

Peripheral Stem Cell Transplantation



Overview

Bone marrow is a soft, spongy tissue found inside the large bones in your body. It's where new blood cells are made. Bone marrow can be damaged by disease. It can be destroyed by chemotherapy or radiation therapy. A stem cell transplant uses healthy stem cells to rebuild your damaged bone marrow.

Evaluation

Before a transplant, you will need a physical and psychological examination. Your doctor may take x-rays. You may undergo a CT scan. Samples of your blood and your bone marrow may be removed for testing. And you may talk to counselors about your situation. Your healthcare team uses the test results to decide if a successful transplant is possible.

Cell Collection

Stem cells are taken from either your blood or a donor's. If you are about to undergo chemotherapy or radiation therapy, doctors may collect and store healthy stem cells from your bloodstream. After your treatment, these healthy cells are implanted back into your body. This is not an option for all patients. Instead, you may receive stem cells from a close relative or from a donor whom you don't know. And some patients may have access to umbilical cord blood stored when they were born.

Conditioning Treatment

You may need a conditioning treatment before the transplant. Commonly, patients receive a high dose of chemotherapy or radiation therapy. This suppresses your immune system. It can kill cancer cells in your bloodstream. Conditioning prepares your body to receive the new stem cells.

The Procedure

In most cases, the transplant procedure involves a catheter placed in your chest. The stem cells are delivered into your bloodstream through this catheter. From there, they will travel to your bone marrow. Over the next two to six weeks, they attach to your marrow and begin to make new blood cells.

Recovery

You will have regular checkups after the transplantation. You may need daily or weekly exams to make sure your new cells are working properly. The recovery process is different for every patient, so talk with your doctor about what it will mean for you.

