

HIFU Patient Info

High-intensity focused ultrasound to treat prostate cancer

High-intensity focused ultrasound (HIFU) is a treatment that uses very powerful sound waves to heat and destroy cancer cells in the prostate.

The prostate is a small gland that is just below the bladder in men. It surrounds the urethra (tube that carries pee out of the body). In young men it is about the size of a walnut, but it gets bigger as you get older. The prostate's main role is to secrete part of the semen, the fluid that carries sperm.

Cancer can develop in the prostate when some cells start dividing, and grow abnormally. As cells divide and grow, they can form lumps (tumours). Sometimes, as prostate cancer tumours grow, some cells break free and spread to other parts of the body.

Prostate cancer can be:

localised (only affecting the prostate)

locally advanced (spread outside the outer layer of the prostate, but not to other parts of the body)

metastatic (the cancer has moved outside the prostate and into the bloodstream and might affect other organs)

Your surgeon will discuss with you what type of tumour you have, and how likely it is to spread. The treatment recommended will depend on how early the tumour has been found, and its characteristics.

High-intensity focused ultrasound (HIFU)

A beam of ultrasound energy travels into the prostate from a probe put in the bottom (rectum). The probe can heat tissue very accurately (to within a few millimetres), to destroy tissue only in the targeted area.

The aim is to treat the part of the prostate that is affected by the cancer, and avoid the nerves and muscles (that control erections and the flow of pee), that lie next to the prostate.

Suitability for HIFU

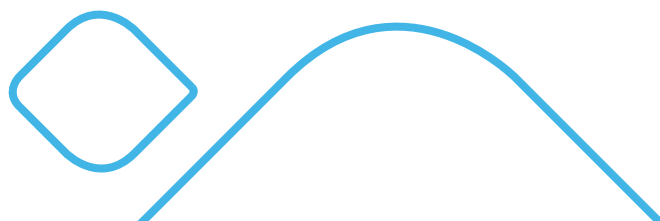
If you're diagnosed with prostate cancer, you might have several treatment options. Each treatment has benefits, risks, and side effects.

Some men need further treatment with surgery, radiotherapy or more HIFU.

Surgery and radiotherapy are possible after HIFU, but surgery might be more difficult.

HIFU might be suitable for you if your cancer hasn't spread outside your prostate (localised prostate cancer).

In the UK, HIFU is only available in some specialist centres or as part of a clinical trial. This is because it is newer than some other treatments, so we don't yet know how well it works in the long term.



For localised prostate cancer other treatment options might include:

active surveillance (closely monitoring and treatment to cure it, if it progresses)

watchful waiting (monitoring, and treatment to control the disease with hormonal therapy if it progresses)

surgery to remove the prostate (radical prostatectomy)

external beam radiotherapy (using X-ray beams to destroy the cancer cells)

brachytherapy (a type of internal radiotherapy)

You might also be offered cryotherapy, which uses extreme cold to freeze and destroy cancer cells. Like HIFU, cryotherapy is only available in specialist centres or as part of a clinical trial.

HIFU might be an option if your cancer has started to break out of the prostate (locally advanced). With this option, your cancer might be more likely to come back than for men with localised cancer.

If you have locally advanced prostate cancer, other treatment options might include:

- external beam radiotherapy with hormone therapy (and sometimes with brachytherapy)
- hormone therapy alone
- surgery (radical prostatectomy), often followed by hormone therapy and radiotherapy
- watchful waiting

HIFU is not an option if your cancer has spread outside your prostate to other parts of your body (metastasis), but it can sometimes be given as part of a clinical trial. HIFU can also be used to treat prostate cancer that has come back (recurrent) after previous HIFU or radiotherapy. This is called salvage HIFU.

Benefits of HIFU

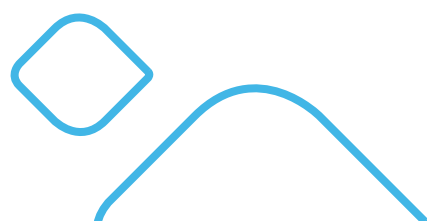
HIFU is a day-case, which means you can usually go home on the same day. It is also a minimally-invasive treatment that does not involve cuts or needles. Because of this, it has less risk of side effects (such as erectile dysfunction, or urinary incontinence) when compared to conventional therapies. It also has a shorter recovery time, and most men return to their normal activities within 2 weeks.

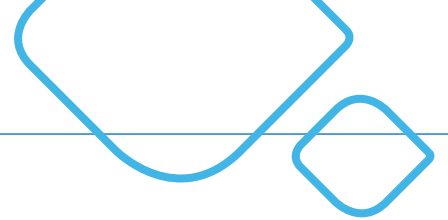
Unlike other therapies, HIFU treatment can usually be repeated, for patients without a complete response to the first treatment, or to manage local recurrences.

About 1 in 5 men need a second HIFU treatment within 3 to 5 years. The second HIFU is successful in about 4 out of 5 men. This means that, overall, only 1 in 20 men will need to have surgery or radiotherapy within 3 to 5 years after their HIFU treatment.

The short-term cure rates for HIFU are similar to those reported after surgery and radiotherapy. The rates for surgery and radiotherapy mean 80 to 85 out of 100 patients have not had cancer return after 10 to 15 years, while they were being monitored.

We know that the HIFU results are similar to this in the short term. We do not know yet if the HIFU cure rates will stay at this level for 10 to 15 years. This is the subject of further trials.





Risks of HIFU

The risks and benefits of any procedure are different for everyone. Your doctor will explain the risks that might affect you. You can ask your doctor or nurse specialist any questions.

Side effects are lower with HIFU therapy than with many other therapies, but most patients have temporary urinary symptoms (needing to pee frequently or urgently, difficulty peeing) for 2 to 3 months after treatment.

Common side effects

Infection in pee (5 in 100 patients) or testicles (1 in 100 patients)

Discomfort when peeing (dysuria). Most patients get this, but it is temporary.

Blood in pee. Most patients get this, but it is mild.

Debris (tissue fragments) in pee. Mild for most patients. Sometimes an operation is needed to improve the flow of pee.

Dry orgasm (reaching sexual climax, but ejaculating little or no semen). This happens for 50 in 100 patients.

Less common side effects

Narrowing of the urethra (urethral stricture). Less than 1 in 100 patients have this.

Urine incontinence (peeing by accident). Up to 2 in 100 patients get this, but it might improve with time.

Erectile dysfunction (difficulty getting and maintaining an erection). 2 in 3 men who had good erections before treatment will keep natural erections. 1 in 3 patients will need medicines to help. Radical treatments, such as surgery or radiotherapy, are much more likely to cause erectile dysfunction.

Rare side effects

HIFU can cause an abnormal connection between the rectum and water pipe (rectourethral fistula). 1 in 300 patients have this, and in severe cases can need bowel surgery.

Unsuccessful treatment

If the treatment doesn't work, you might need a second treatment. In 5 to 10 years, 25 in 100 patients needed another treatment to the same area. 5 in 100 patients needed treatment to a different area.

Failure requiring a radical therapy (surgery or radiotherapy) affects up to 20 in 100 patients at 5 to 10 years after HIFU.

High-intensity focused ultrasound (HIFU) is a treatment that uses very powerful sound waves to heat and destroy cancer cells in the prostate.

It is done under a general anaesthetic, so you will be asleep for the procedure. It is usually done as a day case, meaning you do not have to stay in hospital overnight.

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If you would like this leaflet in email form, large print, braille or another language, please contact the Patient Support and Complaints team on 01225 825656.

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