

Preserving female fertility before
chemotherapy / radiotherapy treatment

Ovarian Tissue Cryopreservation: Parent / Carer



Ovarian tissue cryopreservation

Some cancer treatments (chemotherapy and / or radiotherapy) can lead to an early menopause. This may affect fertility; your child's ability to have children in the future. For young girls and women who have to start treatment urgently, the standard fertility preservation methods of egg and embryo storage are not an option.

In these circumstances, a treatment called ovarian tissue cryopreservation can be offered to protect future fertility.

Frequently Asked Questions about ovarian tissue cryopreservation

What is ovarian tissue?

The ovaries are part of the female reproductive system. Girls usually have two ovaries situated either side of the spine in the pelvis. When a girl is born all the eggs that she will ever have are stored in the outer layer of the ovary, called the cortex. It is this layer of tissue, containing the immature eggs, that will be stored by a special freezing technique called cryopreservation.

What is cryopreservation?

Cryopreservation is the method used to safely preserve human tissue at very low temperatures (approximately -170°C) using liquid nitrogen vapour. Ovarian tissue can be preserved in this way. The ultra-low temperature 'cryogenic' freezers can safely preserve the hormone function and eggs stored in the ovarian tissue.

How successful is ovarian tissue cryopreservation?

Ovarian tissue cryopreservation programmes have been running in a number of large centres around the world for at least 15 years. Published data on successful pregnancy rates for this technology is very encouraging and in line with current standard fertility treatments such as IVF. There have been over 50 births recorded from cryopreserved ovarian tissue with normal development during gestation and outcome at birth. Therefore, whilst this technology is still relatively new and still considered to be in an 'experimental phase', these results support it as being a successful method of fertility preservation.

How is ovarian tissue collected and stored?

We collect ovarian tissue during a short key-hole operation (laparoscopic oophorectomy) performed under general anaesthetic. During the operation, surgeons will check that both ovaries look normal and then remove one. The ovary is immediately transported by the Tissue Bank staff to the laboratory where it is prepared for freezing. The tissue is cut into thin strips and carefully soaked in preservative fluid. This protects the tissue when it is cooled very slowly using a computer controlled freezer in order to preserve the tissue structure and function. The ovarian tissue is then stored safely in the Tissue Bank freezer.

Will this increase the risk of premature ovarian failure (menopause)?

No. Studies have shown that women born with only one ovary or have an ovary removed for any medical reason will start menopause at the usual age.

What will happen if you decide to go ahead?

1. Your daughter's doctor will complete a referral form and send it to the Oxford Tissue Cryopreservation (OTCP) service. The doctor will also organise for your daughter to have a blood test to check for the presence of certain viral infections. They will discuss these blood tests with you and your daughter at the time of referral.
2. Once the referral is accepted, a doctor from the Oxford OTCP service will arrange to meet you and your daughter to discuss the ovarian cryopreservation procedure in detail.
3. Following the discussion, if you wish to proceed, the doctor from the Oxford OTCP service will explain and help you and your daughter (if appropriate) to complete all relevant consent forms. These are a requirement of UK legislation. As this is a new service in the UK, there are very strict regulations in place which are carefully monitored by two government agencies – the 'Human Tissue Authority' and the 'Human Fertility and

Embryology Authority'. When your daughter reaches the age of 18, she will be required to confirm her consent for ongoing storage.

4. The surgeon carrying out the laparoscopic oophorectomy will arrange to meet with you and your daughter prior to theatre to ensure you have an opportunity to ask any questions about the surgery. If any other procedure is required for your daughter's cancer treatment (such as insertion of a central venous catheter), then the ovarian tissue surgery will be organised to be carried out at the same time if possible.
5. At the start of the operation your daughter will be given a broad spectrum antibiotic to ensure that all surgical wounds are fully healed before she starts her cancer treatment.
6. In the majority of cases the surgery is done as a day case, and your daughter will be able to go home on the same day, with simple medication such as paracetamol and ibuprofen.
7. As soon as possible after surgery you will receive a procedure summary letter with a copy of the signed ovarian tissue cryopreservation consent form. This will give you details about the tissue which has been stored and how you can contact the Oxford OTCP doctor and the Tissue Bank.

What will happen if your daughter wants to use her tissue in the future?

If, following treatment, your daughter decides she wishes to start a family but has experienced premature ovarian failure, she will need to contact the Oxford OTCP service as detailed in the procedure summary letter. An appointment will be made for her to discuss her fertility problems and to explore methods to restore her fertility using the tissue held in the Tissue Bank. At present this would involve re-implantation of some of the stored strips of ovarian tissue, in order to restore ovarian hormone function and egg production. However, in the future there will be a wider range of techniques available, increasing the range of

potential options. Any future procedures will be fully discussed along with a separate consent process before your daughter's tissue can be used.

Is there a risk that the tissue could contain cancer cells?

Some cancers such as leukaemia and lymphoma have a higher risk of cancer cell contamination than others such as solid tumours. The ovarian tissue collected will be screened for cancer cells by standard histopathology methods prior to storage. This is a preliminary screen and the tissue will be frozen regardless of status. If your daughter decides she is ready to start a family and has experienced premature ovarian failure then the most advanced techniques available at the time would be used to test for the presence of micro-metastatic cancer cells. Tissue containing micro-metastases would never be re-implanted but there are other techniques being developed that could be used in these circumstances. All results and options for use of your daughter's tissue would be discussed in full with her along with a separate consent process.

What happens when you no longer require your tissue?

The consent form that you will be asked to sign before the tissue is collected will explain all relevant options in detail. The tissue we store will be for your daughter's use only; it can never be used for any other patient. When she no longer requires the tissue it will either be destroyed by incineration or, if it is your / her wish, it will be used for ethically approved research. You and your daughter (if appropriate) will have an opportunity to discuss this in detail when you meet with the doctor from the Oxford OTCP service.

If you have further questions or would like more details, please contact us

Please call:

01865 220 076 (24 hours)

Or write to:

Oxford Tissue Cryopreservation Service

Oxford Heart Valve Bank
Level 0, Oxford Heart Centre
John Radcliffe Hospital
Oxford OX3 9DU

**Lead Consultant for Oxford Tissue
Cryopreservation Service**

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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 **PALSJR@ouh.nhs.uk**

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