Introduction

Our doctors commonly treat prostate cancer with radiation. One type of radiation is called permanent seed implant, also called internal radiation. This is where a doctor places small radioactive seeds permanently inside the prostate gland. These seeds are small, about the size of a grain of rice. The radioactive seeds kill cancer cells in the prostate. Seed implants are done alone or with external radiation. This sheet will help you learn what to expect and how to prepare.

Radiation can cause long-term effects on the bladder, rectum, or urethra that you may not notice for many months. Your health care team will do everything possible to lower the risk of long-term effects.

Before the Implant

- **You will need to have someone come with you to drive you home.** The anesthesia and pain medication will alter your ability to safely drive.
- Two to four weeks before the implant, your radiation doctor will perform an ultrasound of your prostate gland in the urology clinic at the University of Utah Hospital. The ultrasound maps the size of the prostate gland so your health care team can calculate the number of seeds needed for your implant.
- The nurse and/or doctor will review the implant procedure and answer your questions and concerns. You will receive pre-operative diet and bowel cleansing instructions. You will be asked to read and sign two consent forms, one for the implant procedure and one to order the seeds.
- An anesthesia team will see you. If you have medical problems that may impact your anesthesia, you should have this appointment the week before the implant. A staff member will schedule this for you. If you are in good health, the anesthesia team will see you on the day of your implant, just before the procedure.

• **There are two possible anesthesia methods: spinal and general.** Spinal anesthesia places a small needle into your lower back to inject a drug that will numb your body below the waist. You remain awake. If general anesthesia is used, you will be asleep during the implant.

Procedure Guidelines

- Do not take aspirin for at least one week before the implant. It can thin the blood and cause extra bleeding. Tell your doctor if you take Coumadin® or other blood thinners.
- Drink only clear liquids such as water, clear fruit juice, or clear broth during the 24 hours before your implant. Diabetics may need special instructions.
- Do not eat or drink at all after midnight the night before your implant. The morning of your implant you may have sips of water to take medicines, if approved by your doctor.
- Follow the bowel prep instructions.

The Implant

Your radiation doctor and urologist perform your implant in the operating room. An anesthesia doctor will start an IV before the implant. A catheter (tube) will be placed into your bladder to drain urine.

- Doctors place radioactive seeds into the prostate using metal needles. The needles go through the skin between the scrotum and anus. The doctors use x-ray and ultrasound images to guide the needle placement. After the needles are in position, the doctor inserts the seeds into the needles. When the seeds are in place, the needles are removed. You will not feel any pain during the implant.
- From the operating room, you will be taken to the Short Stay Surgery unit to recover. This is on the third floor of the cancer hospital. You will be able to go home after the anesthesia wears off, usually in three to four hours. Before you go home your health care team will test to see if any seeds came out in the bed linens or in the urine.
• If you are unable to urinate before you leave the hospital, you may need to go home with a catheter (tube) in your bladder. Most patients go home without one. If you need a catheter, you will receive instructions about how to care for it at home.

• When you are ready to go home, your health care team will give you prescriptions for an antibiotic to prevent infection and medicines to help control side effects.

After the Implant
You may have side effects after your implant. These side effects and their treatment may include the following:

Pain. A spinal anesthetic may cause low back pain or headache, which should go away in a day or two. You may also have some soreness or swelling in the area of your implant.

• Apply an ice pack for 15 minutes every few hours for the first 24 to 48 hours.

• Alternate periods of walking with periods of lying down to minimize swelling and to prevent blood clots. Your groin area may be bruised. Some blood in the urine is common and should not alarm you.

• Take sitz baths to help soothe the implant area. Sit in a tub with warm (not hot) water above the hips for about 15 minutes twice a day. Pat the area dry; do not rub.

• Wear loose-fitting, soft cotton underwear.

• Use only mild soap in the area of the implant until soreness has gone away.

• Take acetaminophen (Tylenol®) or prescription-strength pain medicine to control pain as needed.

Bladder problems. After the implant, you may have trouble beginning to urinate or feel a frequent or urgent need to pass urine. There may be a decrease in the force of the urine stream or a burning feeling when passing urine. These symptoms are due to the radiation from the seeds. They may continue for 6 to 12 months after the implant.

• Drink at least eight cups of fluid a day to keep the urine diluted, to prevent blood clots, and to flush the bladder of any blood or clots.

• Your doctor may prescribe a drug such as Flomax® or Hytrin® to relax the area around the prostate and help you urinate.

• If you still cannot urinate, your health care team may teach you to put a catheter tube in your bladder to drain the urine.

• If burning continues, your doctor may prescribe another medication such as Pyridium® for relief. This medicine turns the urine orange. You may be asked for a urine sample to check for an infection.

• Rarely, a seed may come out in the urine, usually within the first week after the implant. If the seed can be retrieved, do not touch it. Handle the seed with tweezers or Q-tips only, put it into a jar of water, and call the Radiation Oncology clinic for instructions at 801-581-2396 during business hours, or 801-581-2121 after hours.

Nausea. Anesthetics may upset your stomach. To prevent nausea after your implant, start by drinking liquids and progress slowly to a normal diet. Your doctor may prescribe a medicine to control nausea.

Bowel problems. Radiation implants may cause frequent bowel movements or diarrhea for a year or longer.

• For diarrhea you may take loperamide (Imodium AD®), a non-prescription medication. A low-fiber diet may also help.

• The anal area may become sore or hemorrhoids may develop. Use alcohol-free baby wipes instead of toilet paper for wiping after bowel movements. You may also try over-the-counter products such as Aquaphor®, Anusol®, or Preparation H®.

Sexual activity. Patients may resume sexual relations two weeks after an implant. The amount of semen may be small or absent. Dark brown or black colored blood in semen is normal for about a month after the implant. The amount of semen may decrease over time. Although rare, a seed may come out in the semen. For this reason you should use a condom for the first two months after the implant. If a seed is passed, call the Radiation Oncology clinic for instructions at 801-581-2396 during business hours, or 801-581-2121 after hours.

Some men who have permanent prostate seed implants experience impotence. Tell your doctor if this happens. Medications such as Viagra® may help.

Daily Activity
For the first day or two, you will need to lie down and take frequent rest breaks to help lessen swelling. It is common to feel very tired. Avoid heavy lifting for the first month after the implant. Do not engage in contact
sports, impact sports, bike riding, or other strenuous activities for one month after the implant.

The amount of radiation in the seeds will not restrict your ability to be near most adults. Brief close contact with children or pregnant women is also considered safe; however, they should usually stay six feet or more away from you for up to six months after the implant. When you leave the hospital you will be given specific instructions related to close contact with family.

*The radiation from a seed implant may trigger security alarms at airports or other facilities. You will be given a card to carry in your wallet that indicates you have had a seed implant.*

**Follow-up Appointments**

You will meet with your radiation doctor four weeks after the implant. During this appointment you will have a CT scan as well as x-rays taken. Members of your health care team will discuss any side effects, concerns, or questions you might have. The urologist and radiation doctor will coordinate future follow-up visits.

Prostate specific antigen (PSA) results are needed every three months for the first year. This is a test to measure the amount of PSA in your blood. It is better to get this test done two to three days before your appointment so the results will be ready to discuss with the doctor.

**Emergencies**

Problems requiring emergency attention are unlikely. Contact the radiation oncology doctor on call right away if any of the following happen:

- Severe pain or bleeding
- Inability to empty the bladder
- Fever higher than 100.4° F

**During normal business hours:**

Radiation Oncology

801-581-2396

**After hours:**

University of Utah Hospital operator

801-581-2121

Ask for the radiation oncology doctor on call. Tell the operator it is urgent. If you cannot speak to a doctor right away, you should go directly to the closest emergency department.