

# Breast Brachytherapy



Permanent Seed Implant at the  
Tom Baker Cancer Centre



Cancer Control Alberta

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## Introduction

This booklet describes the low dose rate Palladium-103 seed implant for breast brachytherapy. It is a treatment option available for some women with early stage breast cancer.

There are many ways to treat breast cancer. Consult with your doctor, and choose the option that is best for you.

### Questions about Treatment

If you have questions or concerns about your treatment, call:

Brachytherapy Office (Mon to Fri 8am – 4:30pm)

**Calgary      403-521-3955**

## A

## General Information

Breast cancer is one of the most common types of cancer affecting women. It can also affect men. It is usually found by feeling an unusual lump in the breast, or by a mammogram.

The main treatment options are surgery, radiation treatment, chemotherapy and hormone treatment. Depending on the stage, patients may have 1 of these treatments or a combination of them.

Surgery is usually the first step in treating early breast cancer. After surgery, radiation treatment is done to destroy any cancer cells that might remain.

### 1) What is Radiation treatment?

Radiation is a treatment for cancer that destroys cancer cells by stopping them from growing and dividing.

The types of radiation treatment are:

- **External radiation** — the radiation is produced by a machine and aimed at the tumour, so it comes from outside of the body.
- **Internal radiation** — the radioactive source is placed inside the body, either inside the tumour, or close to it.

### 2) What is brachytherapy?

Brachytherapy is internal radiation treatment, and means “short distance” — the radiation source is **close to or inside** the patient.

There are different ways to give brachytherapy and the type used depends on the part of your body that needs treatment.

The type this booklet looks at is called **permanent seed implant brachytherapy**.

### 3) What is permanent seed implant brachytherapy?

Small radioactive seeds called Palladium 103 are placed inside the area of the breast that had surgery. Over time, the seeds release radiation into the nearby tissues.

- The seeds deliver most of the radiation in 8 weeks
- As time goes by, the radioactivity decreases
- After 6 months, the seeds have no radioactivity left

# C

## Breast Brachytherapy Criteria

We look at a few things to make sure breast brachytherapy is a good choice for you. Here's what we look at:

### 1) Pre-screening

**Before the treatment you need to have:**

- A CT scan — shows the size of the treatment area
- Blood work
- A visit to the pre-admission clinic to check your general health and if you can have anesthetic.  
Call 403-521-3955 to contact the pre-admission clinic in Calgary.
- Other tests your doctor requests.

### 2) General criteria

Talk to your Radiation Oncologist about your cancer details. Breast brachytherapy could be an option if you:

- Are over 50 years of age
- Have invasive breast carcinoma or DCIS (ductal)
- Had breast conserving surgery — removes the cancer while leaving as much of the normal breast as possible
- Have negative nodal status — lymph nodes do not contain cancer
- Have clear surgical margins of at least 2 mm — no cancer cells are seen in the surrounding tissues
- Had a tumour size less than 3 cm
- Have an ECOG performance status 0 or 1 — able to manage daily activities or do self-care
- Can provide written consent for the procedure
- Have a seroma — a fluid filled sac left behind after your surgery that is a certain size

### 3) Qualifying for the implant

If you want to have the implant and meet the **general qualifications**, you will have 2 more tests:

- Computed tomography (CT) scan of your breast
- Ultrasound of your breast

These tests will show if you meet the **specific requirements** for the treatment.

- These tests take 2 hours (120 minutes) to review.
- Before you leave we will tell you if you qualify for the seed implant.

If you **qualify**, and decide to have the implant, we will book a treatment appointment for you.

If you **do not qualify**, or you do not want the implant, we will schedule you for external beam radiation treatment.

## D How the Treatment is Done

### 1) Before the seed implant

1. Get your blood work done several days before your **pre-admission consult**. This consult is usually done over the phone.
2. Buy a good support bra that has:
  - **No underwire**
  - A cup for each breast — not one that pushes the breasts tightly together against the chest.



The bra helps support the breast from moving a lot so the implanted seeds stay in place.

Wear the bra for 14 days (2 weeks), day and night, except when bathing/showering or airing the breast.

3. Have extra strength Tylenol® or Advil® at home in case of minor pain once the freezing in the breast wears off.
4. Phone Day-Surgery 403-944-4484 or 403-944-4485 after 2:00 pm on the Monday before your implant. They will tell you what time to arrive the next morning.
5. The night before implant, have nothing to eat or drink after midnight (12 am), or on the morning of implant.
6. Bring your support bra to your implant appointment. You will wear it home.

## 2) The day of the implant

- Do not bring valuables with you
- Bring photo ID and your Alberta Health Card.
- Park in Lot 10.
- Check in at **McCaig Tower** at the Foothills Hospital reception on ground floor.
- You will be admitted to the Day-Surgery Unit on the third floor.
- **Have someone pick you up from the day-surgery unit** after the implant — you are getting an anesthetic.

## 3) Preparing you for the seed implant

- We will take you to the Operating Room (OR). Family members may come with you.
- Your care team will prepare you for your procedure. They will put pre-marks for implant on you before you go into the OR.
- You will meet with the Anesthesiologist, Radiation Oncologist, Radiation Therapist (Coordinator) and an OR Nurse before the procedure.
- The procedure will take about 2.5 to 3.5 hours. This includes the time needed to prepare you before and after the implant.

#### 4) During the seed implant

- Light sedation and local freezing are used to keep you comfortable. Some patients may have the option of using a general anesthetic (completely asleep).
- Ultrasound imaging is used to guide small needles that contain the seeds into the breast.
- The radioactive seeds are made from Palladium-103 and are smaller than a grain of rice. Between 50 and 100 seeds could be implanted into the breast.

Once the seeds are implanted, the radiation from the seeds will treat the tissues around the surgical site.

The small size of the treatment seeds and the low activity of radiation helps keep radiation exposure to other parts of your body or to anyone around you very low.



## 5) After the seed implant

- We will take you to the recovery room for about 45 minutes.
- You will have a CT scan.
- You will go back to **McCaig Daysurgery**, to complete your recovery.
- You will be discharged into the care of a family member.
- **By Law, you are not allowed to operate machinery, drive a vehicle or sign legal papers for at least 24 hours after anesthetic.**

You will get a:

- Pink radiation safety card for your wallet (see page 10 for more information)
- Follow-up appointment
- Skin care and bra care information sheet
- Phone call the next day to assess any pain or questions you have

Follow the instructions your care team gave you and in this booklet:

- Go to all your follow-up appointments — follow-up may include physical exams, CT scans and mammograms. Mammograms will not be done for 1 year after the implant.
- Follow the radiation safety guidelines (page 10)
- Ask questions or call the Brachytherapy office 403-521-3955.

## 6) Care instructions after the implant



Wear your support bra all of the time for 2 weeks (14 days), even at bedtime.

You can remove your bra when you:

- Remove your dressing 1 day (24 hours) after the implant. **Keep yourself clean with a sponge bath while the dressing is on to keep it dry.**
- Shower or bathe. Keep your breast and the fold underneath clean. Use gentle soap, water and pat dry.
- Air the skin for 1 hour (60min) every day.
  - Remove your shirt and bra
  - Put your arm up (on the treated breast side)
  - Let the air get to the breast – try using a fan

Wash your bra every 2 days (48 hours). **Try doing this while you are airing your breast.**



Start using Glaxal® cream 3 days (72 hours) after the implant. Do this 2 to 3 times a day, and after you air your breast.



### Protect your skin:

- **Do not** use hot or cold compresses on the implanted area for the first 2 weeks (14 days).
- **Do not** rub or massage the implanted area for 2 months (60 days).



**Avoid** vigorous exercises using the arm on the side of your treated breast for 2 weeks (14 days). This includes exercises such as weight lifting and running or jogging

## 1) Possible early side effects

Early side effects – develop within 4 weeks of the treatment.

- You may have some **nausea or vomiting** from the anesthesia (the light sedation) we give you.
- You may have some **bruising** where we implanted the seeds. This bruising will go away in a few days.
- Risk of **infection is very small** (less than 1%). Signs include redness, swelling, discharge or puss at the surgery site, or fever. **If you think you have an infection, call the Brachytherapy Office.** If you develop an infection, you will get some antibiotics.
- You may have some **pain** in your breast that will last a few days. Try taking Tylenol® to ease the pain.
- You may feel **tired** for a few days.



## 2) Possible late side effects

Late side effects – develop 4 weeks or later after treatment.

- Your breast may change **colour, shape or size**. These changes may be temporary or permanent.
- The **scar tissue** may thicken.
- People can develop changes in the fat tissue around the tumour (**fat necrosis**), but it is rare (less than 1%).

# F Radiation Safety After the Implant

## 1) Radiation safety

There are a few things to consider for **2 months** (60 days) after your treatment.

### General Precautions

Although the level of radiation from the treated breast is very low, there are still some things you can do to keep the people around you safe:



Small children or babies should not sit on your lap or have contact with the treated breast.



Pregnant women:

- should not sleep in your bed.
- can be in the same room, but keep your visits at a safe distance and for a small amount of time. For example stay 2 metres away (about 7 feet) and keep visits under 2 hours (120min) a day.



If someone sleeps in bed with you, he or she should sleep on the opposite side of the treated breast.






Sit 2 feet away from others.



## Travel

- For **6 months after the implant**, airport radiation scanners could detect the radiation inside your breast. These scanners are different from the metal detectors as you go through the airport gate.
- You will get a **pink wallet card** to carry with you when you travel. This card has contact information for airport or border security staff if they have questions or concerns.

 Alberta Health Services	Patient Name: _____  Alberta Health Services
For Radiation Safety issues <b>Mon - Fri (9am - 5 pm) (403) 521-3798</b>	Received a permanent radioactive implant of the breast containing <b>Pd-103</b> seeds on _____ (please dispose of card <b>6 months</b> after above date)
For emergencies, or after hours contact <b>(403) 944-1110</b>	 Tyler Meyer, PhD Medical Physicist Tom Baker Cancer Centre
Request to speak with the Radiation Oncologist on-call	

## 2) Medical treatment after your implant

If you need future medical or dental treatment, especially surgery, the doctor may want information about your implant.

- Show the pink card to health care workers if there is a medical emergency or death.
- Call your Radiation Oncologist to discuss any concerns that might relate to your future treatment.

If needed, your Radiation Oncologist can discuss any concerns with your doctor.

**What is a seroma?**

A seroma is the fluid filled area left behind after the tumour has been surgically removed. The body will absorb the fluid. This is the area that is implanted with the seeds.

**How many seeds will be implanted?**

Everyone's treatment is different. Usually between 50 to 100 seeds are used — it depends on the size of the surgical site.

**How do you get the seeds into the breast?**

Hollow needles are inserted in the skin. The seeds pass through the needle and are placed into the breast at certain areas.

**What happens to the seeds over time?**

The implant is permanent so the seeds will always be in your breast. But the seed radioactivity decreases over time and after 6 months, there is none left.

**What should I bring to the hospital?**

Bring your health care card, photo ID, and someone to drive you home.

**Does someone need to drive me home afterward?**

Yes. You are considered legally under the influence for 24 hours after anesthetic or sedation. Someone will need to pick you up directly from McCaig Day surgery ward. The staff will not discharge you otherwise.

**What if I need a place to stay before the implant?**

In Calgary you can stay at the hospital hostel. To reach the hostel, call 403-944-1156.

### **Will I be radioactive?**

No. The implanted seeds are radioactive, but you are not. Most of the radiation stays inside your breast. The risk of the radiation affecting anyone else is small.

### **How long do I have to wait before I can return to work or regular activity?**

Rest for 1 to 2 days (24 to 48 hours) after the implant to recover from the sedation. Most women feel well enough to go back to normal work and activities within a week.

Wait to start exercising for about 2 weeks (14 days) — this lets your scar tissue develop so it can keep the implanted seeds in place.

### **How will I know if the treatment has worked?**

You will come back for follow-up testing and will also need to go to regular follow-up appointments starting 8 weeks after the implant.

### **Who is a part of my brachytherapy team?**

- **Radiation Oncologist** – a medical doctor who treats cancer using radiation.
- **Medical Physicist** – a specialist of medical physics who helps plan the treatment and ensures the quality of the implant.
- **Brachytherapist (Coordinator)** – delivers radiation treatments, and helps you before, during and after the implant.
- **Dosimetrist** – a radiation therapist specializing in the treatment planning for radiation.
- **Anesthesiologist** – a medical doctor who provides you with care during your implant and recovery. They may talk to you about the medications you take before and after the implant.
- **Nurse** – may help in the operating room and during your recovery.

