Blood and Marrow Transplant Glossary

Absolute Neutrophil Count (ANC) - A calculation of the white blood cells that counts not only the mature white blood cells but also the less mature white blood cells; also called "absolute granulocyte count."

Acyclovir – a type of medicine that fights viral infection.

Allogeneic Transplant - Transplant of marrow or stem cells donated from a genetically matched family member (usually a brother or sister). Genetic matching, called HLA matching, is done from blood samples prior to transplant.

Ampho-B – a medicine that fights fungal infection.

Anemia - A condition in which there is a decreased number of red cells, resulting in weakness and fatigue.

Antibiotics - A group of medicines used to treat infections.

Antibody - A protein that helps the body fight foreign substances (antigens) in the body, such as bacteria, fungi and viruses.

Antigen - A substance that causes a response from the body's immune system resulting in the making of antibodies.

Apheresis - A procedure where blood is withdrawn from the body and circulated through a machine that removes certain components and returns the remaining components to the body. This procedure is used to collect blood stem cells for transplant. It may also be used to collect platelets or other components of the blood.

Aplasia - Period of time when the bone marrow space inside the bone is empty. In bone marrow/stem cell transplant process, this occurs after chemotherapy with or without radiation in preparation for transplant.

Aplastic Anemia - A blood disorder in which the bone marrow is deficient in producing red blood cells, white blood cells and platelets.

Aseptic - A condition of being free from germs and infection.

Aspiration (of marrow) - The removal of marrow from the cavities in large bones by suction through a needle.

Autologous Transplant - A transplant in which a patient's own marrow is aspirated, frozen and then returned to the patient at a later date.

Biopsy - A small piece of tissue removed for microscopic examination.

Blood Cells - Cells formed in the bone marrow that makes up blood.

Blood Stem Cell Harvest - A procedure in which stem cells are collected from the circulating blood for use in a transplant.

Bone Marrow - The spongy tissue found inside large bones; also the home to the immune system. It is responsible for making blood cells including red blood cells, white blood cells and platelets. All of these elements are very important; therefore, a change in bone marrow function can be life threatening.

Bone Marrow Stem Cell Harvest - A procedure in which bone marrow is taken from the pelvic bone (hip area) for use in a transplant.

Bone Marrow Transplant - A process in which a patient's bone marrow is destroyed by chemotherapy and/or radiation therapy and then replaced by previously harvested bone marrow from a donor or the patient.

Central Venous Catheter - A small tube that is inserted into a large vein through which drugs and blood products can be given and blood samples withdrawn.

Chemotherapy- Treatment that destroys cancer cells with drugs.

Clinical Trial - A very structured study to determine the effectiveness of a drug or treatment.

Colony Stimulating Factor - Proteins that stimulate the production and growth of certain types of blood cells.

Complete Blood Count - A blood test that determines the number of red blood cells, white blood cells and platelets in the blood.

Conditioning - A combination of chemotherapy drugs, and sometimes radiation, given a few days prior to transplant to eliminate cancer cells and destroy the immune system.

Cyclophosphamide - A drug used for immunosuppression and destruction of cancer cells. A commonly used brand name is Cytoxan.

Cyclosporine - An immunosuppressive drug used to treat and prevent graft versus host disease.

Cytomegalovirus (CMV) - A virus that can lie dormant in a person but may cause an infection after a transplant when the immune system has been compromised.

DMSO - A preservative used in the freezing of bone marrow and blood stem cells.

Electrolytes - Minerals found in the blood such as sodium and potassium that must be maintained in a certain range to prevent complications.

Engraftment - The successful implantation and function of stem cells in the patient's bone marrow cavities.

Febrile - Having a fever.

Fungus - Specific types of cells that can cause an infection in the body, especially after a transplant when the immune system has been compromised.

Gastrointestinal (GI) - Refers to that part of the body that includes the stomach and intestines.

Graft Rejection - When donated bone marrow/stem cells infused during transplant is rejected by the patient's body and does not grow and develop.

Graft vs. Host Disease - A condition that can occur following an allogeneic bone marrow/stem cell transplant in which some of the donor's bone marrow cells attack the patient's tissues and organs host disease (GVHD).

Granulocyte - One of the major groups of white blood cells. Includes three types of cells: neutrophils (segs and bands), eosinophils, and basophils.

Granulocyte Colony Stimulating Factor (GCSF) - A natural substance that stimulates white blood cell growth.

Growth Factor (Colony Stimulating Factor) - An injectable drug used to stimulate the development of blood cells (Neupogen, Filigrastin).

Harvesting - Term used for the collection of stem cells from the bone marrow or peripheral blood.

Hematology - The study and treatment of diseases of the blood and blood forming tissues.

Hemoglobin - The part of a red blood cell that carries oxygen to tissue.

Hemorrhage - A general term for a large loss of blood brought about by injury to blood vessels or by a lack of necessary cells (platelets) to clot blood.

Herpes Simplex - A virus that can produce small, painful, fluid-filled blisters on the skin and mucous membranes. Very common in transplant patients.

Herpes Zoster - A virus that can produce shingles (painful skin eruptions that follow the underlying nerve routes inflamed by the virus).

Histocompatibility - Referring to the similarity of tissue between different individuals. The level of histocompatibility describes how well the patient and donor are matched. The major histocompatibility determinants are the Human Leukocyte Antigens (HLA). HLA typing is performed between the potential marrow donor and the potential transplant recipient to determine how closely their HLAs match. The closer the match, the less the donated marrow and the patient's body will react against each other. (See "GVHD.")

Human Leukocyte Antigens (HLA) - The genetic "fingerprint" present on the surface of white blood cells, platelets, and most other cells of the human body, which allow the body to recognize self versus non-self. Made up of proteins, it plays a critical role in activating the body's immune system to respond to foreign organisms. HLA A, B, and DR are important in BMT.

HLA Typing - The identification of an individual's specific HLA A, B, and DR.

Host - The patient's body.

Hyperalimentation - See Total Parenteral Nutrition (TPN).

Hypertension - High blood pressure.

Hypotension - Low blood pressure.

Iliac Crest - The "hip bone" where large quantities of bone marrow is found.

Immune System - The body's defense network against infection and foreign particles.

Immunoglobulin - Proteins made by the body that attach to infections and tend to decrease their action. They can be given intravenously or orally.

Immunosuppression - A state of decreased immunity or a lowering of the body's immune response to prevent a reaction against donor marrow or stem cells and to prevent GVHD. This can also occur after receiving chemotherapy.

Intravenous (IV) - Within or into a vein.

Irradiation - High energy rays used to kill diseased cells before or during transplant.

Laminar Air Flow (LAF) Room - A room that is specially designed to create a germ-free atmosphere through airflow and filtration.

Leukocytes - A general term for all the types of white blood cells.

Lymph Node - A gland in the body that produces lymph (the clear fluid that circulates through the body and contains white blood cells and antibodies).

Lymphocyte - One major group of white blood cells. B lymphocytes make antibodies against bacteria. T lymphocytes attack virus infected cells directly.

Lymphoma - Cancer of the lymph nodes.

Malignant - Cancerous; abnormal growth of cells.

Match - In marrow transplantation, the word "match" relates to similarity in HLA typing between the donor and the recipient. The best is an "identical match," where all six HLA antigens (2 A antigens, 2 B antigens and 2 DR antigens) are the same. This match is described as a "6 of 6" match. Donors and recipients who are "mismatched" at one antigen are considered a "5 of 6" match, and may be considered suitable for marrow transplantation.

Matched Unrelated Transplant - Another type of allogeneic transplant, but the stem cells are donated by someone other than a family member.

Microbe (or microbial) - Minute forms of life such as bacteria, fungi or viruses.

Mixed Lymphocyte Culture (MLC) - A test to determine whether a patient's and a donor's white blood cells react adversely to each other. This test is often used to determine whether a person would be a suitable bone marrow donor for a particular patient.

Morbidity - Sickness, side effects and symptoms of a treatment or disease.

Magnetic Resonance Imaging (MRI) - A method of taking pictures of the body tissue using magnetic fields and radio waves.

Mucositis - Inflammation of the mucous membranes, which include tissues lining the mouth and throat.

Neutropenia - Low counts of neutrophils, a type of white blood cells.

Neutrophil - The most common type of white blood cell in the bloodstream. It helps defend against bacterial (also called segs and bands) infections.

Oncology - The study and treatment of cancer.

Packed Red Blood Cells - Red blood cells collected from one individual that are "packed" into a small volume for a transfusion into a patient.

Peripheral Blood Stem Cell (PBSC) - Also called hematopoietic stem cells, they are the immature cells from which all blood cells develop. The "parent" or "seed" cells found in the bone marrow or peripheral blood produce several different types of blood cells. Blood cells grow in the same way as other human cells. The stem cells begin to divide and mature until they are fully developed, forming all the different types of blood cells white blood cells, platelets and red blood cells.

Peripheral Blood Stem Cell Harvesting (also see Apheresis) - Stem cells can be collected from the circulating blood system for transplant. This method of collection is called "peripheral stem cell apheresis." Apheresis is performed as an outpatient procedure and usually takes two to three hours per procedure. Most patients or their donors will have one to three procedures done to collect the required number of stem cells. For several days prior to the procedure, a drug called "growth factor" is taken in injection form to produce a greater number of stem cells, which are released into the blood. Apheresis is done by inserting a needle into one arm and connecting attached tubing to a machine where the peripheral stem cells are separated and collected. The remaining blood components (white cells, red cells and platelets) are returned through a needle in the other arm. In some cases, an IV catheter is inserted in the neck or groin if the veins in the arms are not strong enough for the procedure.

Petechiae - Small red spots under the skin caused by a low platelet count.

Platelets - Blood cells that promote blood clotting.

Prednisone - A hormone-like drug used to treat and prevent GVHD.

Preparative regimen - The chemotherapy with or without radiation therapy given to a patient prior to a bone marrow/stem cell transplant.

Protocol - The plan of treatment.

Purging - Process by which certain types of cells are removed from bone marrow prior to transplant to kill diseased cells and/or make space for healthy new marrow and/or suppress the immune system so graft rejection does not occur.

Quinton Dual (lumen catheter) - A special, dual-line intravenous catheter that is used to collect stem cells by apheresis. A radiologist or anesthesiologist inserts it into a large vein in the patient's upper arm or neck.

Red Blood Cells (Erythrocytes; RBC) - Cells that carry oxygen from the lungs to tissues throughout the body (measured by the hematocrit or HCT).

Relapse - Recurrence of the disease following a period of remission.

Remission (complete or partial) - No cancer cells can be detected by a microscope and the patient appears to be disease free. Partial indicates that there has been at least a 50% regression of the disease following treatment.

Right Atrial Catheter (RAC) - Usually a triple lumen Hickman catheter designed for long term use to give drugs and intravenous nutrition and to withdraw blood samples.

Sepsis - The presence of infection in the blood.

Steroid - A drug commonly used in bone marrow/stem cell transplant to prevent graft verses host disease.

Stomatitis - Mouth sores.

Syngeneic Transplant - Transplant in which the donor is an identical twin.

T Cell (Lymphocyte) - A type of white blood cell that can distinguish which cells belong in a person's body and which do not.

Titer - A blood test that assesses levels of antibodies against such things as viruses.

Total Body Irradiation (TBI) - A form of radiation therapy where virtually the entire body is exposed to the radiation.

Total Parenteral Nutrition (TPN; also called Hyperalimentation) - Intravenous feedings consisting of fluids high in calories and essential nutrients.

Transfusion - The transfer of any product derived from blood cells from one individual to another.

Urinary Catheter - A catheter inserted into the urinary bladder to allow continuous bladder irrigation and drainage during the conditioning phase.

Veno Occlusive Disease (VOD) - A disease that sometimes occurs following high dose chemotherapy and/or radiation therapy in which the blood vessels that carry blood through the liver become swollen and clogged.

Virus - A specific type of organism that invades cells and alters their genetic machinery, turning them into "factories" for production of more of the virus.

White Blood Cells (leukocytes) - Blood cells that fight infection in the body; neutrophils are the most important type.