

## Media Fact Sheet: 1 Million Blood Stem Cell Transplants Worldwide

- A blood stem cell transplant is a procedure that replaces a person's defective stem cells with healthy ones. It can be a potentially life-saving treatment for **more than 70 different diseases**, including leukemia, lymphoma and sickle cell anemia. Other diseases include aplastic anemia, myelodysplastic syndrome, inherited immune deficiency disorders and inherited metabolic disorders.
  - The stem cells used in blood stem cell transplants can come from three sources:
    - **Marrow:** The interior of bones contains the blood-forming cells necessary for transplantation. Harvesting marrow is a surgical, outpatient procedure that takes place at a hospital. General or regional anesthesia is always used.
    - **Peripheral blood:** Blood-forming stem cells can also be obtained from a person's circulating blood, also called peripheral blood. Harvesting peripheral blood stem cells (PBSC) is a non-surgical, outpatient procedure similar to donating platelets or plasma.
    - **Umbilical cord blood:** A third source of cells used in transplants is cord blood, which is collected from the umbilical cord and placenta immediately after a baby is born. It is stored at a public cord blood bank and can be used during transplantation, similar to marrow and PBSC.
  - Two types of blood stem cell transplants are used, depending on a patient's disease and other health factors.
    - **Autologous transplant:** This is where physicians collect a patient's own blood-forming stem cells for later use. After a conditioning regimen of chemotherapy and radiation, the patient's stem cells are then recirculated into the body.
    - **Allogeneic transplant:** This refers to any marrow/blood stem cell transplant in which the cells come from another person rather than the patient's own cells. The donated cells can come from a related or unrelated donor. About **30 percent** of the time a donor can be found within a patient's family. About **70 percent** of the time, an unrelated donor is necessary for transplantation.
  - The first blood stem cell transplant was reported in 1957 by E. Donnall Thomas, M.D., who later received a Nobel Prize for his pioneering research.
  - Today, **more than 50,000** patients worldwide are transplanted annually and with increasing frequency. Of those transplants, on average:
    - **53 percent** are autologous and **47 percent** are allogeneic
    - **50 percent** occur in Europe
    - **28 percent** occur in America
    - **19 percent** occur in the Asia Pacific Region
    - **3 percent** occur in the East Mediterranean Region
  - The Worldwide Network for Blood and Marrow Transplantation (WBMT) collects and analyzes blood stem cell transplant data from around the globe, including **19 member organizations**, spanning **more than 70 countries**. WBMT received nongovernmental organization (NGO) status from the World Health Organization (WHO) in January 2013.
  - Blood stem cell transplantation has improved considerably because of collaboration and cooperation among scientists, clinicians and nurses, as well as scientific societies that collect data on the procedure and analyze outcomes. In patients with optimal conditions, disease-free survival rates are now reaching **more than 90 percent**.
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