TRANSPLANT BASICS
Understanding transplant and how it works

Bob, transplant recipient
AT EVERY STEP, WE ARE HERE TO HELP

As you journey through transplant, you’re not alone. Be The Match® is ready to help.

We offer many free programs and resources to support patients, caregivers and family members before, during and after transplant. Help is only a click or a call away.

If you need to talk …
Our patient services coordinators are available to listen, answer questions and find resources.

If you’re looking for resources to help you before, during and after transplant …
Our free print, video and online educational resources can help you throughout the transplant process.

Our programs and resources offer support in 11 languages, including Spanish bilingual staff, and interpreter services are available in over 100 languages.

If you want to connect with someone who’s been there …
Our Peer Connect program will put you in touch with one of many trained volunteers who’ve been through transplant.

Connect with us in the way that works best for you.

• **Learn**: BeTheMatch.org/patient
• **Request information**: BeTheMatch.org/request
• **Email**: patientinfo@nmdp.org
• **Call**: 1 (888) 999-6743
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INTRODUCTION

Transplant Basics is written for you—someone who is learning about or planning for a blood or marrow transplant (BMT). Your family and friends might want to read this too.

This booklet has information about BMT—also called a bone marrow transplant or stem cell transplant. You might already be talking with your doctor about this treatment. If not, ask your doctor if it might be an option for you. You can also ask for a referral to a transplant center (a hospital that does transplants) to learn more about this treatment.

Every patient’s situation is unique, so it’s important to talk about all your options with your doctor.

Whatever you decide, ask questions to learn what to expect from your treatment. Make sure you’re comfortable with your treatment plan. The section on Questions to ask your doctor (page 36) can help you get started.

Learn more about the basics of transplant. Hear from transplant recipients, caregivers, doctors and other health care professionals at BeTheMatch.org/LearnTheBasics.
It's an up and down roller coaster ride, and you need support. Whether it's family, whether it's a friend, support is important.

—Ramon, caregiver, with his wife, Elsa, transplant recipient
UNDERSTANDING BLOOD AND MARROW TRANSPLANT

WHAT IS BONE MARROW?

Bone marrow is the soft tissue inside your bones that makes blood-forming cells. Blood-forming cells are immature cells (also called blood stem cells) that grow into red blood cells, white blood cells and platelets. Once they’re mature, the cells and platelets leave the marrow and enter the bloodstream.

Healthy marrow and blood cells are needed to live. Different diseases can make the marrow not work well. When this happens, a transplant may be needed. For some diseases, transplant is the only possible cure.

There are risks and benefits to having a transplant. This booklet can help you learn about them so you can make informed decisions about your treatment.
WHAT IS A BLOOD OR MARROW TRANSPLANT?

A blood or marrow transplant replaces unhealthy cells with healthy ones. Before your transplant, you get chemotherapy with or without radiation to destroy the diseased cells.

Then, the healthy cells are given to you. A transplant is not surgery. It’s just like getting a blood transfusion. The new cells are given to you through an intravenous (IV) catheter, or tube. From there, the cells find their way into your marrow. There, they grow and start to make healthy red blood cells, white blood cells and platelets.

The blood-forming cells for transplant come from one of the following sources:

1. Bone marrow: The soft, spongy tissue inside of bones
2. Peripheral blood stem cells (PBSC): Blood-forming cells from the bloodstream
3. Umbilical cord blood: The blood collected from the umbilical cord and placenta after a baby is born

DISEASES TREATED BY A TRANSPLANT

Some of the diseases more commonly treated with blood and marrow transplants:

Leukemia
- Acute lymphoblastic leukemia (ALL)
- Acute myeloid leukemia (AML)
- Chronic lymphocytic leukemia (CLL)
- Chronic myelogenous leukemia (CML)

Lymphoma
- Hodgkin lymphoma (HL)
- Non-Hodgkin lymphoma (NHL)

Fanconi anemia

Multiple myeloma

Myelodysplastic syndromes (MDS)

Myeloproliferative disorders

Severe aplastic anemia

Sickle cell disease (SCD)

Children Only

Inherited Immune System Diseases
- Severe combined immunodeficiency (SCID)
- Wiskott-Aldrich syndrome (WAS)

Inherited Metabolic Disorders
- Adrenoleukodystrophy (ALD)
- Hurler syndrome
- Krabbe disease (GLD)
- Metachromatic leukodystrophy (MLD)

There are over 70 diseases for which transplant may be an option. Talk to your doctor to find out if transplant might be right for you.

You can learn more about these diseases and when transplant may be a treatment option at BeTheMatch.org/patient in the Learning about your disease section.
You may hear your health care team say “auto” and “allo.” Auto means autologous transplant. Allo means allogeneic transplant.

To learn more about the steps before, during and after transplant, see The Transplant Process section starting on page 12.

WHAT ARE THE TYPES OF TRANSPLANT?

There are 2 main types of transplant:
1. Autologous Transplant

An autologous transplant uses your own blood-forming cells. The cells are collected from your bloodstream (a process called apheresis) or marrow (a procedure called a harvest) and safely stored until they’re used.

Before an autologous transplant, you will get very high doses of chemotherapy with or without radiation to destroy the diseased cells. This high-dose treatment also destroys your marrow. Your stored cells are then put back into your bloodstream through an IV. From there, the cells find their way into your bones and replace the damaged marrow.
2. Allogeneic Transplant

An allogeneic transplant uses blood-forming cells donated by someone else. This can be a family member or a person unrelated to you. If cord blood is used, this is most often from a public cord blood bank (from a baby unrelated to you), but can sometimes come from a baby in your family.

An allogeneic transplant begins with chemotherapy with or without radiation to kill diseased cells in your body. This treatment destroys your marrow, which may be making the diseased cells. Then, the healthy donated cells are put into your bloodstream through an IV. They travel to the inside of your bones and begin to make healthy red blood cells, white blood cells and platelets.

Allogeneic transplants require donors and patients to have closely matched human leukocyte antigen (HLA) markers. If you don’t have a matching donor in your family, your doctor can search the Be The Match Registry® for a matched unrelated donor or cord blood unit. For more information, see Steps to finding an unrelated donor or cord blood unit (page 14).
Your transplant doctor will recommend which type of transplant is best for you. This decision is based on:

• What disease you have—some diseases can only be treated with allogeneic transplant and some are best treated with autologous transplant
• What stage your disease is in
• Your overall health

QUESTIONS TO ASK YOUR DOCTOR

• Which type of transplant (autologous or allogeneic) is more commonly used for my disease? Why?
• Do you recommend an autologous or allogeneic transplant for me? Why?
• What are the risks and benefits of each type of transplant for my disease?
• If an allogeneic transplant is recommended:
  - Which family members will you test as possible donors?
  - If a matched family member is not available, how will you find an unrelated donor for me?

Many different words are used to talk about transplant. Your doctor might say:

• Allo transplant (allogeneic transplant)
• Auto transplant (autologous transplant)
• BMT (blood and marrow transplant, or bone marrow transplant)
• HCT (hematopoietic cell transplant)
• Matched unrelated donor (MUD) transplant
• Related donor transplant
• Stem cell transplant
In most cases, the earlier you meet with a transplant doctor after your diagnosis, the better. It takes time to plan for a transplant, so it’s important for your doctor to start the process early—even if you’re still considering other treatment options.

A transplant doctor can talk with you about the best time for a transplant. In general, transplants are most successful if:

• The disease is in an early stage
• The disease is in remission (no signs of disease), or there is very little disease in your body
• The disease has gotten better after chemotherapy
• You are in good overall health

WHEN IS THE BEST TIME TO HAVE A TRANSPLANT?

Ask all the questions that you feel you want answers to, whatever that is. Everybody is different.

—Bob, transplant recipient, pictured above, with his wife and caregiver, Karen

QUESTIONS TO ASK YOUR DOCTOR

• Will a transplant be an option at some point in my treatment? If so, when?
• Should I see a transplant doctor now? If not now, when will you refer me to a transplant doctor?
• Is there a risk or benefit of waiting until later to meet with a transplant doctor?
Autologous transplants are mostly done with peripheral blood stem cells (PBSCs). Allogeneic transplants may use any of the 3 sources—marrow, PBSC or umbilical cord blood.

Your doctor will recommend which cells are best for you based on:

- Your overall health
- Your disease status or stage, including how quickly a transplant is needed
- Your weight—the number of blood-forming cells you need is based on your weight

Transplant is one treatment option for blood or marrow diseases. Other options include:

- **Chemotherapy**—Medicines that destroy cancer cells or stop them from growing. The goal may be to slow down the disease or kill the disease so there are no more signs of it (remission)
- **Immunotherapy**—Special proteins that attach to the outside of cancer cells to mark them so the immune system can destroy the cancer cells
- **Radiation therapy**—Beams of energy to stop cancer cells from growing and multiplying
- **Blood transfusions**—Transfusions of red blood cells or platelets to ease the symptoms of many blood or marrow diseases

Even if you get a transplant, you may still have one or more of these treatments as part of your overall treatment plan.
Edmund Waller, MD, PhD, transplant doctor, and Naomi Barfield, NP, transplant nurse practitioner
The transplant process is different for everyone. Your path will depend on many factors including type of transplant, your overall health and your disease status. Your transplant team will be there the whole time to guide and support you.

The diagram below* shows the steps for both an allogeneic transplant (using cells from a donor) and an autologous transplant (using your own cells).

*Every patient’s experience is unique. Your path may be different.

The days you receive the preparative regimen (the process to prepare your body for receiving the cells) are minus days (or –days). The number of days will vary, depending on your regimen. For example, you may receive the preparative regimen on day –8 through day –1. Someone else may receive it on day –6 through day –2. This part of the transplant process is the countdown to transplant day, or “Day Zero.” The days after transplant day are called positive days (or +days).

The number of days for engraftment and recovery will be different for each patient.
If I need an allogeneic transplant, what happens first?

The first step is to find a donor who is the best match for you. Your doctor will use human leukocyte antigens (HLA) typing when choosing your donor or cord blood unit. HLA are proteins—or markers—found on most cells in your body.

Typically, your doctor will first look for a matched donor in your family—usually a brother or sister. That’s because HLA markers are inherited. You get half of your HLA markers from your mother and half from your father. Each brother and sister has a 25% (1 out of 4) chance of matching you, if you have the same mother and father.

Most patients, about 70% (7 out of 10), don’t have a close match in their family. If you don’t have a match in your family, your doctor will work with us to find you a matched unrelated donor or cord blood unit. Depending on your ethnic background, the chance of finding a match is between 66% and 99%.

Your doctor should start the donor search process as soon as possible. We recommend this step even if your doctor is not planning a transplant for you right away. This is because it sometimes takes many months to find an unrelated donor. Also, your health could change and you may need a transplant sooner than originally planned.

Before Your Transplant

Kyle, transplant recipient (left), with Lt. Segundo, his donor

After deciding to move ahead with an allogeneic unrelated donor transplant, I didn’t know what to expect. The search moved quickly, but for me it seemed like an eternity. To this day I am amazed and in awe of someone who would donate their cells to save the life of a complete stranger. I will forever be grateful for this selfless act.

—Michael, transplant recipient
**STEPS TO FINDING AN UNRELATED DONOR OR CORD BLOOD UNIT**

1. Your doctor requests a free search of the Be The Match Registry. This search shows the potential donors and cord blood units on the registry that could match your HLA markers.

2. Your doctor reviews the results.

3. Your transplant doctor starts a more detailed (formal) search of the registry when it’s clear you’ll need an unrelated donor or cord blood unit. The goal is to find out whether potential donors or cord blood units are truly the best matches for you. There are costs involved in this step that may or may not be covered by your insurance.

4. While your treatment continues, your transplant doctor chooses the best donor or cord blood unit for you. Your transplant center will test the chosen donor or cord blood unit to make sure it’s the best match for you. The chosen donor will also have more blood tests and checkups to make sure he or she is healthy enough to donate.

We work closely with your doctor throughout the entire process. You can find more information about the search process and HLA matching at BeTheMatch.org/patient in the Finding a Donor section.

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**Haploidentical transplants**

For some patients, doctors at some hospitals will look for a donor who matches half of your HLA markers. This type of transplant is a haploidentical transplant, also called a half-matched, or partially matched, related transplant. In these transplants, donors and patients share half of the HLA markers. Parents are a half-match for their children and vice versa. Brothers and sisters have a 50% (1 out of 2) chance of being a half-match for each other.

Not all transplant centers will do haploidentical transplants. But it may be an option for you if your doctor can’t find a closely matched family member, unrelated donor or cord blood unit.

Remember, your doctor—not you—is the one who finds you a matched donor or cord blood unit for your allogeneic transplant.
The importance of HLA matching

The best transplant outcomes (results) happen when a patient’s HLA closely match the donor’s HLA. HLA are proteins—or markers—found on most cells in your body. Your immune system uses HLA markers to know which cells belong in your body and which don’t.

Matching HLA markers is much more complex than matching blood types. There are many HLA markers that make a person’s cells unique. These HLA markers need to be closely matched; otherwise the donated cells won’t have a chance to grow inside the patient’s marrow. A close HLA match also helps lower the risk for complications after transplant.

If I need an autologous transplant, what happens first?

When planning for an autologous transplant, your doctor won’t need to find a related or unrelated donor. That’s because you, the patient, will be supplying your own blood-forming cells. Your doctor may collect blood-forming cells from the circulating blood (peripheral blood stem cells) or marrow. Most patients use PBSC for an autologous transplant. But your doctor will decide which is best for you.

**PBSC COLLECTION:** Blood-forming cells are collected from the bloodstream. This process is called apheresis. Before apheresis you receive shots to increase the number of blood-forming cells in your bloodstream. During apheresis, blood is removed through an intravenous line, passed through a machine, and put back into your bloodstream. The machine takes out the blood-forming cells that will be used for your transplant.

**MARROW COLLECTION:** Blood-forming cells are collected from the pelvic, or hip, bone through surgery. You receive anesthesia so you are comfortable during the process. A doctor uses a special needle to remove the blood-forming cells from your bone marrow.

After they are collected, the cells can be frozen, for months or years, until you need them for your transplant.

WE HAVE FINANCIAL AID AVAILABLE IF YOUR INSURANCE DOESN’T PAY FOR THE COST OF A DONOR SEARCH. LEARN MORE ABOUT INSURANCE COVERAGE, FINANCIAL ASSISTANCE PROGRAMS AND HOW WE CAN HELP AT BETHEMATCH.ORG/PLANHEAD.
In the weeks before your allogeneic or autologous transplant, you will meet with your doctor and other members of your transplant team. During this time, your doctor will check your overall health and disease status to make sure it’s the best time for you to receive a transplant.

Tests before transplant

You will have a physical checkup before you start the transplant process. This is to make sure that your body is healthy enough to have a transplant.

Physical checkups and tests before transplant depend on your disease and health history. They also may vary from hospital to hospital. Typically, the tests include:

• Heart tests
• Blood tests
• Pulmonary (lung) function tests
• Bone marrow biopsy — This is where a needle is put into your hip bone to take out a small sample of bone marrow. A doctor studies the marrow under a microscope.

Ask your doctor about any tests you don’t understand and make sure you are comfortable with your treatment plan.

Getting a central line

Whether you have an allogeneic or autologous transplant, you will give blood samples, get IV medicines and likely get blood transfusions often. If you don’t already have one, you will have a central venous catheter, or central line, put in
before your transplant to ease this process. The central line will lower the number of needle sticks that you need and allow you to get some medicines through your vein.

**Preparative or conditioning regimen**

Before you get your cells, your doctors need to prepare your body to receive them. This process is called the preparative regimen, or conditioning regimen.

The preparative regimen is the chemotherapy and radiation you get in the days right before your transplant. Your doctor will choose the type of preparative regimen for you based on your disease and overall health. Your transplant team can explain why a particular type of regimen is the best choice for your transplant.

**Types of allogeneic preparative regimens**

1. **Standard-intensity regimen** — This is also called a myeloablative regimen. This regimen uses high doses of chemotherapy, with or without radiation. The high dose treatment helps to destroy diseased cells in your body. But it also weakens your immune system. A weakened immune system helps to prevent it from attacking the donated cells after transplant.

2. **Reduced-intensity regimen** — This is also called a non-myeloablative regimen. This regimen uses a lower dose of chemotherapy, with or without radiation.

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It's a long process and it's intense. It's going to be rough at first, but you can do it. Just stick with it.

—Constance, transplant recipient

**Autologous preparative regimens**

Doses of chemotherapy and radiation are higher than what would be used to treat the same disease if you weren’t getting a transplant. The higher doses may cause more severe side effects, but they also destroy more diseased cells.
The Transplant Process

What happens on transplant day?

The day you receive your new cells is often called “Day Zero.” It usually comes 1 or 2 days after you finish your preparative regimen.

You may have mixed feelings about transplant day. You may feel nervous. It may be a time of celebration. Or, you may feel a mix of emotions. These feelings are normal. Your health care team will be with you to support you and address any concerns you may have.

Receiving your cells

The transplant isn’t surgery. Instead, your healthy cells are given to you through your central line. The cells arrive in blood bags, similar to the ones used for blood transfusions.

You will be in your hospital room and awake when the new cells are given to you. The cells are put into your body like a blood transfusion. The whole process could be short (1 hour or less) or long (many hours) depending on how you feel and the number of cells being infused.

Some patients and family members like to do something special on transplant day to honor the milestone, like have a small gathering, play music or say a prayer. You may want to ask your transplant center for ideas on how you can honor and remember the day.

TRANSPLANT DAY: “DAY ZERO”

On the day of my transplant, they came in to tell us how long it would be before the cells arrived, and I was so excited. It was like, ‘Okay, this is it. We’re moving on and I’m going to get better.’

—Patsy, transplant recipient
ENGRAFTMENT

The cells know where they belong in the body. They move through your bloodstream to settle into your bone marrow. There, the cells will begin to grow and make new red blood cells, white blood cells and platelets. When this happens, it’s called engraftment.

Engraftment is an important medical milestone after your transplant. It tells your doctors that the cells are working properly. With these cells, your immune system is now beginning to recover, and you are better able to fight infections on your own. This time also marks the beginning of your recovery process.

AFTER YOUR TRANSPLANT

How long does it take to recover from transplant?

Recovering from a transplant takes time, and complications are common. Your doctor can help you understand what possible complications may occur for you and what treatments there are to help reduce the complications. You will stay in or near the hospital during early recovery.

Early recovery

In the first months after transplant, focus on recovery by:

• Eating well
• Being careful about infections by doing things like washing your hands often
• Taking your medicines
• Getting regular care from your doctor
• Doing everything your transplant team tells you

Life after transplant is a different challenge than treatment. Paving the road to your new normal has its emotional ups and downs. However, if you lean on your support system and listen to your doctors, your road will be much smoother.

—Matt, transplant recipient, pictured above
Although your transplanted cells have already engrafted, you will still be weaker than normal for many months. The risk for complications from a transplant is highest during the first 100 days after a transplant. This is because your immune system needs time to grow stronger. Your transplant team will watch you closely for infections and other problems.

A common complication after an allogeneic transplant during this early recovery period is called **graft-versus-host disease (GVHD)** (see text to the right).

**You will probably be able to leave the hospital when:**

- Your cells have engrafted, and
- You have no sign of infection, and
- You’re able to take all your medicines by mouth

This usually happens some time during the first 100 days, but may take longer. However, you will likely still need to visit the hospital or clinic regularly.

Some hospitals have programs for outpatient transplant. As long as the patient is well enough (for example, there are no signs of infection, like a fever) the patient will not have to stay overnight in the hospital. Patients having an outpatient transplant will still need to make frequent, often daily, visits to the outpatient clinic.
GRAFT-VERSUS-HOST DISEASE (GVHD)

Graft-versus-host disease (GVHD) is a common complication of an allogeneic transplant. GVHD can affect many different parts of the body including the skin, eyes, mouth, stomach and intestines.

GVHD occurs because of differences between the cells of your body and the donated cells. Your new immune system from the donor might see your body’s cells as different and attack them.

There are two types of GVHD:

• Acute GVHD: This typically affects the skin, stomach, intestines and liver

• Chronic GVHD: This can affect the skin, nails, joints, muscles, eyes, mouth and other organs. If you have had or currently have acute GVHD, you are more likely to have chronic GVHD

Acute and chronic GVHD can range from mild to severe.

If your allogeneic transplant is treating a blood cancer, your doctor may see mild GVHD as a good thing. It is a sign that the donor’s immune system is working to destroy any remaining cancer cells. Patients who experience some GVHD may have a lower risk of the cancer returning after transplant than patients who don’t develop GVHD. If your allogeneic transplant is treating a disease other than cancer, like aplastic anemia, then your doctor may want to treat even mild GVHD.

GVHD is serious, but there are several treatment options.

More information on GVHD, including prevention, signs and symptoms, and treatment, can be found at BeTheMatch.org/patient in the Life After Transplant section.
Transplant is doable, but not easy. This is more of a marathon than a sprint. Your life will be affected forever in both positive and negative ways. Surround yourself with friends and have a committed caregiver who will be your advocate as well. Focus on the things you can do instead of your limitations.

—Evelyn, transplant recipient

Long-term recovery

When you leave the hospital, you will need to:

• Follow guidelines to reduce the risk of serious infections and other complications.

• Take all of your medicines exactly as your doctors tell you.

• Follow your transplant team’s advice for eating and safe handling of food. Eating healthy foods will help you get your strength back and reduce your infection risk.

• Call your doctor right away if you have any symptoms or signs of infection, like a fever.

Each patient will have a different experience after transplant. It’s common for patients to re-enter the hospital to be treated for complications after transplant. Not all patients need to re-enter the hospital.

In your first weeks or months after you leave the hospital, you will see your transplant team often, even daily. If you travel to a transplant center far from home, expect to stay near your transplant center for treatment for at least the first 100 days.

You will continue to see your doctor in the months and years after your transplant. Regular doctor’s visits are important to protect your health. Your doctors will watch for problems related to the transplant or past treatment.

When symptoms are found and treated early, there may be more options for treatment, and those treatments can be more effective. See text at right for information about after-transplant care for both allogeneic and autologous transplant recipients.

Each patient’s recovery is different. It is possible to have a short recovery, but for some patients, recovery can last for years.
After-Transplant Care Guidelines
(available in English and Spanish)
We provide long-term screening guidelines for you and your doctor. These guidelines are available for free. They’ll help you and your doctor quickly find and treat problems that can occur after transplant.

The medicines you will take after transplant are very important to your health and recovery. If you ever have trouble paying for any of them, let your doctor know right away. Be The Match, and other organizations, have financial aid available to help cover the costs of medicine and co-pays.

Dan, transplant recipient

You can find more information about care after transplant at BeTheMatch.org/patient-after
A caregiver is someone who will be there to provide support and care throughout the transplant process. Your caregiver will play an important role in your health care and recovery. In fact, most transplant centers require you to choose a caregiver before you can get a transplant.

The doctors, nurses and social workers at the transplant center will help your caregiver learn about their role. We also support caregivers with programs and resources, including one-on-one support.

Even before your transplant, you might need some extra help and support. Your caregiver can help you and advocate for you.

For the medical areas of transplant, your caregiver can:

- Be with you in the hospital or clinic during doctor’s visits to listen and ask questions
- Ask your doctors to explain treatment choices, test results and medicines
- Keep track of all your treatments in a notebook
- Talk with you to understand your treatment goals
For the cost of transplant, your caregiver can:

- Find out what insurance will pay and what you will need to pay
- Ask your social worker or financial coordinator about other financial help
- Help you plan how to pay for transplant
- Make sure household bills are paid on time
- Help you keep your health insurance and other benefits active
- Ask about taking an extended leave from work (Family Medical Leave Act) for both you and your caregiver

Your emotional care before transplant is important, too. Your caregiver can:

- Be there to listen, talk or simply be by your side
- Show support for your feelings
- Understand your concerns and help you make a plan to take care of concerns
- Spend time with you doing things you both like to do
- Help communicate with your support system

(From left to right) Johnnie and Frances, parents and caregivers for their daughters, Samantha, sister and donor, and Constance, transplant recipient.
Your caregiver’s role will change when you’re ready to leave the hospital. You will need to have a caregiver available at all times, especially when you first leave the hospital.

**Before leaving the hospital, your health care team will teach your caregiver:**

- How to care for you at home
- What to do if there is an emergency
- Who to contact with questions

Once you get home from the hospital, one of your caregiver’s most important tasks is to watch for new symptoms or problems and report them to your doctor right away. That’s because waiting to report symptoms could cause serious complications.

**Your caregiver may also need to:**

- Help you take the right medicines at the right times
- Change dressings on your central line, if it’s still in place
- Take you to appointments at the hospital or clinic—sometimes on short notice
- Protect you from infections by cleaning your home and caring for children and pets
- Cook food safely and help you follow any rules about what is safe for you to eat

Remember, your caregiver will need to be available all of the time, in case you need medical help right away. Your caregiver may also continue to offer financial and emotional support.
As caregivers focus on caring for their loved ones, it can be easy for them to forget about their own needs. But one of the most important things caregivers can do is take care of themselves, which will help them take better care of you. We are here to help. We offer many free resources to help caregivers take care of their health, so they can be more effective advocates for their loved ones:

- Our **patient services coordinators** provide one-on-one professional guidance and education by answering questions, sharing resources and providing support: Call 1 (888) 999-6743 or email patientinfo@nmdp.org.

- Our **Peer Connect** program puts caregivers in touch with other caregivers to provide support and guidance to one another over the phone or by email. To request a connection, visit BeTheMatch.org/patient-peerconnect or call 1 (888) 999-6743.

- Our **Caregiver’s Companion** program combines a useful toolkit with the personalized, confidential telephone support of a caregiver coach to help caregivers manage emotional and physical stress they may experience. The program is for caregivers who are caring for a patient after transplant. Available in English and Spanish. To learn more or to enroll, go to BeTheMatch.org/companion or call 1 (888) 999-6743.

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*As you go into this and you know you’re going to be the primary caregiver, you probably need to get a caregiver, too.*

—Steve, caregiver and husband to Patsy, transplant recipient
It was very hard to walk away, but it needs to be done so you are refreshed and ready to care for your child. Whether it’s going to eat or taking a walk, leaving the room a couple of times a day really does help with caring for yourself. Making sure you are taken care of helps you take better care of your child.

—Dan, father of 3-month-old transplant recipient

**CARING FOR A CHILD WHO NEEDS TRANSPLANT**

When your child needs a transplant, the lives, roles and responsibilities of the whole family often change. Many times, at least one parent will stay with your child throughout the transplant process, including staying in the hospital. You know your child best, and you can be your child’s best advocate as you care for your child’s physical and emotional needs.

Remember, the transplant process is more like a marathon than a sprint. As you go through the transplant journey with your child, it’s important that you take care of yourself so you can stay healthy and be there to care for your child. Reach out to other family members, friends and neighbors who can support you as you care for your child.

We offer the *Parent’s Companion* program to help you manage the emotional and physical stress you may experience when caring for your child after transplant. While caring for your child is your focus, it’s important that you take care of yourself, too. Along with a useful toolkit, you’ll receive personalized, confidential telephone support from a coach.

To learn more or to enroll, go to [BeTheMatch.org/companion](http://BeTheMatch.org/companion) or call 1 (888) 999-6743.
Jenny, with her daughters, Grace and Bea, transplant recipients.
Support for all types of transplants

We can help you and your family as you plan for any type of transplant you may need: autologous, allogeneic related or allogeneic unrelated. Our patient services coordinators can answer your questions and provide support and education to help you navigate your transplant journey. Contact us at 1 (888) 999-6743 or patientinfo@nmdp.org with your questions. Support is available in many languages.

If you and your doctor decide to move forward with transplant, you may have many questions. Your transplant center’s social worker is a good place to start. Your social worker can help you prepare by listening to your concerns and answering your questions about what you’ll need to do. Your social worker can also tell you about support resources available for transplant patients and families.

HOW CAN I PREPARE EMOTIONALLY?

Going through a major illness and treatment can be stressful. Talking to someone about what you’re going through may be helpful.

You may want to:

- Tell your family and friends how you’re feeling and how they can support you.
- Let your children know what to expect during and after your treatment.
- Talk to other people who are going through a transplant or who have already had a transplant.

Maria “Maru,” bilingual patient services coordinator
FOR PARENTS

Children express their emotions in different ways. If you are concerned about your child’s emotional health, there are things you can do to help. Your strategies will likely be different depending on your child’s age.

• **Give your child time to talk** about how he or she feels.

• **Tell stories** of how you have felt in similar situations, how you handled it (good or bad) and how it turned out.

• **Share feelings and solve problems together.** You may want to try creative ways to express feelings like drawing pictures, writing a story, acting out a play or singing.

• **Give comfort** by being with your child. Hold your child, give hugs, or offer a hand massage or back rub.

• **Express affection and encouragement.** Say the words, “I love you,” “I am proud of you” and “I support you.”

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Early on in our journey, a friend told me, ‘No emotion is bad. All feelings are good. Just go with it.’ Through all the emotions, I always reminded myself of this.

—Sherri, mother of TJ, age 18 at transplant

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Our **Peer Connect** program can connect you or your caregiver with someone who’s been through the transplant journey. Our trained peer volunteers are available to talk by phone, or connect through email. Request a connection by visiting [BeTheMatch.org/patient-peerconnect](http://BeTheMatch.org/patient-peerconnect).

You can also connect with other transplant patients and caregivers on [Be The Match Patients Connect Facebook page](http://BeTheMatch.org/patient-peerconnect).
People close to you will want to know how they can help. Think about giving them their own tasks to do for you and your family.

**THINGS TO DO AS YOU’RE PLANNING FOR TRANSPLANT:**

- **Make a list of important phone numbers.** Share the list with the entire family. Include names and numbers of your health care team and caregivers.

- **Write down important information about finances.** Tell your caregiver where you’ll keep this information.

- **Ask your bank** what you need to do so your caregiver can handle certain transactions for you.

- **Plan how your bills will be paid** while you’re in the hospital and during recovery.

- **Ask for help with household chores** and other duties in your absence.

- If you have children, **set up schedules and make plans** for how they’ll be cared for while you’re away. Tell your children and others involved about the plans you make.

- If you’re the only one who can allow medical care for your children, **provide a medical release** that gives permission to your caregiver or another person you trust. Ask your children’s doctor to give you a medical release form.

**FREE MOBILE APP**

Our free mobile app offers:

- Checklists to help you before transplant
- After-transplant guidelines
- GVHD symptom checker
- Ability to set reminders

Search “transplant guide” in the Apple® or Andriod™ app stores to download.
Insurance and transplant coverage

When you’re preparing for a transplant, it’s important to learn about your health insurance coverage and what transplant-related costs are covered.

Some health insurance plans don’t cover transplants. Some will cover the transplant, but may not cover all the services that you need before or after the transplant. By planning early, you can know ahead of time what insurance will pay and what you may have to pay yourself.

Your health insurance may come from your job, government programs like Medicaid or Medicare, or insurance you buy on your own.

There is help available to learn about your insurance coverage. Once you are referred to a transplant center, ask to talk to a financial coordinator. This person can talk with you and help you understand your benefits. The financial coordinator may also talk with your insurance company to find out more about your coverage. If there are costs that the insurance won’t cover, the coordinator can help you arrange payment with your transplant center, or appeal the insurance company’s decision.

Financial help for transplant patients

Even if you have insurance, some costs may not be paid by your insurance. These costs may include deductibles, co-payments, travel and housing. Financial help for some of these costs may be available. Your transplant center social worker can help you find financial help and apply for grants through Be The Match or other financial aid programs.

If you don’t have insurance, you may be eligible for state or county programs, or other forms of financial aid. Your transplant center financial coordinator and social worker can help you learn more about your options.

If coverage is denied …

You have the right to ask your health insurance plan to pay for a particular treatment or service even if they have already denied you coverage. This is called an appeal. They can either agree with (uphold) or disagree with (overturn) the decision. There are usually multiple levels of appeal. It’s best to appeal at all the levels. In some situations your appeal may go to an independent, external review organization for a final decision. The financial coordinator at your transplant center can help with this process.

The Finance and Insurance series of short, easy-to-read fact sheets gives information on financial planning, health insurance, the Affordable Care Act, raising money to pay for transplant and more.

You can download or order the fact sheets at BeTheMatch.org/request.
WHAT ELSE SHOULD I THINK ABOUT?

Transplant and fertility

If you want to have children some day, tell your doctor, nurse or social worker before you start your treatment. Chemotherapy and radiation can lower your fertility (ability to have children). But there may be ways for you to keep, or preserve, your fertility.

Ask your doctor about fertility preservation options. Some people consider freezing sperm, eggs or embryos. If you don’t want or aren’t able to freeze sperm, eggs or embryos, there may be other options for you. Some couples are able to have a baby using donated sperm or eggs, and others may choose to adopt.

Preparing a living will

Make sure your health care team and your family understand your treatment wishes. This may help you be more in control of your own health care.

You may want to prepare an advance directive, commonly called a living will. In a living will, you can say what kind of care you would or would not want to have if you become unable to speak for yourself. You can also choose someone who can make medical decisions for you.

It’s important for your family and health care team to know the wishes you put in your living will. Knowing your treatment goals and wishes means your family and medical team aren’t left wondering what kind of care you would or would not want to have.

Living wills can be helpful throughout your treatment. For example, if you are really sick during a temporary complication, there could be a short amount of time when you can’t tell your doctors what you want. Your health care team can turn to your appointed person during these short amounts of time.
QUESTIONS TO ASK AS YOU CONSIDER OR PREPARE FOR TRANSPLANT

In this section, you will find a list of questions to ask the various people who will help you as you think about or prepare for transplant.

QUESTIONS TO ASK YOUR DOCTOR

Before you meet with your doctor, make a list of questions you would like to ask. You can use the following list of questions to get started.

- What are my treatment choices?
- What treatment do you recommend? Why?
- What is the goal of this treatment?
  - To control symptoms?
  - To have a long-term remission—if so, for how long?
  - To cure my disease?
- How many patients have you treated who have the same disease?
- What are the chances that this treatment will get rid of the disease? For how long?
- What are the chances that I could get rid of the disease without this treatment?
- What are the possible risks and side effects of the treatment?
  - First few months?
  - First year?
  - Long term?
- What can be done to lower the side effects?
- Is it possible to continue work or school during treatment?
- What can you tell me about my quality of life after this treatment?
- How long will the treatment take?
- How will we know whether the treatment is working?
- What other choices do we have if the treatment does not work?
- Do you know of any clinical trials that might be appropriate for me?
If a transplant is recommended:

- When should I have a transplant?
- What are the risks of waiting or trying other treatments first?
- How long will I be in the hospital for my transplant?
- How long do I have to stay near the hospital before I can return home?
- What can I do to take care of myself and get better after transplant?
- Do I need a caregiver throughout the process?
- What does a caregiver do while I’m in the hospital? What about when I go back home?
- What kind of care might I need after I return home?

If an allogeneic transplant is recommended:

- Which family members will you test as possible donors?
- If a family member is chosen as a donor, what would he or she have to do?
- What happens if I don’t have a match in my family?
- Is a reduced-intensity transplant an option? Why or why not?
- Is a haploidentical (half-matched) transplant an option for me?

If an autologous transplant is recommended:

- How will you decide the best time to collect my cells?
- How will you decide the best timing for transplant?
- If my disease relapses (comes back), will I be eligible for an allogeneic transplant?

Learn more about the basics of transplant in our easy-to-understand videos.

Watch the videos at BeTheMatch.org/LearnTheBasics.
You may be comparing 2 or more transplant centers (a hospital that does transplants). Or you may have already chosen one.

Whenever your situation, getting answers to these questions can help you learn important information about a transplant center:

- How long has this transplant center done allogeneic or autologous transplant?
- How many transplants has this center done for my disease?
- Does this transplant center have experience with patients who are my age?
- Does this center have experience with cord blood transplants?
- Does this center have experience with haploidential transplants?
- How do my doctor and I find out if I can go to this transplant center?
- What are the typical transplant outcomes (results) for patients like me at this center?
- What resources for support (emotional, financial and practical matters) are available at this center?
- If I am having an unrelated donor transplant, how will I learn about the progress of the donor search? Will the center call me or should I call them? How often can I expect to get progress reports?

You can find a list of transplant centers in the United States and information on choosing a transplant center at BeTheMatch.org/access.

Ines, transplant recipient
If the transplant center is far from your home, you may want to ask these questions:

- Will the transplant center help make arrangements for my family or caregiver to stay close by?
- Is there housing near the transplant center?
- Is there help to pay for the cost of this housing?

Here are some questions you can ask yourself after visiting a transplant center:

- What do I think after talking with or visiting the transplant center?
- Did they answer my questions in a way that helped me understand the process?
- Did they seem willing to help me solve any problems I might have?
- Did they return my phone calls within a reasonable amount of time?
- Did I feel like they would take good care of me?

Other important things to consider:

- How important is the location to me? To my family?
- Is it important for me to be close to family and friends? Or, would I rather go to the transplant center with the most experience, even if it is far from home?
QUESTIONS TO ASK ABOUT INSURANCE AND PAYING FOR TRANSPLANT

Insurance companies or government programs (such as Medicaid or Medicare) have different ways to pay for treatment and transplant expenses. Some pay for all expenses, some pay for some expenses, and some do not pay for any expenses. It is very important to find out what expenses are covered (paid for), and if the transplant center where you will be seen is covered. One of your first steps should be to talk with your transplant center’s financial coordinator.

Here are some important questions to ask the transplant center financial coordinator or your insurance representative:

- Does my insurance cover transplant for my disease?
- Does it cover the type of transplant my doctor has recommended (autologous, allogeneic, etc.)?
- Does it cover the cost of testing my family members? Or testing to find an unrelated donor?
- Does it cover the collection of marrow from the donor or cord blood units? Are there any limits to what it will pay? If so, what are they?
- What kind of costs won’t it pay for?
- Does it cover any costs such as travel or lodging for me? For my caregiver? For my relative if my relative is my donor?
- Does it cover prescription medicines before and after a transplant? If so, what will I have to pay? (Your doctor or transplant center pharmacist can give you a list of common medicines after transplant.)
- Are there any limits to what my insurance will pay, such as how many people can be tested to see who is a possible match? (If so, what will I have to pay?)
Talking about money matters can feel like a very personal topic, but our confidential one-on-one support is available to help you. We can help you learn more about transplant costs, insurance coverage and financial resources. Contact us at 1 (888) 999-6743 or patientinfo@nmdp.org.

More information about insurance and transplant coverage, financial planning resources and financial assistance resources is available at BeTheMatch.org/patient. Go to the Getting a Transplant section and then find it in the Planning for Transplant Costs section.

If you have not chosen a transplant center yet, here are some more questions to ask your insurance representative:

• Which transplant centers will my insurance cover?

• Can I choose which transplant center I go to? What happens to my coverage if I choose a transplant center that is not on the list?

• Does my insurance company ever make exceptions? For example, could I go to a transplant center with the most experience treating a rare disease, even if it is not on the list?
Learning about transplant can feel overwhelming. Know that you are not alone. Your health care team at the transplant center can give you expert advice to guide you through every step along the journey.

Be The Match has a team dedicated to supporting patients, caregivers, family members and friends, before, during and after a transplant. We offer you confidential one-on-one support, financial guidance and free educational resources: DVDs, booklets, online tools and more.

Our goal is to help you get what you need, when you need it. We can help you learn more about transplant as a treatment option, plan for a transplant and learn what to expect after transplant.

- **Learn:** BeTheMatch.org/patient
- **Request information:** BeTheMatch.org/request
- **Email:** patientinfo@nmdp.org
- **Call:** 1 (888) 999-6743

The following list can also help you find resources and information that you might need. This list should not be considered as an endorsement of these organizations by Be The Match. The choice to work with these groups is solely that of the patient and his or her representative.

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When I need support, Be The Match is there to answer questions. Sometimes it’s hard to know where to start because there is so much information available. They have helped me figure out which resources and support programs work best for me.

— Ed, transplant recipient and Peer Connect volunteer
TRANSPLANT ORGANIZATIONS

(S) BLOOD & MARROW TRANSPLANT INFORMATION NETWORK (BMT InfoNet) (888) 597-7674 bmtinfonet.org

(S) NATIONAL BONE MARROW TRANSPLANT LINK (NBMTLINK) (800) 546-5268 nbmtlink.org

(S) THE BONE MARROW FOUNDATION (800) 365-1336 bonemarrow.org

SOCIAL SUPPORT

BMT SUPPORT bmtsupport.org

BMT-TALK acor.org

CARINGBRIDGE® (651) 789-2300 caringbridge.org

LOTSA HELPING HANDS lotsahelpinghands.com

GENERAL CANCER RESOURCES

(S) AMERICAN CANCER SOCIETY® (800) 227-2345 cancer.org

(S) CANCERCARE® (800) 813-HOPE (4673) cancercare.org

CANCER HOPE NETWORK® (877) 467-3638 (HOPENET) cancerhopenetwork.org

CANCER SUPPORT COMMUNITY (888) 793-9355 cancersupportcommunity.org

(S) LIVESTRONG® SURVIVORCARE (866) 235-7205 - English (866) 927-7205 - Spanish livestrong.org/cancersupport

NATIONAL CANCER INSTITUTE’S (NCI’S) CANCER INFORMATION SERVICE (CIS) (800) 422-6237 cancer.gov

(S) NATIONAL COALITION FOR CANCER SURVIVORSHIP (877) 622-7937 canceradvocacy.org

DISEASE ORGANIZATIONS

(S) APLASTIC ANEMIA AND MDS INTERNATIONAL FOUNDATION (AAMDSIF) (800) 747-2820 aamds.org

(S) FANCONI ANEMIA RESEARCH FUND (888) 326-2664 fanconi.org

IMMUNE DEFICIENCY FOUNDATION (800) 296-4433 primaryimmune.org

INTERNATIONAL MYELOMA FOUNDATION (800) 452-CURE (2873) myeloma.org

(S) THE LEUKEMIA & LYMPHOMA SOCIETY® (LLS) (800) 955-4572 lls.org

LEUKEMIA RESEARCH FOUNDATION (888) 558-5385 allbloodcancer.org

(S) LYMPHOMA RESEARCH FOUNDATION (800) 500-9976 lymphoma.org

MULTIPLE MYELOMA RESEARCH FOUNDATION (203) 229-0464 themmrf.org

NATIONAL ORGANIZATION FOR RARE DISORDERS (NORD®) (203) 744-0100 rarediseases.org

(S) SICKLE CELL DISEASE ASSOCIATION OF AMERICA, INC. (SCDAA®) (800) 421-8453 sicklecelldisease.org

FOR CHILDREN

(S) AMERICAN CHILDHOOD CANCER ORGANIZATION (855) 858-2226 acco.org

(S) = Spanish language support
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<td>CHAI LIFELINE (877) 242-4543 (CHAI LIFE) chailifeline.org</td>
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<td>(S) CHILDREN’S ORGAN TRANSPLANT ASSOCIATION® (COTA) (800) 366-2682 cota.org</td>
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<td>KIDS KONNECTED (800) 899-2866 kidskonected.org</td>
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<td>THE NATIONAL CHILDREN’S CANCER SOCIETY (800) 532-6459 thenccs.org</td>
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<td>THE NEUROBLASTOMA CHILDREN’S CANCER SOCIETY (800) 532-5162 neuroblastomacancer.org</td>
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<td>CHILDREN’S HEALTH INSURANCE PROGRAM (877) 267-2323 medicaid.gov</td>
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<td>THE ULMAN FUND (888) 393-3863 (FUND) ulmanfund.org</td>
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<td>STUPID CANCER (877) 735-4673 stupidcancer.org</td>
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<td><strong>CLINICAL TRIALS</strong></td>
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<td>U.S. NATIONAL INSTITUTES OF HEALTH clinicaltrials.gov trials.cancer.gov</td>
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<td>CENTER FOR INTERNATIONAL BLOOD &amp; MARROW TRANSPLANT RESEARCH CIBMTR.org/studies</td>
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<td><strong>FERTILITY</strong></td>
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<td>FERTILE HOPE (855) 220-7777 fertilehope.org</td>
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<td>SAVE MY FERTILITY savemyfertility.org</td>
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<td>CANCER FINANCIAL ASSISTANCE COALITION (CFAC) cancerfac.org</td>
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<td>HEALTHCARE HOSPITALITY NETWORK, INC. (800) 542-9730 hhnetwork.org</td>
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<td>NEEDYMEDS (800) 503-6897 needymeds.org</td>
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<td><strong>FUNDRAISING</strong></td>
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<td>HELPHOPELIVE (800) 642-8399 helphopelive.org</td>
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<td>NATIONAL FOUNDATION FOR TRANSPLANTS (NFT) (800) 489-3863 transplants.org</td>
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<td><strong>INSURANCE</strong></td>
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<td>MEDICARE (800) 633-4227 medicare.gov</td>
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<td>HEALTH INSURANCE MARKETPLACE (800) 318-2596 healthcare.gov</td>
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<td>(S) PATIENT ADVOCATE FOUNDATION (800) 532-5274 patientadvocate.org</td>
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<td>SOCIAL SECURITY ADMINISTRATION (800) 772-1213 ssa.gov</td>
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<td><strong>LEGAL &amp; EMPLOYMENT</strong></td>
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<td>CANCER AND CAREERS cancerandcareers.org</td>
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<td>(S) CANCER LEGAL RESOURCE CENTER (866) 843-2572 disabilityrightslegalcenter.org</td>
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<td>CANCER FINANCIAL ASSISTANCE COALITION (CFAC) cancerfac.org</td>
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<td><strong>TRANSPORTATION</strong></td>
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<td></td>
<td>AIR CARE ALLIANCE (888) 260-9707 aircarealliance.org</td>
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<td>MIRACLE FLIGHTS (800) 359-1711 miracleflights.org</td>
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<td>NATIONAL PATIENT TRAVEL HELPLINE (800) 296-1217 patienttravel.org</td>
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GLOSSARY OF TERMS

ALLOGENEIC TRANSPLANT
A type of transplant where a patient receives healthy blood-forming cells. The healthy cells can come from a family member, unrelated donor or umbilical cord blood unit.

APHERESIS
A process to collect blood-forming cells from your bloodstream before an autologous transplant. Apheresis is also used to collect blood-forming cells from a volunteer donor to be used for an allogeneic transplant.

AUTOLOGOUS TRANSPLANT
A type of transplant where a patient’s own blood-forming cells are collected, stored and given back after chemotherapy or radiation.

BLOOD-FORMING CELLS
Cells that grow into red blood cells, white blood cells or platelets. Also called blood stem cells.

BLOOD OR MARROW TRANSPLANT
A process to replace unhealthy bone marrow with healthy bone marrow. Also called bone marrow transplant, stem cell transplant or BMT.

BONE MARROW
The soft, spongy tissue inside of bones.

CELL SOURCES
The 3 places where blood-forming cells are found:
• Bone marrow
• Peripheral blood (circulating blood or bloodstream)
• Umbilical cord blood

CENTRAL VENOUS CATHETER
A long, thin tube that is put into a large vein in the chest or neck. It is used to give medicines, fluids and blood. Also called central line.

CHERMO THERAPY
Medicines that destroy cancer cells or stop them from growing.

CLINICAL TRIAL
A way to gather information about how well a particular treatment, test or approach to a disease works and what the side effects may be.

CORD BLOOD
The blood collected from the umbilical cord and placenta after a baby is born.

DONOR
A person who volunteers to give blood-forming cells from their bone marrow or peripheral (circulating) blood. A donor can be a family member or an unrelated donor.

ENGRAFTMENT
When the blood-forming cells start to grow and make healthy blood stem cells that show up in your blood.

FORMAL SEARCH
A detailed search of the Be The Match Registry. This search shows whether a potential donor or cord blood unit is truly the best match for you. There is a cost for this service. Your insurance may or may not pay for these costs.

HAPLOIDENTICAL TRANSPLANT
A type of transplant where your donor is a family member who matches half of your HLA markers. Also called a half-matched or partially matched related transplant.

HARVEST
A way to collect blood-forming cells from the bone marrow before an autologous transplant. Also a way to collect blood-forming cells from a volunteer donor to be used for an allogeneic transplant. Also called a bone marrow harvest.

GRAFT FAILURE
Occurs when the donated new cells do not make the white blood cells, red blood cells and platelets you need.

GRAFT-VERSUS-HOST DISEASE (GVHD)
A common side effect of an allogeneic transplant. This happens because of differences between your own cells (host) and the cells from your donor (graft). Your new immune system, or the donated cells, might see your cells as foreign and attack them.

ACUTE GRAFT-VERSUS-HOST DISEASE
This typically affects the skin, stomach, intestines and liver.

CHRONIC GRAFT-VERSUS-HOST DISEASE
This can affect the skin, nails, joints, muscles, eyes, mouth and other organs. If you have had or currently have acute GVHD, you are more likely to have chronic GVHD.

HARVEST
Glossary of Terms (continued)

**HLA (HUMAN LEUKOCYTE ANTIGENS)**
Proteins, or markers, found on most cells in your body. There are certain HLA markers your doctor looks at for transplant. You get half of your markers from your mother and half from your father.

**IMMUNE SYSTEM**
The parts of your body (blood cells and organs) that fight infections.

**INFORMED CONSENT**
When you have been given information including the possible risks and benefits, and are able to ask questions and have them answered before agreeing to a treatment or clinical trial.

**PERIPHERAL BLOOD STEM CELLS**
Blood-forming cells from the circulating blood (bloodstream).

**PLATELETS**
Parts of the blood that help the blood clot.

**PRELIMINARY SEARCH**
A free search of the Be The Match Registry. This search shows the potential donors and cord blood units on the registry that could match your HLA markers.

**PREPARATIVE REGIMEN**
The process of preparing your body to receive the new blood-forming cells. Also called a conditioning regimen.

**RED BLOOD CELLS**
Blood cells that carry oxygen throughout the body.

**REDUCED INTENSITY TRANSPLANT**
Preparative regimen that uses lower doses of chemotherapy with or without radiation.

**WHITE BLOOD CELLS**
Blood cells that fight infections.
Every individual's medical situation, transplant experience, and recovery is unique. You should always consult with your own transplant team or family doctor regarding your situation. This information is not intended to replace, and should not replace, a doctor's medical judgment or advice.

About Be The Match®

For people with life-threatening blood cancers—like leukemia and lymphoma—or other diseases, a cure exists. Be The Match connects patients with their donor match for a life-saving blood or marrow transplant. People can be someone’s cure as a member of the Be The Match Registry®, financial contributor or volunteer. Be The Match provides patients and their families one-on-one support, education, and guidance before, during and after transplant.

Be The Match is operated by the National Marrow Donor Program® (NMDP), a nonprofit organization that matches patients with donors, educates health care professionals, and conducts research so more lives can be saved.

Learn more at BeTheMatch.org/patient or call 1 (888) 999-6743.

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