Insertion of gold markers into the prostate gland prior to image-guided radiotherapy

Why use image-guided radiotherapy?
Your radiotherapy will be planned very precisely and individually for you using a 3D computer system. This helps to reduce the dose given to healthy tissues surrounding the prostate, therefore minimising side effects.

However, we know that the prostate can move and may lie in a slightly different position each day. Image-guided radiotherapy (IGRT) to the prostate allows us to identify the position of the prostate gland at the time of radiotherapy and adjust the treatment each day to match its position.

In order to see the prostate gland when radiotherapy is being given, three small gold markers need to be inserted before planning the radiotherapy treatment. These seeds are not radioactive- they can be seen using x-rays from the scanner and treatment machines.

Gold marker insertion
You will have an extra outpatient appointment for the markers to be inserted.
If you are taking any blood thinners such as Warfarin, Aspirin or Clopidogrel, or any herbal preparations such as St John's Wort, please tell your doctor before the procedure.
Marker insertion is very similar to when you had biopsies taken and usually takes 20-30 minutes. An ultrasound probe will be inserted into your back passage and some local anaesthetic injected into the prostate to minimise any discomfort. The ultrasound scan will be used to position the markers in the prostate. The markers will remain in your prostate gland permanently.

Once the procedure is finished, you will need to stay for up to one hour to recover before you can leave the department. You will be able to go home in the normal way. It is important to drink plenty of fluids (e.g. water, tea, coffee or squash) following the procedure to help prevent infection. We advise avoiding drinking alcohol for 24 hours.

What are the benefits?
It is thought that using IGRT makes radiotherapy more accurate and so will reduce the side effects of radiotherapy to the prostate. Clinical trials are underway to confirm this.

What are the possible side effects?
The gold marker insertion carries the same level of risk of bleeding in the urine, semen and stools as when you had your prostate biopsy (about 15%). This may last for up to two weeks and is nothing to be concerned about. However, there is a small risk (1%) of severe
bleeding causing an inability to pass urine. In the unlikely event that this happens, you must go to your nearest Accident and Emergency Department (A&E) as soon as possible and explain that you have had this procedure.

There is a small risk of urinary infection following the procedure (about 1-2%). You will be given antibiotics to minimise the risk of infection. However, if you have a fever of over 100°F (38°C), shivering, or feel you have flu-like symptoms within the 24 hours following the procedure, see your GP immediately and explain that you have had this procedure.

Some patients experience a sensation of discomfort within the prostate following the procedure due to bruising. You may take any pain killer that you would normally use except Aspirin if needed following the procedure.

What are the alternatives?

If you would rather not have gold markers inserted into your prostate, you will not be able to have IGRT and will have standard conformal radiotherapy instead. This means that we will not adjust your treatment before delivering each session, but will monitor your position throughout your course of treatment instead, to ensure it is given accurately.

If you have any questions, please feel free to contact the specialist urology nurses on 0121 627 2277 or research radiographers on 0121 371 3561. For urgent advice or assistance out of office hours, please call 0121 627 2000 and ask for the on-call oncology registrar.