



Elective Oocyte Cryopreservation #Eggfreezing

Now, Never..... Is it even Necessary?

Dr Danielle Robson

Fertility Specialist, Gynaecologist

To arrange an appointment with
Dr Danielle Robson, please contact:

Level 5, 22 Darley Road, Manly, 2095

P 1300 330 279

W www.drdaniellerobson.com.au

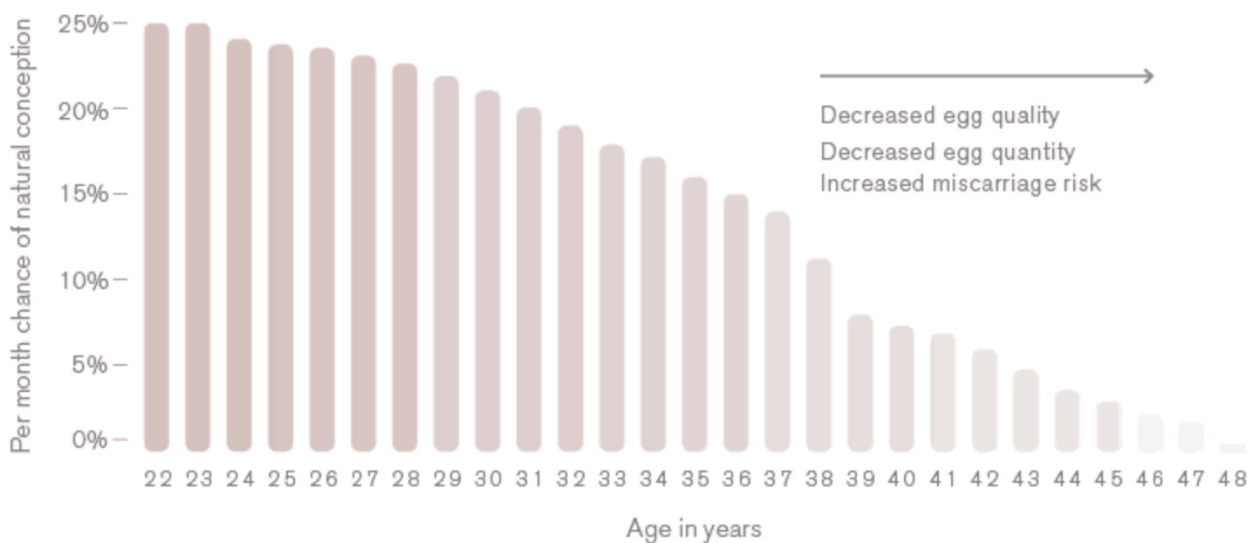
E admin@drdaniellerobson.com.au

'Did you know...women are born with your lifetime supply of eggs at birth.'

Women are having children later in life and the risk of involuntary childlessness is increasing year after year. Oocyte cryopreservation, commonly referred to as elective (or non-medical) egg freezing is an indication for women to try and improve their longitudinal fertility potential and conceive children at a later stage in life.

Age and Infertility

The number one barrier to fertility, is increasing maternal age. Women are electing to have children later in life, the consequence of this is decreased egg quality and quantity. We know that this is particularly pronounced over the age of 35 and then rapidly decreases after the age of 40.



Unfortunately, there are no advances in assisted conception that have been designed to successfully combat age and the impact this has on reduced egg quality. The chance of conception is higher when you are in your 20's or 30's rather than your 40's.

Interestingly, the average age at first motherhood has been gradually increasing; from 2010 to 2020 there was an increase from 28.3 to 29.6 years.¹

So what age should I refer a patient for egg freezing?

The subspecialist reproductive endocrinologists and infertility specialists have produced an ACCEPT (Australasian CREI Consensus Expert Panel on Trial Evidence) guideline on elective egg freezing. Under this guideline they have recommended that the best age to freeze eggs is before the age of 35 years. Women over 35 years achieve poorer pregnancy outcomes from vitrified eggs related to quality deterioration with advancing maternal age.² Conversely, freezing eggs at a younger age, such as < 30 years give you the highest chance of success, however also the lowest chance of yield with the majority of these patients not using the eggs that are frozen.

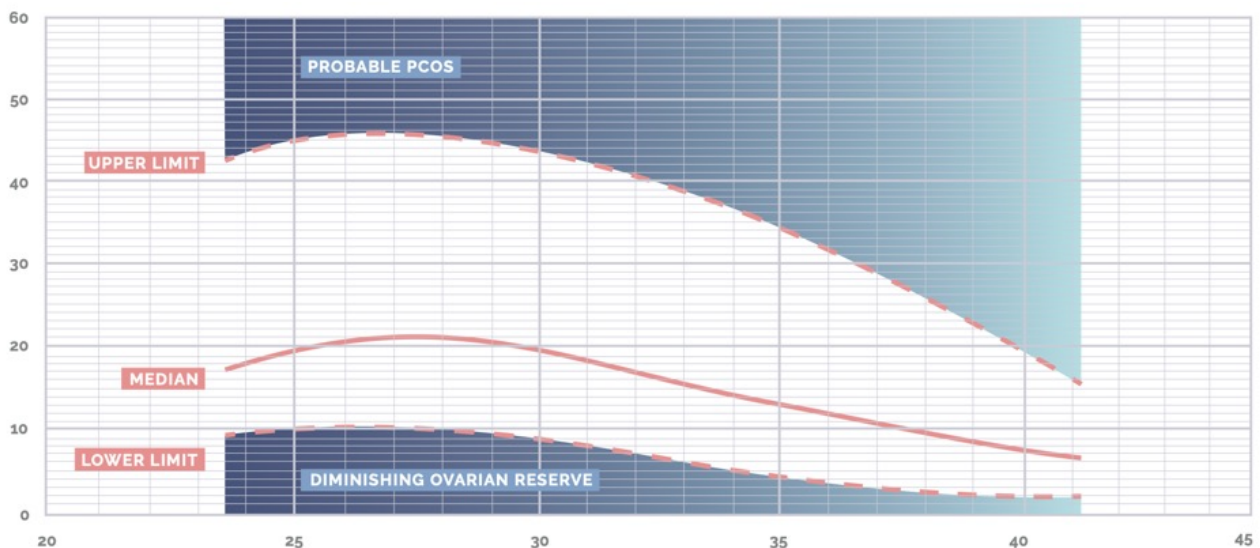
The exact age will be an individual assessment based on circumstance and counselling. If a patient is considering egg freezing, a consultation is recommended.

Ovarian Reserve Assessment

When considering egg freezing, many women will elect to undergo an ovarian reserve assessment. This is typically performed via two methods, a simple blood test for Anti-Mullerian Hormone (AMH) and a pelvic ultrasound looking at the antral follicle count on the ovaries. Both of these markers are NOT a measure of fertility and do not provide guidance on how fertile a patient is. Rather, they provide an indication on the quantity of eggs or the ovarian reserve at a given time.

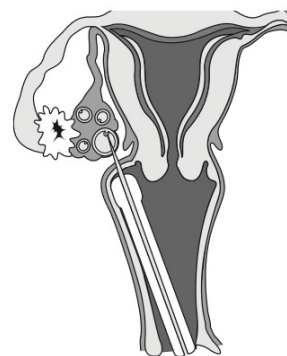
AMH is produced by the follicles that contain developing eggs and as a result is reflective of the number of available eggs each month - and in turn the number of eggs remaining in the pool of eggs that the woman was born with. A female is born with all the eggs she will ever have, around 1 to 2 million, however this number will rapidly decrease over time.

The process...



Should a patient wish to go ahead with egg freezing, the process is relatively straight forward and conducted during a patient's natural cycle. It requires self-injection with hormonal stimulation over ten days or so, regular blood tests and ultrasounds to know the optimal time for egg collection.

The egg collection takes place via day surgery and the procedure involves aspirating the follicles that have grown on each ovary that may contain an egg. This is conducted via a transvaginal ultrasound and a small needle is inserted through the vagina into each ovary. This can be conducted with local anaesthetic and sedation or via a light general anaesthetic. The procedure typically takes 10 - 20minutes and we recommend taking 1-2 days off work to recover. Once the eggs are retrieved they are examined under a microscope by a scientist and eggs are vitrified if they are deemed mature, or at MII stage.



Ultrasound guided egg collection from the ovary

The risks....

- Medication side effects
- Exposure to human substances
- Premature ovulation / conception
- Cancellation of treatment cycle
- Ovarian hyper-stimulation syndrome (OHSS)
- Anaesthetic complications
- Bleeding
- Infection
- Injury to organs near the ovary
- No eggs collected
- Need for multiple egg collections.

What is the magic number?

Unfortunately, there is no magic number of eggs frozen that will guarantee a baby. In fact, the first thing a specialist will inform a patient is that there is no guarantee of a baby through this process. It is commonly referred to as 'an insurance policy'. We have limited data that exists on egg freezing success rates as fewer than 10% of patients will typically return to use their eggs. This body of data is increasing in size with more women undergoing egg freezing, more women coming back to use these eggs and more research to give accurate outcome measures.

The number of eggs recommended per patient will involve personal circumstance and factors that would influence these discussions include the patients age at which the eggs are frozen and family planning goals and number of children desired.

Common Patient Questions ...

- ‘Will I have to have my Mirena IUD or Implanon removed to undergo egg freezing?’
 - No. We are able to undertake egg freezing without removal of contraceptives.
- ‘I have a boyfriend, should I be freezing embryos?’
 - This is a personal decision. A key feature here, is that embryos are legally ‘joint’ amongst the two parties who have provided egg and sperm. The use of embryos in the future, would have to be endorsed by both parties. Whereas, eggs are legally owned by the individual and decision to use or dispose of, lies only with one person.
- ‘How many cycles of egg freezing will I have to do?’
 - This will be based on age, ovarian reserve and overall response to the first cycle. Once this information is obtained, patients can be better informed on how many cycles would be recommended.
- ‘If I freeze my eggs, will I be losing eggs I could use later?’
 - No, undergoing egg freezing does not go through your egg stores any quicker than when your body is cycling through. At the start of each natural cycle a body of follicles all grow and then a dominant follicle takes over (typically around day 5). This is the follicle that will ovulate, the other follicles will undergo atrophy and the eggs are lost. In an egg freezing cycle we stimulate all of the follicles to continue growing and use these eggs.
- ‘What are the costs?’
 - This will vary depending on which fertility provider a patient is referred to. The range of cost can be significant, a rough guide to patients is anywhere between \$4000-\$8000.

References

- 1 - Australian Institute of Health and Welfare. Australia’s mothers and babies. Darlinghurst, NSW: AIHW, 2022. Available at www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/demographics-of-mothers-and-babies/maternal-age [Accessed 11 August 2022].
- 2 - Lew R, Foo J, Kroon B, Boothroyd C, Chapman M; Australasian CREI Consensus Expert Panel on Trial evidence (ACCEPT) group. ANZSREI consensus statement on elective oocyte cryopreservation. Aust N Z J Obstet Gynaecol 2019;59(5):616–26. doi: 10.1111/ajo.13028.