COASTAL IVF

PRE-IMPLANTATION GENETIC TESTING (PGT)

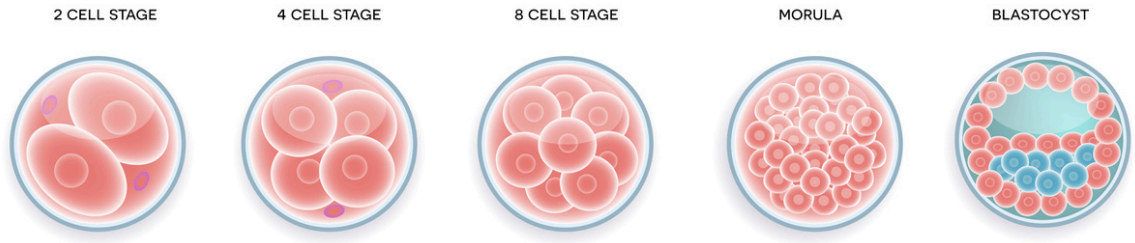
In-Vitro Fertilisation (IVF) - Ovarian Stimulation:

In a natural cycle, a woman usually produces one mature egg that may lead to a pregnancy. In IVF, medications are used to stimulate the ovaries to grow multiple eggs at once. The aim is to collect a larger number of mature eggs (often around 10–20) to increase the chance of creating healthy embryos.

What Happens After Egg Collection?

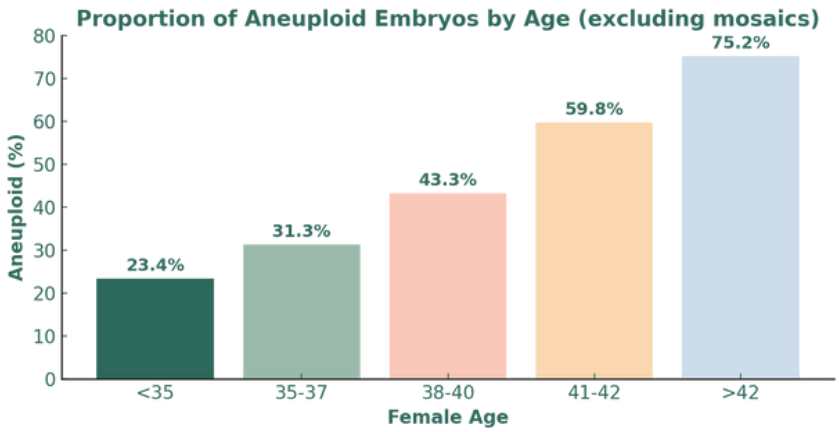
After egg collection, the eggs are fertilised with sperm using either standard IVF or ICSI (intracytoplasmic sperm injection). Successful fertilisation - when the egg and sperm DNA combine - is confirmed the following day. On average, around 60–70% of mature eggs will fertilise.

The fertilised eggs divide into embryos. By day 5 or 6, about 40% reach the blastocyst stage. At this stage, embryos can be transferred, frozen, or biopsied for genetic testing (e.g. PGT-A).



Aneuploidy Rate:

A euploid embryo has the correct number of chromosomes (23 pairs, or 46 in total). An aneuploid embryo has too many or too few chromosomes. This is common in human reproduction and is one of the main reasons why an embryo may not implant, or why a miscarriage occurs. The chance of aneuploidy varies between individuals, but the most important factor is maternal age. As women get older, the proportion of aneuploid embryos increases, as shown in the graph below.



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Pre-Implantation Genetic Testing for Aneuploidy (PGT-A):

PGT-A checks if embryos have the correct number of chromosomes. At the blastocyst stage, a few outer cells (which form the placenta, not the baby) are biopsied. The embryo is frozen while the sample is analysed. Results usually take about 4–6 weeks. Euploid embryos (chromosomally balanced) can then be thawed and transferred, with **implantation rates of around 60–80%.**

Benefits of PGT-A:

- **Reduced miscarriage rate -** By selecting embryos with the correct number of chromosomes.
- **Fewer unsuccessful transfers** - Can avoid transferring embryos that are unlikely to implant.
- **More Information** for counselling and decision making.

Limitations and Considerations:

- **Cost** - Adds significant extra expense to the IVF cycle.
- **Time** - Results usually take 4–6 weeks, sometimes longer.
- **Embryo Suitability -** Not all embryos reach the blastocyst stage or can be safely biopsied.
- **Unclear results** - Some embryos test as mosaic (mix of euploid and aneuploid cells) or yield no result.
- **Does not improve cumulative pregnancy rates** - PGT-A identifies unbalanced embryos to avoid transfer but it cannot improve or increase the number of euploid embryos and thus overall pregnancy rate.
- **Risk -** Biopsy is very safe, but removing cells and freezing/thawing embryos carries a small risk of harm.

Who Benefits the Most From PGT-A?

- Women of advanced maternal age (e.g. > 37 years old) - due to increasing rates of aneuploidy
- Patients with recurrent miscarriage or repeated IVF failure
- Patients with a high number of embryos available - Allows selection of the most suitable embryo for transfer, potentially reducing the number of transfers required.

The Steps of PGT

1. Creation of a blastocyst (IVF cycle) and biopsy prior to freezing - *performed at Coastal IVF*
2. Amplification, analysis & interpretation of the embryonic DNA - *performed at Cooper Genomics*

Embryo numbers and DNA results are not predictable and vary between patients. More information about testing can be found on the Cooper Genomics website - https://www.coopergenomics.com/pgta/

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Interpreting Your Results:

Once your PGT results are available (usually 4-6 weeks), you will be contacted to arrange an in-person review with your doctor. Together you will discuss the results and plan your next steps.

Euploid Embryo:

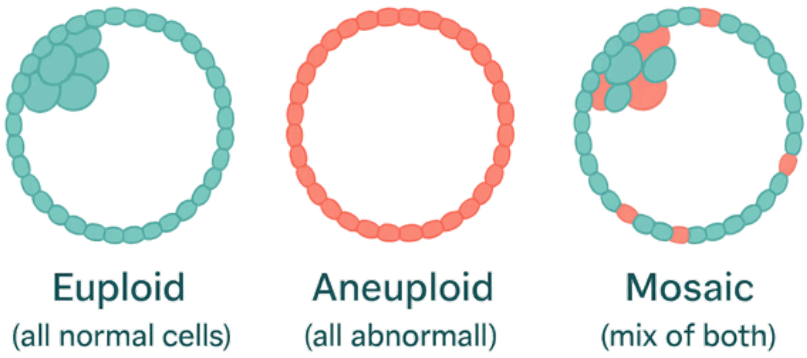
- A euploid embryo has the correct number of chromosomes and the best potential for implantation and healthy development. These embryos are prioritised and carry implantation rates of around 60-80%.

Aneuploid Embryo:

- An aneuploid embryo has one or more missing or extra chromosomes. These embryos are not recommended for transfer.

Mosaic Embryo:

- A mosaic embryo contains a mix of balanced (euploid) and unbalanced (aneuploid) cells.
- This occurs when an error in chromosome division happens after fertilisation. The impact depends on how many abnormal cells are present:
  - Low-level mosaic embryos (~20–40% abnormal cells) may still implant and result in a healthy live birth - studies suggest live birth rates of around 50–60%, similar to some euploid embryos.
  - High-level mosaic embryos (~40–80% abnormal cells) have low implantation and live birth rates, and a higher chance of miscarriage or chromosomal abnormality.
- Mosaic embryos are usually only considered for transfer after all euploid embryos have been used, and only following genetic counselling.



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PGT-M and PGT-SR

In addition to PGT-A (which looks for embryos with the correct number of chromosomes), there are two other types of genetic testing:

- **PGT-M (Monogenic/Single Gene Disorders):** Used when one or both parents carry a known genetic condition (e.g. cystic fibrosis). This testing identifies embryos that are free of that specific disorder.
- **PGT-SR (Structural Rearrangements):** Used when a parent has a chromosome rearrangement (such as a translocation), which can cause embryos to inherit structurally unbalanced chromosomes.

Unlike PGT-A, both PGT-M and PGT-SR require detailed case preparation and workup before treatment. This may involve genetic counselling, blood testing of the parents (and sometimes relatives), and building a personalised DNA "probe" so the laboratory can accurately test your embryos. This may take a few months.

Case Preparation Fee: Following discussion with your specialist, you'll receive an invoice for the case preparation fee. Once paid, we will submit an application to Cooper Genomics, including your genetic test results. Within ~10 working days, Cooper Genomics will contact you to discuss next steps. They will notify our laboratory once the workup is completed, and you will be contacted to plan your IVF cycle.

Rebates / Credit: If your condition qualifies for a Medicare rebate, we will notify you by email once the credit is received. This may take several weeks as it is processed through several departments at Cooper Genomics.

Approaches to Preimplantation Genetic Testing (PGT)

There are several ways to incorporate PGT within an IVF cycle. Your clinician will discuss these options in advance to help you choose the most appropriate approach for your individual situation.

Option 1 – Fresh embryo transfer with PGT of remaining embryos *(recommended option in PGT-A)*

- In this approach, one fresh embryo is transferred immediately, and any remaining suitable embryos are biopsied and frozen for PGT. This allows you to proceed with a fresh transfer in the same cycle while still obtaining valuable genetic information about other embryos for future use.

Option 2 – PGT of all embryos, no fresh transfer *(recommended option in PGT-M)*

- In this approach, all suitable embryos are biopsied and frozen, and no fresh transfer occurs in that cycle. This option may slightly delay time to pregnancy but allows full genetic information before any transfer takes place. It is recommended in all patients undergoing PGT-M.

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Embryo Testing Fees:

Our PGT fees are listed below and are current as of September 2025. These may be updated periodically and should be used as a guide only. Before your cycle, you will be asked to consent to a maximum number of embryos to be tested. In some cases, laboratory capacity may also limit how many embryos can be biopsied on a given day.

Once biopsies are complete, our embryologists will notify the finance department. An invoice will then be issued and must be paid in full before samples can be sent to Cooper Genomics. Prompt payment ensures timely shipping, which helps preserve DNA integrity and sample quality. Fees include costs from Coastal IVF, Cooper Genomics, and shipping/handling.

PGT-A *(aneuploidy screening)*	**Total fee** *(Includes CIVF biopsy, shipping and Cooper Genomics Fees)*
1-2 Embryos	$2500
3-4 Embryos	$4000
5-6 Embryos	$5500
Additional embryos (may vary)	$750
PGT-M and PGT-SR *(Includes PGT-A on unaffected embryos)*	**Total fee** *(Includes CIVF biopsy, shipping and Cooper Genomics Fees)*
Initial work up	$2500
1-2 Embryos	$3000
3-4 Embryos	$4500
5-6 Embryos	$6000
Additional embryos (may vary)	$750 per embryo

**Rebates/Credit - Some PGT-M and SR cases may be eligible for financial rebates from Cooper Genomics. Please discuss this with our finance department for more information*