

To: U.S. Nuclear Regulatory Commission Region III
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352
Attention: Nuclear Materials/Licensing

From: Christopher Moore, RSO
Nuclear Medicine Department
Liberty Hospital
2525 Glenn Hendren Drive
Liberty, MO. 64069-1002

Dear Sirs,

Enclosed is a written report of a medical event per 10 CFR 35.3045. The event was called in to the national hotline on October 09, 2010 and we have since had an inspection of the event. Any additional information regarding this event will be submitted. If there are any questions, feel free to contact me at 816-415-7791.

Sincerely,

Christopher Moore, RSO

Notification of a possible medical event per 10 CFR 35.3045 - a brachytherapy procedure in which the administered dose delivered may differ from the prescribed dose by twenty percent or more.

Permittee: Liberty Hospital, Liberty, MO. NRC Materials License #24-16178-01

Prescribing physician/ referring physician: Dr. Scott Cozad, M.D.

Event: The event occurred on October 08, 2010.

Description: This case was one of a low-dose rate permanent prostate brachytherapy implant.

The total dose delivered differs from the prescribed dose by 20 percent or more.

The radioactive source was Pd-103. The plan called for a total of 79 seeds with a source activity of 1.5 mCi per seed to be implanted. The prescribed dose was 125 Gy. The procedure was performed under real-time ultrasound guidance. A post-op CT was obtained the same day and a significant number of the Pd-103 seeds were caudal to the prostate volume with the post implant dosimetry indicating the V100 at 11.23 percent.

Why the event occurred:

The only difference in this case over our typical cases was the physical inability of abducting the patient's legs into full lithotomy. The patient, therefore, was positioned with his legs close together and his pelvis tipped up and back. This may have possibly have exerted some downward pressure on the sources after they were extruded from the brachytherapy needles pushing them caudally down the needle tract and out of position.

Effect on Patients:

In review of the seed placement, we also calculate the dose to the rectum and urethra. In this case, the urethral doses are exceeding low given the position of the seeds. Rectal doses are low as well and similar to what is typically seen, therefore, we feel it will not put the patient at any increased risk of rectal injury over that usually associated with this type of implant.

Actions to prevent:

To address the issue, I will plan to obtain a copy to the ultrasound image in the sagittal plane for each row of needles placed documenting the position the position of the needle tips in relation to the bladder. This image will be overlaid on the matrix grid. This will give us visual documentation of the needle position relative to the bladder/prostate interference.

We are also reviewing and updating or policy and procedures in regards to Pd-103 implants.

Notification: The patient was notified of the event by Dr. Scott Cozad. He also discussed possible alternative treatments and will see the patient in 3 weeks.