



Testicular Cancer

Testicular cancer and your fertility

This factsheet is for men who have been recently diagnosed with or may be having treatment for testicular cancer and are concerned about fertility.

It provides information on testicular cancer, the treatment and management options, the impact of these treatments on your fertility and storing your sperm for future use. Even if starting a family is not a priority for you at the moment, certain treatments may affect your fertility. It is therefore advisable to discuss fertility treatment with your specialist healthcare team before you undergo any treatment. Further information on testicular cancer can be found on the Orchid website (www.orchid-cancer.org.uk). At the end of this factsheet we have also given details of other organisations that offer information and guidance on this topic.

Who is affected by testicular cancer?

Testicular cancer is the most common cancer in men aged 15-35. Every year over 2,000 men in the UK will be diagnosed with the disease.

What is testicular cancer?

The testicles are located inside the scrotum, the loose bag of skin that hangs below the penis. From the start of puberty, each testicle produces sperm. The testicles also produce the hormone testosterone. Testicular cancer is cancer occurring in one or both testicles. A testicular tumour is a lump created by the abnormal and uncontrolled growth of cells. These lumps can often be found through regular self-examination of the testicles. They can occur in one or both testicles.

What are the different types of testicular cancer?

There are a number of different types of testicular cancer. About 95% of testicular tumours arise from the germ cell epithelium which lines the testicular tubes and are known as germ cell tumours.

The most common of these is seminoma which is made up of a single type of cell, grows slowly and tends to stay localised in the testicle for a long time before spreading to other parts of the body. This type of cancer tends to affect men over the age of 25. The remaining types, made up of more than one type of cell, are often grouped together and

known as non-seminomas. They usually affect younger men and tend to be more aggressive.

There are other types of cancer which can start in the testicles but these are rare. The most common cancer found in the testicles in men over 60 is lymphoma.

What are the likely causes of testicular cancer?

There is no single known cause of testicular cancer. However, research studies have shown the following may make testicular cancer more likely:

- An undescended testicle (cryptorchidism). Research has shown the risk of testicular cancer increases dramatically if this is not corrected by the age of 11
- A brother or father who has had testicular cancer
- A previous diagnosis of testicular cancer
- Men who had a rare complication of mumps called orchitis may have an increased risk
- Testicular cancer is more common in some racial and social groups
- Carcinoma in situ (CIS) means that there are abnormal cells in the testicle. If left untreated, it will develop into cancer in about half the men who have it
- There is some research to indicate that a small number of men with fertility problems may develop testicular cancer

Having a vasectomy, experiencing a single injury to the testicles or being sexually active does not increase your risk of testicular cancer. However if you were developing cancer, it might accelerate its appearance.

Treatment options: how is this decided?

Fortunately, testicular cancer is highly treatable. If caught early, 98% of men will make a full recovery, and even in the later stages of the disease it is still curable in 90% of cases. Your specialist healthcare team will carry out a series of blood tests, examinations and scans (such as a CT scan of



Factsheet No. 6

the chest, abdomen and pelvis) to identify the type of cancer you have and whether it has spread beyond the testicle. This will help to determine the best course of treatment.

Q. *I have been diagnosed with stage 2 testicular cancer. What does this mean?*

A. *Understanding how far your cancer has spread is called staging. It is important to know what stage your cancer is, in order that appropriate treatment may be given and to avoid your cancer spreading to other organs of your body.*

The stages are:

Stage 1 - cancer is only in the testicle.

Stage 2 - cancer has spread to the lymph nodes in the abdomen.

Stage 3 - there are cancer cells in the lymph nodes in the chest or above the collarbone.

Stage 4 - cancer has spread to other organs, often the lung.

Treatment options: what are they and how will they affect my fertility?

There are three types of treatment available to you: surgery, radiotherapy and chemotherapy.

Surgery: removing the affected testicle and tumour by surgery (orchidectomy) is the standard treatment for testicular cancer where the cancer has remained within the testicle. This is usually done within a two week period. It will not adversely affect your sexual performance. A prosthesis – or false testicle - can be inserted in place of the removed one. This tends to be performed a few months after the initial operation. Another option is surgery involving a lumpectomy where just the tumour is removed, although this is only possible under specific conditions and is not considered standard treatment in many settings.

Having one testicle removed will not normally affect your fertility because the remaining testicle usually produces more sperm to compensate for the one that has been removed. However, you may still wish to consider and discuss with your specialist healthcare team storing your sperm before any form of treatment begins – if cancer is diagnosed in both testicles or if it returns in the healthy testicle which is then removed, you will no longer be able to produce testosterone or sperm. You will require testosterone replacement therapy which can be given as patches or injections, or less commonly by tablets. If you have this therapy you will be able to maintain an erection and your sex drive. However you will not be able to father a child.

If the cancer has spread to your lymph nodes it is likely these will be removed by surgery. This can sometimes damage the nerves that control ejaculation and may leave you infertile. In these cases you should consider storing your sperm before surgery.

Radiotherapy: After surgery it is not necessary to give any further treatment, providing the cancer has not spread beyond the testicle. This form of treatment is known as

surveillance. Unfortunately the cancer returns or relapses (usually at the site of the lymph nodes in the abdomen) in about 30% of patients. Almost all of these patients are cured with chemotherapy; however, chemotherapy does have side effects. Therefore some doctors offer either radiotherapy or mild chemotherapy to prevent the cancer coming back. Radiotherapy uses high energy beams of radiation to help destroy the cancer cells. This milder treatment has a much less profound effect on your immune system and some patients opt for this extra treatment for preventative purposes. Radiotherapy will not normally affect your fertility but storing your sperm should be considered before treatment starts.

Chemotherapy: If it is apparent that the cancer has spread beyond the testicle you will almost certainly need chemotherapy. Chemotherapy uses powerful medicines to kill the cancer cells or stop them multiplying. There are a number of possible side effects with this treatment, including lowering the number of sperm your body produces. This may cause temporary infertility during and after treatment (up to two years after in some cases) or in some cases this can be permanent. The effect of chemotherapy on sperm is uncertain and there is no evidence that chemotherapy can harm children. However most specialist healthcare teams would advise that you do not conceive for about a year after treatment. It is important to continue to use contraception during this period as it is still possible to conceive.

Low sperm count

Some men with testicular cancer have a low sperm count before they start treatment. In these men, successful treatment with chemotherapy can sometimes cause their sperm count to return to a more normal level.

After your treatment is completed

Once your treatment has stopped you will be monitored on a regular basis for at least five years by your specialist healthcare team.

Sex and your treatment

Whether you choose to remain sexually active during your cancer treatment or not is entirely a personal choice and the type of treatment you have will affect you in different ways. You should continue to protect yourself and your partner during this time.

What is sperm storage?

Storing your sperm, also known as sperm banking, is the preservation of your sperm by freezing. The sperm may be used in the future for artificial insemination or other assisted reproduction techniques.

Why consider sperm banking?

There are a number of reasons why you may wish to consider storing your sperm. Certain treatments may lower the number of sperm your body produces which in turn can



Factsheet No. 6

lead to infertility. This may be temporary and will recover following treatment. Sometimes the treatment may lead to permanent infertility. In some cases the tumour bearing testicle may be able to produce sperm whilst the healthy one may be non-functioning. If there is any doubt sperm storage should be discussed before surgery begins. Sometimes the cancer may return to the healthy testicle and if removed you will not be able to father a child.

Even if you don't plan to start a family, sperm banking is worth considering in case you change your mind in the future.

Where can you find a sperm bank or clinic?

Your specialist healthcare team will be able to advise you if the hospital where you are being treated has sperm banking facilities. They can also provide you with information on your local fertility centre where you may be offered the opportunity to bank your sperm.

Visiting the sperm bank or clinic

When you first visit the clinic, the consultant or specialist healthcare team will discuss the process and answer any questions and concerns you may have. You may wish to take someone with you at this stage or to keep notes of the meeting.

You will be asked to provide a sperm sample, through masturbation, to the clinic who will then freeze and store it. When you are ready to have a child the semen is thawed and then used to artificially inseminate your partner.

To provide a sample may require several visits to a clinic. Understandably, some men may find the situation stressful or embarrassing and may not be able to produce a sperm sample through masturbation. Some men may have a low sperm count and will need to visit the clinic at a later stage when the treatment has finished and the count improved. If you have a low sperm count, a technique known as microinjection of sperm may be used. This involves identifying good quality sperm from your semen which is then stored for use at a later stage. The semen will be thawed and the surviving sperm used to fertilise your partner's egg. The fertilised egg is then implanted in the womb to grow naturally.

Not everyone is suitable for sperm banking and a low sperm count, poor sperm quality, and the freezing and thawing process can all affect your ability to father a child. If your cancer has spread and you need to begin your chemotherapy right away, your doctor may advise against sperm banking because it could delay the start of your cancer treatment. Don't worry if you are unable to bank any sperm. There are many new techniques and procedures in development.

What tests and consents are involved?

There are a number of tests and consent forms that you will need to complete including:

- If you are under 16 you will need your parent or guardian's permission to have your sperm treated and stored.

- Your blood will be screened for HIV, hepatitis B and hepatitis C. This is usually arranged by your specialist healthcare team.
- You will need to confirm what you would like done with your sperm in the event of your death.

Q. *Following my cancer treatment, what happens if tests show that I am fertile?*

A. *You will need to discuss the results with your specialist healthcare team. You may wish to have your stored sperm destroyed. If your sperm count is still low, the usual practice is to store your sperm until you are 55.*

What costs are involved in storing sperm?

Currently, the NHS will pay for the costs of the initial consultations, blood tests and storage for the first year. Funding for further treatment is under review and you should discuss this with your specialist healthcare team as it can be expensive to store the sperm longer term.

Q. *What happens to my stored sperm if I move away from the area where I was originally treated?*

A. *You must ensure the clinic and your GP are provided with your new address details as they will need to contact you in the future. You do not need to move your stored sperm.*

Conclusion

Treatment for testicular cancer will vary according to the type and stage of your cancer. Every case will vary but the vast majority of men, even those who have had chemotherapy, will be able to father a child. Even if this is not a priority for you at the moment, storing your sperm gives you an option for the future.

Further information:

Your specialist healthcare team and the fertility clinic can offer you information and guidance on issues relating to your fertility. For further information and support on testicular cancer and other male cancers please visit www.orchid-cancer.org.uk

You might also want to visit the following websites:

www.cancerhelp.org.uk

www.fertilehope.org

www.livestrong.org

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