

Reduced-Intensity Transplants

A reduced-intensity transplant -- also called non-myeloablative transplants or mini-transplants -- is a bone marrow or cord blood transplant that uses less intense treatment to prepare for transplant than a standard transplant does. While a standard transplant uses the pre-transplant treatment to destroy most of the disease cells, a reduced-intensity transplant relies on the donor's immune cells to fight disease. The standard pre-transplant treatment is hard on a person's body. Some patients are not healthy or strong enough to go through this treatment. Reduced-intensity transplants may be an option for these patients.

How Reduced-Intensity Transplants Work

Before a standard transplant, patients receive high doses of chemotherapy and sometimes radiation therapy. This treatment is called a preparative regimen or a conditioning regimen. The preparative regimen destroys the diseased cells (such as cancer cells). It also destroys the patient's immune system so it cannot attack the donor's cells during the transplant.

In contrast, the preparative regimen for a reduced-intensity transplant does not destroy many diseased cells. It is just strong enough to suppress (weaken) the patient's immune system so it cannot attack the donor's cells. The cells for a reduced-intensity transplant can come from a family member, an unrelated donor or, less often, a cord blood unit. (Transplants using donated cells are called allogeneic transplants.) The donor's cells grow a new immune system. The new immune cells destroy the diseased cells.

The donor's cells are called a graft. When the donor's immune cells attack the diseased cells, it is called the graft-versus-leukemia effect or graft-versus-tumor effect.

Patients and Diagnoses Treated

Clinical studies suggest that reduced-intensity transplants work better to treat some diseases than others. A reduced-intensity transplant may not work well for patients with lots of disease at the time of transplant (such as leukemia in blast phase) or with a fast-growing disease.

There is good evidence of a strong graft-versus-leukemia (or graft-versus-tumor) effect in:

- Chronic myelogenous leukemia
- Acute myelogenous leukemia
- Non-Hodgkin's lymphoma
- Multiple myeloma
- Renal cell cancer

Reduced-intensity transplants are more often used with patients who could not tolerate a standard transplant:

- **Older patients**
Making transplant an option for older patients is important because many diseases that can be treated with transplant occur more often as people get older.
- **Patients whose organs do not work well**
This could include patients with health problems such as heart disease and patients whose organs were damaged by previous treatments.
- **Patients who have already had one or more transplants.**
- **Other patients who cannot tolerate a standard transplant because of their disease stage or poor overall health.**

Risks and Questions

Reduced-intensity transplants carry many of the same risks as standard transplants. The most common risks that patients who receive reduced-intensity transplants face are:

- **Infection**

This risk may be lower for reduced-intensity transplants, but infection is still a serious risk.

- **Graft-versus-host disease (GVHD)**

This is a complication where the immune cells from the donated marrow or cord blood (the graft) attack the body of the transplant patient (the host). GVHD is a risk after all allogeneic transplants, but the risk may be different after a reduced-intensity transplant.

- **Complications caused by chemotherapy**

This risk is lower after reduced-intensity transplants.

- **Disease relapse**

This risk may be higher after reduced-intensity transplants. It depends on the status of the disease at the time of transplant.

Many people treated with reduced-intensity transplants have done well. However, it has been used only since the late 1990s, and all of the risks and benefits are not known. It is still being studied in clinical trials. Doctors still want to learn:

- The best type and dose of preparative regimen. This treatment varies widely between different transplant centers and different clinical trials.
- Whether patients will stay in remission from their disease for the long-term.
- How to better prevent and treat GVHD after reduced-intensity transplants.

Available in the following languages: English, Chinese (simplified and traditional), Korean, Portuguese, Spanish, Tagalog, Vietnamese.

The National Marrow Donor Program® (NMDP) helps people who need a life-saving marrow or cord blood transplant. We connect patients, doctors and researchers to the resources they need to help more people live longer and healthier lives. Be The Match RegistrySM is the new name of the NMDP's registry. If you do not have a matching donor in your family, your doctor can contact the NMDP to search our Be The Match Registry and other registries worldwide to access more than 12 million donors and 300,000 cord blood units. In addition to growing the registry, Be The Match also recruits volunteers to support our mission, and raises funds through Be The Match FoundationSM to help patients and their families.

The NMDP's Office of Patient Advocacy (OPA) offers resources and services to help patients and their families throughout the transplant process. OPA can help you:

- Understand your treatment options
- Answer your questions about the transplant process
- Choose a transplant center
- Learn about insurance coverage and financial options
- Prepare for life after transplant

In addition to print, audio and visual materials (offered in several languages), OPA has bilingual (Spanish/English) case managers and LanguageLine interpreter services available for callers. All OPA materials and services are free and confidential.

To Contact the Office of Patient Advocacy:

Call toll-free at 1 (888) 999-6743
Outside the United States call (612) 627-8140

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