

Fertility preservation including sperm and egg storage



There are a number of reasons why people may look to preserve their fertility, but one of the main reasons is illness such as cancer.

SPERM, eggs, embryos and testicular tissue and ovarian tissue can be frozen for people who face losing their fertility because of cancer treatment or another reason. Eggs can also be frozen by women who have not yet found a husband and who are concerned that their fertility will soon decline because of their age. Sperm can be frozen as back up for fertility treatment and as ‘insurance’ before vasectomy.

Techniques

• **Sperm freezing** Sperm freezing is straight forward and many men will have enough sperm in one ejaculate for several IVF cycles. If there are enough good quality sperm after thawing then the first approach may be to try IUI treatment, keeping some sperm in reserve for IVF later if IUI is not successful. If you want to consider IUI as an option, you will almost certainly need to

freeze three or more semen samples.

• **Embryo freezing** If a woman has a husband, it is better to freeze embryos than eggs. Embryo freezing has been around longer than egg freezing and clinics have a lot more experience with embryo freezing because it is part of routine IVF treatment.

• **Egg freezing** Egg freezing involves all the steps of an IVF cycle up to and including egg collection. Eggs are then frozen, usually by a method called vitrification. When the woman wants to use the eggs with her husband, they will be thawed, and she will resume the second half of an IVF cycle – adding sperm to the eggs, embryo transfer, and freezing any spare embryos.

While a million or so children have been born from frozen embryos, the number of children from frozen eggs is much smaller, probably around 5,000 world-wide.

QUICK FACTS

Fertility preservation is a quickly growing area of research. There have been important advances in the past five years in egg freezing and ovarian tissue freezing and more are expected. For women freezing their eggs or ovarian tissue, their age at the time of freezing will remain one of the most important factors for subsequent success.

Preparation

Most people facing fertility preservation won't have enough time to make changes to lifestyle or to follow the tips for becoming 'fertility fit' (page 27). If you do have time before egg freezing, the key messages are – stop smoking, take folic acid, reduce caffeine and alcohol and discuss medications with your doctor. We will want to screen you for HIV, Hepatitis B and Hepatitis C.

Seeing a doctor

You will need to see a Fertility Associates doctor if you want to bank sperm. If you are freezing eggs or embryos, then you will have a doctor at Fertility Associates look after you during treatment.

Consent

You will need to sign a consent form as part of banking sperm, eggs or embryos. Consent covers time limits to storage, your decision on who may use your sperm, eggs or embryos if you die, and who we can contact if you lose contact with us. We will give you a copy of your consent form. You can always change your consent form later as long as the change relates to something that hasn't happened yet.

If you are banking eggs or embryos, then consent covers taking hormones to stimulate the ovaries and egg collection as well as storage.

Keeping in touch with the clinic

We will try to contact you each year to see if you still want to store your sperm, eggs or embryos. We may discard material if you become behind in paying storage fees, or we can't contact you after 2 years. You must tell us if you change address.

Risks

Frozen sperm and embryos are stored in thin plastic straws immersed in liquid nitrogen. Cross-contamination of straws by viruses such as

Hepatitis or HIV is a theoretical risk although it has never been reported. As a precaution we store sperm for men positive to Hepatitis B or C or to HIV in a separate bank.

There is a very small risk that a liquid nitrogen bank will fail causing the sperm or embryos stored in it to perish. Bank failure has been reported occasionally around the world. We take reasonable precautions but cannot be held responsible for the loss of sperm or embryos from bank failure.



Obtaining eggs and embryos for storage carries the risks associated with the relevant parts of IVF treatment, which are covered on page 61.

Chance of a child using stored sperm, eggs or embryos

IVF pregnancy rates are the same with fresh and frozen sperm. IUI pregnancy rates from frozen sperm can be as high as with fresh sperm if enough sperm are available. IVF birth rates are shown in Figure 5 on page 67, and IUI birth rates in Figure 3 on page 49.

The chance of a child when using frozen eggs or embryos depends on the woman's age at egg collection and the number of frozen eggs or embryos stored. The number of eggs expected in a single treatment can be predicted to some degree by the woman's AMH level.

You can boost the chance of having a child by freezing eggs or embryos from more than one IVF cycle but most women facing cancer treatment do not have the time to do this.

Birth rates from fertility preservation will be a bit lower than for IVF itself because every egg or embryo will have been frozen and thawed, and freezing damages some eggs and embryos.