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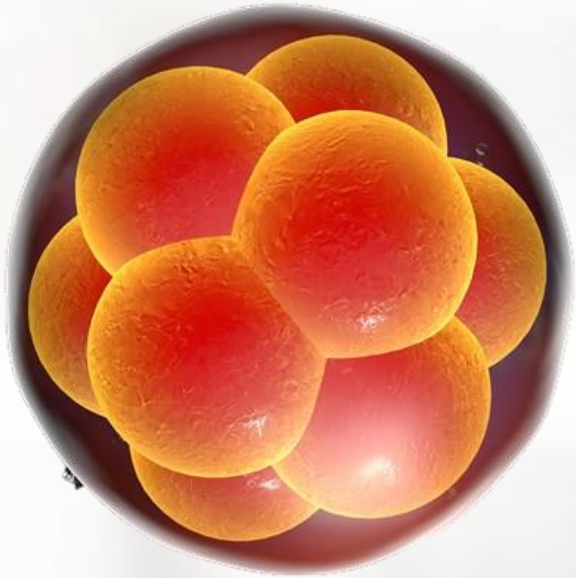

PREIMPLANTATION GENETIC TESTING FOR ANEUPLOIDY (PGT-A)

FOR BETTER IVF OUTCOME

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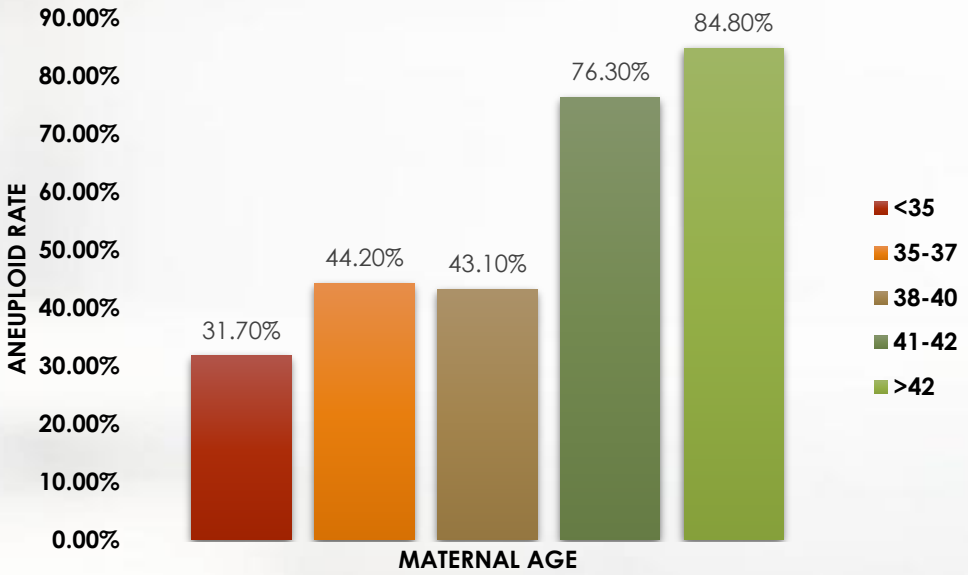
What is Chromosomal Aneuploidy?

Chromosomal Aneuploidy is the presence of an abnormal number of chromosomes in a cell, for example a human cell having 45 or 47 chromosomes instead of the usual 46. An extra or missing chromosome is a common cause of some genetic disorders. Aneuploidy originates during cell division when the chromosomes do not separate properly between the two cells. Most cases of aneuploidy in the autosomes result in miscarriage, and the most common extra autosomal chromosomes among live births are 21, 18 and 13.

Maternal age and Aneuploidy



Adapted from Gary L. Harton et.al

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What is PGT-A?

- Pre-implantation genetic testing for aneuploidies (PGT-A) is a process of screening embryos in IVF for identifying chromosomal aneuploidies prior to transfer, with goal of achieving successful pregnancy.
- Our PGT-A test uses the latest next-generation sequencing (NGS) technology to identify those embryos free from chromosome abnormalities, increasing the likelihood of pregnancy per transfer, reducing the risk of miscarriage and allowing confident single embryo transfer.

Why Choose Greenarray PGT-A?

- Our PGT technology detects key chromosomal abnormalities, including whole chromosome and segmental aneuploidies, as well as abnormalities that other NGS technologies may miss, such as triploidy, haploidy, and uniparental disomy of select chromosomes
- Our test gives accurate results to patients, guaranteeing the transfer of a genetically normal embryo and hence minimizing the incidence of miscarriages and birth defects

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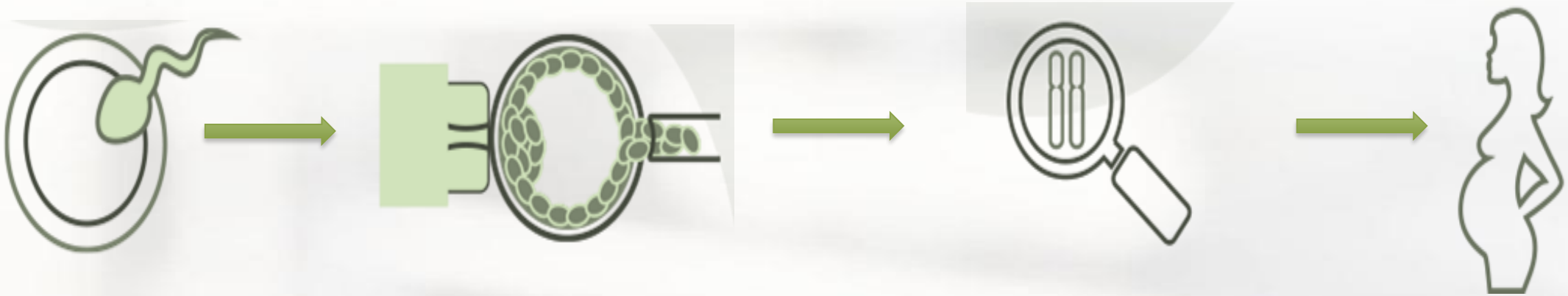
Who can benefit from PGT-A?

PGT-A is most often considered for patients who have had recurrent pregnancy losses (miscarriages), multiple failed IVF cycles, a prior pregnancy or child with certain chromosome abnormalities, or based on maternal age.

Advantages of PGT-A testing:

- Increases ongoing pregnancy rates
- Decreases miscarriage rates
- Increases the chance of having a healthy pregnancy
- Reduces the number of IVF cycles, thus reducing the pregnancy time
- Increases live birth rates

How does PGT-A work?



Invitro fertilization

Cells removed from blastocyst embryo (biopsy)

Cells analysed for chromosomal aneuploidies (PGT-A) using NGS

Chromosomally normal embryo selected for transfer

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What are the results expected after PGT-A testing?

Possible PGT-A results	Euploid	Mosaic	Aneuploid
Transfer priority	High	Intermediate (only when no euploid embryos available)	Not prioritized
Successful pregnancy	High	Intermediate	Very low
Chromosomes	Normal	Mixed	Abnormal

References :

- Gary L. Harton et. Al, Diminished effect of maternal age on implantation after preimplantation genetic diagnosis with array comparative genomic hybridization
- Victor AR, et al. One hundred mosaic embryos transferred prospectively in a single clinic: exploring when and why they result in healthy pregnancies, *Fertility and Sterility*, 2019. 111(2): p. 280-293

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What types of chromosome abnormalities does PGT-A screen for ?

- PGT-A screens embryos for whole missing chromosomes (monosomy), whole extra chromosomes (trisomy), or an entire extra set of 23 chromosomes (triploidy).
- It also screens for deletions or duplications in the chromosome.
- PGT-A also screens for Uniparental Disomy

Genetic Counselling :

We strongly encourage all patients who are interested in PGT to have genetic consultation. Consultation will ensure you fully understand the risks, benefits, and limitations of this testing. The genetic counselling will help to determine if there are any additional concerns based on your personal and family history that should be addressed prior to your IVF cycle.