Quality Management Program

Brachytherapy Module

1. Before the administration of any dose, there must be a signed and dated written directive from a physician who is an authorized user of Material License #21-04109-16. Procedures for oral directions and revisions to written directives are given in 10 CFR 35.32.

2. Before the administration of any dose, the identity of the patient will be verified by two (2) of the following methods:

   (a) By asking the patient.
   (b) Compare the photo in the patient's record to the patient.
   (c) Check the name on the wrist band if an in-patient.
   (d) Check that the patient's birthdate matches the one in the patient's record.
   (e) Check that the patient's address matches the one in the patient's record.
   (f) Check that the patient's social security number matches the one in the patient's record.
   (g) Confirm against any other data listed in the patient's record.
   (h) Confirmation by a relative or a friend accompanying the patient if the patient cannot speak for himself or herself.
   (i) Check the patient's driver license.

3. All workers should seek guidance if they do not understand how to carry out the written directive. Administration of the dose should not continue unitl all questions are resolved.

4. Before administering the brachytherapy treatment, the person administering the treatment will verify that the radioisotope, number of sources, and the source strength are in agreement with the written directive.

5. Before administering the brachytherapy treatment, the person preparing the sources for implant will verify that the radioisotope, number of sources, the source strengths, and if applicable, the loading sequence are in agreement with the written directive and the plan of treatment. The signature of the person making the entry concerning the removal of the radioactive material is indication that this verification occurred. The entries are made in bound books kept in the radioactive storage room.

6. All permanent brachytherapy implants will have some basis for the determiniation of source position and exposure time. This basis may be computerized tomography of the patient, radiographs of the application, or some other method approved by the authorized user.

7. After insertion of the permanent implant brachytherapy sources, the authorized user will promptly record the actual number of radioactive sources implanted and sign or initial the patient's chart or other appropriate record.

8. Before the total prescribed brachytherapy dose has been administered, the dose calculations will be checked by a person who did not make the original calculations. Examples of people who can do the check are a radiation therapy physicist or a dosimetrist.

Manual dose calculations should be checked for the following if applicable:

(a) Arithmetic errors;
(b) Appropriate transfer of data from the written directive, tables, and graphs;
(c) Appropriate use of nomograms;
(d) Appropriate use of all pertinent data in the calculations.

Computer generated dose calculations should be checked by examining the computer printout to verify that the correct data for the patient was used in the calculations(e.g.: position of the sealed sources, number of sources, total source strength, or the source loading sequence.).

9. After insertion of the brachytherapy sources, but prior to completion of the procedure, the authorized user will make a written record in the patient's chart or in another appropriate record. This record will include the radioisotope, treatment site, total source strength, and the total dose. This authorized user must date and sign or initial this written record.

10. If the authorized user determines that delaying treatment in order to perform the checks of dose calculation would jeopardize the patient's health because of the emergent nature of the patient's medical condition, the checks of the calculation should be performed within two working days of completion of the treatment.

11. Acceptance testing shall be done before the first use of a new treatment planning or dose calculation computer program used for brachytherapy dose calculations. This testing shall be done by or supervised by a physicist certified in Therapeutic Radiological Physics.

12. A sample based on the sampling tables of 10 CFR 32.110 will be randomly created from all the non-remote brachytherapy patients treated during the quarter. Each case in the sample will be checked to determine that the radioisotope, number of sources, the treatment site, and the total dose are in agreement with the written directive. A report of the results will be made quarterly.

PSI WORK FLOW SHEET

Patient: _____ MRN: _____ RTOG: YES/NO
Radiation Oncologist/Resident _____
Urologist _____

Consultation

Input patient data into Varis under registration module (CSR) _____
Creates a manila folder with consent (CSR) _____
Physics/dosimetry received consent from CSR _____
Creates Green Chart (CSR) _____

Pre-op (Dosimetrist/Physics): Initials/Date

CT for pubic arch study reviewed by _____
Billing code 176370 (for CT imaging) _____
Schedule volume study. Date _____ (MD) _____
Capture ultrasound scans Base-Apex with PC. (Check aspect ratio) _____
Obtain PTV from Dr. _____ _____
Billing code for US study?
Input to planning system (check print out scale) _____
Physics check of contour _____

Generate optimized pre-plan _____

Prescription completed by Dr. _____ Date _____ _____
Put plan in the green chart _____
Enter planning and prescription information into Varis Chart _____
Billing code 797685 (Brachy Iso Cal Comp) _____
Billing code P77263 (TP Comp) _____
Billing code 797627 (3-D Recon) _____

Call vendor to determine the earliest seed delivery on _____ _____
Amersham 1-800-633-4123 (or 1-800-228-0126)
Theragenics 1-800-458-4372
Confirmed # _____ by _____

Schedule OR date/time with Dr. _____ _____
Date/Time _____

Seed batch received and logged in I-125 book _____
Seed assay Acceptable/Not Acceptable/Other _____ _____
Billing code 797649 (Cost of Radioelement) _____

Final physics check _____

Seed loading and sterilization at OR day _____

OR Dosimetrist/Physicist _____/_____
Insert and fill a billing sheet to the green chart _____
Place chart and films at a designated area (planning room) _____

Intraop:

Bring to OR: Check (√)

Loading needles _____
Stabilization needles
Bone wax
Spacers
Sources in magazines _____
Films _____
Pre-plan _____
Small lead pig _____
Scintillation detector _____

Load needles _____
Physics verification _____
Seed accounting _____
Radiation survey _____

Return excess seeds to storage room and log in I-125 book _____
Return seed loading equipment to storage room _____
Bring back radiation detector _____
OR report filed and sent to physician _____
Billing code 797960 (Super handling and Loading of Iso) _____
Billing code 797970 (?) _____

Fill a billing sheet to the green chart _____
Place all information in the green chart _____
Place green chart in supervisor's office _____
Place all films to film room _____

Post-op (Dosimetrist/Physics):

Schedule Sim/CT per physician _____
Generate a post-plan (within one week following CT) _____
Review post-op dosimetry with physician _____
Final sign-off _____
Bill for post-op analysis
Billing code 797620 (Simulation) _____
Billing code 176370 (CT) _____

Billing code 797954 (Special Tx. Procedure) _____
Billing code 797962 (special physics consultation) _____
Billing code (?) for medical supplier _____

Place all information in the green chart _____
Place green chart in supervisor's office _____
Place all films to film room _____

Supplies:

C. R. BARD Needle: 1-800-526-4455
Account number: 10947 (HFH)

Standard Imaging: 1-800-261-4446 (contact Eric DeWerd)

Cone Instruments, Inc., Kretz untrasound (model 301 real time): 1-800-321-6964
Contact: Greg Stanislawski