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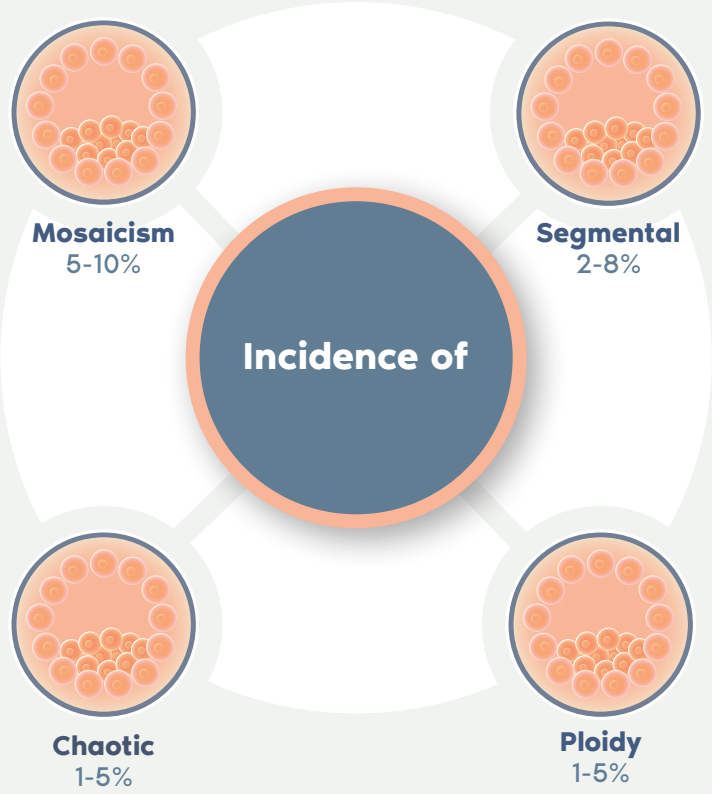
What is the practical clinical value of screening for ploidy abnormalities?

Ploidy analysis is as relevant and medically significant as other abnormalities that have been shown to affect implantation potential and clinical outcomes.[1,2,3]



1. Capalbo A, et al. Mosaic human preimplantation embryos and their developmental potential in a prospective, non-selection clinical trial. Am J Hum Genet. 2021; 108(12):2238–2247.
2. Girardi L, Serdarogullari M, Patassini C, et al. *American Journal of Human Genetics.* 2020;106(4):525–542.
3. Calull A, Victores-Monroy A, González-Ortega C, et al. Chaotic blastocysts in preimplantation genetic testing for aneuploidy: prevalence, characterization, and re-biopsy results. Fertility and Sterility. 2025;124(2):319–326.

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Ploidy analysis may decrease miscarriage rates and improve overall success rates

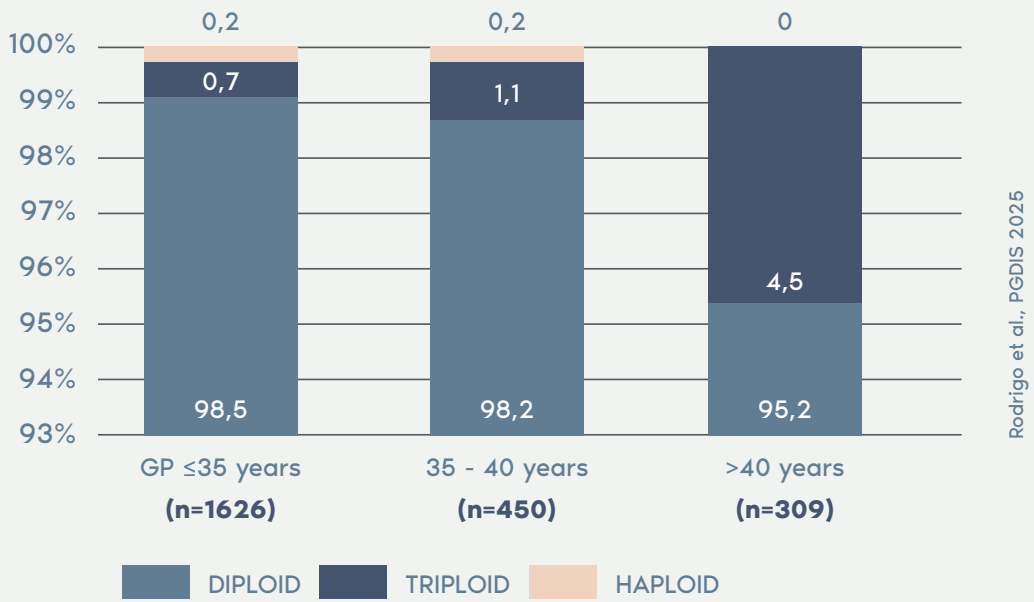
1 – 2% of embryos classified as 2PNs at the fertilization check and euploid by standard PGT-A are not diploid.[1,2] This incidence of haploidy and triploidy in 2PNs increases in correlation with maternal age, with some evidence suggesting patients over 40 will experience 4X the rate.

Adding ploidy status assessment allows detection of a small but clinically relevant number of non-diploid embryos at the pre-implantation stage, providing a deselection option before embryo transfer, potentially decreasing miscarriage rates and improving overall success rates.

Triploid embryos:

- Significantly higher incidence in patients over 40
- Similar incidence in patients 35 - 40 and good prognosis (GP) patients 35 and under

Triploidy can be found in 10% of chromosomally abnormal spontaneous miscarriages and is typically not compatible with development to term.[3]



1. Girardi et. al, 2024. Incidence of haploidy and triploidy in trophectoderm biopsies of blasts derived from normally and abnormally fertilized oocytes.
2. Maternal age and genome-wide failure of meiotic recombination are associated with triploid conceptions in humans. Am J Hum Genet. 2025 Nov 6;112(11):2665-2678
3. Shi, Panlai, Wang, Conghui, Liang, Hongbin, Zhu, XiaoFan, Wang, Xinyan, Ning, Yanting, Leigh, Don, Cram, David S., & Kong, Xiangdong. (2025). The hidden causes of pregnancy loss: A closer look. Journal of Translational Medicine, 23, Article 656.

Why Ploidy Should be Standard of Care for your PGT-A Patients

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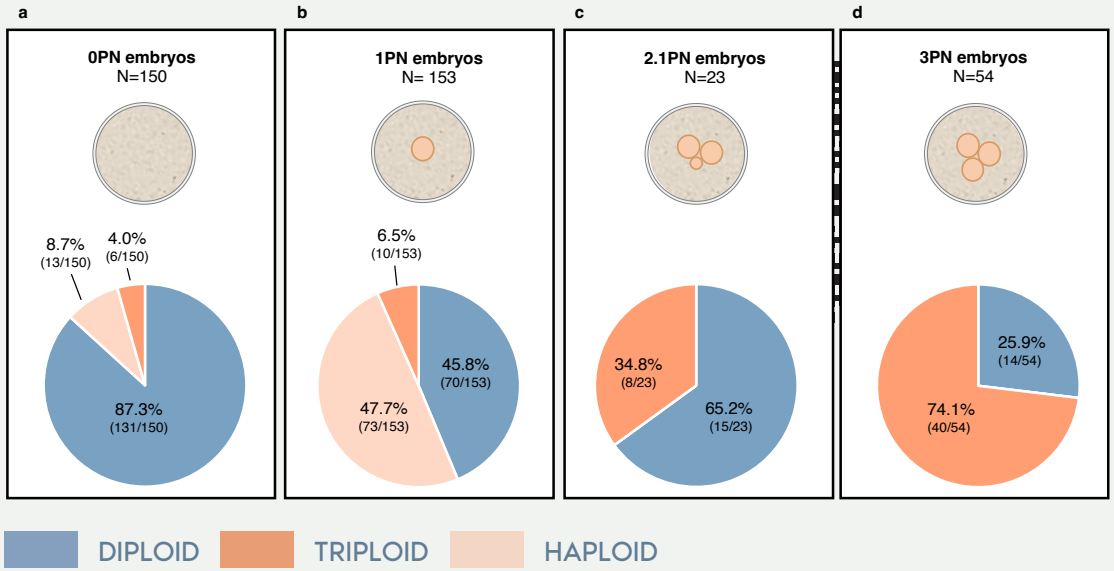
Ploidy analysis may identify more euploid/diploid embryos for transfer consideration

Recent clinical evidence shows a significant increase in detection of euploid/diploid embryos in embryos with confirmed atypical PN using ploidy detection.

Ploidy Analysis in Embryos with Atypical PN Pattern

In a study published in the Journal of Assisted Reproduction and Genetics (Girardi et al, 2024[1]), PGT-A by NGS and ploidy testing with SNPs was conducted to explore the correlation between PN status and ploidy configuration in 380 abnormally fertilized (deemed by static observation) euploid zygotes.

Results of the data found clinical use of 230 additional euploid/diploid (60% of the cohort) embryos otherwise not considered for transfer.



Scan here for evidence supporting the use of **time-lapse technology** and ploidy detection together to identify more usable embryos:

1. Girardi et. al, 2024. Incidence of haploidy and triploidy in trophectoderm biopsies of blasts derived from normally and abnormally fertilized oocytes.

Why Ploidy Should be Standard of Care for your PGT-A Patients

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More than a PGT lab:
15 years of service, 500+ scientific publications, 400,000 embryos tested annually

AUTOMATION & ARTIFICIAL INTELLIGENCE
Our PGT-A is strengthened by the power of big data and artificial intelligence, effectively overcoming the limitations of human subjectivity, and greatly reducing the risk of human error.

CUSTOM & VALIDATED IN-HOUSE TECHNOLOGY
Based on millions of embryos analyzed which combines next-generation sequencing (NGS) with advanced algorithms, enabling the analysis of genomic data with exceptional accuracy and reliability.

CONTROLLED DISTRIBUTION PROCESS
Our PGT-A kits are validated to maintain the ideal temperature (-20°C) for 48-72 hours, even in high temperature conditions.

PRODUCTS, SERVICES & DIGITAL TOOLS
Diverse product portfolio and customized clinic portal with easy access to product information, automatic order management and on-demand clinic KPI reporting.

SUPERIOR CLINICAL & SCIENTIFIC SUPPORT
Dedicated and skilled team (Genetic Counselors, scientific advisors and embryologists) that assist clinics in procedure optimization with the goal of enhancing efficiency and smooth order management and delivery information.