Use of gold markers in the treatment of prostate cancer with radiotherapy

A guide for patients and carers
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Why use markers?
Markers are placed into the prostate as preparation for external beam radiotherapy (radiation delivered from outside the body). Their use allows us to:

- ensure we can target the prostate with great accuracy
- reduce the amount of tissue around the prostate (used as a safety margin) which receives the same dose as the prostate. This may help to reduce side effects during treatment and in the long term; see ‘Radiotherapy to the Prostate’ leaflet

The markers are very small just three millimetres long and made of gold. Three markers are used and it requires a short visit to the theatre at The Clatterbridge Cancer Centre (CCC) Wirral. They are implanted into the prostate at least one to two weeks before the planning CT scan, to allow them to settle in place. We will send you an appointment letter for this procedure.

The markers are permanent and cause no problems once they are in position. They don’t interfere with treatment and you should be unaware of their presence. It is safe to have MRI scans and they don’t interfere with airport security scanners.
When and how are the markers used?
The markers, prostate and other organs/structures are clearly seen on the planning CT scan, which we use to design your radiotherapy.

Before each treatment we will take x-ray images of you from the front and the side. The gold markers are clearly seen on the images. This tells us exactly where the prostate is, whereas the prostate itself does not show up on the x-rays. This allows us to fine tune the position of the treating x-ray beams each day before we treat you. The measurements and any adjustments are done by the radiographers from outside the room. The checking process takes only a minute or so and you should lie still and breathe normally throughout, as treatment will be given immediately afterwards. You may notice that the table you are lying on moves slightly just before we treat you. This is the fine tuning and known as Image Guided Radiotherapy.

The total time inside the treatment room is usually about 10 minutes.

Pre-operative assessment
About one week before the procedure you will have a pre-operative assessment; you will be offered either a clinic appointment at CCC Wirral or a telephone assessment. The assessment takes about 20 - 30 minutes. Please bring with you/have ready a list of your medications.
Medication taken to thin the blood

Warfarin should be stopped **three days before** the procedure, unless your oncology doctor advises against it. Restart Warfarin at your usual dosage the day after the procedure.

Clopidogrel should be stopped **seven days before** the procedure; restart Clopidogrel at your usual dosage the day after the procedure.

If you take Aspirin this should be continued. If have any concerns, please contact our Nurse Practitioners.

What to expect when you attend the theatre appointment

You may drive yourself here and home again, following the procedure.

You need to arrive on the ward for 8am. Prior to the procedure it is necessary to start a short course of antibiotics. (Some patients are given the prescription for their antibiotics when they see their consultant in clinic. If this is not the case for you, a prescription will be given at either the pre-assessment clinic or supplied on the day of admission). We will also ask you to use a small enema, which clears the rectum (back passage) of any gas or solids.

The procedure is very similar to a prostate biopsy. Usually, we use only a local anaesthetic. If you had a lot of discomfort with the biopsy, your doctor may offer you sedation, which makes you drowsy, but is not an anaesthetic. If you have sedation you are not
able to drive for 24 hours after the procedure. A rectal ultrasound probe will be inserted into your rectum, similar to what was done when you had your biopsy. Then we insert the markers using a needle via your rectum. Once in theatre, the procedure takes only a few minutes. You will return to the ward, but can leave soon afterwards, following assessment by our nurse practitioners.

Ensure you complete the short course of antibiotics as prescribed.

What to expect following the procedure

This procedure is generally well tolerated with few problems and the overall risk is lower than for the prostate biopsy. Major complications are rare and include a small risk of developing a urine and/or blood infection (septicaemia). The use of antibiotics helps to reduce the risk of infection though occasionally the infection may still occur in spite of this. It is important to take all the antibiotics we give you and seek help if you feel unwell.

The symptoms of urine infection are: pain when you pass urine, passing urine urgently and frequently, smelly urine and feeling unwell.

The symptoms of septicaemia are similar to flu: a high temperature or feeling feverish, fast heart beat and fast breathing. The symptoms usually develop quickly and can progress into a serious condition.
If you develop any of these symptoms during the week after the procedure, this requires urgent medical attention; our nurse practitioners will give you contact details.

You may feel some discomfort in your rectum for a few days. There can be bleeding from the rectum or blood in the urine (wee). This usually is not heavy and settles over a few days. You can also have blood in the semen for a few weeks. You don’t need to do anything about the bleeding as long as it isn’t heavy. If the bleeding is heavy, please contact our nurse practitioners.

In the unlikely event that you are unable to pass urine, you should seek urgent medical attention.

Contact details
The Clatterbridge Cancer Centre (CCC)
Admissions team: 0151 482 7825
Nurse Practitioners: 0151 334 1155 ext 4830
Advanced Nurse Practitioner in Prostate Cancer 0151 334 1155 ext 5932
Information & Support Radiographer: 0151 482 7889

Other resources
CCC Radiotherapy booklet, Radiotherapy to the Prostate and Prostate Cancer; Preparation prior to radiotherapy planning and treatment leaflet are available from staff or our website (clatterbridgecc.nhs.uk)
How we produce our information

All of our leaflets are produced by staff at The Clatterbridge Cancer Centre and this information is not sponsored or influenced in any way. Every effort is made to ensure that the information included in this leaflet is accurate and complete and we hope that it will add to any professional advice you have had. All our leaflets are evidence based where appropriate and they are regularly reviewed and updated. If you are concerned about your health in any way, you should consult your healthcare team.

We rely on a number of sources to gather evidence for our information. All of our information is in line with accepted national or international guidelines where possible. Where no guidelines exist, we rely on other reliable sources such as systematic reviews, published clinical trials data or a consensus review of experts. We also use medical textbooks, journals and government publications.

References for this leaflet can be obtained by telephoning 0151 482 7722.

If you need this leaflet in large print, Braille, audio or different language, please call 0151 482 7722.

If you have a comment, concern, compliment or complaint, please call 0151 482 7927.