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Low dose rate brachytherapy for localised prostate cancer

Understanding NICE guidance – information for people considering the procedure, and for the public

February 2013

A small change has been made to paragraph 2 on page 7 to rectify a reported error. The change is marked with yellow highlighting.

Information about NICE Interventional Procedure Guidance 132

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Ordering information

You can download the following documents from www.nice.org.uk/IPG132

- this booklet
- the full guidance on this procedure.

For printed copies of the full guidance or information for the public, phone the NHS Response Line on 0870 1555 455 and quote:

- N0887 (full guidance)
- N0888 (information for the public).

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About this information

The National Institute for Health and Clinical Excellence (NICE) is the independent organisation responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health. One of NICE's roles is to produce guidance (recommendations) on whether interventional procedures are safe enough and work well enough to be used routinely in the NHS in England, Wales and Scotland.

This information describes the guidance that NICE has issued on a procedure called low dose rate brachytherapy for localised prostate cancer. It is not a complete description of what is involved in the procedure – the patient's healthcare team should describe it in detail.

NICE has looked at whether low dose rate brachytherapy is safe enough and works well enough for it to be used routinely for the treatment of localised prostate cancer.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of low dose rate brachytherapy for localised prostate cancer and how well it works
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the patients and carers who will be affected by this guidance.

This guidance is part of NICE's work on 'interventional procedures' (see 'Further information' on page 10).

About low dose rate brachytherapy for localised prostate cancer

Radiotherapy uses X-rays and other forms of radiation to destroy cancer cells. Brachytherapy is a form of radiation therapy for prostate cancer. It involves placing small radioactive pellets called seeds into the prostate itself. The man has a spinal or general anaesthetic, and then the seeds are put in place through needles that are inserted through the skin. The doctor uses ultrasound images to check that the needles are put in the correct place. In the new procedure NICE has looked at, the seeds give off a low dose of radiation over several weeks or months, and they are left in place permanently.

In a variation of the procedure, called high dose rate brachytherapy, the seeds contain a higher dose of radiation and they are removed once the radiation has been delivered to the prostate. The more usual type of radiotherapy for prostate cancer uses what is known as external-beam radiotherapy. This involves directing radiation at the prostate from a radiation source outside the body.

How well the procedure works

What the studies said

One study followed what happened in around 3000 men who had different treatments for prostate cancer. Some had low dose rate brachytherapy on its own, some had external-beam radiotherapy on its own, some had both low dose rate brachytherapy and external-beam radiotherapy, and some had their prostate removed. These men were checked on regularly for up to 7 years after their treatment. In this time, there was no link between the type of treatment the man had had and whether his PSA level stayed within a normal range. (PSA, or 'prostate-specific antigen' is a protein usually found in very low levels in the blood. A rise in the blood level can be a sign of prostate cancer, and a drop in PSA is a sign that treatment has worked.) Similar results were found in another study that involved 1819 men.

In another study, 869 men had low dose rate brachytherapy. Afterwards, the PSA results for 748 men (86%) fell to a low level (0.5 ng/ml) (86% is the same as 86 men in 100).

Finally, one study looked at the general health and wellbeing of men who'd had either surgery to remove the prostate or low dose rate brachytherapy. Although the men took some time to recover from treatment, 2 years later they felt more or less as they had before they'd had the treatment. Neither treatment seemed to have affected the men's quality of life or wellbeing.

What the experts said

The experts said that low dose rate brachytherapy was already being used and seemed to work well. They said that it worked as well as surgery or external-beam radiotherapy when it was used for men whose condition made it a suitable option.

Risks and possible problems with the procedure

What the studies said

In the studies, there were reports of problems with urination, problems affecting the rectum (back passage) and impotence (problems getting or keeping an erection during sex). In general, the studies did not include many details of these problems so it was hard to see exactly how the men were affected. In one study, 10 to 15% of men had impotence after having the low dose rate brachytherapy. More men (45%) were impotent after having surgery to remove their prostate. In both groups, less than 1% of men were incontinent (had trouble controlling the flow of urine) after the treatment.

Two studies found that men who'd had brachytherapy had a lower quality of life because of problems connected with their treatment than men who'd had external-beam radiotherapy. But these studies put men who'd had low dose rate brachytherapy and those who'd had high dose rate brachytherapy into one group so it wasn't possible to see the particular effects of low dose rate brachytherapy.

What the experts said

The experts said the possible problems were incontinence, infection and problems getting and keeping an erection.

What has NICE decided?

NICE has considered the evidence on the safety of low dose rate brachytherapy and how well it works in the short to medium term. It has recommended that when it's offered to a man with localised prostate cancer, the doctor should be sure that:

- the man understands that it's not clear how the procedure affects general health and the chance of the cancer returning in the long term
- the man understands what is involved in this and the alternative treatment options
- the man agrees (consents) to the treatment
- the results of the procedure are monitored.

The healthcare team involved in planning and providing low dose rate brachytherapy should include different types of healthcare professional with different areas of expertise.

Finally, NICE has said that further studies should look at the quality of men's lives after the procedure and the effects on their long-term health.

Other comments from NICE

In some of the studies, men had had other treatments as well as low dose rate brachytherapy so it wasn't always clear what effects were caused just by the low dose rate brachytherapy.

The length of time that a man should be checked on after having low dose rate brachytherapy depends on the type of prostate cancer he has and how advanced it is.

What the decision means for you

Your doctor may have offered you low dose rate brachytherapy for localised prostate cancer. NICE has considered this procedure because it is relatively new. NICE has decided that the procedure is safe enough and works well enough in the short to medium term for use in the NHS. Nonetheless, you should understand the benefits and risks of low dose rate brachytherapy and the uncertainties about its general and long-term effects before you agree to it. Your doctor should discuss these with you and tell you about the other options that would be suitable for you. Some of these points may be described above.

Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

The NICE website (www.nice.org.uk) has further information about NICE, the Interventional Procedures Programme and the full guidance on low dose rate brachytherapy for localised prostate cancer that has been issued to the NHS. The evidence that NICE considered in developing this guidance is also available from the NICE website.

NICE has issued guidance on other procedures for prostate cancer:

- laparoscopic radical prostatectomy (www.nice.org.uk/IPG016publicinfo)
- high-intensity ultrasound for prostate cancer (www.nice.org.uk/IPG118publicinfo)
- cryotherapy for recurrent prostate cancer (www.nice.org.uk/IPG119publicinfo)

It is preparing guidance on high dose rate brachytherapy (www.nice.org.uk/ip_305).

If you have access to the internet, you can find more information on prostate cancer on the NHS Direct website (www.nhsdirect.nhs.uk).

You can also phone NHS Direct on 0845 46 47.

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