

## APPENDIX O

### Implant Therapy

We will be performing:

- Temporary Implants using the following procedures.
- Permanent Implants using the following procedures.

#### TEMPORARY IMPLANT

1. Assign the patient a private room which should be as far away from the nursing station and heavy traffic hallways as is consistent with good medical care.
2. Supply the nurses with film badges, TLDs, OSLD or dosimeters.
3. Brief the nurses on radiation safety precautions as described in Appendix F. Personnel will be instructed to ask questions at the conclusion of the training.  
Attached is the outline of the training for nursing personnel.
4. Following the implant, measure the exposure rate in mR/hr at bedside, at 1 meter from bedside and in the surrounding hallways and rooms. Remove due to exclusive of medical treatments according to 64E-5.312 (a)-The dose to members of the public will not exceed 2 mrem in any one hour or 100 mrem per year (64E-5.312, Florida Administrative Code). Record this and any other necessary information on the nursing instruction form or the nurses' dosimeter sign-out form. Post the room with a "Caution Radioactive Materials" and "Caution Radiation Area." In addition, if the survey results indicate 100 mrem per hour at 30 centimeters from the source then the area will need to be posted with a sign indicating "Caution, High Radiation Area" or "Danger, High Radiation Area."
5. Upon completion of the implant therapy, perform a radiation survey of the patient and count the implant sources, trains, or ribbons to confirm that all sources have been removed from the patient and are returned to inventory. Perform this check immediately after the removal of the sources. Keep a record confirming the source count and radiation survey on the implant source inventory form.

#### PERMANENT IMPLANT

1. Patient will be provided a private room.
2. A notice to visitors will state that they need to check with the nurse's station prior to visitation. Nursing personnel will instruct visitors if there are any restrictions to visitation.
3. Brief the nurses on radiation safety precautions as described in Appendix F. Personnel will be instructed to ask questions at the conclusion of the training.  
Attached is the outline of the training for nursing personnel.
4. Brief the patient on radiation safety procedures prior to discharge.  
Attached is an outline of patient instructions.
5. Do not release any patient from the hospital who has received a permanent implant until the exposure rate from the patient is less than 5 mR/hr at 1 meter. Measure this exposure rate with a radiation survey meter at a distance of 1 meter from the umbilicus with the patient standing or if the patient is not ambulatory, 1 meter from the bedside with the patient supine.

## TEMPORARY IMPLANTS

Patient Name: \_\_\_\_\_ Patient Number: \_\_\_\_\_

Authorized User: \_\_\_\_\_ Phone: \_\_\_\_\_ Pager: \_\_\_\_\_

Dose: \_\_\_\_\_ mCi of \_\_\_\_\_ as \_\_\_\_\_ individual sources was loaded on \_\_\_\_-\_\_\_\_-\_\_\_\_

Sources will be removed at approximately \_\_\_\_\_:\_\_\_\_\_ AM/PM on \_\_\_\_-\_\_\_\_-\_\_\_\_

### Radiation Exposure Rates

Date \_\_\_\_\_ Time \_\_\_\_\_ Bedside \_\_\_\_\_ 3 ft/1 meter from the bed door \_\_\_\_\_

\_\_\_\_\_ mR/hr \_\_\_\_\_ mR/hr \_\_\_\_\_ mR/hr

Release certification: Patient may not be released from the hospital until the following criteria have been met and the attending physician or radiation safety officer (RSO) have signed and dated this section. I have removed and counted \_\_\_\_\_ individual sources from this patient. A low-range GM survey of the patient indicated that there are no sources remaining in the patient.

\_\_\_\_\_  
Authorized User or  
Radiation Safety Officer

\_\_\_\_\_  
Date

### Nursing Instructions

#### VISITOR RESTRICTIONS:

No visitors under 18 or pregnant  \_\_\_\_\_ minutes each day maximum for each visitor.

#### NURSING RESTRICTIONS:

Patient is restricted to room  Patient is restricted to bed  
 Patient must not move  No nurses who are pregnant may render care  
 \_\_\_\_\_ minutes each day per nurse in the room.

#### PATIENT CARE:

- Wear your radiation monitor when caring for patient. Leave the monitor at the nursing station at the end of your shift. You may use the same monitor on your next shift. Do not share your monitor. Call RSO for additional monitors if needed.
- If source appears dislodged, call the attending physician and RSO immediately.
- Omit bed bath
- No perineal care. Pad may be changed as necessary.
- Save surgical dressings for disposal by attending physician or RSO.
- See special oral hygiene care instructions.
- \_\_\_\_\_

### Emergency Numbers

In case of an emergency, or if you have a questions, phone:

RSO: \_\_\_\_\_ Work: \_\_\_\_\_ Home: \_\_\_\_\_ Cell: \_\_\_\_\_ Pager \_\_\_\_\_  
MD: \_\_\_\_\_ Work: \_\_\_\_\_ Home: \_\_\_\_\_ Cell: \_\_\_\_\_ Pager \_\_\_\_\_

## RADIATION SAFETY CHECKLIST FOR TEMPORARY IMPLANT THERAPY

Patient: \_\_\_\_\_ Room: \_\_\_\_\_ Date: \_\_\_\_\_

### PREPARATION

- Schedule a private room in a low traffic area.
- Mark a visitors' "safe line" on the floor of the patient's room.
- Brief the nursing staff on radiation safety measures.
- Supply the nursing staff with personnel monitoring devices.

### IMPLANT

- Clear the room of unneeded personnel.
- Brief the patient on the clinical procedures.
- Insert the implant.
- Measure dose rates at the bedside, 1 meter from bedside, visitors' "safe line", entrance door to the patient's room and surrounding hallways and rooms. Move safeline as necessary.
- Post the room with a "Caution: Radioactive Material" sign.

### FOLLOW-UP

- Perform a radiation survey of the patient to assure that all sources have been removed.
- Count the number of sources removed from the patient to assure that all sources have been removed.
- Remove the "Radioactive Materials" sign and release room for general purpose use. Release trash for general disposal.

## **Instructions to Nursing Personnel for Temporary Implant Patients**

All new personnel working with radioactive material will receive detailed instructions in the handling and documentation of radioactive material use.

### CESIUM 137 (Cs-137) OR IRIDIUM 192 (Ir-192)

- Cs-137 or Ir-192 will be ordered and stored until insertion. Upon removal, it will be returned to the supplier or inventory.
- Sealed Cs-137 or Ir-192 sources do not produce any contamination of the environment as long as the integrity of the encapsulation is maintained. They are very strong and are designed not to break. Sources may be accidentally broken by cutting them or by dropping a heavy object on them. If a source is broken, tiny particles of cesium can escape and cause contamination.
- Ir-192 can be ordered as seeds in a ribbon.

### PROCEDURES FOR HANDLING TEMPORARY IMPLANTS

- Use long forceps or tongs to handle sources.
- Use lead shields when handling radioactive materials.
- Wear a dosimeter when handling radioactive materials.
- Use radiation detection instruments while checking, unpacking, and using radioactive material.
- Ir-192 ribbons can be altered. Use long scissors to cut the ribbon, being careful not to cut into a source. If a source is accidentally cut, carefully dispose of the seed in a lead container. Survey the scissors and area to assure that there is no contamination. Do not use the scissors until they are free of contamination.
- Survey the area thoroughly where the radioactive materials were used to make sure no radioactive materials remain.
- In case of a lost source, immediately contact the RSO.

### CHECKLIST (CHECK ALL THAT ARE APPLICABLE)

- Special nursing procedures are required. Instructions will be provided by the authorized user or the RSO, prior to assuming duties with patients.
- Posting of Patients room should state "Caution, Radioactive Materials" and "Caution, Radiation Area," "Do Not Enter."
- Nursing personnel monitoring is required. Instructions will be given by the authorized user or the RSO, prior to assuming duties with patients.
- No pregnant nursing personnel will take care of patient.
- No visitors under the age of 18 years of age or pregnant.
- All visitors will be limited to a specific time and will need to be instructed on where they are allowed to stand or sit in the patient's room.

### DISCHARGE OF THE PATIENT

- A survey will be conducted by the attending physician or RSO to verify that all sources have been removed from the patient.
- The linens, trash and supplies will be surveyed for radioactive materials. If no radioactive materials are found then the items can be treated as normal hospital linens, trash and supplies and can be discarded or cleaned.
- The room will be surveyed by the RSO. If no radioactive materials are found, then the room can be released to be used by other patients
- Remove all radiation postings on the door.

## RADIATION SAFETY CHECKLIST FOR PERMANENT IMPLANT THERAPY

Patient: \_\_\_\_\_ Room: \_\_\_\_\_ Date: \_\_\_\_\_

### PREPARATION

- Schedule a private room
- Brief the nursing staff on radiation safety measures

### IMPLANT

- Clear the room of unneeded personnel
- Brief the patient on the clinical procedures
- Insert the implant in surgery
- Survey the room, waste, linens, and equipment to make sure no radioactive material remains in the procedure room before transferring the patient to their room.
- Measure dose rates at the bedside and at 1 meter from the bedside.

### FOLLOW UP

- Perform a radiation survey of the patient to assure that patient release criteria have been met. (less than 5 mR/hr at 1 meter)
- Perform a survey of the room to assure that no sources remain in the room.
- Release room for general purpose use. Release trash for disposal.

## **Instructions to Nursing Personnel for Permanent Implant Patients**

### IODINE 125 (I-125) AND PALLADIUM 103 (Pd-103) IMPLANTS

Seeds of I-125 and Pd-103 are permanently implanted in the prostate for cancer.

The radioactivity is very low and presents no danger to the patient, visitors, nurses, or other hospital staff.

Some of the seeds may pass through the Foley catheter into the bag of urine so it will need to be surveyed. If there is a large quantity of seeds, the patient may need additional implants inserted to maintain the required dosage for the treatment.

All implants of I-125 or Pd-103 seeds that are found in the patient's urine must be saved. These seeds will be put in a special container. Call the RSO for instructions.

If a permanent radioactive implant patient should die while in the hospital, notify the RSO and the nursing supervisor immediately. The body cannot be released until all the radioactive sources are removed.

### **CHECKLIST**

- Brief the nurses on radiation safety precautions as described in Appendix F.
- Posting of patient's room should state "Restricted Area, see nursing personnel before entering".
- No nursing personnel monitoring is required.
- No pregnant nursing personnel will take care for patient.
- No visitors under the age of 18 years or pregnant.

### DISCHARGE OF THE PATIENT

- If patient is catheterized, have the RSO survey the urine, bag and catheter prior to disposal and discharge of the patient.

## Instructions to Patients Receiving Permanent Implant

Seeds of I-125 and Pd-103 are permanently implanted in the prostate for cancer.

The radioactivity is very low and presents no danger to the patient, visitors, or family member if these procedures are followed:

1. You will need to strain your urine for 7 days. If some of your seeds are released in your urine you will need to collect the seeds in the provided container. Use a pair of tongs to pick up the seed and place in the container provided to you by the hospital. At the conclusion of 7 days, contact the person below for instructions on returning the container and any seeds to the facility.
2. Please notify any other physician that may be used to manage your care of your implant.
3. If you have any problems, contact the individual below with your concern.

When a permanent radioactive implant patient die, the authorized user should be notified to determine if the body can be released or if extraction of the permanent implant should be performed.

### Emergency Numbers

In case of an emergency, or if you have a questions, phone:

RSO: \_\_\_\_\_ Work: \_\_\_\_\_ Home: \_\_\_\_\_ Cell \_\_\_\_\_ Pager: \_\_\_\_\_

MD: \_\_\_\_\_ Work: \_\_\_\_\_ Home: \_\_\_\_\_ Cell \_\_\_\_\_ Pager: \_\_\_\_\_

To return container and any loose seeds, phone:

\_\_\_\_\_ Work: \_\_\_\_\_ Home: \_\_\_\_\_ Cell \_\_\_\_\_ Pager: \_\_\_\_\_

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