ATTACHMENT H-2

ITEM 18
RECORDS OF RADIOACTIVE MATERIAL USE

GENERAL

Many suppliers include pressure-sensitive stickers or forms that have much of the information required by the rules. You may use these in your records and need not duplicate the information on them. Be sure to write down whatever additional information is required but is not cued or printed on them. Information does not have to be recorded in the order given in these procedures. Also, you do not have to replicate entries. For example, if you prepare a multidose vial for use one day, you do not have to record the date each time you draw a dosage from it; if you take 30 Ir-192 seeds that are each 0.5 millicuries, you do not have to list each seed individually.

PROCEDURE FOR RECORDS OF UNIT DOSAGE USE

For each unit dosage received from a supplier, make a record of the:

1. Radionuclide;
2. Generic name or its abbreviation or trade name;
3. Date of receipt;
4. Supplier;
5. Lot number or control number, if assigned;
6. Activity in millicuries or microcuries as recorded on the unit dosage or packing slip and its associated time;
7. Date of administration or disposal;
8. If administered,
    a. Prescribed dosage (unless already recorded in clinical procedure manual),
    b. Measured activity in millicuries or microcuries and date and time of measurement,
    c. Patient name and identification number if one has been assigned;
9. If discarded, the date, method of disposal (i.e., return to pharmacy) and any survey results; and
10. Initials of the individual who made the record.

PROCEDURE FOR RECORDS OF MULTIDOSE USE

For each multidose vial that you receive from a supplier or that you prepare, make a record of the:

1. Radionuclide;
2. Generic name or its abbreviation or trade name;
3. Date of receipt or preparation;
4. Date and time of initial assay and amount in both millicuries and cubic centimeters (cc) or milliliters (ml);
5. Supplier or kit manufacturer;
6. If administered,
    a. Prescribed dosage (unless already recorded in clinical procedure manual),
    b. Date and time dosage was drawn and measured,
    c. Calculated volume that is needed for the prescribed dosage,
    d. Measured activity in millicuries or microcuries,
    e. Patient name and identification number if one has been assigned;
7. If discarded, the method of disposal and date; and
8. Initials of the individual who made the record.

PROCEDURE FOR MEASURING AND RECORDING MOLYBDENUM CONCENTRATION AND ALUMINUM BREAKTHROUGH

R12-1-720 requires that each licensee test each technetium generator for its molybdenum concentration. (This does not have to be done when using radiopharmaceuticals obtained from a distributor.) This measurement is usually made with a dose calibrator. Licensees may not administer radiopharmaceuticals that contain more than 0.15 microcurie of Mo-99 per millicurie of Tc-99m at the time of administration.

The model procedure for measuring molybdenum concentration is based on the use of a "molybdenum breakthrough pig." Your dose calibrator manufacturer will usually supply, as an option, a molybdenum breakthrough pig made of lead. The pig is usually thick enough to shield all the technetium photons but only a fraction of the molybdenum photons. The manufacturer will specify the Mo-99 correction factor to convert from measured Mo-99 to total Mo-99.

Each time a generator is eluted, make a record of the:

1. Date the generator was received;
2. Date and time of elution;
3. Measured Mo-99 activity in microcuries;
4. Product of the measured Mo-99 activity and the correction factor noted by the molybdenum breakthrough pig manufacturer;
5. Measured Tc-99m activity in millicuries;

6. Ratio of the total Mo-99 microcuries per millicurie of Tc- 99m and checkmark that the ratio is less than 0.07 microcurie of Mo-99 per millicurie of Tc-99m. (If it is not, stop and notify the RSO. The licensee must notify the Arizona Radiation Regulatory Agency if a leaking generator is detected.) The 0.07 action level allows for the quicker decay of the Tc through the day of use. It is assumed that the material will be used within 6 hours, at which time the concentration of Mo-99 to Tc-99m would have doubled;

7. Initials of the person who made the record.

In addition to the above, on the first elution of each generator, the licensee shall check the elution for aluminum breakthrough.

MODEL PROCEDURE FOR KEEPING AN INVENTORY OF IMPLANT SOURCES

1. Use a locking, installed cabinet or safe to store all implant sources.

2. Make a list of names of those individuals you will allow to handle implant sources and have them initial beside their names.

3. For long-lived sources, draw a map of the storage drawer and indicate the activity of the source at each storage point. For short-lived sources that you store in the manufacturer's shipping container, indicate the area in the safe where you put the container. Also, be sure to add the sources to the inventory log.

4. Post the map and the list of individuals whom you permit to handle the sources in the storage area or on the inventory log.

5. Each time you remove a source, make a record of the number and activity of sources removed, the room number of use or patient's name, and the time and date they were removed from storage; initial the record.

6. Each time you return sources to storage, immediately count them to ensure that every source removed has been returned. Then make a record of the number and activity of sources returned, the room number of use or patient's name, and the time and date they were returned to storage; initial the record.

7. If you ever perceive a discrepancy between the record and the number of sources in use and in storage, notify the RSO immediately.

8. All implant sources shall be physically inventoried on a six month basis to account for all sources and devices received and possessed.

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SIGNATURE **DATE**