect rope barrier around ambulance
- C. Do not allow ambulance to leave until it has been cleared by monitoring personnel

VIII. USE OF OTHER HOSPITAL FACILITIES:

- A. If specialized equipment is needed in the diagnosis and treatment of the patient, the decision of whether to take the patient to the equipment or bring the equipment to the patient will be made by the physician in charge. (Such a decision must, by necessity, be based on the condition of the patient, both medically and radioactively. The physician may call on the Wilmington Manufacturing Department Radiation Protection staff members for advice on contamination potential in moving the patient.)
- B. A similar decision will have to be made if surgery is required. Again, the physician must decide whether to perform surgery in the emergency room or whether to move the patient to an operating room
- C. If a patient is to be moved, appropriate action (such as wrapping the contaminated area in plastic) must be taken to prevent contaminating other areas in the hospital. The patient should be moved to another stretcher at the entrance of the contaminated area.

IX. TRANSFER OF A PATIENT TO ANOTHER HOSPITAL:

- A. If a patient must be transferred to another hospital for treatment which cannot be performed in the New Hanover Memorial Hospital, this patient must be transferred only after prior arrangements with the Receiving Hospital.
- B. Arrangements with both the local fire department (for ambulance service) and with the Receiving Hospital must be made through a responsible member of the appropriate company before the patient is transferred.

X. RETURN OF AFFECTED AREAS TO NORMAL USE:

- A. As soon as it has been ascertained that the ambulance is no longer needed, any paper placed in the entryway, hall and Emergency Department or REA will be carefully removed by personnel monitoring for contamination control and placed in appropriate containers.

- B. Once the patient has been either completely decontaminated (so that he can be handled as a normal patient) or released from the hospital, the rooms and all equipment used will be surveyed, decontaminated as required and released as soon as possible by monitoring personnel. No affected equipment or areas should be returned to normal service without a release given by the Senior Radiation Safety Consultant present.
- C. Be sure to return all equipment to its proper location, make a list of parts of kits needing replacement, be certain that batteries are removed from battery operated Radiation protection instrument being stored away.