Hifu For Prostate Cancer

High-Intensity Focused Ultrasound (HIFU) represents a cutting-edge approach to treating localised prostate cancer. This minimally invasive procedure uses precisely targeted ultrasound waves to destroy cancerous tissue while preserving surrounding healthy prostate structures.

As a focal therapy option, HIFU can target specific areas of the prostate affected by cancer, offering an alternative to more extensive treatments such as radical prostatectomy or radiotherapy.

Birmingham Prostate Centre provides consultant-led HIFU treatment delivered by experienced urologists specialising in prostate cancer management.

What Is Hifu Treatment?

Using HIFU for prostate cancer employs a focused ultrasound energy to heat and destroy prostate cancer cells. The procedure works by concentrating multiple ultrasound beams onto a precise point within the prostate gland, generating temperatures between 80-100°C in the targeted tissue.

This controlled thermal ablation eliminates cancer cells while minimising damage to the surrounding neurovascular bundles, urinary sphincter, and rectal wall—structures critical to maintaining continence and sexual function.

How HIFU Works

The treatment process involves:

- **Precision imaging**: Real-time MRI or ultrasound guidance ensures accurate targeting of cancerous tissue
- **Focused ultrasound waves**: Multiple beams converge at a focal point, creating intense localised heat
- **Tissue ablation**: Temperatures reaching 80-100°C destroy cancer cells in the targeted zone
- **Preservation of healthy tissue**: Surrounding structures remain largely unaffected by the focused energy

HIFU can be delivered as either whole-gland treatment or focal therapy, depending on the extent and location of the cancer within your prostate.

Who Is Suitable For Hifu?

HIFU treatment may be appropriate for men with:

- **Localised prostate cancer** (T1-T2 stage disease that hasn't spread beyond the prostate)
- **Low to intermediate-risk disease** (PSA typically under 15-20 ng/ml, Gleason score ≤7)
- **Focal disease** visible on multiparametric MRI scans
- **Recurrent cancer** following previous radiotherapy (salvage HIFU)
- **Men seeking a tissue-preserving approach** who wish to avoid radical surgery or radiotherapy

Your consultant will assess your suitability based on several factors including PSA level, Gleason score, MRI

findings, and overall health status.

When HIFU May Not Be Suitable

HIFU might not be recommended if you have:

- Advanced or metastatic prostate cancer that has spread beyond the gland
- Very large prostate glands (typically over 40-50cc may present technical challenges)
- Significant lower urinary tract symptoms requiring management first
- Previous TURP surgery that has altered prostate anatomy substantially
- Rectal conditions that prevent safe probe placement

Your urologist will discuss all treatment options during your consultation to determine the most appropriate pathway for your individual circumstances.

The Hifu Procedure

HIFU treatment is typically performed under general or spinal anaesthetic as a day-case procedure at our Birmingham facility.

Before Your Treatment

- You'll undergo staging investigations including MRI scans and biopsies to map cancer location
- A pre-assessment appointment ensures you're fit for anaesthetic
- You'll receive detailed written information about the procedure and what to expect
- Any anticoagulant medications may need temporary adjustment

During the Procedure

1. **Anaesthesia**: You'll receive either general or spinal anaesthetic for comfort
2. **Positioning**: You'll be positioned to allow rectal access for the HIFU probe
3. **Imaging**: Real-time ultrasound imaging provides continuous visualisation throughout
4. **Treatment delivery**: The HIFU device systematically treats the targeted prostate tissue section by section
5. **Duration**: The procedure typically takes 2-4 hours depending on treatment extent
6. **Catheter placement**: A urinary catheter is inserted to allow drainage during initial healing

After Treatment

- Most patients are discharged the same day or following an overnight stay
- The catheter typically remains in place for 1-2 weeks
- You'll be given clear instructions for managing the catheter at home
- Follow-up appointments are scheduled to monitor your recovery and treatment response
- PSA monitoring continues at regular intervals to assess cancer control

Benefits Of Hifu Treatment

HIFU offers several advantages as a prostate cancer treatment option:

Minimally Invasive Approach

- No surgical incisions required
- Reduced procedural trauma compared to radical prostatectomy
- Typically performed as day-case or with single overnight stay
- Lower risk of major surgical complications

Preservation of Quality of Life

- Lower rates of erectile dysfunction compared to surgery or radiotherapy
- Better continence outcomes than radical treatment approaches
- Preservation of surrounding neurovascular structures
- Reduced impact on urinary and sexual function

Targeted Treatment

- Focal therapy option allows treatment of specific cancer areas
- Healthy prostate tissue preservation
- Can be repeated if necessary
- Suitable for salvage treatment after radiotherapy failure

Faster Recovery

- Most men return to normal activities within days to weeks
- Shorter catheterisation period than after surgery
- Less time off work required
- Rapid return to quality of life

Potential Side Effects And Risks Of Hifu

While HIFU is generally well-tolerated, all medical procedures carry some risks. Potential side effects include:

Common Side Effects (Usually Temporary)

- **Urinary symptoms**: Frequency, urgency, or discomfort during urination typically improve over weeks to months
- **Urinary retention**: Some men experience temporary difficulty passing urine
- **Blood in urine or semen**: Usually resolves within several weeks
- **Urinary tract infection**: Treated with antibiotics if it occurs
- **Catheter-related discomfort**: During the 1-2 week catheterisation period

Less Common Complications

- **Erectile dysfunction**: Reported in 10-50% of men depending on treatment extent and baseline function
- **Urinary incontinence**: Occurs in approximately 5-10% of patients, usually mild
- **Urethral stricture**: Narrowing of the urethra requiring treatment in around 5-15% of cases
- **Fistula formation**: Rare connection between rectum and urethra (<1%)
- **Need for further treatment**: If cancer persists or recurs

Your consultant will discuss these risks in detail during your consultation, providing personalised information based on your specific situation and treatment plan.

Hifu Success Rates And Outcomes For Prostate Cancer

Clinical evidence demonstrates that HIFU provides effective cancer control for appropriately selected patients with localised prostate cancer.

Cancer Control Rates

- Studies show biochemical disease-free survival rates of 70-85% at 5 years for low-risk disease
- Focal HIFU demonstrates cancer control rates of 75-90% for targeted lesions at intermediate follow-up
- Salvage HIFU after radiotherapy failure shows biochemical control in 50-70% of men
- Long-term data continues to accumulate as the technology evolves

Functional Outcomes

Published research indicates:

- Continence preservation in 95-98% of men following primary HIFU
- Erectile function preservation rates of 50-75% depending on baseline function and treatment extent
- Quality of life scores typically return to baseline within 3-6 months
- Lower urinary tract symptoms generally improve after initial healing phase

Comparison with Other Treatments

HIFU offers comparable cancer control to other focal therapy approaches while typically providing better functional outcomes than radical treatments for selected patients with localised disease.

Booking Your Hifu Consultation

If you've been diagnosed with localised prostate cancer and would like to explore HIFU treatment, contact Birmingham Prostate Centre to arrange a consultant appointment.

During your consultation, your urologist will:

- Review your diagnostic results and imaging

- Discuss whether HIFU is suitable for your specific cancer
- Explain the procedure in detail including risks and benefits
- Answer all your questions about treatment and recovery
- Outline alternative treatment options for comparison
- Provide clear information about costs and next steps

To book your appointment or for more information about HIFU treatment, please contact our team or visit Get Well Soon.

OUR HIFU SPECIALIST

Mr Keval Patel

Consultant Urological Surgeon

Mr Keval Patel is a consultant urological surgeon specialising in robotic pelvic surgery, prostate cancer and minimally invasive treatments including HIFU. He holds a PhD and a Master of Surgical Education, and is committed to providing patients with clear, evidence-based guidance on their treatment options.

Qualifications: BSc, MBBS, PhD, FRCS(Urol)

Specialties: Robotic surgery · HIFU focal therapy · Prostate cancer

Practises at: HCA The Harborne Hospital · The Priory Hospital, Birmingham

GMC number: 6129418

Experience: 21+ years

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Book a Consultation

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