1. Introduction:

Ovarian tissue Cryopreservation is a technique where a small part of the ovarian tissue from one or two of the ovaries is taken and stored by a much-specialised process. In simple language, it is a technology to “freeze part of your ovaries for future use”. During storage, the structure and function of the ovarian tissue are preserved for as long as it is required. This technology allows women to preserve the fertility and hormonal supply for future use.

Each woman has two ovaries, one on each side of your pelvis. At the time of puberty, the ovaries have about 300,000 to 400,000 eggs. Each month, a variable number of eggs are lost, and by your late thirties, the number of eggs would have dropped to tens of thousands. As the number of eggs decline, fertility (ability to get pregnant) declines. As the eggs disappear, the woman cannot conceive and the ovaries stop producing oestrogen (a female hormone), and so menopause starts.

2. Frequently asked questions:

2.1. Why may you need ovarian tissue cryopreservation?

Ovarian tissue preservation may be suitable for you if in the following situations:

**Future Fertility**: You might have to go through a medical treatment or have a medical condition that could damage your ovaries. You might be worried about the impact of
age on your chances of getting pregnant when your circumstances allow you to do so.

**Future protection against menopause:** You might be worried about the impact of menopause on your quality of life and not keen to use hormone replacement because of the concern about safety.

### 2.2. Who are we?

We are three organisations working together in a strong partnership to deliver the service of the ovarian tissue freezing. This partnership includes ProFaM, University of Birmingham and approved Hospitals. The service is licensed and inspected by the UK Government’s Human Tissue Authority (HTA). ProFaM is a UK-registered organisation, which provides national and international expertise in fertility preservation, keyhole surgery and ovarian tissue preservation. ProFaM works in partnership with the Advanced Therapeutic Facility of the University of Birmingham (ATF). The surgery will be carried out in a specialised hospital with all facilities and expertise needed for safe surgery.

### 2.3. How can I have ovarian tissue preservation?

You or your clinician needs to contact ProFaM for an appointment. The ProFaM coordinator will book you a consultation with one of our consultants. The coordinator will inform you about appointment time, location and consultation fees if it is not funded by NHS. The contact details could be found at the end of this leaflet. The coordinator may request you to fill in an online questionnaire about your health prior to the consultation.
2.4. If I want to preserve my fertility how does this option compare with egg freezing?

Egg freezing involves stimulation of your ovaries using hormones. The eggs are collected with a short procedure performed under anaesthesia. The eggs are frozen to be used in the future with IVF. Research has shown a minimum of 20 eggs must be stored to give a reasonable chance of a baby. This means often two or three cycles of egg collection are needed to have a good chance. With ovarian tissue freezing, thousands of eggs could be stored on one procedure, depending upon the woman’s age. The tissue freezing also helps for postponing menopause. There is no need to take daily injections of hormones to stimulate ovaries with tissue freezing. If you wish you may choose to have both eggs and tissue freezing.

2.5. What will happen in the consultation?

Our accredited and trained doctor will review your medical history. The doctor will access your suitability for the procedure. The doctor will discuss the process in detail along with risks benefits and future potentials. You will have an opportunity to ask further questions. You can make an informed decision on whether to proceed with ovarian tissue freezing with us. If you wish to proceed with this, our doctor will arrange further tests which include blood tests and a pelvic ultrasound scan. Blood tests are mainly to check HIV, hepatitis and number of eggs in the ovaries (ovarian reserve). The doctor will explain you further steps and request you to sign the consent forms.
2.6. What will happen after the consultation?

If you wish to go ahead with the ovarian tissue freezing, the doctor will arrange tests and follow up with a nurse to discuss the results. Your suitability for anaesthesia will be examined in this consultation.

2.7. How we take the ovarian tissue out for storage?

The tissue is usually taken during a day case operation using keyhole surgery. The operation is done by an experienced specialist surgeon. A telescope-like instrument (a laparoscope) will be inserted into your abdomen through a small (about 1 cm) incision just below your navel. Two or three other such incisions may be made to permit the introduction of other instruments into your abdomen to allow the removal of a piece of your ovary. The technique for the removal of the ovarian tissue by the laparoscopy is based on well-established surgical approaches or techniques and has a very high likelihood of success. Your surgery is planned to be performed as a day case procedure (which means you will not normally require an overnight hospital stay). The duration of surgery is likely to be about 45 minutes. Your total time spent in the hospital will be about half a day. You will not be able to drive for a few days following the procedure. You will go home on the same day. The recovery time required before either resuming normal activities or initiating chemotherapy or radiation therapy (if this is needed) is expected to be 2-3 days. If you are planning to have surgery for other reasons, either by keyhole or a bigger cut on your abdomen (for example, a caesarean section), the procedure to remove some ovarian tissue can be done at the same time with no added risk to yourself.
2.8. **What will happen to the removed tissue?**

The specialist scientist will handle the ovarian tissue in a sterile environment. The tissue will be processed and stored in special tubes. Special fluids will be used to protect the tissues during the process of slow freezing to -150 °C. The frozen tissues will be stored in specialised freezers in the tissue bank of the Advanced Therapies Facility of the University of Birmingham.

2.9. **How long will the tissue be stored?**

Initially, the storage will be for 10 years subjects to the contract agreement. The freezing will be extended to 10 years increment with the clinician and the patient’s agreement.

2.10. **What will happen when you need the frozen tissues?**

After contacting ProFaM, we will organise transferring some or all of the frozen tissues back to you. The tissue is carefully thawed by the specialist scientists and each patient will have the tissue transferred back according to their specific circumstances, discussed with your consultant. This can be done as an outpatient procedure or day case surgery according to your choice and purpose of grafting.

2.11. **What is my chance of the tissue working normally after the graft?**

The majority of the ovarian graft after transplantation will function as good as the ovarian tissue at the time of retrieval irrespective of how many years the tissue has been preserved. This means that the tissue will produce natural ovarian hormones.
and produces eggs as normal. The functioning graft recovers within 4 months in over 90% - 95% of women.

2.12. How long will the tissue stay functioning?
The ovarian tissue graft survives on average for 5 years after transplantation; however, it has been reported that grafts have survived for more than 10 years. The duration of the survival depends on the size and quality of the graft.

2.13. I wish to delay menopause, but I do not fancy the idea of monthly bleed, is this an option?
Yes. There are options to stop bleeding. Doctors will discuss the most suitable option for you. Hormone-releasing coil and ablation of the endometrium (burning on the lining of womb using microwave energy) are commonly used options.

2.14. What is the likelihood of getting pregnant naturally from the graft?
If the graft is aligned close to the tube, natural pregnancy is a feasible possibility. Half of the pregnancies reported after graft transplantation were natural pregnancies. However, for those women who are having the graft transplanted for delaying the onset of the menopause and who do not wish to conceive, this can be achieved by relocation of the graft.
2.15. **What is the likelihood of pregnancy after graft transplantation?**

The recent review of the pregnancies following ovarian graft transplantation suggested 40% (4 in 10) pregnancy rate either naturally or through IVF treatment. More than 130 babies have been born following ovarian tissue graft transplantation.

2.16. **What will happen if you decide not to use stored tissue?**

During the consenting process, we will discuss with you in detail all of the options. If you do not wish to use the stored tissue, the tissue can be respectfully incinerated or if you provide consent, the tissue may be used in ethically approved research. Your preferences will always be respected, and you have the option of changing your mind at any stage.

2.17. **Will this procedure bring my menopause closer?**

The available evidence suggests the answer is no. High-quality studies provided clear evidence that women who have a whole ovary removed, or those born with only one ovary experience menopause at the usual age and have no problem conceiving naturally or by IVF in comparison to those with two ovaries. The ovarian tissue cryopreservation process includes removal of small strips of the outer shell of one of the two ovaries, which has far less effect than the removal of the whole ovary.
3. Cost and funding:

Self-funding option is available for all patients, please speak with our team or visit website.

The NHS funding varies with the clinical indications, where you live and your circumstances. It is possible that part of your treatment or full treatment could be funded by the NHS. The NHS funding criteria change from time to time. Therefore, you are advised to discuss the costs with our coordinator. We support applications for NHS funding in certain clinical circumstances, however, the final decision will be taken by your local NHS authorities. Please contact us with any further questions.
4. Your Notes:

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