

## Intense treatment before transplant linked to infections

More people with leukemia who had intense treatment just before blood or marrow transplant (BMT) got a bacterial infection, compared to people who had less intense treatment.

Although BMT may cure leukemia, it also may lead to infections. This is because treatment before transplant, as well as medicines after transplant, temporarily lower immune defenses.

Before transplant, a person gets chemotherapy (chemo), and sometimes radiation. This is called the conditioning or preparative regimen. It kills leukemia cells and also some healthy cells in the immune system.

On transplant day, a person receives the donated immune cells. However, it takes time for them to grow. So, for many months or years, people are at higher risk of infections.

Researchers studied nearly 1800 people with acute myeloid leukemia (AML) who received BMT at transplant centers worldwide. The people got one of two types of conditioning:

- Intense or myeloablative conditioning, nicknamed MAC
- Reduced-intensity (less intense) conditioning, nicknamed RIC

People who got MAC were more likely to get at least 1 bacterial infection in the first 100 days.

- About half (46%) of people with MAC had a bacterial infection
- About a third (37%) of people with RIC had a bacterial infection

The reason for this is complicated. It may be partially related to the recovery of a special type of white blood cell called neutrophils or the health of the patient at the time of transplant. Also, in this study, patients who got MAC were more likely to have graft-versus-host disease (donor cells attacking the patient's body). When that happens, doctors give medicines to stop the attack, and those medicines also lower immune defenses.

More research is needed to see if transplant conditioning can be adjusted to cause even fewer infections, and whether certain antibiotics can help.

### Ask your doctor

What type of conditioning, MAC or RIC, is best for me?



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This information is provided on behalf of the Consumer Advocacy Committee of the CIBMTR<sup>®</sup> (Center for International Blood and Marrow Transplant Research<sup>®</sup>).

### Source

Ustun C, Kim S, Chen M, et al. Increased overall and bacterial infections following myeloablative allogeneic HCT for patients with AML in CR1. *Blood Advances* 2019;3(17):2525-36. Epub 2019/09/01. doi: 10.1182/bloodadvances.2019000226. PMID: PMC6737406.

