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Radiotherapy for stage 1 testicular cancer

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Does it work?

Yes. If you have stage 1 testicular cancer, and it's the type called **seminoma**, having radiotherapy after surgery can make it less likely that your cancer will come back.

Doctors don't use radiotherapy for types of stage 1 testicular cancer that **aren't seminoma**. If you have another kind of testicular cancer, you're more likely to have [chemotherapy](#) or just have regular check-ups after surgery ([watchful waiting](#)) instead.^{[1][2]} To read more about the different kinds of cancer cells, see [What is testicular cancer?](#)

Radiotherapy has side effects. If your doctor thinks that there's a very low chance of your cancer coming back, he or she may suggest watchful waiting instead of radiotherapy. This way, you avoid the side effects. But you'll need more treatment if your cancer comes back in the future.

What is it?

The first treatment you'll have for testicular cancer is [an operation](#) to remove the affected testicle. Radiotherapy uses high-energy [X-rays](#) to kill any cancer cells that might be left after surgery.

You'll need to go to hospital for treatment. A large machine is used to generate the X-rays. Having radiotherapy doesn't hurt. Radiotherapy for testicular cancer is directed at your abdomen. The area that's treated runs in a strip down the middle of your abdomen. Sometimes, the treated area also includes your groin on the side you had your testicle removed.^[3] The aim is to destroy any cancer cells that have spread outside your testicle to the lymph nodes near the bottom of your spine. For more information, see [What is my lymphatic system?](#)

Your overall dose of radiation will be split into several smaller doses. You'll have short bursts of treatment five days a week for two or three weeks. The aim is to destroy any cancer cells, while causing as little damage as possible to the normal, healthy cells around them.

The standard dose of radiotherapy for testicular cancer is 30 Gy divided into 15 fractions. But doctors sometimes recommend a lower dose to stop you getting as many side effects.

How can it help?

Radiotherapy is a good treatment for testicular cancer. With surgery and radiotherapy, plus emergency chemotherapy if the cancer comes back, nearly all men are completely cured.^{[1][4]}

Two studies have found that men treated with radiotherapy after surgery are less likely to have their cancer come back than men who have regular check-ups with their doctor.^{[4][5]} One study looked at 471 men with stage 1 testicular cancer. They all had a type of cancer called seminoma. After five years:^[4]

About 6 in 100 men treated with radiotherapy got cancer again

About 16 in 100 men who had regular check-ups after surgery got cancer again. One of the men died.

Several studies have compared radiotherapy with anti-cancer drugs ([chemotherapy](#)).^[5] Radiotherapy and anti-cancer drugs seem to work about as well as each other.

How does it work?

Radiotherapy works by damaging the DNA in cancer cells. DNA is a chemical that cells need to reproduce.

Cells reproduce by dividing. When a cell divides, it makes a copy of its DNA. The X-rays used during radiotherapy damage the DNA, so cancer cells can't grow and replace each other.

Radiotherapy does some damage to healthy cells too. That's why you get side effects. But it does the most damage to cells that are dividing. Cancer cells grow and divide very quickly, so radiotherapy damages them much more than healthy cells. You'll have several doses of radiotherapy over a few weeks. Having lots of doses increases the chance that the radiation will hit the cancer cells when they're dividing. Normal cells rest for longer before dividing, so are less likely to be destroyed.

Can it be harmful?

One of the most common side effects of radiotherapy is feeling very tired.^{[6][7][8]} In one study, a quarter of men said they felt tired.^[6] Some men also feel sick when they have radiotherapy.^{[5][7][8]} Your doctor may suggest drugs to help stop you feeling sick.

Having a [lower dose](#) of radiation can mean you're less likely to get side effects.

One study found that men who had radiotherapy were slightly more likely to get cancer in their other testicle than men who had chemotherapy.^[6] But the risk was fairly small for both treatments. After about four years:^[6]

About 11 in 1,000 men who'd had radiotherapy went on to get a tumour in their other testicle

About 3 in 1,000 men who'd had chemotherapy with a drug called carboplatin got a tumour in their other testicle.

The researchers tried to explain this difference. They think that chemotherapy given for the main tumour may have also attacked early-stage cancer in the men's other testicle, before anyone knew it was there.^[6] They don't think that radiotherapy caused the second tumour.

Men who've had radiotherapy may be more likely to get cancer somewhere else in their body later in their lives. One study looked at 547 men who'd had radiotherapy.^[9]

About 5 in 100 men went on to get cancer somewhere else in their bodies.

Of men who haven't had radiotherapy, doctors would expect about 2 in 100 to 3 in 100 to get cancer.

Some men encounter problems having sex after treatment for testicular cancer. Of men who've had one of their testicles removed and radiotherapy:[10]

About 1 in 10 are less interested in sex

About 2 in 10 don't enjoy their orgasms as much

About 4 in 10 had problems ejaculating (either ejaculating too soon or taking too long)

About 2 in 10 to 3 in 10 have problems getting an erection.

Men who have other treatments get some of these problems too.[10] So, the problems may not be caused by radiotherapy.

The problems might happen because of surgery, or even because men are worried about their cancer and don't think about sex as much.

Men who have radiotherapy are more likely to get erection problems than men who have other treatments for testicular cancer.[10] If you do have problems getting an erection, there are treatments that can help. To learn more, see our information on [Erection problems](#).

Radiotherapy can affect your fertility.[11] Most men will have radiotherapy after an operation to remove one of their testicles. You'll be given a shield to protect your remaining testicle, but some radiation will still get through. Between 8 in 10 and 9 in 10 men have a low sperm count after radiotherapy. But this will get better in time. More than 9 in 10 men have a normal sperm count three years after treatment.[11] If you want to try for children sooner than this, ask your doctor about having your sperm frozen before treatment.

Men who have radiotherapy to their groin as well as their abdomen are more likely to have a low sperm count.[7] They are also more likely to feel sick, vomit, or have a low amount of white blood cells. White blood cells are part of your immune system. They help to fight infections.

It's worth remembering that having testicular cancer can also lower your sperm count. About half of men with testicular cancer experience problems having children before being treated.[11]

If you intend to have children, your doctor will also probably advise you not to get your partner pregnant for some time after your treatment finishes. You may be asked to wait six months or a year. That's because there could be a risk of birth defects in the baby if your sperm have been damaged. Waiting for a while gives your sperm time to get back to normal.

How good is the research?

[How good is the research on radiotherapy for stage 1 testicular cancer?](#)

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Sources for the information on this page

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Dearnaley DP, Huddart RA, Horwich A. Managing testicular cancer. *BMJ*. 2001; 322: 1583-1588. [\[PubMed\]](#)

National Institute for Clinical Excellence. Improving outcomes in urological cancers: the manual. September 2002. Cancer service guidance. Available at <http://www.nice.org.uk/guidance/CSGUC> (accessed on 8 July 2011).

Fossa SD, Horwich A, Russell JM, et al. Optimal planning target volume for stage 1 testicular seminoma: a Medical Research Council randomised trial. *Journal of Clinical Oncology*. 1999; 17: 1146. [\[PubMed\]](#)

Warde P, Gospodarowicz MK, Panzarella T, et al. Long term outcome and cost in the management of stage 1 testicular seminoma. *Canadian Journal of Urology*. 2000; 7: 967-972. [\[PubMed\]](#)

Oliver RT, Edmonds PM, Ong JY. Pilot studies of 2 and 1 course carboplatin as adjuvant for stage 1 seminoma: should it be tested in a randomized trial against radiotherapy? *International Journal of Radiation Oncology, Biology, Physics*. 1994; 29: 3-8. [\[PubMed\]](#)

Oliver RT, Mason MD, von der Maase H, et al. Radiotherapy versus single-dose carboplatin in adjuvant treatment of stage I seminoma: randomised trial. *Lancet*. 2005; 366: 293-300. [\[PubMed\]](#)

Fossa SD, Jones WG, Stenning SP. Quality of life (QL) after radiotherapy (RT) for stage 1 seminoma: results from a

randomised trial of two RT schedules (MRC TE18). Proceedings of the Annual Meeting of the Society of Clinical Oncology. 2002; 21: 118.

Jones WG, Fossa SD, Mead GM, et al. Randomized trial of 30 versus 20 Gy in the adjuvant treatment of stage I testicular seminoma: a report on Medical Research Council Trial TE18, European Organisation for the Research and Treatment of Cancer Trial 30942 (ISRCTN18525328). Journal of Clinical Oncology. 2005; 23: 1200-1208. [\[PubMed\]](#)

Hay JH, Duncan W, Kerr GR. Subsequent malignancies in patients irradiated for testicular tumours. British Journal of Radiology. 1984; 57: 597-602. [\[PubMed\]](#)

Jonker-Pool G, Van de Wiel HB, Hoekstra HJ. Sexual functioning after treatment for testicular cancer: review and meta-analysis of 36 empirical studies between 1975-2000. Archives of Sexual Behavior. 2001; 30: 55-74. [\[PubMed\]](#)

Kao J, Mantz C, Garofalo MC, et al. Treatment-related sexual dysfunction in male nonprostate pelvic malignancies. Sexuality and Disability. 2003; 21: 3-20.

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