

Bone marrow and blood stem cell transplant survival rates equal, when donor is unrelated to patient

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Patients who receive a blood stem cell transplant from a donor outside of their family to treat leukemia and other blood diseases are more likely to have graft failure but less likely to experience graft-versus-host disease, a condition caused by the donor cells attacking the recipient's body, if the transplanted blood cells come directly from a donor's bone marrow, rather than from blood stem cells circulating in the donor's bloodstream (PBSCs), according to new research. Although the study showed differences in the type and extent of complications, the results showed no difference in patient survival rates between these two major sources of donated blood cells.

The study, presented in the plenary session of the 53rd annual American Society of Hematology conference in San Diego, was conducted by the Blood and Marrow Transplant Clinical Trials Network (BMT CTN), a collaborative effort of the Center for International Blood and Marrow Transplant Research (CIBMTR) at the Medical College of Wisconsin, the National [Marrow Donor Program](#) (NMDP), and the EMMES Corporation, together with 20 core transplant centers/consortia.

The randomized study included 50 transplant centers in the United States and Canada and compared two-year survival rates for 273 patients receiving PBSC with 278 patients receiving bone marrow. The study found that survival was the same using either blood cell source, but the complications following transplant were different depending on which source was used.

PBSCs resulted in better engraftment than bone marrow, but was associated with higher rates of chronic graft-versus-host-disease (GVHD) (53% compared with 40% in bone marrow), and the GVHD was also more extensive. GVHD is a serious and often deadly post-transplant

complication that occurs when the newly transplanted [donor cells](#) recognize the recipient's own cells as foreign and attack them.

"The study shows that many patients with life-threatening [blood cancers](#) can be cured with transplants from unrelated donors but also highlights areas where new strategies are needed to improve outcomes," said Mary Horowitz, M.D., chief scientific director of the CIBMTR at the Medical College, Robert A. Uihlein, Jr. Professor in Hematologic Research, and a co-author of the study.

Provided by Medical College of Wisconsin

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