PGT-M

PGT for Monogenic / Single Gene Defects

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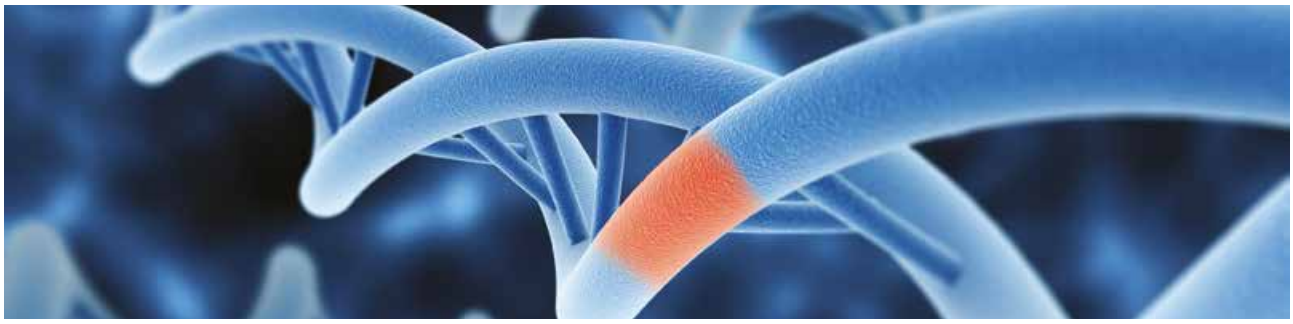
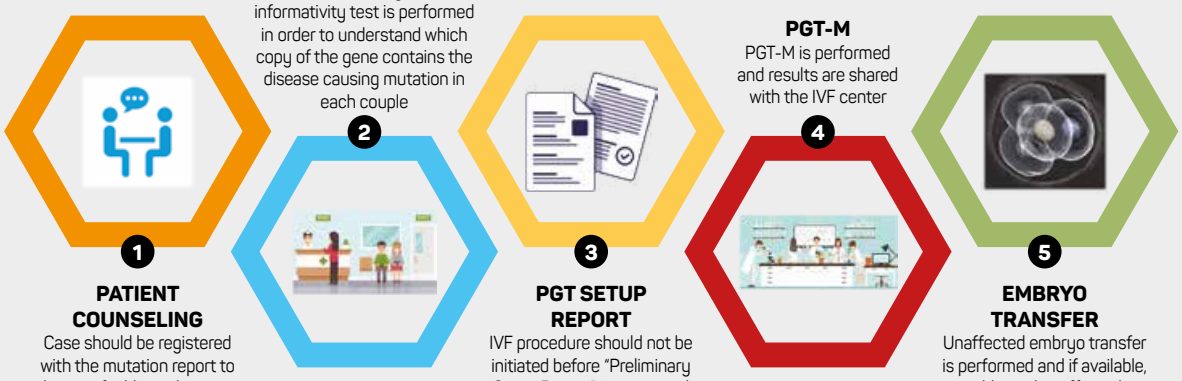


PGT-M is a genetic diagnosis method applied to embryos to exclude the mutation of interest enabling single gene disease carrier couples to have unaffected children.

Process of PGT-M

Preimplantation Genetic Testing for Monogenic/Single Gene Defects



> *"We are experts on PGT for rare monogenic diseases."*

PGT-M Indications

- Autosomal recessive conditions (Beta Thalassemia, SMA, etc.)
- X-linked conditions (Fragile X, etc.)
- Autosomal dominant conditions (Huntington Disease. etc.)
- Mutations associated with hereditary cancers (BRCA1, TP53 etc.)
- HLA Typing (Leukemia, Beta Thalassemia, etc.)

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Since PGT-M is a technology that enables the initiation of a healthy pregnancy, it has significant advantages over prenatal diagnosis.

- Protects the mother from medical abortion
- PGT-M allows having healthy babies in shorter time
- PGT-M offers couples a chance to choose for an HLA-matched sibling for their affected child waiting for bone marrow transplant.
- PGT-M allows simultaneous selection of euploid embryos with combination of PGT-A on the same biopsy material.
- PGT-M reduces ethical problems related to testing for low-penetrance and late-onset genetic diseases (Huntington Disease, etc.).
- PGT-M allows risk reduction regarding the variants of unknown signficance (class 3) while termination of pregnancy for such variants is a great burden.
- Normal embryos can be prioritized instead of heterozygous ones for transfer to prevent transmission of genetic diseases to future generations.

Selection of HLA-matched Embryo with PGT-M

Currently, PGT for choosing HLA-matched sibling has become one of the most important applications in reproductive genetics.

Stem cell transplantation is one of the methods used in the treatment of some diseases such as thalassemia, leukemia, Fanconi anemia. For inherited disorders; this application allows selection of both unaffected and HLA matched embryos.

In cases like leukemia PGT application does not need to include any specifc mutation screening thus increasing the likelihood of HLA matched embryos to 25%.