



**Gloucestershire Hospitals**  
NHS Foundation Trust

# **Transperineal biopsy of the prostate**



# **Introduction**

This leaflet gives you information about transperineal biopsy of the prostate, including the nature of the procedure, risks, benefits, alternatives and what to expect.

## **What is a transperineal biopsy?**

The aim of the procedure is to take, in the safest way possible, multiple small samples of tissue, just one millimetre wide and up to 2cm long, from the prostate with a needle to determine if there is any cancer present.

Previously this was done by passing the needle through the inside of the back passage (rectum). However, with that route there is a higher risk of infection or sepsis developing within a week of the procedure.

The transperineal route is a cleaner way to do a biopsy with a much lower risk of infection. The biopsy needle is passed through the perineum which is the area of skin between the legs (behind the scrotal sack and in front of the anus).

Transperineal biopsy is also much better for sampling all areas of the prostate. Transrectal biopsy will usually miss the 10% of cancers that arise exclusively at the front of the prostate, and also may miss cancers that occur only at the apex (tip) of the prostate.

# What does the procedure involve?

You will be asked to change into a hospital gown. You will then be asked to lay almost flat on your back on the bed. Your legs will be positioned in padded foot and calf supports with your knees opened as wide apart as you can comfortably manage.

We want you to be as comfortable as possible at the start of the procedure, as you may be in that position for 15 to 20 minutes depending on the size of your prostate and the number of samples required. We will ask you to hold your scrotum up out of the way. We will then clean the area with antiseptic.

For most patients this procedure is performed under local anaesthetic. This means you will be awake. This is given, using a fine needle, to the perineal skin in two places and also in front of the prostate. We will then wait for the anaesthetic to take effect before starting the biopsy. You will not be sent any “nil by mouth” instructions and should eat and drink normally before the procedure on the day.

For a limited few patients (for example those having a larger numbers of samples taken, those who find a simple finger examination of the rectum too painful or those who found the local anaesthetic procedure too painful) we recommend full general anaesthetic. This means you will be asleep. If this is the case, we will send you separate written ‘nil by mouth’ instructions. If we do not ask you to be “nil by mouth” then please do not go nil by mouth for hours before the procedure as this will unnecessarily dehydrate you.

Our unit, like many other UK units, uses the 'Precision Point' device. We started using this new technique in March 2020. The 'Precision Point' device will generally replace the template grid which always needed a general anaesthetic. We also use a similar device called the UA1232, it works in the same way.

We will inform you clearly about the procedure planned and answer any questions that you may have. You will then be asked to sign a consent form.

When the biopsy is performed under local anaesthetic, at times it can be painful, so if at any stage you find it too uncomfortable or too painful you can just ask us to 'stop'.

We can pause and if necessary, we can stop for that day and make an appointment for you to return on another day for general anaesthetic. We do not give more local anaesthetic as the maximum dose is normally given at the start of the procedure.

A large study of over 1000 patients in 2021 having this procedure found that 81% of the patients described it as a "minor or moderate procedure tolerable under local anaesthesia" while 5% perceived it as a "major procedure that requires general anaesthetic".

The ultrasound probe is inserted into the back passage to scan the prostate. This smooth firm plastic probe is a little bit longer and wider than a finger. Some water-based gel (KY<sup>®</sup> jelly) is either put on the probe or directly into your back passage before inserting. If you find this too painful to bear, please let us know so we can stop. We will then book the procedure for another day when you can be given general anaesthetic if necessary.

The ultrasound probe allows us to do the procedure safely because we can see clearly and precisely on a monitor where the local anaesthetic and the biopsy needles are. Samples are then taken by passing the biopsy needle repeatedly through a small hollow needle cannula placed in the skin.

Prostate samples are taken evenly from different parts of the prostate and sent in separate sample pots to the laboratory. If your recent MRI scan showed a suspicious area in one part of the prostate then the surgeon will usually take some extra samples from that area.

The number of samples taken depends on the size of the prostate and the size of the suspicious area, but is commonly between 12 and 25 samples for local anaesthetic, and up to 30 to 40 samples for general anaesthetic

You will hear a click sound each time a core sample is taken.

Men tell us that the biopsies are less painful than the local anaesthetic. However, please note that normally while the biopsies are taken you will still feel a flicking sensation (as if someone has flicked you with an elastic band) which can occasionally still be painful.

## **What are the alternatives to this procedure?**

**Do nothing** – this would mean we would not know for certain whether you have a cancer in the prostate. Without a tissue diagnosis it would prevent any treatment of a suspected cancer. This may miss the chance to

identify the cancer early enough to treat it before it makes you unwell.

**PSA monitoring** – have regular PSA blood tests. If this continues to rise it would suggest that there are changes happening in the prostate gland. However, about 5% of significant cancers have a normal PSA value so this cannot always be relied upon on its own.

The hospital team would recommend again that you have a biopsy at a later date, however, this may miss the chance to identify the cancer early enough to cure it.

## **Anaesthetic**

### **Local anaesthetic**

The majority of transperineal biopsies are done with local anaesthetic. This means that you can eat and drink as normal on the day of your appointment.

### **General anaesthetic**

If you wish to have a general anaesthetic for the biopsy, this has to be agreed in advance of the procedure by your consultant.

If a general anaesthetic has been agreed you will be sent a separate letter with instructions for you to be 'nil by mouth'. You must follow these instructions carefully.

If the 'nil by mouth' instructions are not followed, the procedure will not go ahead.

## **Preparation for the procedure**

On the day of the appointment, before you arrive, please have a shower or bath and wash the skin between your legs behind your scrotum. You should not shave the area.

We do not use any special bowel preparation; we just ask that you go to the toilet as normal beforehand to empty your back passage. This will help us see the prostate more clearly when the ultrasound probe is in the back passage.

We will also ask you to provide a urine sample, so please arrive with a comfortably full bladder and ask for a specimen bottle as soon as you arrive.

Although the procedure only takes 15 to 20 minutes, we have to prepare you before and make sure you are feeling alright after the biopsy has been completed. For these reasons please allow at least 1 hour for your appointment. You do not have to wait in the department to pass urine before going home.

## **Medication**

If you are having a general anaesthetic and have been sent separate 'nil by mouth' instructions and take diabetic medication or ACE inhibitor tablets (such as ramipril) please do not take these on the morning of the procedure. You can however take most other medication for conditions, such as hypertension, as normal with a sip of water.



If you normally take prostate medication such as tamsulosin please take as usual. If you have a large prostate or a poor flow, we may prescribe tamsulosin for you to take, starting a week before and for 2 weeks after the procedure to try to reduce the risk of retention.

Please let your surgeon know if any of the following apply to you:

- You take **blood thinning medication**\* such as warfarin, rivaroxaban, aspirin or clopidogrel (Plavix<sup>®</sup>), apixaban, ticagrelor. (\*See **Blood thinning medication** section on the next page)
- You feel a burning sensation when urinating, your urine is cloudy or you have to get up suddenly at night more than twice for a few days (possible urine infection).
- You have had a previous or have a current MRSA infection.
- You have a high risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human-derived growth hormone).

## **Blood thinning medication**

The biopsy cannot go ahead while you are taking blood thinning medication as blood in the urine is very common for up to 2 weeks after this procedure. Such medication will increase the risk of heavy or prolonged bleeding needing emergency treatment.

The urologist recommending this procedure should assess your risk level (low or high) for thrombosis or stroke while you are not taking the blood thinners and advise you on how to manage your medication in the week before and 2 weeks after the procedure.

- Rivaroxaban or apixaban - patients should stop these 3 days before the procedure (take the last dose 4 days before the procedure date).
- Warfarin - patients should stop taking this medication 5 days before the procedure (take the last dose 6 days before the procedure date).
- Patients taking clopidogrel or aspirin 300mg should stop taking these 7 days before the procedure (take the last dose 8 days before the procedure date).
- If taking aspirin 75mg, you do not need to stop this.

If you receive an appointment for a prostate biopsy and the blood thinning medication has not been discussed with you then please call the Urology Department at least a week before your procedure date. You need to remind us that you are taking blood thinning medication that needs special management around the time of the biopsy. Alternately, if you have a pre-assessment appointment (patients having general anaesthetic only) at least a week before the procedure date, you can ask the pre-assessment nurse about the blood thinning medication.

Please be sure that you understand how and when to restart your blood thinning medication after the procedure.

If you are considered a low risk for coming off blood thinners this can usually be restarted 2 weeks after the biopsy, or once any bleeding in the urine has settled for at least 48 hours, whichever comes first.

If you are considered high risk for coming off blood thinners (for example AF with previous stroke/TIA or recurrent DVT) then we may ask you to switch to a self-injectable form of blood thinner (Fragmin®) for the first two weeks following the biopsy. If you have had a very recent stroke or thrombosis (within the last 3 months) we will probably recommend delaying the procedure for 3 months.

## Risks

The main risks of the procedure are retention of urine, infection, or both together. These only happen in a small proportion of men (1%).

Retention means not being able to empty your bladder properly so the bladder becomes very uncomfortable or painful. It commonly happens in the 7 days immediately after the procedure due to clots of blood in the urine blocking the passage. This is more likely in men with large prostates (over 60 ml) or men who already have a poor flow.

After a local anaesthetic you **do not** need to wait around to urinate before you are considered safe to leave.

After a general anaesthetic you will be taken back to the ward, on your bed, to recover.

We want you to get up out of bed as soon as you are able to do so safely, get dressed and have some drinks as this will help you to urinate normally.

Before we can send you home safely after having a general anaesthetic, we want you to pass at least 120 ml of urine in a single go. This may take up to 6 hours for some men. We will give you some cardboard urine bottles and directions to the toilet. Once you feel a normal sensation to urinate, please go to the toilet but urinate into the bottle then let the nurse know so that the volume you have passed can be measured.

Most men will be able to go home on the same day as their procedure. We recommend you have someone else drive you home as your insurance may not cover you if have an accident on the way home.

If you have had a general anaesthetic, you will need an adult friend or relative to take you home and have a responsible adult stay with you at home for that night. If you do not have someone who can do this, we may recommend that you stay in the hospital overnight. However, overnight beds are sometimes in short supply and this may mean your procedure appointment is more likely to be cancelled on the day.

## **Possible side effects and complications**

Most procedures have possible side effects. Although the following complications are well-recognised, you should be reassured that most patients do not suffer any serious problems.

Statements of risk are estimates based on national and local figures.

If you experience pain and difficulty when urinating, only passing very small volumes or are unable to urinate at all we recommend that you return within 24 hours to the Emergency Department at Gloucestershire Royal Hospital (open 24 hours) or Cheltenham General Hospital, Minor Injuries Unit (open 8:00am to 8:00pm). This will allow us to assess you and if necessary, insert a soft tube (catheter) into your bladder to drain any urine.

The catheter will be inserted via your penis; lubricating jelly will be used. This only happens in about 1 to 3% of men.

We will teach you how to use the catheter with a leg bag at first, then a flip-flow tap once the blood in the urine clears a week or 2 after the procedure and send you home with this catheter. This may feel uncomfortable and unpleasant but it is a safe way to allow you to go home.

We will book an appointment for you to return 2 to 3 weeks after the procedure for a trial removal of the catheter. This will be at Cheltenham General Hospital. It is likely that you will empty your bladder at this point, but this does not always happen.

For a very small number of men with very large prostates, this procedure can result in the need for a catheter for several months, and a later surgery to correct the problem.

If you have to use a catheter, this does have a higher risk of catching an infection (about 1 in 10 men within the 6 weeks). Most infections can be treated with a 7-day course of oral antibiotics.

A very small proportion of men may get a mild infection (1 in 500) with this procedure; this can be treated in the community with antibiotics. In the very unlikely event that you were to become more unwell with a fever of 38 degrees centigrade or higher, loss of appetite and/or vomiting then you should go to your nearest Emergency Department straight away. You must see a doctor within 24 hours to be assessed and if necessary, start a course of antibiotics. Occasionally this may mean being admitted to Cheltenham General or Gloucestershire Royal Hospital for intravenous antibiotics.

Blood in the urine with occasional blood clots is common for up to 2 weeks after the procedure. Drinking more fluids will clear your urine quicker. We recommend drinking 2.5 litres of fluid each day. This is the equivalent of about one large mug (200 ml) of fluid an hour while you are awake. Please do not drink excessive amounts of pure water (more than 4 litres or 7 pints in 24 hours) as this can make you unwell by over-diluting your blood.

Very rarely, heavy bleeding in the urine accompanied by multiple clots of blood, bigger than a 5 pence piece, can happen. If this happens and you are also finding it difficult to urinate or you are very uncomfortable and

feeling unwell then this may be a medical emergency called clot retention. **If you are taking blood thinning medication or injections stop them immediately.**

Please have a friend or family member take you to the Emergency Department at Cheltenham General Hospital (8:00am to 8:00pm) or the Emergency Department at Gloucestershire Royal Hospital (24 hours). Take an overnight bag with you. Do not eat anything on the way.

A catheter may be inserted to wash out the blood clots and you may need admission to a ward. Please do not go to Cirencester or any other small community hospital as they will not be able to admit you.

You can expect to see blood in the semen for up to 6 weeks. This is normal and will not cause any serious harm.

### **Common (greater than 1 in 10)**

- Blood in the urine for up to 2 weeks.
- Blood in the semen for up to 6 weeks.
- Bruising in the perineal area.
- Discomfort from the prostate due to bruising.
- Discomfort when urinating.

### **Occasional (between 1 in 10 and 1 in 100)**

- Urinary retention (see above, 1 in 100).
- The procedure may need to be repeated if the biopsies are inconclusive or if your PSA level rises further at a later stage.

## **Rare (less than 1 in 50)**

- Haemorrhage (bleeding) from the prostate requiring re-hospitalisation.
- Blood infection (septicaemia) requiring hospitalisation.
- Being unable to urinate even after 2 weeks of having a catheter. This may mean having a catheter for longer - possibly for several months - until surgery can be arranged to enable you to urinate freely again (commonly Transurethral Prostatectomy if benign, or Radical Prostatectomy if cancer).
- Erectile dysfunction for up to 3 months. Occasionally some men will need Viagra® to help with this.

## **Hospital-acquired infection**

- Colonisation with MRSA (less than 1%).
- Clostridium difficile bowel infection (1 in 10,000 patients).
- MRSA bloodstream infection (1 in 5000 patients).

The rates for hospital-acquired infection are greater for patients who have a prolonged stay in hospital.

## **What should I expect when I get home?**

You will have been given a copy of your consent form before the procedure.

If you have had a general anaesthetic, you will also be given a discharge summary of your admission, but not if you have only had a local anaesthetic.

Both of these documents contain important information about your procedure. If you need to contact your GP for any reason or to attend another hospital, please take



these documents with you. This will allow the doctors to see details of your treatment. This is also important if you need to consult another doctor within a few days of your discharge.

Once home, it is important that you:

- rest for the first 48 hours after the biopsies.
- drink about 2.5 litres of fluid per day for the first few days when the urine looks red.
- try to sleep as normal at night but if you happen to wake up and see red urine in the toilet then drink some more fluid. Tea or coffee is as good as water at making urine and is preferable to drinking only pure water. We recommend no alcohol in the first 24 hours after the procedure.
- maintain regular bowel function.
- avoid physically demanding activities in the first few days and when there is blood in your urine.
- take simple pain relief such as paracetamol if you have any perineal discomfort.
- avoid intercourse while there is still a lot of blood in the urine. Blood in the semen may persist for 6 weeks or more.

## **What else should I look out for?**

If you become generally unwell with fevers, sweats, loss of appetite, nausea, or progressive pain please go straight to your nearest Emergency Department to be assessed.

If you have a lot of heavy bleeding (passing large blood clots) in the urine for more than the first few days, and you have difficulty urinating or becoming unwell, you should contact your out of hours GP via NHS 111 or go directly to the Emergency Department at Cheltenham General Hospital (8:00am to 8:00pm) or the Emergency Department at Gloucestershire Royal Hospital (24 hours). Do not go to any of the community hospitals.

## **Other important points**

You will receive an outpatient clinic appointment, usually for 4 weeks after the procedure.

If you do not receive an appointment, phone call or a letter with the biopsy results within 6 weeks, please contact the Urology secretaries via the main switchboard.

Any sample that is reported positive for cancer is normally double checked by a second pathologist during the weekly multi-disciplinary team (MDT) meeting. Your scans and clinical details are also reviewed at this meeting with radiologists, urologists, cancer nurse specialists and oncologists. You and your GP will be informed of the results after this discussion.

If your biopsy is negative for cancer, we may just write to you. In cases where men have worrying symptoms from simple prostate enlargement without cancer, we normally would arrange to see you again within 3 months to discuss treatment.

While a negative biopsy is very reassuring, some cancers particularly small ones can be missed. We are happy to advise on future follow ups, for example whether you should have further PSA blood test monitoring with your GP's help.

## **Driving after a prostate biopsy**

You must not drive within 24 hours of having an anaesthetic, local or general. It is your responsibility to make sure that you are fit to drive following your surgery.

## **Contact information**

### **Gloucestershire Hospitals Switchboard**

Tel: 0300 422 2222

When prompted ask for your consultant's secretary, or the Urology secretaries who will direct you to the appropriate person according to your query.

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## Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.

### Ask 3 Questions

**To begin with, try to make sure you get the answers to three key questions if you asked to make a choice about your healthcare.**

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?



These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation.

**\*Ask 3 Questions** is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial.

Patient Education and Counselling, 2011;84: 379-85



<https://aqua.nhs.uk/resources/shared-decision-making-case-studies/>



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