

## Prostate gold seed fiducial marker insertion

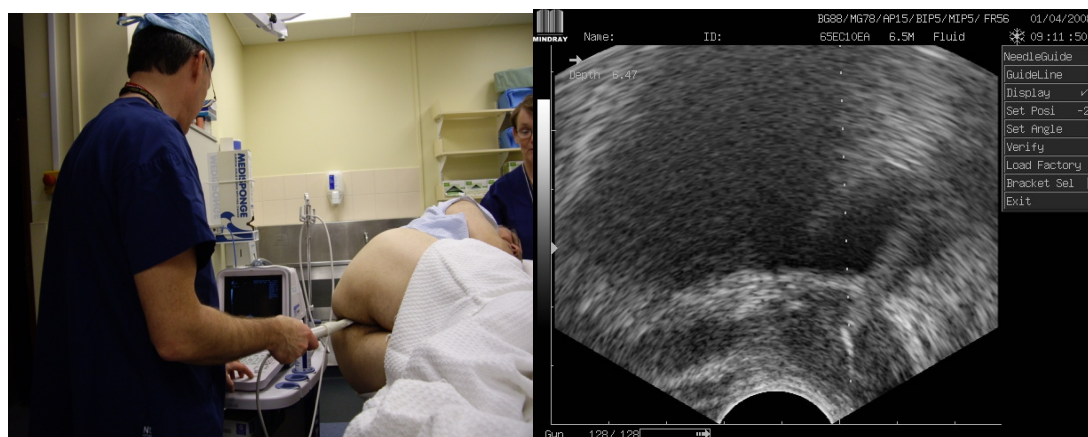
Tiny inert gold seeds measuring 4 mm x 0.5 mm that show up on x-ray are used as fiducial markers to aid in localization of the prostate to improve the accuracy of external beam radiotherapy to the prostate, which is then called image guided external beam radiotherapy (IGEBRT). These are easily and quickly inserted into the prostate under local anaesthetic using trans-rectal ultrasound guidance in a similar way to which prostate biopsies are taken. This takes less than 10 minutes under local anaesthetic with minimal discomfort.

Most blood thinning drugs are held before the procedure. Warfarin should be ceased several days before the procedure. Anti-platelet drugs such as clopidogrel should be ceased a week before the procedure but it is safe to continue on aspirin. It is helpful have an empty rectum for the procedure but it is not necessary to take any special measures. To minimise the risk of a urinary tract infection, an antibiotic tablet, ciproxin 500 mg, is provided and should be taken 2 - 3 hours before the procedure and another tablet is provided to be taken about 12 hours after the first tablet. An alternative antibiotic can be arranged in the rare situation of a ciprofloxacin allergy.

Patients lie on the left side with knees bent and legs tucked up, right on the right edge of the couch, in a similar position to that usually used for prostate biopsies. A digital rectal examination is performed to lubricate the anus and the prostate ultrasound is performed by placing the finger shaped transducer through the anus and into the rectum just behind the prostate. This is only a little more uncomfortable than the digital rectal examination. Local anaesthetic is infiltrated under U/S control and sometimes causes brief discomfort. Three needles in turn are painlessly inserted and the gold seed fiducial markers are deployed within the prostate.

A small amount of blood could be lost from the rectum, possibly a little from the penis and the ejaculation could initially be red then dark brown for a while but this should be of no concern. More significant rectal bleeding and septicaemia (infection in the blood stream) are possible but most unlikely. The implanting surgeon should be contacted or if unavailable, patients should present to an emergency department if there is concern about the amount of rectal bleeding or suspicion of septicaemia such as a temperature or the shakes and shivers and admission to hospital for intravenous antibiotics could be required.

After insertion of the fiducial markers CT and MRI scans are arranged by the radiotherapist to be used for treatment planning.



Denby Steele MBBS FRACS Urologist

175 Ward Street North Adelaide South Australia 5006 | [www.denbysteele.com.au](http://www.denbysteele.com.au)