

NUCLEAR MEDICINE PATIENT RELEASE SOFTWARE

Sample calculational factors print-out:

Facility Name
Department Name

Record of Release of Patient Containing Radioactive Material in Compliance with 10CFR35.75
Using Information in Regulatory Guide 8.39

Generated 06/20/2000
Patient Identifier: Test patient
Patient Age: 21
Patient Sex: Female
Patient is not breastfeeding
Patient does not sleep alone

Treatment: Therapy for hyperthyroidism

Parameters Used
Dose Administered: 06/20/2000 at 1:57 pm
Prescribed Dosage: 50 mCi of I-131 in the form of I-131 NaI

Gamma dose constant = 2.2 R-cm²/mCi-h
Physical half life = 8.04 days
Effective half life, thyroidal fraction = 5.2 days
Thyroidal uptake fraction = 0.8
Effective half life, extra-thyroidal fraction = 0.32 days
Extra thyroidal uptake fraction = 0.2

Occupancy factor, 0 to 2 hours = 0.75
Distance, 0 to 2 hours = 100 cm
Calculated TEDE, 0 to 2 hours = 13.81 mrem

Occupancy factor, 2 hours to 8 hours = 0.75
Distance, 2 hours to 8 hours = 100 cm
Calculated TEDE, 2 hours to 8 hours = 40.84 mrem

Occupancy factor, 8 hours to 3 days = 0.25
Distance, 8 hours to 3 days = 100 cm
Calculated TEDE from extra-thyroidal fraction, 8 hours to 3 days = 6.2 mrem
Calculated TEDE from thyroidal fraction, 8 hours to 3 days = 121.1 mrem

Occupancy factor, 3 days to decay = 0.25
Distance, 3 days to decay = 100 cm
Calculated TEDE from extra-thyroidal fraction, 3 days to decay = 0.01914 mrem
Calculated TEDE from thyroidal fraction, 3 days to decay = 283.2 mrem

Calculated overall TEDE = 465.1 mrem

The patient is able to fully comply with the above occupancy factors and distances.

The calculated TEDE is less than 500 mrem. The patient may be released via patient-specific dose calculations.

Physician: Dr. Strangelove

Nuclear Medicine Technologist: Jane Q. Public

Calculations performed using Nuclear Medicine Patient Release Software 1.0

Sample patient instruction sheet:

Facility Name
Department Name

Patient Identifier: Test patient
Dose Administered: 06/20/2000 at 1:57 pm
Prescribed Dosage: 50 mCi of I-131

You have been given Iodine-131 for the treatment of your thyroid condition. Most of this radioactive iodine will be in your thyroid, but smaller amounts are also present in the urine, saliva, and sweat. Federal regulations require that the radiation exposure to other people with whom you may have contact with (as an outpatient) be limited. Therefore, the following precautions should be observed for the first 18 days after treatment:

- Do not kiss on the lips, and do not have sexual intercourse.
- Avoid close physical contact with people, especially children and pregnant women. For your treatment, this has been determined to be no closer than 3 feet. Being in the same house with other people is not a problem if you maintain your distance from members of the household.
- Drink plenty of liquids.
- Keep the toilet and bathroom clean (preferably using cleaners without bleach). Flush the toilet 2 to 3 times after use.
- Wash your hands before preparing food and after going to bathroom.
- Do not share eating utensils or dishes.
- We advise you and your spouse not to attempt to have any children for one year.
- In addition to the above precautions, you are required to sleep alone for 18 days after the treatment.

Follow the precautions until 07/08/2000.

If you have any questions, please contact the Department Name at 800/555-1212, or call your doctor.

I understand the precautions I must follow and have received a copy of the instructions.

Patient Initials: _____ Date: _____

