**COMPOUNDING I-131 CAPSULE**
**UPDATED: JULY 2007**

1. No compounding or ordering of a therapy dose should be done before a completed Radionuclide Therapy Form is received from a physician and verification is complete by another physician or nuclear pharmacist.
2. If a dose is required during off-hours and radiopharmacy staff is unavailable, unit dose capsules may be ordered from Cardinal Health at 270-2670. A patient name and indication are needed to order the dose.
3. To begin compounding, determine which lot of I-131 to use for compounding.
4. Turn on air monitoring pump.
    a. This is located on the inside right side of the I-131 hood. The button is under the plastic lid on the top.
    b. Record activity in the I-131 vial being manipulated, as well as the length of time that the air pump is activated, on the clipboard hanging above the sink.
5. Make a non-radioactive capsule by adding sodium dibasic powder into the #2 size gelatin capsule shells. To do this, spread the powder on a clean surface (such as plastic cling wrap), separate the capsule shell, and, in an "up-and-down" fashion, insert the open half of the capsule into the powder. Continue until both sides of the capsule are full, and then reconnect the two sides.
    a. NOTE: These may be pre-made, and the supply is located in the refrigerator.
6. Create a hole on the top of the capsule using a 23g needle. Gently force the needle through the top of the gelatin capsule and continue insertion until the point of the needle reaches the bottom of the capsule. Do not puncture the bottom of the capsule. Create another small hole on the lower side of the capsule to be used as a vent.
7. Place the #2 size capsule into the lower half of a #1 size capsule; retain the top half of the #1 capsule for enclosing the final product. Place the capsule into the I-131 hood. To hold the capsule, place plastic wrap over the compounding cup. After a slight push of the capsule into the cup, the capsule will be supported by the plastic on the bottom and the cup around the sides. Be certain the puncture created with the needle is pointing up.
8. Draw the desired amount of I-131 into a syringe and measure in dose calibrator. Try to obtain 5% more than the prescribed amount. This will make up for any loss that remains in the syringe after injection into the capsule.
    a. NOTE: The maximum volume/capsule is 0.26 mL. If the volume drawn is over 0.26 mL, a second capsule must be compounded.
    b. If making multiple capsules, place all capsules for a single dose in the same dispensing container. Verify the capsules do not stick together when dispensing.
9. Slowly inject the I-131 into the capsule after inserting the needle through the hole in the capsule. Be certain to push the plunger all the way down.
10. Place the top portion of the #1 size capsule over the compounded capsule and transfer to the dispensing tube. Assay dose. Since the powder within the capsule is now a solid, do not attempt to add further I-131 if the dose is short.
11. Under *Custom Preparations* in the Nuc Med Manager, create a capsule (430), and press <f6> to add the desired lot of I-131. Enter the exact activity as the final activity of the capsule, not what was prescribed.
12. Under *Patient Studies* in the Nuc Med Manager, enter the patient information as written on the directive. This information requires a second verification, as outlined on the written directive sheet.
13. Verify the final assay of the capsule, as outlined on the written directive.
14. Dispense and place dose on the pick-up counter.
15. Monitor the area and protective equipment for contamination. Dispose of contaminated equipment and syringes into a *SEALABLE* plastic bag, seal and dispose in the long half-life decay bin. Very hot items that lead to excessive exposure in the waste bin, or clothing, may be bagged, labeled, and placed in the decay safe.
16. Turn off the air pump, note time the air pump was activated on the clipboard located above the sink
17. Bioassays must be performed weekly for all pharmacy personnel. Bioassays must be performed by administering clinicians *only* when contamination is found in the administration room.

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