

Cryopreservation

Information for parents and carers



What is the cryopreservation service?

In Oxford we offer the cryopreservation of reproductive tissue. This involves removing tissue from the ovary or testicle and cooling it to extremely low temperatures (minus 170°C). This preserves the tissue for the future, when it may be used when your child is trying to conceive.

Why has my child been offered this treatment?

We offer this treatment to children with a variety of conditions, who are likely to have their fertility affected either by their illness and/or its treatment. We will have been contacted by your oncologist, who has discussed your child's individual requirements with us.

What are ovaries?

Ovaries are the pair of female reproductive organs that lie on either side of the womb. They are where eggs are produced, as well as other chemicals (known as hormones) which have effects on other parts of the body. These hormones control reproduction and puberty in women.

What is a laparoscopic oophorectomy?

This is the keyhole operation we use to remove one of the ovaries. We only remove one ovary, as if we were to remove both this would cause the menopause to begin.

The operation is carried out under general anaesthetic (which means your child will be unconscious throughout). A small cut is made through the belly button (umbilicus), to allow a thin camera and instruments to examine the ovaries and carry out the procedure. A small amount of carbon dioxide is put into the abdomen, to create space between the tummy wall and the internal organs. This gives the surgeons a better view and allows the ovary to be safely removed through the same small cut.

The ovary is immediately taken to the laboratory by the tissue team, where it will be frozen and then stored in an ultra-low temperature freezer.

The wound will be closed with dissolvable stitches and covered with a small dressing. The stitches will dissolve on their own and do not need to be removed.

What are testicles?

The testicles are the pair of male reproductive organs that lie within the scrotum (below the penis). They produce sperm, as well as other chemicals (known as hormones) which have effects on other parts of the body and also control puberty.

What is a testicular biopsy?

This is an operation carried out under a general anaesthetic (which means your child will be unconscious throughout) to remove part of one of the testicles. A small cut is made in the skin over the testicle (the scrotum). A second cut is then made in the testicle itself, which allows a small amount of tissue to be taken away. Sometimes it is necessary to remove the entire testicle. The type of sample required will be discussed with you prior to the operation.

The tissue is immediately taken to the laboratory by the tissue team, where it will be frozen and then stored in an ultra-low temperature freezer.

Both of the cuts are closed with dissolvable stitches. You will be able to see these stitches in the skin, but they will dissolve on their own and do not need to be removed. A plaster spray is applied to protect the wound.

Other procedures

Some children will require other procedures (such as insertion of Hickmann lines) and we may be able to do this under the same general anaesthetic, to reduce the number of procedures they need. Their oncologist will discuss this with us if they think this might be possible.

How should we prepare for the procedure?

Your child will need to be fasted on the day of surgery. Please make sure that you follow the fasting (starving) instructions which should be included with your appointment letter. Fasting is very important before an operation. If your child has anything in their stomach whilst they are under anaesthetic, it might come back up while they are unconscious and get into their lungs.

The instructions for fasting are also shown below:

Children under 1 year of age	<ul style="list-style-type: none">• may drink cow's milk before 2.30am• may drink formula before 4.30am• may have breast milk before 5.30am• should have a drink of water or squash (not juice), but be finished by 6.30am.
Children over one year of age	<ul style="list-style-type: none">• may eat and/or drink cow's milk formula/breast milk until 2.30am• should have a drink of water or squash (not juice), but be finished by 6.30am.

Please do not give your child chewing gum or boiled sweets on the day of their surgery.

What will happen on the day of their surgery?

Your child will usually need to come to hospital on the morning of their operation. When they arrive we will check their pulse, breathing, blood pressure and temperature. You and your child will meet a number of people, who will be looking after them before and after the procedure.

One of our doctors will come and examine your child and will ask you some questions to check that it is safe for them to have the surgery. A specialist doctor will discuss the cryopreservation with you and will take your consent for storing the tissue. Your child's surgeon will explain the procedure and will take your consent for the operation to go ahead. The anaesthetist (who will take care of your child whilst they are unconscious) will also see you, to explain the anaesthetic and pain relief used after the procedure.

We may need to take blood samples to check your child's cell counts and/or to make sure we have the right blood available, in the rare instance that they need a blood transfusion. If your child needs these extra tests, you will be told about this in advance. Sometimes these tests need to be done the day before the operation. We will tell you in advance if your child needs to come into hospital earlier. If needed, we may be able to offer you accommodation either on-site in the CLIC Sargent house (in Oxford), or in a nearby hotel.

Recovery after surgery

This operation is usually a day case procedure, which means that your child should be able to go home the same day. We will give them a medication called diclofenac as a suppository (a small soft tablet/pellet put into their bottom) to help with any pain. This is usually put in during the operation.

They may have some mild pain for about 48 hours after the procedure. You can give them paracetamol and ibuprofen (if they are able to take this) to help when you return home.

They may have some bruising near the wound, which can last for several days. They may also have pain in their shoulder; this is completely normal and is due to the carbon dioxide placed into their abdomen. It will gradually get better on its own around 24 hours after the procedure.

Please avoid letting your child soak in the bath for three days after their operation. If your daughter has had an oophorectomy, you can remove their wound dressing after three days. If your child also has a Hickmann line inserted, the dressing for this will be changed the day after their operation.

When will my child be able to go home?

Usually, they will be able to go home the same day. If they need to stay overnight this will be discussed with you on the day. Please bring an overnight bag with you, just in case.

We will give you a copy of their discharge letter and a document that outlines the details of the operation they have had. It is important that you keep a copy safe, in case the doctors at your child's usual hospital need to know more.

Follow-up

Following their procedure your child will be discharged back to the care of their usual team.

You will receive a letter from the cryopreservation team, telling you about whether the tissue samples have been successfully frozen. It will also tell you about what to do once your child's treatment has been completed.

Signs to look out for

If you are concerned about anything or have any questions after your child's procedure, please contact your usual team of doctors and nurses. If they are not able to help, or the problem relates to the cryopreservation procedure, they can contact us directly and we will give advice over the phone.

Some common signs to look out for are:

Redness or oozing from the wound

Your child is likely to have some redness around their wound after the procedure; this is part of the body's natural response to the operation. However, this should improve and not get worse. If the redness is spreading, there is white or yellow discharge coming from the wound, or they have a high temperature (above 37.5°C), this might mean they have an infection and may need antibiotics.

Bleeding

Your child shouldn't experience any bleeding following the procedure. Rarely there may be bleeding from the wound, but this should stop if you apply pressure to the wound with clean tissue or cotton wool pad. If the bleeding has not stopped within 15 minutes, you should take your child to the nearest Accident and Emergency department.

Bleeding from Hickman line site

If your child has a Hickmann line and it starts to bleed where it comes out of their skin, please apply pressure to their neck. The bleeding will usually be coming from the blood vessel the line is entering and not from the tract (hollow) under the skin. Sit your child up and apply pressure just above where the line can be felt over their collar bone (clavical). You will need to press continuously for a minimum of 5 minutes. If the bleeding has not stopped within 15 minutes, you should take your child to the nearest Accident and Emergency department.

Hickmann line falling out

This is very uncommon, but can be worrying if it should happen. If the line has fallen out, apply pressure to the site where the line came out of the skin and call your child's team of doctors.

If the line has been pulled but is still within the skin, try to secure it where it is with tape and avoid moving it any further. You should then call your child's team of doctors. If the cuff is still inside the body it may be possible to avoid the need for a new line being put in.

Pain

Simple pain relief, such as paracetamol and ibuprofen (if your child is able to take this) are usually all that is needed. If they experience shoulder pain this will go away on its own with time; gentle exercise such as walking may help with this.

If your child is still in pain despite taking painkillers, please contact their usual team of doctors and nurses, who can give you advice or may be able to prescribe a stronger painkiller.

How to contact us

If you have any further questions, please contact us:

Surgical Team

Tel: **01865 234 197**

Cryopreservation Team

Tel: **01865 220 076**

(office hours)

Outside of office hours:

Tel. 0300 304 7777

(ask switchboard to call the team you need)

If you have a specific requirement, need an interpreter, a document in Easy Read, another language, large print, Braille or audio version, please call **01865 221 473** or email **PALS@ouh.nhs.uk**

Authors: Miss Kokila Lakhoo and Dr Rosie Parry
June 2017
Review: June 2020
Oxford University Hospitals NHS Foundation Trust
Oxford OX3 9DU
www.ouh.nhs.uk/information

