Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure

I-131 Sodium Iodide for Inpatient Use

Radiopharmaceutical Agent:	I-131 Sodium Iodide I-131 sodium iodide is available as a stable aqueous solution or solid capsule form for oral administration. I-131 decays by beta emission (~90% of local irradiation) and associated gamma emission (~10% of local irradiation), with a physical half-life of 8.04 days. Sodium iodide is readily absorbed from the gastrointestinal tract. Following absorption, it is distributed primarily within the extracellular fluid of the body. It is concentrated and organified by the thyroid and trapped but not organified by the stomach and salivary glands. It is promptly excreted by the kidneys.
Drug Information Source:	FDA approved for treatment of hyperthyroidism and carcinoma of the thyroid. For additional information regarding this agent, consult package insert or other standard references
Applicability of Worksheet:	Clinical use of commercial product; standard of care
Target Patient Process:	Any patient who received I-131 sodium iodide therapy, and within 96 hours of treatment, is admitted to UWHC for any reason.
Written Directive and Validation:	Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable
Administration/Treatment Schedule:	Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable. Immediately after therapy, with the patient recumbent on the bed, record the exposure rates at the following locations (see Posting for Iodine Therapy): ▪ Bedside ▪ One meter from the patient's side ▪ Two meters from the patient's side ▪ Bathroom doorway ▪ Doorway to the hall ▪ Adjacent rooms on either side of the patient's room (18" from the common wall) ▪ Other locations are to be selected by the NM physician. The maximum exposure rates should be recorded directly on the Posting posted in the patient's room, at least once per day. From this data, the nursing instruction form is completed. Immediately upon returning to the Radiopharmacy, after administration of the dose, survey the lead shields for contamination. If contaminated, the shields should either be cleaned or stored as appropriate until they are no longer radioactive. The residual vial activity should be determined using the dose calibrator, and if significant amount remain (>3%) the results recorded on the drawing of the patient's room.

Exposure Calculations/Release Criteria: To determine whether or not a patient may be released based on the mCi amount of their I-131 sodium iodide dose, follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable.

Dose Range: Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable.

Ordering Procedures: Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable.

To arrange inpatient placement:

Admitting Physician (Hospitalist):
The following preparations are to be made.

1. Notify the NM supervisor as far in advance of the therapy as possible. Reserve one of the lead-lined inpatient rooms.
2. Brief the patient about the necessary precautions which will be observed:
   - Confined to room – no items leave the room without NM supervisor/NM physician authorization. Magazines, slippers, socks, etc. may not be returned
   - Minimum of visitors- no pregnant or young visitors especially the first day.
   - Side effects
   - Bathing–take baths, shower, shave, etc. before therapy.
   - Eating utensils – all disposable utensils will be kept in room.
   - Flushing toilet three times each time used.
3. Brief the nursing staff and ensure they are appropriately monitored.
4. Assure that all employees who assist with the administration and subsequent waste removal have satisfied their bioassay thyroid counting requirements.

UWHC Health Physicist/Radiation Safety
The following preparations are to be made by the NM supervisor upon being notified of the impending therapy:

1. Arrange the following for the patient's room with Environmental Services:
   - Removal of any waste containers and paper towels from the paper towel holder.
   - No one from Environmental Services should enter the room from the time the dose is administered (specify date and time) until contacted again by the NM supervisor that the room is released for normal use.
2. Arrange the following with Unit Personnel:
   - Rubber protective sheets for the mattress
   - Laundry hamper lined with water-insoluble plastic bag (to be used for all linens which have been in contact with patient, i.e., bedding, towels, pajamas, gown, socks, slippers)
   - Gowns for nursing personnel if the patient is not capable of complete self-care
   - Disposable gloves
   - Hamper for other waste materials, trays, etc.
3. Prepare the room just prior to administration of the therapy dose.
   - As appropriate, cover areas of the room, furniture, controls, equipment, etc, so as to minimize contamination.
   - Check for the presence of the laundry hamper, garbage hamper, and extra bags.
   - A minimum of personal patient effects should remain in the room.
   - Post appropriate signs and instructions, i.e. "Caution – Radioactive Area" and radiation safety instructions.

Drug Procurement/Preparation: Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable.

Pharmacy Product Validation: Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable.

Patient Instructions/Education Validation: I-131 Sodium Iodide Health Facts for you will be reviewed with and given to the patient as instructed on the **Radiopharmaceutical Therapy Dose Documentation Form**

1. Emphasize effect of time and distance (most important discussion to have with patient).
2. No food or drink for 90 minutes after administration, then push fluids to enhance renal clearance of I-131. Suggest hard lemon candies to promote saliva production.
3. Instruct patient on toilet use: flush toilet 3x when used, especially in first 24 hours.

Administration Validation: Follow the **Radiopharmaceutical Therapy: Agent/Protocol-Specific Procedure for I-131 Sodium Iodide for Hyperthyroidism or Thyroid Cancer Therapies** as applicable.

Other information/instructions:

Discharge of the patient:
The determination of when the patient may be discharged from the hospital is made by the attending NM physician. The Wisconsin DHS 157 Regulatory Guide, WISREG-1556, Vol. 9, Rev. 2, Appendix U will be followed.

Nuclear Medicine Physician
Prior to discharge the attending NM physician explains and provides written information concerning necessary precautions to the patient and the patient's family, ensuring family members not exceed 500 mR and non-family members of the public < 100 mR. Patients may be discharged earlier than above if patient specific calculations verify public exposure.

UWHC Health Physicist/Radiation Safety
Once the Unit has notified the UWHC Health Physicist/Radiation Safety that the patient has been discharged, UWHC Health Physicist/Radiation Safety will:

1. Remove all radioactive waste and other contaminated materials;
2. Perform a thorough room survey utilizing a thin window GM tube to determine if any areas are contaminated.
3. Perform wipe tests on areas, furniture, equipment, etc;
4. Remove signs posted on the patient's door;
5. Notify the Unit personnel when the room is released for normal use.

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