Preimplantation Genetic Testing at ONE Fertility: PGT-A

Preimplantation Genetic Testing (PGT) – involves a gentle biopsy of cells from embryos created through IVF and analyzing it in a specialized lab prior to transfer into the uterus (ie before implantation).

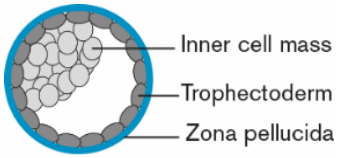
PGT-A is Preimplantation Genetic Testing for Aneuploidy - it involves the screening of embryos for an unbalanced number of chromosomes, which is referred to as aneuploidy. The most commonly known example of aneuploidy is Down Syndrome which is caused by an extra copy of chromosome 21.

What is the Purpose of PGT-A?

PGT-A allows us to identify genetically abnormal embryos and therefore can give your physician additional information to help **SELECT** the best embryo for transfer to maximize the chance of having a successful pregnancy and a baby.

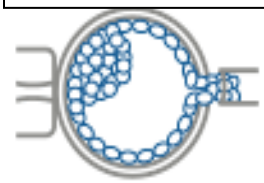
How is PGT-A performed?

Blastocyst Embryo



A few cells are carefully removed from the outer layer of embryo, called the trophectoderm, which is the part of the embryo that will form the placenta. These cells are sent for genetic analysis to an outside lab, and the embryos are frozen for future use. For embryos to be biopsied, they must develop to the blastocyst stage, be large enough for biopsy, and have a good trophectoderm quality grading of A or B. Embryos with lower quality trophectoderm cells will not be biopsied but may be frozen for potential future use if you wish. Even biopsied embryos are occasionally not suitable for analysis by the lab.

Embryo Biopsy



PGT-A Results – What to expect?

Potential results are as follows:

a. Euploid: genetically normal
b. Low-level mosaic: most cells are normal, some abnormal
c. High-level mosaic: most cells are abnormal, some normal
d. Aneuploid: all cells biopsied are abnormal
e. No-results: not suitable for testing by genetic lab

It is unlikely that all of your embryos will be genetically normal (euploid). The percentage of euploid embryos varies from person to person. Not all of your embryos may have a conclusive result. Recent studies have shown that mosaic embryos with a low-level of abnormal cells can produce pregnancies and healthy live births. Please note that currently there is no conclusive research about the long-term health of babies born from low-level mosaic embryos. ONE Fertility does not use high-level mosaic or aneuploid embryos in your fertility treatments. A pregnancy resulting from one of these types of embryos is at a very high risk of miscarriage, and any children born are at risk of severe life-long disability or death. Screening tests in pregnancy or genetic counseling may not be able to detect or predict all abnormalities or the extent of disability of the child.

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Version 4 – Created October 17, 2025 – effective date October17, 2025 (replaces version 3).

Who may potentially benefit from PGT-A

- Those with recurrent pregnancy loss as the risk of loss is lower with a genetically normal embryo
- Individuals experiencing recurring negative pregnancy tests after embryo transfers
- Females of advance reproductive age (38 and older) who have a higher risk of creating an abnormal embryo
- Individuals with high ovarian reserve and are expected to obtain a high number of embryos may benefit from reduced time to achieve a successful pregnancy by helping us choose the best embryo to use first

Are there any risks of doing PGT-A?

- Unfortunately, sometimes there are no suitable embryos for use, and we cannot proceed with embryo transfer.
- Transferring a genetically normal embryo does not ensure pregnancy will occur
- PGT-A cannot "fix" an embryo. It is used as a selection tool to help us decide which embryos to use
- **Additional cost:** PGT-A adds to the overall cost of IVF treatment. The Ontario Fertility Program funding does not cover the cost of genetic testing
- **Risk of damage to embryo:** Embryo biopsy is a delicate procedure, and while it is considered safe and well-established, there is a small risk of damage
- **Mosaic result and uncertainty:** These findings are harder to interpret and can make decisions about embryo use more complex. For this reason, screening for genetic disorders in pregnancy is still recommended
- **Untested and 'no result' embryos:** The genetic status of these embryos is unknown
- If previously frozen embryos are thawed and biopsied for PGT-A, they will need to be frozen again. Repeat freezing and thawing appears to lower the pregnancy rate for genetically normal embryos

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