

KINGSTON GENERAL HOSPITAL

NURSING PROCEDURE

SUBJECT	Iodine 131, Patient Care and Education	NUMBER	I-5810
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		ORIGINAL ISSUE	1994 October
		REVIEW	
		REVISION	2003 December

Purpose:

The use of iodine is recommended for the treatment of patients with hyperthyroidism or well-differentiated residual and metastatic disease after surgical resection of the thyroid. When patients are administered large quantities of nuclear substances the patients become a source of radiation exposure to anyone they come in contact with. All therapies must, therefore, be carried out in such a way to minimize radiation exposure to patients, members of the patients' family, workers in the hospital, and members of the public and to minimize the spread of contamination of Iodine 131.

NOTE: A Registered Nurse (RN) may care for a patient undergoing radiation therapy with Iodine 131 following successful completion of the education program outlined in Nursing Policy I-5800 Iodine 131.

Equipment:

Clean (disposable) gloves
Isolation gowns
Face masks with eye shields
Plastic wrap or plastic bags
Tape
Blue pads
Radiation warning sign
Regular linen hamper lined with a large plastic bag
Pedal operated self-closing waste container lined with a plastic bag
Disposable shoe covers, if contamination is suspected.

Actions:

1. Prepare Connell 10 room 1069 or 1070 as follows:
 - 1.1 Cover phone with rubber gloves, plastic wrap or a plastic bag so that the hand piece is completely covered;
 - 1.2 Cover the T.V. set controls and remote, if present;
 - 1.3 Securely tape down blue pads (absorbent side up) on the floor along the sides of the bed;
 - 1.4 Securely tape down blue pads to completely cover the bathroom floor and hallway outside the bathroom where the patient is likely to walk;
 - 1.5 Cover the light switch(s), toilet flusher, door knobs, faucet handles or any other objects that the patient may touch with disposable gloves or plastic wrap;
 - 1.6 Cover all tabletops with absorbent blue pads, secured with tape; and
 - 1.7 Cover toilet seat with plastic wrap and secure with tape.
2. Post the following where they will be visible at the time of patient admission and until the room is decommissioned.
 - 2.1 A copy of the Canadian Nuclear Safety Commission radioisotope licence;

- 2.2 A copy of the Radioisotope Internal Permit;
- 2.3 A "Procedure for Handling Spills Containing Iodine 131";
- 2.4 A "Report to Nurses Station Before Entering Room" sign posted on the door; and
- 2.5 A "Radiation Warning" sign posted on the door.
3. Upon administration of the first dose of Iodine 131, Nuclear Medicine to place:
 - 3.1 a radiation warning label on the doctor's order sheet and identification bracelet, and
 - 3.2 a radiation warning sign on the patient's bed.
4. Reduce the risk of radiation exposure while caring for a patient receiving Iodine 131:
 - 4.1 Reduce the time spent with the patient by planning ahead and working efficiently,
 - 4.2 Increase the distance between yourself and the patient as much as possible.
 - 4.2.1 Increasing the distance by 1 step quarters the exposure.
 - 4.3 Use gloves, gown, masks, and disposable booties as a method of shielding from contamination.
5. Nurses must wear a personal dosimeter while assigned to a patient receiving Iodine 131.
 - 5.1 The dosimeter must be worn at chest height and must not be obscured.
 - 5.2 Ensure the dosimeter is set to "0" at the beginning of the shift.
 - 5.3 Document the dosimeter reading at the end of the shift in the radiation logbook.
 - 5.4 The cumulative exposure for the year **MUST NOT** exceed 1mSv.
 - 5.4.1 Exposure must not exceed a total of 20 mSv/year for individuals designated as Nuclear Energy Workers (NEW), or 4 mSv/year for a pregnant NEW.
6. Notify the following:
 - 6.1 Environmental Services that they cannot enter the room until the patient has been discharged and the Radiation Safety Technologist (RST), Radiation Safety Officer (RSO), or Nuclear Medicine Technologist on call has decommissioned the room.
 - 6.2 The RST or RSO of the patients' admission;
 - 6.3 Nutrition Services of the need for disposable dishes and trays for meals; and
 - 6.4 Nuclear Medicine when the patient is ready for Iodine 131 administration;
NOTE: The RST, RSO or Nuclear Medicine Technologist on call can be reached through the KGH switchboard;
7. If the patient wishes to have a TV in his/her room, ensure that it is installed prior to administration of the Iodine 131.
8. Obtain any blood work and urine samples prior to administration of Iodine 131.
 - 8.1 Consult the RST or RSO or Nuclear Medicine Technologist on call and the laboratory physician if blood or urine specimens must be obtained after the dose of Iodine 131 has been given.
 - 8.1.1 Specimens obtained after the Iodine 131 has been given must be labelled with radiation warning signs and the lab must be notified.
9. Once the Iodine 131 has been administered, personal protective equipment must be worn as follows:
 - 9.1 Wear disposable gloves with patient contact, or contact with any item in the patients' room;
 - 9.2 Wear an isolation gown for dependent patients requiring close contact for nursing care, or for handling body fluids or soiled linen,
 - 9.3 Wear a facemask with eye shield whenever there is a risk of splashing or spraying of body fluids or secretions.
10. Place all soiled linen in a linen hamper lined with a large plastic bag.

- 10.1 Linen should be changed only when soiled.
 - 10.1.1 Non soiled linen should be kept separate from soiled linen.
- 10.2 Soiled linen bags may not be removed from the room until released by the RST, RSO or Nuclear Medicine Technologist on call.

- 11. Dispose of solid waste in container lined with a plastic bag.
 - 11.1 Liquid waste should be disposed of down the drain.
 - 11.2 All cutlery and dishes must be disposable.
 - 11.3 Solid waste may not be removed from the room until released by the RST, RSO or Nuclear Medicine Technologist on call.

NOTE: 'Solid waste' excludes stool, which may be flushed down the toilet.

- 12. Notify the RST, RSO or Nuclear Medicine Technologist on call **STAT** if the following events occur:
 - 12.1 Contamination due to a spill of excreta or vomit:
 - 12.1.1 Staff attending to patients or handling contaminated material must wear gloves.
 - 12.1.2 Any spill must be contained with blue absorbent pads until the RST, RSO or the Nuclear Medicine Technologist arrives.
 - 12.1.2.1 Refer to the "Procedure for Handling Spills Containing Iodine 131" that is posted with the licence.
 - 12.2 A medical emergency:
 - 12.2.1 Staff should deal with the emergency care while attempting to take precautions against the spread of contamination.
 - 12.2.2 Avoid mouth contact by using a mouth to mask resuscitation device, if necessary.
 - 12.2.3 Use personal protective equipment (gloves, gown, facemask, shoe covers).

NOTE: Life saving measures come first. Radiation protection should not prevent or delay life-saving measures.
 - 12.3 Surgery is required:
 - 12.3.1 Operating procedures should be modified as much as possible to minimize the exposure of surgical staff and the spread of Iodine 131 contamination.
 - 12.4 Death:
 - 12.4.1 Do not remove the body from the room until authorized by the RST, RSO or Nuclear Medicine Technologist on call.

NOTE: The RST, RSO or Nuclear Medicine Technologist on call can be reached through the KGH switchboard.

- 13. The Patient may only be discharged after their measured radiation exposure and contained radioactivity level has fallen to acceptable levels, as calculated by the Nuclear Medicine Technologist.
 - 13.1 Notify the RST, RSO or Nuclear Medicine Technologist on call to decommission the room once the patient has been discharged.
 - 13.2 The RST, RSO or Nuclear Medicine Technologist on call is responsible for notifying housekeeping when the room is ready for cleaning.

Patient Education:

- 1. Ensure that the patient has a copy of the patient education booklet entitled "What You Need to Know About Your Iodine 131 Treatment".
 - 1.1 The physician should have given the patient the booklet prior to admission.
 - 1.2 Ensure that the patient understands the instructions in the booklet.
 - 1.3 Encourage compliance with the discharge instructions outlined in the patient education booklet.

2. Inform the patient that they may only be discharged after their measured radiation exposure rate and contained radioactivity level have fallen to acceptable levels.
3. Instruct the patient:
 - 3.1 To remain in the hospital room;
 - 3.2 That children and pregnant women **may not** visit after the Iodine 131 has been administered;
 - 3.3 That visitors should not visit for the first 24 hours after administration of the Iodine 131;
 - 3.4 That visitors should remain at least two meters (6 feet) from the patient;
 - 3.5 That individual visitors should limit their visit to 30 minutes per day;
 - 3.6 To wear gloves as much as reasonably possible when using objects in the room, including using the telephone or adjusting the TV, going to the bathroom, and turning light switches on or off;
 - 3.6.1 Instruct the patient on how to remove the gloves to minimize the spread of Iodine 131;
 - 3.7 To wear slippers at all times while walking in the room;
 - 3.8 To suck on hard candies or lemon slices as frequently as possible while awake (minimum hourly) to promote salivation and reduce the incidence and severity of radiation sialadenitis.
 - 3.9 To drink plenty of fluids to promote urination.
 - 3.10 To flush the toilet 3 times after use while wearing gloves;
 - 3.10.1 Both men and women must sit to void;
 - 3.11 To wash hands with soap and water after removing gloves.
 - 3.12 That they should have at least 1 bowel movement per day;
 - 3.12.1 Instruct the patient to request a laxative by 1800 hours if they have not had a bowel movement that day;
 - 3.13 To remove belongings not needed from the room prior to receiving the Iodine 131 dose.
 - 3.14 That once the dose has been given, clothing or personal belongings must **NOT** be removed from the room unless cleared by the RST or RSO or the Nuclear Medicine Technologist on call.
 - 3.15 To only change the linen if soiled, and to use the linen container in room.
 - 3.16 To use the garbage containers that are lined with plastic bags for all dishes, cutlery and any other garbage that may be produced.
 - 3.17 To notify the RN if they have any nausea or gastric upset so that antiemetics may be given; and
 - 3.18 To notify the RN if they vomit.

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Authorizing Signature

Date