

## **Cryoablation (or cryosurgery)**

“Cryo” is the Greek word for cold. During cryoablation the prostate is treated by temporarily freezing it to very low temperatures. By using advanced technology, it is possible to freeze the prostate by placing thin needles inside the gland. By the circulation of very cold gases, the cryo needles create ice. A large incision is not needed and the prostate is not removed, making this a minimally invasive procedure. The procedure takes between 1 and 3 hours with the patient usually returning home the same day as treatment, or after one night in the hospital. Typically, return to normal daily life occurs within two weeks.

## **Cryotherapy in Prostate Cancer Patients**

While the prostate cancer cryosurgery patient is anesthetized the doctor uses ultrasound guidance to insert 6-8 small cryoablation needles through the perineum into accurate locations in the prostate gland. A warming catheter is used to protect the urethra from freezing since the urethra passes through the prostate gland. Thermal sensors keep track of the temperature around the prostate to avoid damage to the bladder and rectum. This helps avoid damage to nearby organs and dramatically lowers the rates of incontinence or other side effects. When the needles are in place, a freezing agent, argon gas, is injected through the cryoablation needles to create negative 40 degree Celsius temperatures. This creates a lethally cold ice ball that freezes the prostate and the cancer cells in it. Once frozen, a different gas, helium, is injected into the needles to instantly warm up the area. The thawing process ruptures and kills the cells in the prostate gland. This is called the freeze-thaw process. This process is repeated to ensure all cancerous cells are destroyed and help stop future prostate cancer recurrence.

Throughout the cryosurgery for prostate cancer procedure, temperature monitors are used to allow physicians to determine when target temperatures have been reached. The cancer tumor and its blood supply are destroyed and the dead tissue is re-absorbed or remains in the body as harmless scar tissue.

When the freeze-thaw process is finished, the warming catheter is removed and a urinary catheter is inserted in place to help with any urinary incontinence. The urinary catheter is typically removed after two or three days; unless incontinence persists.

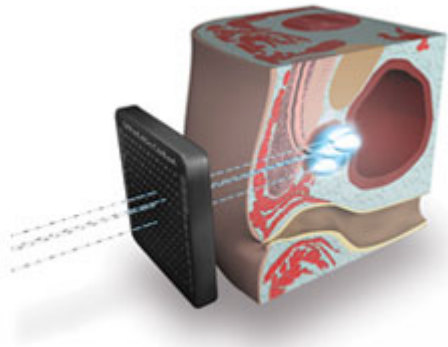
## **Cryotherapy Candidates**

Cryotherapy

- Patients over 65 or who are too sick to tolerate surgery
- Radiation failure patients

## **Advantage of Cryotherapy**

Patients who are not good candidates for a radical often do well with cryo and most go home the same day.



Related links:

Endocare – [www.endocare.com](http://www.endocare.com)

Galil Medical – [www.galilmedical.com](http://www.galilmedical.com)

INnMED- [www.innmed.org](http://www.innmed.org)

American Cancer Society – [www.cancer.org](http://www.cancer.org)