

Failed Prostate Implant Procedures at the Veterans Affairs Hospital in Philadelphia

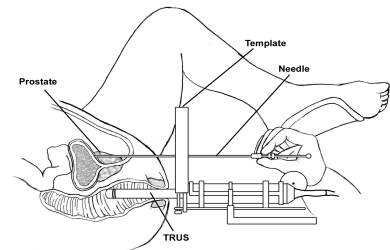
Brachytherapy is a common surgical procedure used to treat prostate cancer by implanting radioactive iodine-125 seeds into the prostate. Procedures performed at the VA hospital in Philadelphia, between 2002 and 2008, routinely resulted in treatments that failed to place the radioactive seeds as prescribed. This failure resulted in 97 medical errors out of 116 prostate cancer treatments performed.

The misuse of the radioactive seeds resulted in medical errors to our nations veterans. These medical errors at the VA hospital in Philadelphia were also not reported to the NRC as required by regulation.

How the Procedure Works

Step 1 Treatment Planning

An ultrasound probe is inserted into the rectum to get an exact measurement of the size of the prostate. A computer pre-treatment image is prepared for the doctor to aide in determining the number of radioactive seeds needed to treat the patient.



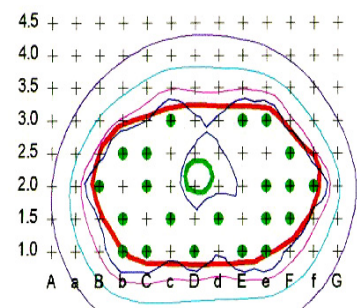
Step 2 Procedure



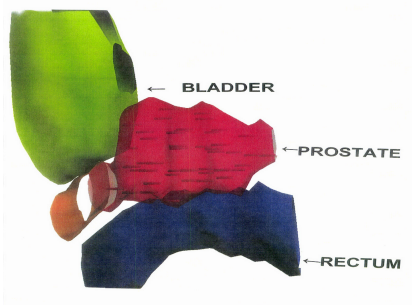
The computer pre-treatment image is also used to determine where to position the needles loaded with radioactive iodine-125 seeds. During the actual surgical procedure, a template is also used to aide in inserting the needles in the locations prescribed.

Step 3 Post-procedure Seed Location Verification

A computer x-ray is taken after the surgical procedure is completed to show the location of the seeds in the body. This will help determine if the seed position matches the positioning prescribed by the doctor.



Step 4 Post-procedure Dose Verification



This image shows the prostate in relation to the other organs and shows the location of the seeds. The doctor determines if the number and location of the seeds matches what was prescribed. The doctor will then decide if the implant was successful.

What Went Wrong at the VA Hospital in Philadelphia

These computer images are examples of the medical errors NRC inspectors identified at the VA hospital in Philadelphia.

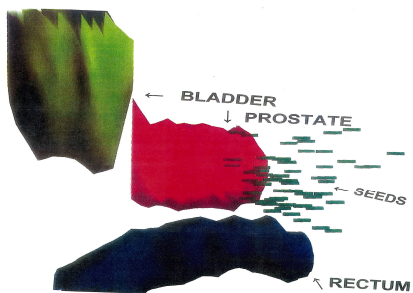


Figure 1 Nearly all of the radioactive seeds have been placed outside of the prostate. This means that the radiation dose delivered to treat the patient's prostate cancer was only a small fraction of the prescribed dose for effectively treating the cancer.

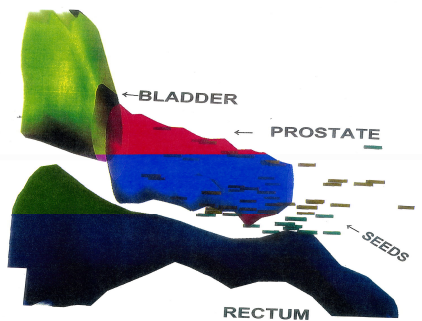


Figure 2 Many of the radioactive seeds intended for the prostate were implanted near the patient's rectum. This caused an unnecessary exposure of radiation to the rectum.

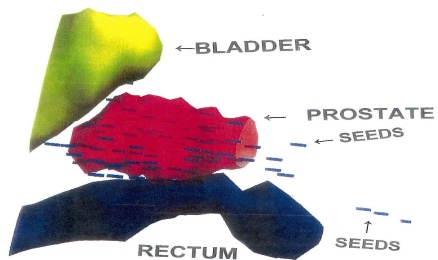


Figure 3 Many of the radioactive seeds are outside of treatment areas. As a result, the prostate was not treated but tissue outside of the prostate was exposed to unintended radiation.