

## A new way to measure acute graft-versus-host disease can help doctors predict transplant outcomes

### What were researchers trying to learn?

Researchers wanted to learn whether certain signs and symptoms in transplant patients who got acute graft-versus-host disease (GVHD) could predict transplant outcomes (results). GVHD can happen in patients who had an allogeneic transplant – a transplant that uses cells donated by another person. GVHD happens because of differences between the donated cells (the graft) and the patient’s cells (the host). The new cells from the donor might see the patient’s cells as different and attack them.

Researchers in this study looked carefully at more than 1,700 transplant patients who got acute GVHD, which is the type of GVHD that often happens within 100 days of transplant. After studying the signs and symptoms in these patients, the researchers looked at different outcomes. For example, they looked at whether the patient was alive 6 months after the transplant and if the acute GVHD got better with treatment.

They then figured out which signs and symptoms could predict these outcomes. The researchers paid close attention to how severe the acute GVHD was when it first developed. They also noted which organs or tissues in the patients’ bodies were most affected by the GVHD. Using this information, they made a formula to calculate a GVHD risk score. The researchers call this the Refined Acute GVHD Risk Score. They also created [a web-based tool to calculate risk scores](#).

### What did they find?

After the researchers studied these patients with acute GVHD, they made 2 risk groups: a high-risk group and a standard-risk group. They found that only 44% of patients with high-risk acute GVHD got better with the usual treatment (steroids). But 68% of patients with standard-risk acute GVHD got better with steroids.

The researchers found that patients with high-risk acute GVHD were more likely to die from causes related to their transplant than patients in the standard-risk group. Also, 6 months after patients started treatment for acute GVHD, fewer patients in the high-risk group (52%) were alive compared to patients in the standard-risk group (71%).

#### Important Points:

The Refined Acute GVHD Risk Score is a way for doctors to predict the likelihood that:

- A patient will be alive 6 months after starting treatment for acute GVHD
- Acute GVHD will get better with steroids

### Why is this important?

The Refined Acute GVHD Risk Score can help doctors decide how best to treat a patient's acute GVHD. It can also help doctors talk to patients about the likelihood of their GVHD getting better with treatment.

Because steroids are less likely to help patients in the high-risk group, a clinical trial testing new treatment may be a good option. Or doctors might recommend other, stronger medications. Because steroids are more likely to help patients in the standard-risk group, doctors might prescribe lower doses or shorter treatments. This could help patients have fewer side effects.

### What else should I keep in mind about this study?

There are other ways to measure GVHD risk. In 2015, researchers found that [biomarkers can predict whether acute GVHD will be mild or severe and whether it is likely to respond to treatment](#). But these are special tests. Doctors often don't use them because the study results haven't been repeated by other researchers yet.

The results of research studies are always limited in what they can and can't tell you. Although this study used very precise methods to group patients into high- or standard-risk groups, doctors can't know for sure how a patient will do after transplant.

### Questions to ask your doctor

If you have acute GVHD, you may want to ask:

- Are there tests that can predict my likelihood of getting better?
- What can the GVHD risk score or other measures tell me about my transplant outcome?
- What is the likelihood that steroids will help treat my GVHD?
- Are clinical trials testing newer GVHD treatments an option for me?

### Learn more about

- [This research study from its publication](#)
- [Research studies on ClinicalTrials.gov, BMT CTN 0302 and BMT CTN 0802](#)
- [GVHD](#)

#### Source:

MacMillan ML, Robin M, Harris AC, et al. A refined risk score for acute graft-versus-host disease that predicts response to initial therapy, survival, and transplant-related mortality. *Biology of Blood and Marrow Transplantation*. 2015 Apr 1; 21(4):761-767. PMC4359643. [Available on 2016-04-01]

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