
New tool predicts risk of long-term effects after transplant

BIOPREVENT calculator helps blood and marrow transplant patients



A new tool helps doctors predict which patients are likely to have serious problems after transplant.

This tool, called BIOPREVENT, helps doctors:

- Watch closely patients who are likely to have problems
- Start treatment sooner to prevent problems

Blood or marrow transplant can cure blood cancers and diseases. But sometimes, donated cells mistakenly attack the patient's body. This causes graft-versus-host disease (GVHD). Chronic GVHD is a type of GVHD that can be serious and disabling in some cases.

BIOPREVENT calculates a patient's chance of developing chronic CGVHD after transplant. Researchers studied 1,300 patients who had blood or marrow transplant. The researchers used computer programs, called machine learning, to create the tool. BIOPREVENT is free online: bio-prevent.nmdp.org.

Researchers found that people who had chronic GVHD differed from healthier patients. The groups differed in:

- Age
- Biomarkers (proteins in the blood) 3 months after transplant
- Disease
- How closely the donor matched the patient (genes and sex)
- Medicines used before and after transplant
- Type of transplant cells
- Whether the patient had early, or acute, GVHD 3 months after transplant

Keep in mind

The study included patients in the US only. Some patients got transplant as early as 2004. Some treatments and medicines have changed since then. The BIOPREVENT tool needs to be tested in more recent patients.

Also, the tool predicts the chance of chronic GVHD but cannot say for sure whether someone will get chronic GVHD. Your doctor is the best person to ask about your health.

Learn more about

- [What's chronic GVHD?](#) at NMDP.org
- [Clinical trials for chronic GVHD](#) at CTsearchsupport.org
- More [online risk calculators](#) at CIBMTR.org
- [NMDP Patient Support Center](#) at NMDP.org or 1 (888) 999-6743

Source

Martens MJ, Dutta D, Yu Y, et al. [The BIOPREVENT machine-learning algorithm predicts chronic graft-versus-host disease and mortality risk using posttransplant biomarkers](#). Journal of Clinical Investigation. 2026

Clinical Trial IDs: BMT CTN 0201 and BMT CTN 1202

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Learn more at [BMTCTN.net](#)

This plain-language summary was written by Jennifer Motl at the Medical College of Wisconsin and reviewed by an author of the full article. © 2026 by CIBMTR, license [CC BY-SA 4.0](#).