

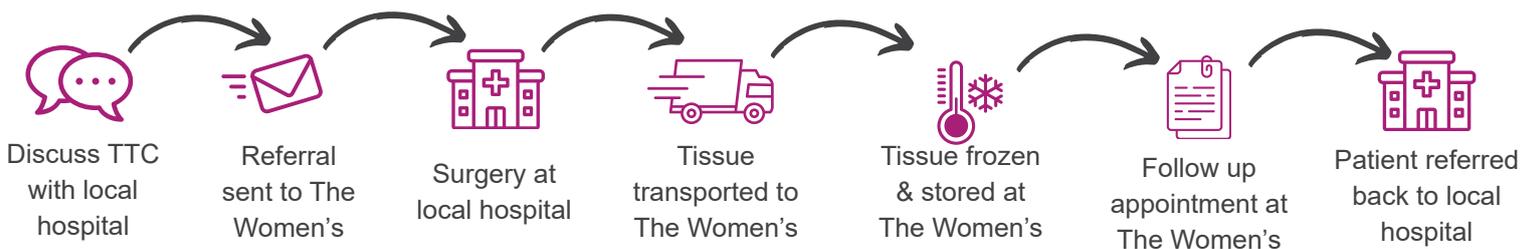


Testicular tissue cryopreservation (TTC)

Preserving fertility for children and young people with cancer

Some cancer treatments can damage the testicles and make it harder to have a baby in the future. This information sheet explains how testicular tissue cryopreservation (or testicular tissue freezing) can help with this.

In Time Patient Journey



What is fertility?

People with testicles are not born with sperm, the immature cells grow into sperm over time. From puberty onwards, the body produces messengers in the blood called hormones. These hormones tell the testicles to start making sperm. Sperm are tiny cells that can join with an egg to start a pregnancy. Some medical treatments (like chemotherapy or radiation) can damage the cells that make sperm. They can also affect hormone levels. This can make it harder to have children later in life.

Testicular tissue freezing is experimental but can help protect the ability to have a baby in the future.

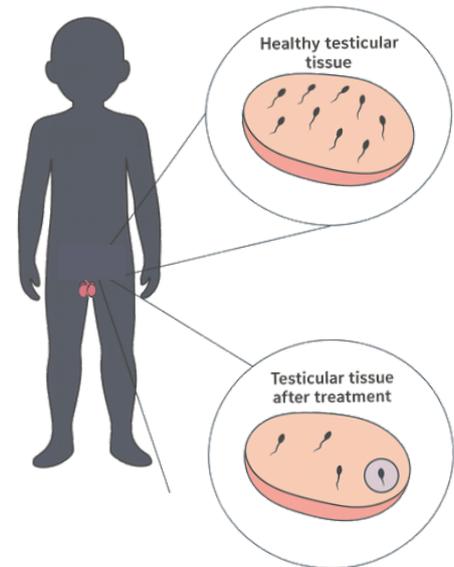


Image shows a healthy testicle with lots of sperm versus a testicle post treatment that has less sperm. Image generated using Canva AI.

About the In Time program

The In Time program is a free, Australia-wide service based at the Women's. It offers free fertility support, testicular tissue transport and tissue freezing for children and young people (up to 24 years) with cancer.

Who might choose this option?

This option is for children and young people who need to have cancer treatment that might affect their fertility.

Examples of such treatment include:

- some types of chemotherapy
- radiation to the testicles and whole body
- a bone marrow or stem cell transplant.

Testicular tissue freezing may be suitable if puberty has not started yet. This is because freezing sperm is not an option yet.

It may also be suitable for young people who have started puberty but are unable to produce sperm.

This means it is not possible to collect and freeze their sperm.

The doctor will advise whether testicular tissue freezing is the right choice.

When would it happen?

Testicular tissue freezing can happen before or just after cancer treatment. The medical team will explain which option is best.

If treatment is very urgent, the team will talk about whether testicular tissue freezing is still an option.

What can you expect?

General anaesthetic is used to go to sleep for the procedure.

For children and teenagers, the procedure is often done at the same time as another procedure (such as a line insertion for chemotherapy).

There are three key steps:

1. Surgery - surgery is performed to remove a piece of tissue from one of the testicles.
2. Freezing - the tissue is cut into thin slices and frozen in a special laboratory.
3. Storage - the tissue is stored at the Women's in Melbourne.

The surgery usually takes between 30 minutes and one hour. Most people go home the same day.

What are the risks?

No surgery is without risk, but the risks associated with this surgery are small. The medical team will talk about these.

It is important to understand these risks before agreeing (consenting) to the procedure.

Risks include:

- having a general anaesthetic
- mild pain or bruising at the operation site
- bleeding or infection
- damage to other organs in the area

Please note, if cancer treatment has already started the risk of infection from this procedure may be higher.

Where is the tissue stored?

The Women's in Melbourne stores the tissue for the following length of time:

- For patients under 18 years of age, we can store tissue for up to 20 years.
 - Patients will need to sign a new consent form once they turn 18 years of age.
- For adult patients, we can store tissue for up to 10 years
 - It may be possible to store tissue for longer than this.

Future possibilities

We hope that later in life, if the patient wants to try for a baby or needs help making hormones, the tissue is thawed and put it back into the body. The tissue may start working again to make hormones and sperm. It is important to know that testicular tissue can only be used by the person it belongs to.

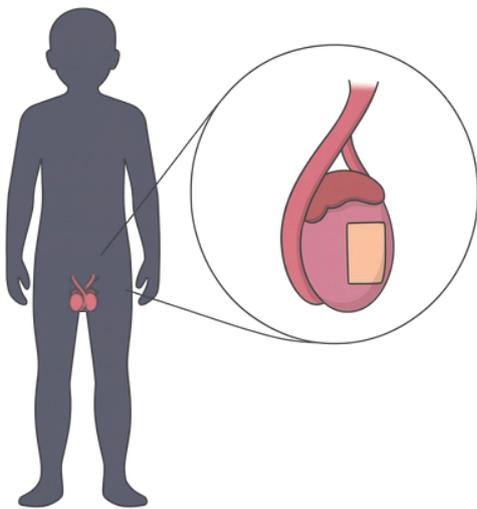


Image shows an expanded view of the testicle with a patch showing the location of the transplanted testicular tissue. Adapted from Image generated using Canva AI.

How successful is it?

To date, there have been no live human births from testicular tissue freezing. It is known as an experimental procedure.

However, there is a lot of research happening around the world. There is hope for success in the future.

Choosing to freeze your testicular tissue keeps your options open.

It is important to know that:

- the tissue may not work (make hormones or sperm) when it goes back into the body
- even if the tissue works, it might not lead to a pregnancy
- patients with cancers such as leukemia have a higher risk of cancer cells from the tissue going back into the body.

The success of this procedure depends on:

- the patient's age at tissue collection
- how healthy they are
- the processing techniques and storage conditions

How much does it cost?

Referral to the In Time program is free.

This includes:

- consultation with the Women's fertility team
- transport of the testicular tissue
- tissue freezing and storage.

The procedure will be carried out at the hospital. Usually, a paediatric (children's) surgeon will do this.

Is this the right choice?

The medical team will help with the decision making.

The team will include:

- an oncologist (cancer doctor)
- a fertility doctor
- a nurse.

They can explain the procedure and answer any

questions. They can also help work through any emotions that may come when making this decision. Parents or carers will need to give consent for their child or young person to have this procedure (up to the age of 18). However, we encourage everyone to be included in conversations and decision-making.

It's normal to have mixed feelings about this decision. The medical team will help everyone involved to be a part of the decision in a way that feels right.

What if you decide not to go ahead?

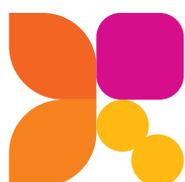
It's OK to decide not to freeze testicular tissue. The same medical care and support will be given either way. If a decision is made not to go ahead, the cancer treatment will still progress as planned. If preferred, fertility options can be talked about when cancer treatment has finished.

If fertility is affected, there are other options you can discuss with the team at The Women's.

Possible questions

Here are some suggestions for questions to ask the medical team.

- Are there any risks to fertility from cancer treatment?
- Apart from testicular tissue freezing, what other fertility options are there?
- How long until the cancer treatment starts?
- Is a decision on fertility options needed now?



Disclaimer: This fact sheet provides general information only. For specific advice about your healthcare needs, you should seek advice from your health professional. The Royal Women's Hospital does not accept any responsibility for loss or damage arising from your reliance on this fact sheet instead of seeing a health professional. If you require urgent medical attention, please contact your nearest emergency department. © The Royal Women's Hospital 2025

Key points

- Some treatments for cancer (like radiation and chemotherapy) can damage fertility.
- Testicular tissue freezing is an option that may help preserve fertility for children and young people.
- It's okay to have questions.
- It's okay to choose NOT to freeze testicular tissue.
- Young people can ask questions without parents/carers in the room if they prefer.
- Our medical team are here to support you.

The Women's website

For more information on In Time, Fertility Preservation options and support services, please visit The Women's Hospital website



Do you need an interpreter?



You can ask for an interpreter if you need one.

Support services

If you need support, please contact the In Time program nurse who is available from Monday- Friday 7:30am - 4:00pm

Telephone: (03) 8345 3227
Email: rsu.fps@thewomen's.org.au

Social workers, Psychologists or pastoral care are often available local hospitals if extra support is required. Please speak to your nurse to arrange.