



## Pre-implantation Genetic Testing (PGT)

### What is PGT?

- Preimplantation genetic testing (PGT) is a cutting-edge procedure used to identify genetic abnormalities used to identify genetic abnormalities in embryos created with in-vitro-fertilization (IVF).
- The goal of PGT is to allow your physician to select embryos predicted to be free of a specific genetic condition or chromosome abnormalities for transfer.
- The test provides patients with an opportunity to reduce the chance for a genetic disease in their future children prior to pregnancy.

### Types of PGT

- PGT-A (Aneuploidies): Identify embryos that are euploid, aneuploid and mosaic
- PGT- M (Monogenic/Single Gene Defects) : Identify specific genetic condition that affects a single gene. Parents with known carriers of genetic condition. Embryos are tested for specific mutations carried by parents. Carrier embryos without genetic mutation suitable for transfer. PGT-M does not screen for panel of genetic conditions
- PGT-SR (Structural Rearrangements): To assess for chromosomal structural rearrangements (dislocations, translocations, inversions, deletion, duplications)

### Indication of PGT

Couples risk transmitting a known genetic abnormality to their children. Only healthy and normal embryos are transferred into the mother's uterus, thus diminishing invasive prenatal diagnoses, late pregnancy termination, or the birth of a child with a serious genetic disease

### Primary candidates of PGT :-

- Carriers of autosomal recessive diseases (risk 25%)
- Carriers of autosomal dominant diseases (risk 50%)
- Couples with family history X-linked disorders (risk 25% - half are male embryos)
- Couples chromosomal translocation causing implantation failure, recurrent pregnancy loss or mental or physical problems in offspring

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- Refer to MOH for list of genetic conditions  
<https://www.moh.gov.sg/resources-statistics/approved-providers-of-pre-implantation-genetic-testing-for-monogenic-single-gene-defects-and-chromosomal-structural-rearrangement-services>

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