

# Statement on safety and efficacy of polygenic risk score assessment for embryo selection: Points to consider

February 23 2024

---



Credit: Pixabay/CC0 Public Domain

Should we be using polygenic risk score assessment for embryo selection? Providing in-depth analysis, the Social, Ethical and Legal Issues Committee of the American College of Medical Genetics and Genomics (ACMG) has released a new Points to Consider statement to

assist health care professionals and patients in understanding the safety and utility of preimplantation genetic testing for polygenic disorders (PGT-P) as a clinical service.

"Clinical Utility of Polygenic Risk Scores for Embryo Selection: A Points to Consider Statement of the American College of Medical Genetics and Genomics (ACMG)" is published in *Genetics in Medicine*.

PGT-P is currently offered by a few commercial labs as a method for prospective parents to screen for common disorders, such as diabetes, [cardiovascular disease](#) and some cancers. However, few previously published studies have found this testing to be valid, and none have conducted a robust assessment of its clinical utility.

"While promotion of PGT-P has led to increased demand, this methodology remains unproven," said lead author Theresa A. Grebe, MD, FACMG. "To provide guidance to our patients about the safety and efficacy of this test, we undertook an in-depth analysis of PGT-P. We looked at all aspects of the testing, including prospective studies of outcome and considered various clinical settings in which this testing could be implemented. We determined that at this time there is insufficient evidence of clinical utility of PGT-P. Until further research is done, including an ethical examination, we do not recommend it be offered as a clinical service."

The new ACMG Points to Consider statement outlines the current state of research regarding polygenic risk scores (PRS), the benefits and limitations of PRS testing, aspects of in vitro fertilization that impact preimplantation genetic testing (PGT) in the setting of embryo selection and the challenges in applying PRS data developed in adults to embryo selection. Finally, the statement analyzes the utility of PGT-P in various clinical scenarios.

The authors recommend that further research and [longitudinal studies](#) be conducted before PRS analysis for embryo screening can be responsibly offered. Currently, the risks of harm to the prospective parent or future child outweigh the benefits. The authors also suggest that a cross-section of stakeholders ultimately will need to address PGT-P's broader social, ethical and regulatory issues.

"The last two decades have seen an exponential increase in prenatal screening and testing. It is critical that any new testing modality has clinical utility, does not cause harm to patients and follows [ethical principles](#)," said ACMG President Susan Klugman, MD, FACMG, FACOG.

"This new tool, preimplantation [genetic testing](#) for polygenic disease risk, requires in vitro fertilization and is proposed as an aid in embryo selection. This ACMG statement, based on a review of current data, points out many concerns with the use of PGT-P. New screenings and tests require further research at their introduction into clinical practice. At this time, PGT-P is not recommended for clinical use, as ongoing research and societal guidelines are needed."

**More information:** Clinical Utility of Polygenic Risk Scores for Embryo Selection: A Points to Consider Statement of the American College of Medical Genetics and Genomics (ACMG), *Genetics in Medicine* (2024). [DOI: 10.1016/j.gim.2023.101052](https://doi.org/10.1016/j.gim.2023.101052)

Provided by American College of Medical Genetics and Genomics

Citation: Statement on safety and efficacy of polygenic risk score assessment for embryo selection: Points to consider (2024, February 23) retrieved 2 May 2024 from <https://medicalxpress.com/news/2024-02-statement-safety-efficacy-polygenic-score.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.