

Ready to start planning your care? Call us at [800-525-2225](tel:800-525-2225) to make an appointment.

×



Memorial Sloan Kettering
Cancer Center

[Make an Appointment](#)

[Back](#)

[Bone Marrow Transplantation & Cellular Therapies for Children and Young Adults](#)

[Learn About Bone Marrow Transplantation & Cellular Therapies](#)

[Refer a Patient](#)

ABOUT US

[Our mission, vision & core values](#)

[Leadership](#)

[History](#)

[Equality, diversity & inclusion](#)

[Annual report](#)

[Give to MSK](#)

Our researchers are designing and evaluating gentler treatment methods to prepare children for their transplant. These are called “reduced-intensity transplants,” or RITs. For example, we’ve learned that some children who need radiation therapy can receive a shorter course called “hypofractionated” radiation therapy. Others don’t need it at all. Some RITs use lower doses of chemotherapy before a transplant. We will let you know if an RIT would be a good fit for your child.

Preventing and Treating Infection after Transplant

After a bone marrow transplant, a child is more prone to infection as their new immune system rebuilds itself. Exposure to common viruses that would normally not cause significant problems in healthy people can be more serious for people recovering from a bone marrow transplant. In clinical trials, our researchers are looking at new ways to prevent and treat these infections, such as giving patients new antiviral medications, T cells that are immune to these viruses, or T cells that have been modified in the laboratory to attack the virus. Our team has also developed new strategies to reduce the complications of lower immunity after transplantation.

Lowering the Risk of Cancer Relapse

Despite our best efforts, some children who receive a bone marrow transplant experience a relapse. They may also have a greater chance that the cancer will come back. When this happens, some patients benefit from an infusion of modified T cells from their original donor. MSK Kids researchers are leaders in the study and development of this treatment.

Access to the Newest Therapies

Working closely with our colleagues in oncology, the pediatric bone marrow transplant specialists at MSK Kids can offer our patients the latest treatments. These include CAR T cell therapy, anticancer antibodies, and other treatments that boost the power of the immune system against cancer. All of these treatments are available here at MSK Kids.

The Promise of Gene Therapy

Research in gene therapy is underway. The goal is to transfer genes that work properly into blood cells and immune cells that don’t. Currently during gene therapy, we remove stem cells from the patient, send them to a special facility where the missing gene is inserted, give the child chemotherapy to wipe out the diseased cells, and then give the modified stem cells back to the patient to rebuild a healthy blood system.

Modeling Transplantation in the Lab

MSK Kids scientists are creating lab models that mimic the transplantation process in people. This helps us understand some of the complications that can occur after a transplant, like graft-versus-host disease. We can use this knowledge to develop therapies to treat these problems and prevent them in the future.

PREVIOUS

[Why should I choose MSK Kids for my child’s bone marrow transplant?](#)

NEXT

[Frequently Asked Questions about Bone Marrow Transplantation in Children](#)

Connect

Contact us

Locations

APPOINTMENTS

800-525-2225

About MSK

About us

Careers

Giving

Cancer Care

Adult cancer types

Child & teen cancer types

Integrative medicine

Nutrition & cancer

Find a doctor

Research & Education

Sloan Kettering Institute

Gerstner Sloan Kettering Graduate School

Graduate medical education

MSK Library

Communication preferences

[Cookie preferences](#)

[Legal disclaimer](#)

[Accessibility statement](#)

[Privacy policy](#)

[Price transparency](#)

[Public notices](#)

© 2024 Memorial Sloan Kettering Cancer Center