

**4731.4433 UPTAKE, DILUTION, AND EXCRETION STUDIES; TRAINING.**

Subpart 1. **Training and education requirements.** Except as provided under part 4731.4414, a licensee must require the authorized user of unsealed radioactive material for the uses authorized under part 4731.4432 to be a physician who:

A. is certified by a medical specialty board whose certification process has been recognized by the NRC or an agreement state and has obtained written attestation, signed by a preceptor authorized user who meets the requirements of this part, part 4731.4414, 4731.4436, or 4731.4443, or equivalent requirements of the NRC or an agreement state, that the individual has satisfactorily completed the requirements in subpart 2 and has achieved a level of competency sufficient to function independently as an authorized user for the medical uses authorized under part 4731.4432;

B. is an authorized user under part 4731.4436 or 4731.4443 or under equivalent requirements of the NRC or an agreement state; or

C. has:

(1) completed 60 hours of training and experience, including a minimum of eight hours of classroom and laboratory training, in basic radionuclide handling techniques applicable to the medical use of unsealed radioactive material for uptake, dilution, and excretion studies. The training and experience must include:

(a) classroom and laboratory training in the following areas:

- i. radiation physics and instrumentation;
- ii. radiation protection;
- iii. mathematics pertaining to the use and measurement of radioactivity;
- iv. chemistry of radioactive material for medical use; and
- v. radiation biology; and

(b) work experience, under the supervision of an authorized user who meets the requirements in this part, part 4731.4414, 4731.4436, or 4731.4443, or equivalent requirements of the NRC or an agreement state, involving:

- i. ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;
- ii. performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters;

- iii. calculating, measuring, and safely preparing patient or human research subject dosages;
- iv. using administrative controls to prevent a medical event involving the use of unsealed radioactive material;
- v. using procedures to safely contain spilled radioactive material and using proper decontamination procedures; and
- vi. administering dosages of radioactive drugs to patients or human research subjects; and

(2) obtained written attestation, signed by a preceptor authorized user who meets the requirements of this part, part 4731.4414, 4731.4436, or 4731.4443, or equivalent requirements of the NRC or an agreement state, that the individual has satisfactorily completed the requirements in this item and has achieved a level of competency sufficient to function independently as an authorized user for the medical uses authorized under part 4731.4432.

Subp. 2. **Certification requirements.** A specialty board under subpart 1, item A, shall require all candidates for certification to:

A. complete 60 hours of training and experience in basic radionuclide handling techniques and radiation safety applicable to the medical use of unsealed radioactive material for uptake, dilution, and excretion studies that include the topics listed in subpart 1, item C, subitem (1), units (a) and (b); and

B. pass an examination, administered by diplomates of the specialty board, that assesses knowledge and competence in radiation safety, radionuclide handling, and quality control.

**Statutory Authority:** *MS s 144.1202; 144.1203*

**History:** *29 SR 755; 32 SR 831; 36 SR 74*

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