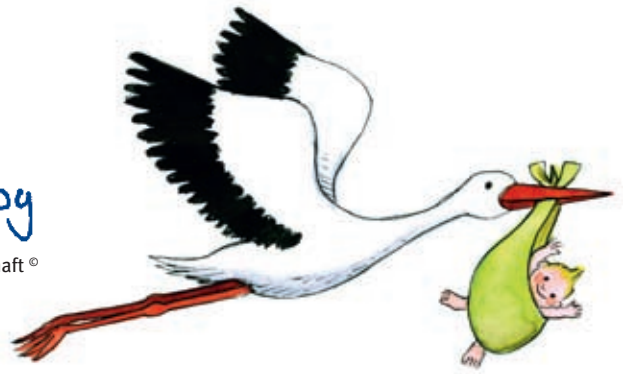


Now also summarized as a video!



Fertility in boys after chemo and radiotherapy

A brief guide by Anja-Borgmann-Staudt, published by the Berliner Krebsgesellschaft ©



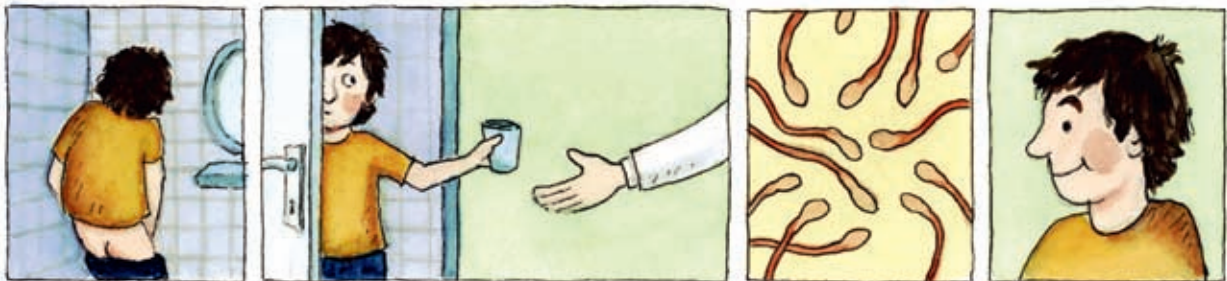
Dear Patient,

As you know, you have a serious illness, which can be cured in most cases. Unfortunately, during your treatment healthy cells can be destroyed alongside cancer cells. For some patients that means that they won't be able to have children. Although cancer treatments may reduce your fertility, there are different medical ways we can help you still have children one day. This leaflet explains about fertility after cancer treatment and what the options are for protecting your fertility.

Measures to preserve fertility

It is possible to remove and freeze sperm, or a sample of tissue from your testicle, before you start chemo or radiotherapy. This can then be thawed and used at a later date, if you want to have children. Whether we freeze sperm or testicle tissue will depend on whether you've reached puberty or not.

During and after puberty



As soon as your testicles start working and producing sperm, the sperm can be frozen and stored for many years. This is usually possible from about the age of 13, and depends on how far your external sexual characteristics have developed – if your testicles have grown to a volume of at least 8 millilitres and you have pubic hair. The easiest way to get sperm is from your semen. You need to ejaculate, which you can do by stimulating your penis with your hand (masturbating) (see picture above). This is risk free for you, so it's worth considering, even if your chemo or radiotherapy only have a low risk of harming your fertility. The alternative – also an option if your semen doesn't contain enough live sperm – is a short operation, under anaesthetic, to remove a little piece of tissue from your testicle (biopsy). Sperm from the tissue sample can be frozen (see diagram to the right).

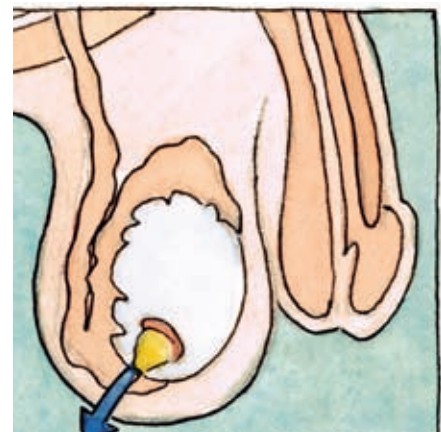


Diagram of a testicle biopsy

Once you've recovered from your cancer, and you want children, your sperm can be thawed and used for artificial fertilisation. This leads to a successful pregnancy in more than half of cases.

Before puberty

Your body doesn't produce sperm before puberty. But it is possible to get a small sample of tissue from your testicle and freeze it. In this way, we can preserve the stem cells that are contained in the sample for potential development into mature sperm after you've recovered. The methods for getting sperm to develop in this way are still experimental and are only being used in particular hospitals as part of research programmes. The ideal method would be to transplant the tissue back into the testicle after the patient has recovered – probably at the point when he wants children, as we aren't sure how long the re-transplanted tissue will remain functional. Do be aware, though, especially if you have leukaemia or non-Hodgkin's lymphoma, we can't rule out the possibility that there will be malignant cells in your testicles. In this case, instead of transplanting the tissue sample, we would consider using individual sperm, that have been brought to maturity. Since tissue samples can easily be stored for long periods (more than ten years), this is still an option for patients who are at particularly high risk of reduced fertility.

Risk factors that particularly increase the probability of infertility:

- Radiotherapy of the pelvis of around 4 Gray or more, if the pelvic area is affected by cancer.
- Whole body radiotherapy (total body irradiation) of around 4 Gray or more, previous to a stem cell transplant.
- Procarbazine chemotherapy, from a dose of about 6 g/m², or less, in the case of Hodgkin lymphoma.

You can find more information about fertility after cancer treatment in our booklet about fertility in boys after chemo and radiotherapy, or on our website:

https://kinderonkologie.charite.de/en/research/borgmann_staudt_group/

We wish you all the best!

Do you understand the possible risks to your fertility and the options for preserving it?

- Yes No, I've got more questions

Ask your doctor to fill in below whether you are at low, medium or high risk of reduced fertility (see also our detailed booklet).

- high risk medium risk low risk

In consultation with your parents and doctors, would you like to take steps to preserve your fertility before your treatment?

- Yes No