



## **Unrelated umbilical-cord blood transplants equal to unrelated bone marrow in helping children with acute leukemia**

Children with acute leukemia who receive unrelated umbilical-cord blood transplants have outcomes equal to—or in some cases, better than—those treated with bone marrow, according to a recent study. The number of successful cord blood transplants has increased dramatically over the years to more than 10,000 transplants in children and adults with various life-threatening diseases, such as leukemia and lymphoma.

In this recent study, researchers compared the outcomes for 785 children with leukemia: 503 received cord blood transplants and 282 received bone marrow. The results, published in *The Lancet* in June 2007, confirm that cord-blood transplantation is a viable treatment option for patients who do not have a sibling or tissue-matched bone marrow donor. In fact, the study showed that those who received bone marrow from a matching but unrelated donor had about the same survival rates as those who received cord blood from a matching non-relative.

Like bone marrow, umbilical cord blood is rich in blood-forming stem cells. These stem cells can be used in transplants to replace unhealthy cells in patients with many life-threatening blood diseases. Cord blood is collected from the umbilical cord and placenta after a baby is born. The donated cord blood is tested, frozen, and stored at a cord blood bank for future use.

Cord blood is more readily available than bone marrow. It has a lower frequency of graft-versus-host disease (a common and potentially serious complication after stem cell transplantation from an unrelated donor), a lower risk of infection, and no risk to the donor. Cord blood is used more often in children, because an umbilical cord holds a limited amount of blood. The number of blood-forming cells in a transplant needs to match the size of the patient—smaller patients need fewer cells and larger patients need more cells. Some cord blood units may not have enough stem cells for some patients.

The decision about whether to transplant cord blood or bone marrow depends on a variety of factors, including the time available to search for a suitable donor, the quality of the cord blood, and tissue matching. The results of this study underscore the importance of investing in public cord blood banks, so that more patients can have access to these life-saving therapies.

For more information and support resources, talk with your doctor, or visit [www.marow.org](http://www.marow.org). To read the full study, please visit <http://www.cibmtr.org/ReferenceCenter/Patient/PatientSummaries/pages/index.aspx>.

Source: Outcomes of transplantation of unrelated donor umbilical cord blood and bone marrow in children with acute leukaemia: a comparison study. Eapen M, Rubinstein P, Zhang MJ, Stevens C, Kurtzberg J, Scaradavou A, Loberiza FR, Champlin RE, Klein JP, Horowitz MM, Wagner JE. *The Lancet*, 2007; 369: 1947–54.