



**We need your genetic reports/results on file to move forward with this testing. Please make sure to provide our office with your genetic reports as soon as possible. You can email them to [infoivf@onefertility.com](mailto:infoivf@onefertility.com) . Not providing your genetic reports will delay care.**

## Preimplantation Genetic Testing at ONE Fertility: PGT-M and PGT-SR

**Preimplantation Genetic Testing (PGT)** – involves the biopsy and testing of cells from embryos created through IVF prior to transfer into the uterus (ie before implantation).

**PGT-M** is Preimplantation Genetic Testing for Monogenic/Single Gene known defect (previously known as PGD). It involves the screening of embryos for a specific **known** gene defect. Disorders such as Cystic Fibrosis, Fragile X Syndrome, Huntington’s Disease and Sickle Cell Anemia are only a few disorders that can be identified through PGT-M. **PGT-SR** is Preimplantation Genetic Testing for Chromosome Structural Rearrangements. Examples include balanced reciprocal translocations, Robertsonian translocations, inversions, and other complex chromosome rearrangements.

### **What is the Purpose of PGT-M and PGT-SR?**

Without **PGT** embryos are selected for transfer based on their physical appearance and their development, observed under the microscope. It is important to note that the appearance of the embryo does not tell us if the embryo is genetically normal. **PGT-M and PGT-SR** allows us to identify 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.

### **Who may benefit most from PGT-M**

- Carriers of a known genetic defects
- Individuals who have previously had a pregnancy or child with an inherited genetic disease

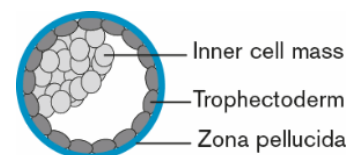
### **Who may benefit most from PGT-SR**

- Individuals with chromosomal rearrangements (ie translocations)

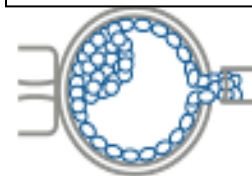
### **How is the testing performed?**

Five to six days after egg retrieval, well developed embryos (called blastocysts) will have over 100 cells. A few cells are carefully removed from the outer layer of cells, called the trophoctoderm, 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. Embryos may not qualify for PGT if they do not reach the blastocyst stage or if it is not technically possible to perform the biopsy due to insufficient quality of the trophoctoderm cells. For embryos to be eligible for biopsy, they must develop to the blastocyst stage, be large enough for biopsy and have a good trophoctoderm quality grading of A or B. Embryos with lower quality trophoctoderm cells will not be biopsied but may be frozen for potential future use if you wish. Some embryos may not reach a developmental stage suitable for testing. Even biopsied embryos are occasionally not suitable for analysis by the lab.

Blastocyst Embryo



Embryo Biopsy



## Results – What to expect?

The percentage of healthy embryos generally varies from person to person. Unfortunately, sometimes there are no suitable embryos for use and we cannot proceed with embryo transfer. This technology gives us the best chance of transferring a genetically normal embryo. However, transferring a genetically normal embryo does not ensure a pregnancy will occur. It does decrease the risk of pregnancy loss, though a loss could still occur. It is our practice to also do PGTA on embryos that are for PGTM/SR. Please see PGTA information sheet.

## Are there any risks of doing PGT?

There is a risk that the cells we submitted for analysis provide ‘no result’. There is no guarantee that biopsied embryos will survive. The risk of loss of the embryos is low. There is also a risk of getting no usable embryos for transfer. In addition, there remains a small risk that the results will not be accurate. For this reason, screening for genetic disorders in pregnancy is still recommended.

### Sequence of Events – prior to embryo creation

1. Discuss IVF and PGT with your Physician
2. Review the information provided by your Physician.
3. Enroll for PGT with outside lab - ONE Fertility will complete an enrollment form and send it to outside lab along with your relevant test results. **WE CAN ONLY DO THIS WHEN YOU PROVIDE US WITH YOUR GENETIC REPORTS**
4. Genetic Counseling - A genetic counselor from the testing company will contact you via email. Additional testing may be required of you or other family members.
5. Test Preparation for PGT-M only - The PGT Lab will design a unique test for you. This can take some time depending on the test required. It is very important NOT TO START IVF until the PGT Lab confirms they are ready to receive your samples.
6. Prepare for IVF
  - a. Do the testing that was ordered by your Physician (when applicable)
  - b. IVF teaching
  - c. Sign IVF and PGT consents
7. Follow your IVF plan
8. Begin IVF Stimulation
9. Egg Retrieval and Fertilization
10. Biopsy of the Embryo(s) - Day 5/6 of embryo development - Embryos for biopsy must be expanded enough for biopsy and have a trophoctoderm quality grading of A and B
11. Embryo freezing
12. Biopsy sample sent to outside lab for testing
13. Follow up visit with your Physician where you will review the outcome from your IVF treatment including PGT results, plan your next steps and sign appropriate consents when required
14. Potential Frozen embryo transfer with appropriate embryo

*Genetic Counselling - This step may be required or optional depending on your outcome. Your Physician will advise you.*

If your plan is to do PGT on previously frozen embryos, the following steps apply:

1. Consent signing
2. Payment for embryo thaw, biopsy and refreeze
3. Enrollment with outside lab
4. PGT Lab confirms they are ready for samples
5. Lab provides an embryo thaw/biopsy date (it can take up to 3 weeks) once test created by outside lab
6. See steps 12-14 above

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