

> 163.0 Gy
163.0 Gy
155.8 Gy
148.6 Gy
141.4 Gy
134.2 Gy
127.0 Gy
119.8 Gy
112.6 Gy
105.4 Gy
98.2 Gy
91.0 Gy
< 91.0 Gy



Innovative
Prostate Cancer Care.
One Patient At A Time.



Desert Prostate Specialists

A Message From David P. Schreiber, M.D. CEO of Desert Prostate Specialists

When you or someone you love is diagnosed with prostate cancer, it is important that you seek out the highest quality care that will create the best survival chances possible, while simultaneously allowing the achievement of the greatest quality of life. At The Prostate Seed Center LLC, we are committed to the aforementioned principles of cancer therapy, specifically with prostate cancer.

Since completion of my residency and brachytherapy fellowships at Stanford University in 1985, I have performed thousands of radiation isotope implants to the brain, eye, head and neck area, chest and lung, pancreas, liver, pelvic region (including gynecologic and gastrointestinal tumors) and, of course prostate cancer. With the extensive experience gleaned from performing these radiation implants, I introduced the new procedure of ultrasound guided radioactive seed implants to the prostate gland to the Denver area in 1994.

And now I am introducing the next evolution in Brachytherapy, using MRI/Ultrasound fused guided Radioactive Seed Implants to the Coachella Valley.

I have also modified this same technique to develop the MRI/ultrasound fused trans-perineal prostate biopsy technique. This new type of prostate biopsy is painless, very comprehensive and far safer than traditional trans-rectal prostate biopsy procedures.

During my over 30 years of practice in Denver, I was able to expand the program dramatically and exponentially, treating & diagnosing hundreds of patients per year.

We are one of only a handful of ultrasound/MRI fused trans-perineal prostate mapping biopsy programs in the country.

We have created this brochure to briefly describe a radiation therapy & biopsy procedure for the diagnosis & treatment of prostate cancer.

We appreciate your interest in our practice. Please feel free to call us at anytime if you have any further questions.



TABLE OF CONTENTS

Desert Prostate Specialists	
Palladium/Iodine Seeds	
The Plan	
Dynamics of Brachytherapy	
Staging and Treatment	
US/MRI fused trans-perineal biopsies	
Testimonials	
Questions and Answers	



What are They?

What are commonly referred to as seeds are actually tiny metallic cylinders made of titanium, 4.75mm by 0.75mm diameter. They contain a radioactive material which is either Iodine 125 or Palladium 103 isotope.

Both seeds have relatively short half-lives. Palladium 103 has a lower energy and is best suited to treat smaller prostate glands.

How are they created?

Iodine 125 and Palladium 103 are man-made radioactive materials created through the use of a machine known as a cyclotron. Once the radioactive material has been created, it is encased in a titanium shell which is then microscopically welded in order to completely retain the radioactive source.

What do they do?

Radioactive materials emit energy which selectively kill cancer cells.

What has been our experience?

Experience has helped us to determine who is a candidate for seed implantation alone. For example, our data has helped us to select those patients who would benefit from a combined approach treatment schedule such as (3-D) conformal radiation followed by seed implantation.

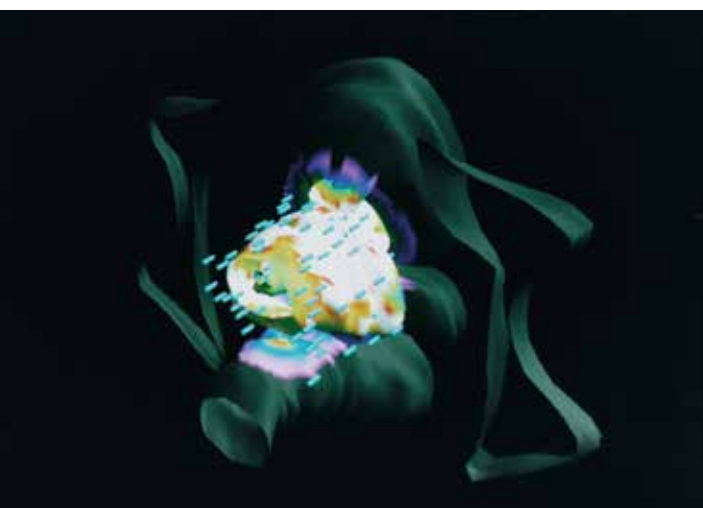


Fig. 1 - Actual computerized brachytherapy seed plan.

What are the results we have achieved?

We have performed thousands of prostate implants with an extremely high success rate of local control along with a minimal complication rate. Our results are constantly analyzed and made available for both physician and patient reviews.

Why seed implantation?

Seed implants have demonstrated superior survival results when compared to surgery out to 30 years, but impotency and incontinence rates are far lower. The outpatient Surgical Center visit with a seed implant is a matter of hours, and catheters are rarely necessary after the procedure.

How are seeds implanted?

Seeds are implanted through a tiny hollow needle which is inserted through the skin and into the prostate gland. The procedure is performed in a sterile environment and the patients typically go home within 1 to 2 hours following the seed insertion.

How is the plan devised?

Patients undergoing a seed implantation have a special multi parametric MRI and ultrasound scan prior to the procedure. This, coupled with the rest of the staging studies or tests, is utilized by Dr. Schreiber to determine a target volume. From this target volume a computer seed placement coordinate plan is generated, showing the position where each seed is to be placed. This is then modified by Dr. Schreiber intra-operatively to fit the exact prostate anatomy.

Who formulates the plan?

Plans are formulated by Dr. Schreiber personally. All plans are checked by a radiation dosimetrist before final approval. Our brachytherapy dosimetrists have extensive background and experience in the discipline of therapeutic radiation oncology.

What does this mean for the patient?

This means that your plan has been developed by a comprehensive team with an extensive academic background in brachytherapy and cancer care. This team effort means we can determine the best way the radiation can be delivered in your particular case without creating other dangerous side effects.

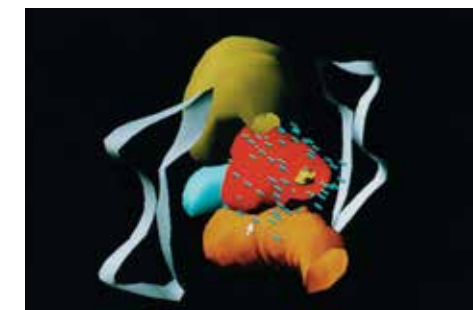


Fig. 2 - Actual computerized brachytherapy seed plan.

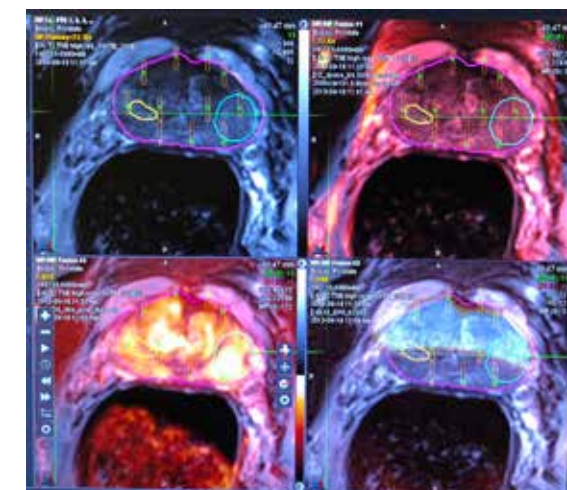
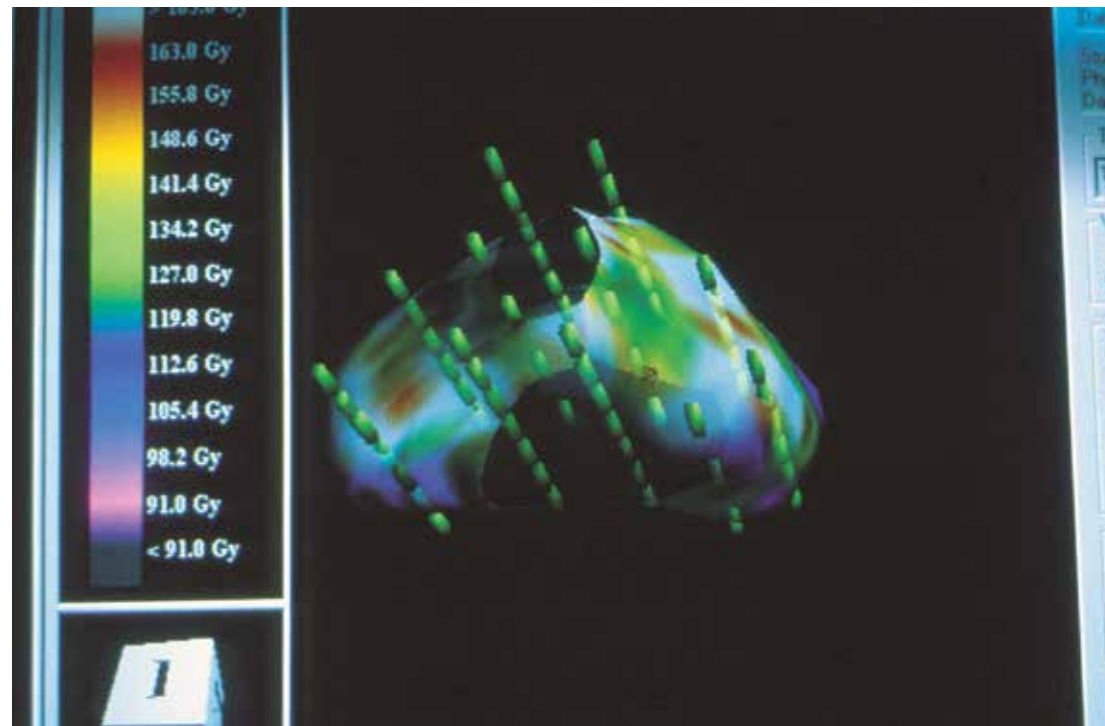


Fig. 3 - 3D MRI fused images.

How does it work?

A radioactive seed implant, also known as brachytherapy, is the technique of implanting radiation sources directly into the tumor. This technique allows the delivery of a highly concentrated, yet confined, dose of radiation directly into the prostate. Normal surrounding organs are spared excessive radiation exposure thereby reducing side effects and complications.



What is the history?

Brachytherapy for the treatment of cancerous tumors actually dates back to the early 1900s. The techniques, however, were primitive by today's standards. In the mid-1960s, the electronic age introduced the first computerized 2-dimensional radiation dose distribution. Today, with the advent of advanced diagnostic machines such as MRI and CT scans and faster computer capabilities, we are able to produce a 3-dimensional radiation dose distribution prior to ever performing the procedure.

How does the patient benefit?

Our multi-disciplinary implant techniques result in the highest possible local control with maximal organ preservation and the lowest possible adverse side effects.

In order to treat your condition effectively, the stage or degree of progression of your cancer must be determined. At Desert Prostate Specialists, we utilize specific protocols for low risk patients, intermediate and high risk patients, as well as for those patients having local failure (recurrence) after external beam radiation therapy (EBRT) alone or seed implantation alone. These protocols are:

Low & Intermediate Risk

Eligibility criteria for patients receiving seed implantation alone include:

- clinical stage T1/ T2 prostate carcinomas
- PSA less than 20ng/ml
- Gleason score less than or equal to 7 or minimal Gleason 8 disease
- previous TURP does not affect the ability to perform a successful seed implant
- previous external beam radiation therapy with local recurrence

High Risk

Those patients who have a greater tendency for microscopic extracapsular extension that will require (3-D) conformal, high energy photon therapy directed to the prostate and periprostatic tissue, and possibly lymph node sampling prior to seeding:

- clinical state greater than or equal T3A
- PSA greater or equal to 20 ng/ml
- Gleason score greater then or equal to 8
- MRI evidence of extra capsular disease of pelvic lymph node involvement

Recurrence

Those patients who underwent primary treatment with conventional EBRT or seed implant alone who are eligible for salvage of an initial failure after extensive workup ruling out gross extracapsular extension or distant metastasis.

Staging workup may include:

- pathologic biopsy confirming location, volume of cancer
- prostate ultrasound using spectral color flow doppler
- multi parametric MRI
- PSA (using the sophisticated assays available)
- Select MDX urine analysis
- bone scan or PSMA PET/CT
- digital rectal exam (DRE)
- pathologic slide review

Note: Many of the above staging studies may also be utilized for low-risk, intermediate and high-risk evaluation



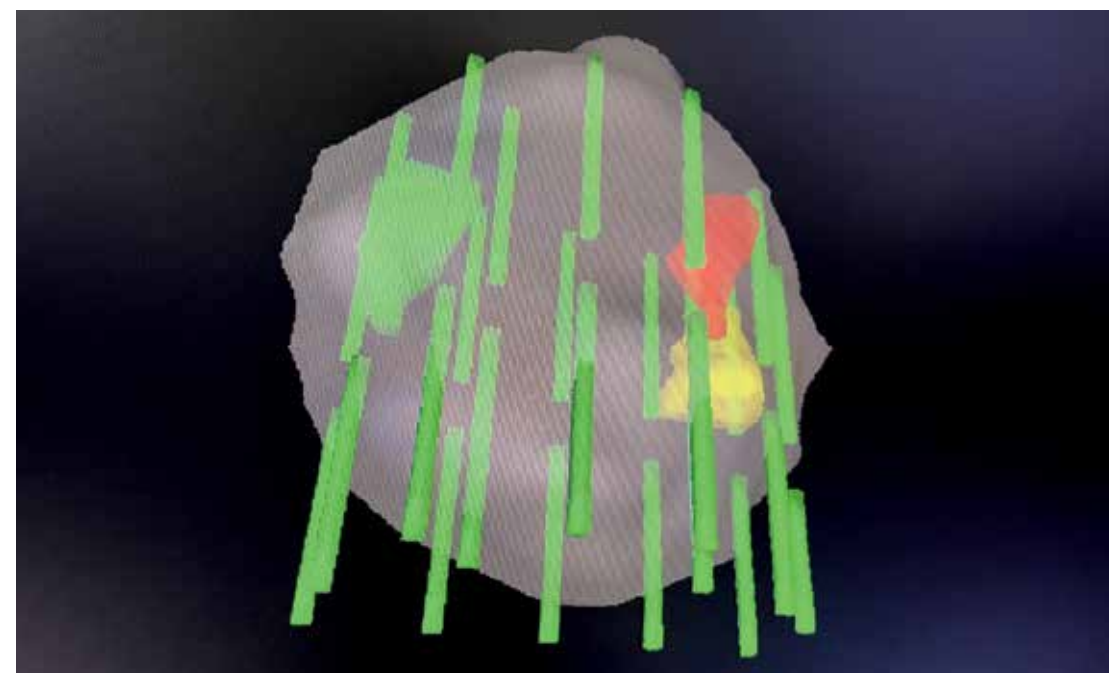
What is the History?

Traditional prostate transrectal biopsies are by far the most frequently used method to diagnose prostate cancer.

At Desert Prostate Specialists, we have significantly advanced the prostate biopsy procedure to a trans-perineal, not trans-rectal, method using MRI/Ultrasound fusion and 3D reconstruction to achieve a safer, painless and more comprehensive procedure.

How Does it Work?

Under general outpatient anesthesia, in the surgery center, an ultrasound transducer is inserted into the rectum. Images are obtained and fused with the patient's MRI scan in real time. Then, a template is attached to the transducer to use as a guide for the biopsy needle. This needle is then inserted through the template between the scrotum and rectum and into the perineal skin to access the prostate gland samples. This is all done under computer guidance and visualized on a large screen TV in the operating room where 3D reconstruction of the prostate occurs.



How do Patients Benefit?

Because the procedure is performed under general anesthesia, the procedure is painless. As no needle is inserted into the rectum and the biopsy is performed in a surgery center, the procedure is safe with very little risk of bleeding or infection. We are able to obtain biopsies from regions of the prostate gland that are only accessible through the trans-perineal technique. Finally, because the procedure uses MRI/Ultrasound fusion and there is genetic testing follow-up of benign results, this type of biopsy is far more comprehensive. We get the answers we need about your condition.



Eugene McComas

My name is Eugene McComas and I am 56 years old. I first met Dr. Schreiber in April 1993 because of a cancerous tumor behind my tongue. Well, I have been clean of cancer for five years and seven months.

I was diagnosed with prostate cancer in February 1998, and I called Dr. Schreiber. We sat down and he explained my options. I chose to have seed implants. The reasons were that the chance of the cancer coming back was only five percent more than if I were to have surgery. The recovery time was only a few weeks instead of a month or more.

I had the implant on a Tuesday at 7:30 a.m. I was home at 4:30 p.m.. I work from my home so I was back to work the next day. Dr. Schreiber and his staff were very professional in dealing with the implant procedures. I felt very comfortable that Dr. Schreiber could do the implant and I would have a good chance of beating cancer again.

I'm very happy with the results of the implant so far. Dr. Schreiber could not guarantee that he can rid you of cancer, but he can give you a better chance to beat it. I'm always willing to talk to anyone who might be thinking of having an implant. You can always get my telephone number from Dr. Schreiber. God bless people like Dr. Schreiber. He gave me the chance to live twice. Thank you Dr. Schreiber and all your wonderful staff.



Andrew T. Gunning

In mid-1997, a PSA ordered by my primary care physician showed 9.6, up substantially from the previous test. I was referred to a urologist who performed a transrectal ultrasound and biopsy which confirmed that I had treatable cancer of the prostate.

A thorough consultation was held with my urologist, outlining a frank discussion of the available options. Because my health was considered excellent at age 76, I had the following choices to consider: watchful waiting, radical prostatectomy, radiation therapy, or seed implant.

I met with Dr. David Schreiber to discuss the seed implant procedure. I was impressed with his presentation and well-documented success record, so I had no problem in deciding to opt for the seed implant.

On March 31, 1998, I had the half day seed implant procedure. My wife drove me home in the afternoon, and I was able to resume all activities, delaying strenuous exertion for two weeks. Shortly after the implant, a PSA test showed less than 0.1. This same reading came up in the recent test on February 23, 1999.

It is great to be free of Prostate Cancer. I would tell any man how important it is to have a combination DRE and PSA test on a regular basis. These tests can be indicators of trouble, making life saving choices available before the cancer can spread.



Q What is prostate cancer and what causes it?

Cancer is the uncontrolled growth and spread of abnormal body cells. This growth is known as a tumor and can invade and destroy normal tissue. A common place for cancer to occur in males is in the prostate, a walnut-sized gland that provides the fluids necessary for ejaculation. The cause of prostate cancer is not known. What is of major concern is that even when locally advanced, the disease may have no symptoms. That is why many physicians now recommend that all men age forty and older have a yearly rectal exam in addition to PSA testing.

Q How do seed implants work? What are the benefits?

During the procedure, radioactive seeds are implanted directly into the prostate gland. Radiation from the seeds kills the cancer cells. By implanting the seeds, we can give the prostate a much higher dose of radiation without damaging surrounding tissue and organs. Also, the side effects are greatly reduced, recovery time is quicker and the procedure requires only a few hours stay in the hospital.

Q Why doesn't the radiation damage other organs?

One of the special features of radioactive seeds is that its radiation does not spread very far. In fact, one centimeter from the seed the radiation level drops off dramatically. This allows us to position the seeds so they do not have a major effect on neighboring tissue and organs.

Q Is it safe to have a source of radiation inside the body?

Another feature of the seeds is that they lose their radioactive power very quickly. It runs down like a battery. Approximately four months after the procedure, they no longer give off radiation. The seeds do not have to be removed after the procedure.

Q Is it painful?

This procedure is done on an outpatient basis using a local, spinal or general anesthetic. The whole procedure takes anywhere from 45 minutes to one hour. Patients are back to normal activities within a day or two.

Q What are the side effects?

With seed implants, impotence occurs in about 20 percent of cases and incontinence is a true rarity. In contrast, when treatment requires surgical removal of the prostate gland, the man's potency often suffers and up to 10 percent may experience some degree of incontinence.

Q Can anyone with prostate cancer have this treatment?

This treatment is used as the sole modality for those patients who have been diagnosed as having early to intermediate stage prostate cancer. For those with more advanced stages of the disease, seed implants are typically used in conjunction with other types of treatment (for example, a short course of IMRT radiation, hormones, etc.).



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