

## A medicine for transplant can raise the chance of infections

### Cyclophosphamide is still helpful; patients should be watched for infections

A medicine that prevents serious side effects after blood or marrow transplant (BMT) may increase the risk of infections, according to a new study.

BMT from donated cells can cure blood cancers such as acute leukemia and MDS. But BMT can have a serious side effect called graft-versus-host disease (GVHD). In GVHD, the donated cells attack a patient's organs. This can be serious.

A medicine called cyclophosphamide helps prevent GVHD. Cyclophosphamide allows people who don't have a fully matched BMT donor to use a haploidentical, or half-matched donor. This helps more people get a transplant.

However, cyclophosphamide can raise the risk of infections in the first 6 months after transplant. Cyclophosphamide can prevent GVHD, but people need to get checked more closely for infections.

That's from a study of about 2,800 people who got either cyclophosphamide or older medicines, called calcineurin inhibitors (CNI) to prevent GVHD.

Everyone got BMT during 2012-2017. They had BMT from either a fully matched or half-matched sibling. Everyone had either acute leukemia (AML or ALL) or myelodysplastic syndromes (MDS).

Six months after BMT, people who got cyclophosphamide had more infections than people who got CNI:

- About half (1 in 2 people) who got cyclophosphamide had infections
- About one-third (1 in 3 people) who got CNI had infections

People who did **not** get early infections, within 16 days after BMT, were slightly more likely to live longer. One year later:

- 61-68% (about 2 in 3 people) who **had early infections** were alive
- 66-71% (more than 2 in 3 people) who had **no early infections** were alive

People were more likely to have infections if they:

- Were older than 60
- Had severe leukemia or MDS
- Had GVHD
- Had low numbers of white blood cells

Infections can happen with both cyclophosphamide and CNI. Ask your doctor about treatments after BMT. There is a [clinical trial using lower doses of cyclophosphamide](#) to prevent GVHD.



### Learn more about

- [Protecting against infections](#) at NMDP.org
- [Clinical trials about infections](#) at CTsearchsupport.org
- More [study summaries](#) at CIBMTR.org

### Source

Ustun C, Chen M, Kim S, et al. [Post-transplantation cyclophosphamide is associated with increased bacterial infections](#). Bone Marrow Transplantation. 2023. Epub 2023/10/31. PMC in process. doi: 10.1038/s41409-023-02131-z.

### About this research summary

This information is provided on behalf of the Consumer Advocacy Committee of CIBMTR<sup>®</sup> (Center for International Blood and Marrow Transplant Research<sup>®</sup>), a research collaboration between the Medical College of Wisconsin and NMDP.

