

# Irreversible Electroporation (IRE) Prostate

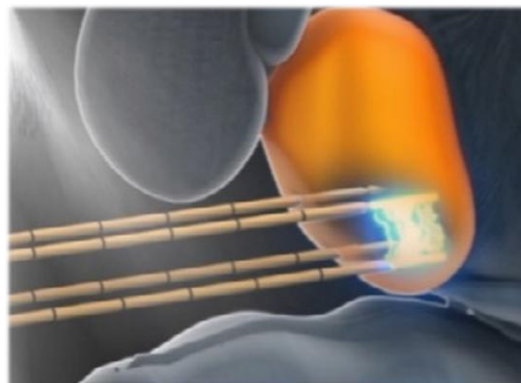
## What is irreversible electroporation?

Irreversible electroporation utilizes non thermal energy to target a specific area within the prostate, to cause cell death. This non thermal delivery system is commonly known as Nanoknife and is used to treat prostate cancer.

## Why is IRE required?

IRE focal ablative therapy is used for treating areas of localised prostate cancer without the use of thermal energy.

This targeted approach preserves other structures around the cells. It is less likely to affect urinary and erectile function and has a lower risk of causing bowel damage, compared to other prostate cancer treatment options.



Nanoknife®

## What does IRE of prostate involve?

We perform irreversible electroporation in hospital as a day surgery procedure or overnight, under general anaesthetic (completely asleep).

Long needles are inserted through the perineum (area between scrotum and anus), into the prostate, to the targeted area. This is done with the guidance of ultrasound imaging.

A high powered electrical current is passed between the needles to kill the cancer affected cells and surrounding tissue.

The needles are then removed.

At the end of the procedure, we place a catheter into the bladder via the urethra (water pipe). The catheter is usually removed the next day.

IRE requires much closer follow up (involving repeat MRI scan and prostate biopsies) compared to other prostate treatment options and has the advantage that it can be repeated if required. The chances of the cancer recurring are higher than other invasive treatment options such as surgery or radiotherapy. Your Urologist will talk to you about why IRE will be of benefit in your specific situation.

## What is the recovery after IRE?

Irreversible electroporation is usually performed as day surgery and occasionally as an overnight stay in hospital. If you go home on the same day of the surgery, you will need to be accompanied by a responsible adult.

You will have a urinary catheter after the procedure which drains urine into a bag. This will be removed the next day.

You may have mild bruising of your perineum, scrotum and penis. This may take a few weeks to clear.

You may notice blood in your urine, semen, and your bowel motions. Blood in your urine and bowel motions will usually clear within a few days. Blood in your semen may take a few months to clear.

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You can return to sedentary work the day after your procedure. If your job involves physical work, you may wish to return to light work for a few days.

It is usually safe to drive 24 hours after the anaesthetic.

You can return to sexual activity, when comfortable, after the catheter has been removed.

## What are the risks of a procedure?

The risks of this procedure include (but are not limited to):

### Common risks:

- Blood in the urine.
- Blood in the semen.

### Occasional risks:

- Urinary tract infection.
- An inability to pass urine after the catheter is removed (urine retention), requiring the catheter to be replaced for a period.
- Worsening urinary symptoms (temporary).

### Rare risks:

- Urinary incontinence.
- Erectile dysfunction.
- Severe pain.

### Very rare risks:

- Bowel or bladder damage.

### Other uncommon or very uncommon risks of surgery and anaesthesia include:

- Blood clots in the legs (Deep vein thrombosis(DVT)) or lungs (Pulmonary embolus).
- Chest infection (Pneumonia).
- Heart attack.
- Stroke.
- A serious allergic reaction (Anaphylaxis).
- Death.

## What are the alternative treatment options?

- Surveillance – no treatment.
- Radical prostatectomy
- Chemotherapy
- Radiation therapy