



Information on

Embryo Cryopreservation (Freezing)

Reasons for Embryo Cryopreservation

In IVF, ICSI and related treatments we attempt to fertilize all oocytes (eggs) obtained. We subsequently transfer several of the best quality embryos which develop from those which fertilize. With GIFT we fertilize in vitro all oocytes which are not transferred in the GIFT procedure. The good quality embryos in excess of those transferred, or those which arise from the oocytes not transferred with GIFT, are frozen for later use by you unless you instruct us to the contrary. When these embryos are thawed at a later date their transfer allows you to have extra chances of achieving a pregnancy without having to go through ovarian stimulation and oocyte collection again.

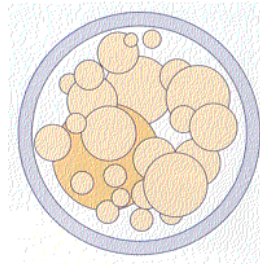
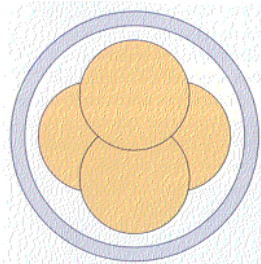
Method of Embryo Freezing

When both animal and vegetable cells are simply frozen, their cell structure is destroyed by the formation of ice crystals. To freeze embryos (and sperm) we add a protective chemical known as a "cryoprotectant" to them which draws the water out of them so that ice crystals do not form in them when they are frozen. It is still not unusual for an embryo to lose one or more of its cells during the freeze/thaw process. This does not significantly reduce the potential of the embryo to produce a pregnancy unless more than half of its cells are lost. The loss of some cells also does not cause any increased risk of fetal abnormalities. We have successful freezing protocols for both cleavage-stage embryos (2-16 cells on days 2-3) and blastocyst stage embryos (days 4-6).

Why All Excess Embryos Are Not Frozen

We have been freezing embryos for over twenty-five years now, with steady improvement in the freezing techniques. One clear fact has emerged from this experience – poor quality embryos do not survive the freeze-thaw process. Embryos which have even sized cells within them and little fragmentation have a good chance of surviving being frozen. Embryos whose cells are uneven in size and which contain large numbers of fragments have a poor chance of surviving freezing.

A good quality embryo with even sized cells and an absence of fragmentation. This embryo would be highly likely to survive being frozen and thawed.



A poor quality embryo with uneven sized cells and heavy fragmentation. This embryo would not be frozen due to its poor chances of surviving the freeze/thaw process.

Around 80% of patients who have two or more excess embryos will have some frozen in our programme. Those whose embryos are not frozen can be assured that the scientists gave them every chance to prove their potential before making the decision that they were not of freezable quality.

The Chances of Embryos Surviving Freezing

In QFG's embryo freezing programme, where we freeze all embryos that we think will survive freezing and thawing, around 5% of patients will have the unfortunate experience of none of their embryos surviving and therefore having their frozen embryo transfer cancelled.

How Long Can Embryos be Stored Frozen?

At -196°C in liquid nitrogen embryos have no biological activity whatsoever so the only limit on the time for which they can be stored is the reproductive life-span of the female partner to whom they will ultimately be transferred. In most instances we encourage people to use up their frozen embryos before embarking on any more stimulated egg collection cycles.

The Costs of Embryo Freezing and Storage

Having embryos frozen will attract a charge which includes up to six months storage in liquid nitrogen at -196°C. Further storage after that time attracts a further charge for each six monthly period or part thereof. You should contact the Queensland Fertility Group office to determine the current charges