

NIH Clinical Center Patient Education Materials

Preparing for Blood or Marrow Transplant (BMT)

The NIH Clinical Center conducts clinical trials involving blood and marrow transplantation (BMT). At the NIH Clinical Center, BMT medical teams care for patients receiving many types of BMT. Patients may be adults or children, with or without cancer.

Where will I receive my BMT?

You will receive your medical care in various settings in the NIH Clinical Center, including inpatient care units, outpatient clinics, and outpatient day hospitals. The type of BMT that you receive determines how much of your treatment takes place as an inpatient and as an outpatient.

Inpatient Units

The adult inpatient (3NE) and pediatric inpatient (1NW) units have private and semi-private rooms with special air filters for patients receiving transplants. At a time when you have the highest risk of infection, you may be confined to your room, but we encourage you to walk multiple times a day to keep your energy and strength. If you have an infection that can be spread to other people, you will be placed on isolation. When this occurs, your nurse and medical team will educate you and your caregivers about that infection and any precautions that you need to take.

Outpatient Clinics and Day Hospitals

The adult and pediatric outpatient clinics and day hospitals provide routine follow-up with your transplant team, nurses and support staff. The same isolation and visiting rules apply.

May I have visitors?

- Yes, the NIH Clinical Center visiting hours are from 9 a.m. to 9 p.m. Visitors of all ages are typically allowed on the adult and pediatric transplant units, but please check with your unit beforehand. An adult (other than the patient) must accompany a visitor under 12 years of age at all times, including in playroom areas.
- Any visitor who has signs or symptoms of illness, such as fever, cough, or runny nose, will be asked to leave the NIH Clinical Center immediately and not return until free of all symptoms.
- Family and friends should consider getting an annual flu shot to decrease the risk of getting and passing the flu onto you. Visitors who have received a live vaccine (i.e. FluMist) will not be allowed to visit for three weeks after vaccination. There are no restrictions for non-live vaccines.

Hand washing is very important

Washing your hands is the best way to prevent infection. Everyone, including you and your visitors, must wash their hands or use hand sanitizer often to prevent infections. Hand sanitizer is available outside of every patient room.

All patients and visitors must wash their hands:

- Entering or exiting the room
- Before and after eating
- After using the bathroom

All visitors are asked to use the public bathrooms located outside of each unit.

What is the process of transplant?

Preparative regimen for transplant

Before your BMT, you may receive chemotherapy, total body irradiation, or both. This is called your “preparative” or “conditioning” regimen. This can be done as an outpatient or inpatient, depending on the type of BMT that you receive. During the preparative regimen, the days are counted down (Day -7, -6, -5, -4,...) to “day zero” (“0”), which is the day of bone marrow or stem cell infusion. The preparative regimen prepares your body to receive the new bone marrow or stem cells.

Your nurse will give you detailed information about your medications, but some common side effects of the preparative regimen are:

- Nausea
- Vomiting
- Decreased or no appetite
- Hair loss
- Mouth sores
- Less energy

Receiving your blood or marrow transplant

Day of Transplant:

The day of your transplant is day zero when you will receive your bone marrow or stem cell transplant, also called a “graft.” You will receive the infusion in your patient care room and be monitored closely during and immediately after the infusion. We encourage family and friends to stay with you for the infusion.

Review the NIH Clinical Center publication, “What to Expect on the Day of Your Stem Cell Transplant,” for more information.

After your transplant

The days after your BMT are counted as positive numbers starting with Day +1 as the day after the infusion. After your BMT, we will monitor your blood counts closely and watch for any side effects or complications. During this time, you will also receive education on your medications, plan of care, and discharge from the hospital. The type of conditioning regimen and transplant that you receive will determine the length of your hospital stay.

What happens during Days +1 to +28?

Because your white blood cell counts will be low, you are at a higher risk for infection. Your medical team will monitor you closely.

- Your vital signs (temperature, blood pressure, pulse, respiratory rate, and oxygen saturation) will be taken three to six times every 24 hours, even at night. A fever or change in vital signs may be the first sign of infection.
- Your weight will be taken one or two times a day. You will need to keep a record of how much you eat and drink, as well as the amount of urine and stool you produce each day.
- You may receive medications by mouth, as an injection, or through your Vascular Access Device (VAD). It is important for you to learn:
 - When and how to take your medications
 - Why you are taking them
 - Any side effects that may occur

- Your blood will be drawn one or more times a day to monitor your blood counts and medication levels. Depending on your blood counts, you may need an infusion of red blood cells or platelets if your levels are too low. Please review the NIH Clinical Center publication, “Understanding Your Complete Blood Count (CBC),” for information on managing low blood counts. Depending on your medication levels, you may need more or less medication that lowers your immune system. The medication that you take after your BMT will lower your blood counts and your ability to fight infection.
- Your medical team needs your help to know how you feel each day. You may have symptoms that help them identify an infection or side effect that they can treat. If you have any of the following or any change in symptoms, please report them to your medical team:
 - Redness, pain, or drainage at your VAD site
 - Cough
 - Runny nose/nasal drainage
 - Feeling cold with or without a fever
 - Sores on your lips or in your mouth
 - Burning or urgency with urination
 - Bleeding, pain, or discharge from penis, vagina, or rectum
 - Diarrhea or constipation
 - Skin rash or skin changes
 - Pain
 - Nausea/vomiting
 - Fever

What can I do to prevent infections while in the hospital?

The preparative regimen that you receive before BMT and the medications that you take that lower your immune system after BMT both increase your risk of infection. Special infection control practices are in place to prevent infection in transplant patients. Activities that lower your risk of infection include:

- Washing your hands:
 - Before you leave and when you come back to your room
 - Before and after you eat
 - After you use the bathroom
- Wearing a mask when you leave your room when your blood counts are low (absolute neutrophil count or ANC is less than 500).
- Asking all visitors and staff that enter your room to wash their hands
- Telling family and friends not to visit if they are sick
- Not keeping fresh flowers in your hospital room
- Avoiding public transportation during busy times
- Avoiding large crowds

If you develop a cough, runny nose, fever, or body pain, tell your transplant team immediately.

What activities can I do during my hospital stay?

- Physical Activity
 - Walk and stay active!
 - Walking at least three times each day will decrease the overall tiredness that you may feel.
 - Discuss with your team where you are allowed to walk (based on your blood counts).
- Personal care
 - Take a shower every day. You will need to cover your vascular access device to keep it dry.
 - Keep skin folds clean and dry, including genital and rectal areas, and examine your skin daily for any changes.
 - Use fragrance-free lotions. Lotions with strong smells and perfumes can irritate skin.

- Shave with an electric razor. Straight razors can cut the skin and cause infection and bleeding.
- Women should not use tampons.
- Brush your teeth two to three times a day using an extra soft toothbrush.
- Rinse your mouth after eating with water or alcohol-free mouthwash to wash away any pieces of food or debris.

What can I eat during and after my transplant?

You need enough protein, calories, and other nutrients to maintain your strength and health during and after treatment. A registered dietitian will work with you during your hospital stay to ensure that your nutritional needs are met. You will also learn how to choose foods that will be the safest for you to eat.

Most foods are allowed, but, because you are more likely to get sick, you will learn which foods to avoid and how to prepare and store foods. Please review the NIH Clinical Center handouts, “Don’t Let Your Food Make You Sick!” and “Foods to Choose” for food handling tips and information. Your caregiver can bring you food from home after reviewing these documents. Sometimes, your appetite may be less than usual because of possible side effects such as nausea. If this happens, your dietitian may recommend foods that differ from your usual foods. For example, small snacks/meals every couple of hours may make your stomach feel better than eating only a few heavy meals.

What should my caregiver do for me during BMT?

All transplant patients typically must have a caregiver with them at all times for at least the first 100 days after transplant for their own safety. Please discuss this with your transplant team. Your caregiver has a very important role. This person can help you during your BMT by:

- Reminding you to do the daily activities described above
- Learning about your care and medications
- Driving you to and from appointments at the NIH Clinical Center
- Supporting you through the process

We realize that you, as well as your family and friends, are going through this process together. Encourage your caregiver to get plenty of rest, eat well, get regular activity, and take personal time, and ask for help when needed.

What should I bring when I am admitted for my transplant?

Depending on the type of conditioning and transplant that you receive, you may be in the hospital for one week (seven days) or longer.

You may bring your own clothes and linens or use the supply provided. If you bring your own, these must be laundered on a frequent basis. You may bring other personal items such as pictures and reading materials. Remind your friends and family not to send live plants and flowers, because they can have germs that cause infections. Also, they should not send fresh food products. The NIH Clinical Center cannot take responsibility for your valuables, such as a wallet or computer, so please leave these at home.

Will I see my medical team every day?

Your medical team includes doctors, nurses, pharmacists, social workers, dietitians, recreation therapists, spiritual ministers, and many others. They will see you at least daily, usually in the morning.

Write down any questions you or your family may have so that they can be addressed when the medical team sees you. While the medication team oversees your daily medical care, they will also report your progress to your Principal Investigator (the doctor in charge of your research protocol).

Other Resources:

- [National Marrow Donor Program](#)
- [Leukemia Lymphoma Society](#)
- [National Bone Marrow Transplant Link](#)
- [Bone Marrow Transplant \(BMT\) InfoNet](#)

NIH Clinical Center Publications:

- Welcome to 1NW (Pediatrics)
- Welcome to 1NWDH (Pediatrics)
- Welcome to 1HPeds (Pediatrics)
- Welcome to 3NE (Adult Inpatient Unit)
- Welcome to 3SE-S (Adult Outpatient Unit)
- Understanding Your Complete Blood Count
- Don't Let Your Food Make You Sick!
- Foods to Choose
- What to Expect on the Day of Your Stem Cell Transplant

Contact information:

My Research Nurse Coordinator: _____

My Primary Nurse: _____

My Inpatient Unit: _____

My Day Hospital Unit: _____

My Clinic: _____

This information is prepared specifically for persons taking part in clinical research at the National Institutes of Health Clinical Center and may not apply to patients elsewhere. If you have questions about the information presented here, talk to a member of your health care team. Products/resources named serve as examples and do not imply endorsement by NIH. The fact that a certain product/resource is not named does not imply that such product/resource is unsatisfactory.

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[Questions about the Clinical Center?](#)

