Informed Consent to Participate in Research

Principal Investigator Contact Information
(*INSERT CONTACT INFORMATION FOR PI AT YOUR SITE.*)

Study Sponsor
This study is sponsored by the National Institutes of Health (NIH) by providing financial support through the Blood and Marrow Transplant Clinical Trials Network (BMT CTN).

Introduction
This is a clinical trial, which is a research study designed to answer specific medical questions. The information from this study may or may not help you to overcome your disease. It may help future patients. The investigator/physician responsible for the study at your institution will explain the clinical trial to you and will answer the questions you may have. Clinical trials include only people who choose to join the study.

Please take your time to decide if you want to join this study. Some people find it helpful to talk about the study with their family and friends before they make a decision. It may also be useful to talk with your doctor and other people on your health care team about the study. If you have questions or want to know more about the study, you can ask them for more information.

You are being asked to take part in this study because you have Severe Aplastic Anemia (SAA). An allogeneic bone marrow transplant can be used to treat SAA. An allogeneic marrow transplant is when marrow cells from another person are collected and are infused in your body. The donated cells can come from a related or unrelated donor. Donated cells should match your cells as closely as possible. You do not have a matched related donor therefore you will need to receive cells from a matched, unrelated donor.

Before you decide whether or not to join the study, please read the information below. Feel free to ask questions to understand your rights and protections. Participating in this study is your choice. If you decide not to be in this study, you and your doctor will discuss other treatment options.

PATIENT CONSENT ***IRB #***

Why is this study being done?
Your bone marrow produces white cells, red cells and platelets. The cells produced in the bone marrow move into your blood stream. Aplastic anemia is a blood disorder where the bone marrow has stopped working and produces very few or no cells to be released into the bloodstream. If not successfully treated, this condition will almost always lead to death, primarily because of infection or bleeding. A bone marrow transplant is an option for you because your doctors believe it may cure your aplastic anemia. As you do not have a matched, related donor, a matched, unrelated donor (i.e., not a blood relative) has been selected for you. Before you receive a matched, unrelated donor marrow transplant, you will receive medications and radiation to kill immune cells in your body that might reject the cells from your donor. This will allow your body to accept the donor marrow. This is called engraftment. The purpose of this study is to determine what dose of cyclophosphamide (a medication used to reduce your diseased cells and lower your immune system to allow your body to accept the donor marrow cells) should be used along with other pre transplant medications to improve safety and outcomes of transplantation. The purpose includes trying to reduce the risks and complications of the transplant while still allowing the donor marrow cells to replace the diseased marrow cells.

How many people will take part in the study?
As many as 94 patients will take part in this study at different hospitals in the United States.

What will happen if I take part in this research study?
Before you begin the study — You will need to have the following exams, tests or procedures to find out if you can be in the study. These tests are a normal part of transplantation procedure and would be done even if you did not join the study. If you have had some of them recently, they may not need to be done again. This will be up to your study doctor. The tests include:

- Medical history
- Physical examination, including height and weight
- Blood tests
- Urine tests
- Heart function tests
- Lung tests, including a Pulmonary Function Test (PFT) or pulse oxymetry for pediatric patients
- Bone marrow biopsies and aspirates
- If you are a woman able to have children, a serum pregnancy test will also be performed. If you are pregnant, you will not be able to take part in this study.

During the study — If the exams, tests and procedures show that you can be in the study, you will receive a matched, unrelated bone marrow transplant. Before the transplant, you will be given medications and radiation to allow your body to accept your donor's stem cells. This is called the conditioning regimen. Prior to your transplant a catheter (i.e., a soft plastic tube) will be inserted into a vein under the collarbone to allow for medications and fluids to be given.

Conditioning regimen — The conditioning regimen is used to kill the cells in your body that may reject the donor cells. The drugs to be used in this clinical trial are fludarabine, cyclophosphamide, and antithymocyte globulin (ATG), as well as low-dose total body radiation. All patients in this study will receive the same amount of fludarabine, ATG and low-dose total body radiation. You will receive fludarabine on the fifth, fourth, third and second days before your transplant by intravenous infusion (through your vein). You will receive ATG on the fourth, third, and second days before your transplant. ATG is an animal serum, and your study doctor may decide to employ a horse or a rabbit product. Both products have similar side effects and efficacy. You will receive total body radiation on the day before your transplant. Different groups of patients will get different amounts of cyclophosphamide. You will receive cyclophosphamide for a total of either one or two days before your transplant. The number of days depends on your group. Patients will be placed in the group that is being tested at that time. Your doctor will tell you which group you are in. Neither you nor your doctor can choose the group.

The main purpose of this study is to determine the best dose of cyclophosphamide. This means that small groups of patients are treated with a given dose of cyclophosphamide and followed closely until it can be determined that the new marrow has taken and the treatment has not caused any unacceptable harm. The doctors who are conducting the study have by now gained some experience with this conditioning regimen, and this has helped them to narrow down the number of possible doses of cyclophosphamide that you, as a new patient, may receive. You should be aware that some patients who received three days of cyclophosphamide (i.e., the highest dose) suffered severe side effects (including death), and therefore, new patients are no longer being placed in this group. You should also be aware that patients who received zero days of cyclophosphamide (i.e. the lowest dose) experienced graft rejection (i.e., their body did not accept the new marrow, and the new cells failed to grow), therefore, new patients are no longer being assigned to this group. Patients who now come to transplantation will be treated with either one or two days of cyclophosphamide.

Reinfusion of stem cells (transplantation) — After the conditioning regimen, the donor marrow cells will be given to you through your catheter. The cells will travel into the bloodstream to reach your bone marrow where they are expected to make healthy, new blood cells. This step is necessary to replace your diseased marrow and because the high dosages of drugs given to you during the conditioning regimen may also damage or destroy healthy cells in your bone marrow. Until the new cells begin producing healthy blood cells, you will be at an increased risk of bleeding or developing an infection.

Following the transplant, you will have the following standard tests and evaluations:

- Medical history
- Physical examination, including height and weight
- Blood tests
- Urine tests

You will be expected to stay at the transplant center for at least three months after your transplant. You will be asked to return to the transplant center for regular follow-up care. The standard tests will be done at that time.

How long will I be in the study?
You will be in the study for up to two years. Follow-up for transplant will last as long as you require care. However, we would like to keep track of your medical condition for the rest of your life by contacting you and the doctor providing your regular medical care by phone or mail once a year. Keeping in touch with you and checking on your condition every year helps us look at the long-term effects of the study and transplantation in general. Many transplant centers include this type of long-term follow-up as part of their regular medical care. It is not necessary for you to agree to follow-up for longer than two years to participate in this study.

Can I stop being in the study?
Yes. You can decide to stop at any time. Tell your doctor if you are thinking about stopping or decide to stop. He or she will tell you how to stop safely. If you withdraw from the study, you will continue to have access to healthcare at [participating institution]. If you decide to withdraw, you should inform [the Principal Investigator] in writing. It is important to tell your doctor if you are thinking about stopping so any risks from the medications can be evaluated. Another reason to tell your doctor that you are thinking about stopping is to discuss what follow-up care and testing could be most helpful to you.

If you withdraw, there will be no penalty and you will not lose any benefits to which you are otherwise entitled. You will be asked to return for a checkup.

Can the Principal Investigator withdraw me from the study?
You can be taken off the study (with or without your consent) for any of the following reasons:

- You do not qualify to be in the study because you do not meet the study requirements. Ask your doctor if you would like more information about this.
- You need a medical treatment not allowed in this study.
- Sometimes there may be a wait period for a new patient to be enrolled. This may happen to you.
- The investigator decides that continuing in the study would be harmful to you.
- The study treatments have a bad effect on you.
- You become pregnant and the study treatment could be harmful to the fetus.
- You are unable to keep appointments or take study drugs as directed.
- The study is cancelled by the Food and Drug Administration (FDA) or the National Institutes of Health (NIH).

If you withdraw, can information about you still be used and/or collected?
If you withdraw from the study or your doctor withdraws you from the study, we ask that you agree that we can continue using all information about you that has already been collected as part of the study prior to your withdrawal and to continue to allow your doctor to tell us about your progress until 24 months after your transplant. You may, of course, say "no."

What side effects or risks can I expect from being in the study?
Risks and toxicities related to bone marrow transplantation are described in detail below. They include low blood counts, bleeding, infection and graft-vs-host disease (GVHD). The risk of dying as a result of bone marrow transplantation is no less than 30%. Everyone taking part in the study will be watched carefully for any side effects. However, doctors don't know all the side effects that may happen. Your health care team may give you medicines to help lessen side effects. In some cases, side effects can be serious, long-lasting, or may never go away.

You should talk to your study doctor about any side effects that you have while taking part in the study.

The following are side effects from the medications administered to help your body accept your donor's marrow. These side effects usually get better completely after you stop taking the drugs, but some permanent or long-term problems, such as organ damage, may occur.

POTENTIAL SIDE EFFECTS and RISKS from STUDY DRUGS

Study Drug	Likely (10-25%)	Less Likely but Serious (< 10%)
Fludarabine	• Numbness/tingling palms and soles*	• Confusion* • Tremors* • Seizures • Coma • Cancers of the immune system (i.e., lymphomas) • Lung damage
Cyclophosphamide	• Nausea/vomiting* • Diarrhea* • Sore mouth/throat*	• Heart damage • Bladder bleeding • Lung damage
ATG (Antithymocyte globulin) Horse or Rabbit Product	• Fever/chills* • Hives* • Nausea* • Headache* • Body swelling* • Skin rash, joint aches and pain	• Severe or life-threatening allergic reaction • Lymphomas (i.e., cancers of the immune system)
Total Body Radiation	• Fever* • Nausea/vomiting* • Diarrhea* • Skin redness* • Headache* • Hypothyroidism • Infertility	• Lung or heart damage with scarring • Lung or heart failure • Cataract

* All of these side effects are temporary.

Risks, side effects and toxicities are described in greater detail on pages 12-15.

Are there benefits to taking part in the study?
There may or may not be direct benefits to you from participating in this study. We hope that information gathered in this trial will help future transplant patients.

What other choices do I have if I do not take part in the study?
There is no agreement among doctors on which medications to give patients prior to a matched unrelated donor marrow transplant to allow the donor cells to replace the diseased marrow. Patients who do not receive a transplant are usually treated with a variety of immunosuppressive drugs (drugs aimed at weakening their immune system). However, this care is not known to provide long-term control or cure of the disease. Most patients preparing for transplantation

have already received immunosuppressive therapy without success. If you do not want to join this study, you should know your other options. These options may include:

- Treatment with other immunosuppressive drugs or combination of drugs.
- Treatment with drugs aimed at temporarily boosting your blood counts.
- Treatment with blood transfusions only.
- No therapy for the aplastic anemia at this time, with care to help you feel more comfortable.

You should know about your treatment choices before you decide if you will take part in this study.

What are the costs of taking part in this study?
You and/or your insurance company will pay all standard care relating to your transplant.

You will not be billed for any tests or procedures that are only for research.

You will not be paid to be in this study.

For more information on clinical trials and insurance coverage, you can visit the National Cancer Institute's Web site at http://cancer.gov/clinicaltrials/understanding/insurance-coverage. You can print a copy of the "Clinical Trials and Insurance Coverage" information from this Web site.

Another way to get the information is to call 1-800-4-CANCER (1-800-422-6237) and ask them to send you a free copy.

What if I am injured as a result of being in this study?
In the event that this research activity results in an injury, treatment will be available including first aid, emergency treatment and follow-up care as needed. Care for such injuries will be billed in the ordinary manner, to your insurance company. If you think you have suffered a research-related injury, let the study doctors know right away. Unexpected side effects or accidents might result in you getting sicker than anticipated in the course of this treatment. All available medical care will be provided to you, but you and your insurance company (3rd party payer) are responsible for the costs of all such care. If you have any question about study-related injuries, you may call [insert person's name at institution] at [insert phone #].

What are my rights if I take part in this study?
Taking part in this study is your choice. You may choose either to take part or not to take part in the study. If you decide to take part in this study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you and you will not lose any of your regular

benefits. Leaving the study will not affect your medical care. You can still get your medical care from our institution.

We will tell you about new information or changes in the study that may affect your health or your willingness to continue in this study.

In the case of injury resulting from this study, you do not lose any of your legal rights to seek payment by signing this form.

If you have any questions about your rights as a study patient, you may call the Institutional Review Board (IRB) office at [insert phone number].

Will my medical information be kept private?

Study records that have your name will be kept private as required by law. You will not be identified by name in the central study records. Your records will be given a unique code number. The key to the code will be kept in a locked file in the Principal Investigator's office.

All necessary steps will be undertaken to avoid you being identified in any public presentations. However, the results of this study treatment may be published in scientific journals in the future, but no one patient (including you) will be identified. Information concerning your transplant course may be reviewed or transmitted to national and international transplant registries, including the Center for International Blood and Marrow Transplant Research (CIBMTR), the National Marrow Donor Program (NMDP), the Food and Drug and Administration (FDA), Data Coordinating Center of the Blood and Marrow Transplant Clinical Trials Network (BMT CTN), the EMMES Corporation (which is helping to coordinate this study) and other authorized study organizations. However, you will not be identified by name in publications or reports coming from such groups or review.

Expiration date for retention of records

Information about the study results will stay in your research file at [insert institution] for at least six years or until after the study is completed, whichever is longer. At that time either the research information not already in your medical record will be destroyed or your name and other identifying information will be removed from such study results. Research information in your medical record will be kept indefinitely.

PATIENT CONSENT ***IRB #***

HIPAA[1] authorization to use and disclose individual health information for research purposes

a. Purpose: As a research participant, I authorize the Principal Investigator and the researcher's staff to use and disclose my individual health information for the purpose of conducting the research study

b. Individual Health Information to be Used or Disclosed: My individual health information that may be used or disclosed to conduct this research includes: demographic information (e.g., age, date of birth, sex, weight), medical history (e.g., diagnosis, complications with prior treatment), physical examination findings, and laboratory test results obtained at the time of work up and after transplantation (e.g., CT scan, blood tests, biopsy results).

c. Parties Who May Disclose My Individual Health Information: The researcher and the researcher's staff may obtain my individual health information from:

(*list hospitals, clinics or providers from which health care information can be requested)*

_____

_____

_____

d. Parties Who May Receive or Use My Individual Health Information: The individual health information disclosed by parties listed in item c and information disclosed by me during the course of the research may be received and used by the following parties:

- Principal Investigator and the researcher's staff, including Dr. Paolo Anderlini, Study Chairperson at MD Anderson Cancer Care Center
- National Heart, Lung, and Blood Institute (NHLBI) and the National Cancer Institute (NCI), both of the National Institutes of Health (NIH), study sponsors
- Blood and Marrow Transplant Clinical Trials Network (BMT CTN), Data Coordinating Center
- U.S. government agencies that are responsible for overseeing research such as the Food and Drug Administration (FDA) and the Office of Human Research Protections (OHRP)
- U.S. government agencies that are responsible for overseeing public health concerns such as the Centers for Disease Control (CDC) and federal, state and local health departments

1 HIPAA is the Health Insurance Portability and Accountability Act of 1996, a federal law related to privacy of health information

e. Right to Refuse to Sign this Authorization: I do not have to sign this Authorization. If I decide not to sign the Authorization, I will not be allowed to participate in this study or receive any research-related treatment that is provided through the study. However, my decision not to sign this authorization will not affect any other treatment, payment, or enrollment in health plans or eligibility for benefits.

f. Right to Revoke: I can change my mind and withdraw this authorization at any time by sending a written notice to the Principal Investigator to inform the researcher of my decision. If I withdraw this authorization, the researcher may only use and disclose the protected health information already collected for this research study. No further health information about me will be collected by or disclosed to the researcher for this study.

g. Potential for Re-disclosure: My individual health information disclosed under this authorization may be subject to re-disclosure outside the research study and no longer protected. Examples include potential disclosures for law enforcement purposes, mandated reporting or abuse or neglect, judicial proceedings, health oversight activities and public health measures.

h. This authorization does not have an expiration date.

Who can I contact if I have questions or problems?
If you think you have suffered an injury as a result of this study, or have any other problems, you may contact *(INSERT CONTACT INFORMATION*). If it is after normal business hours or a weekend, you may contact (*INSERT CONTACT INFORMATION*).

If you have any questions about this study, you may contact the study Principal Investigator listed on the first page of this form.

If you have any questions about your rights as a research participant, you may contact (*INSERT CONTACT INFORMATION*).

CONSENT AND ASSENT INSTRUCTIONS

CONSENT: Patients 18 years and older must sign on the subject line below. For patients under 18, consent must be provided by the Legally Authorized Representative.

ASSENT: Is required for patients under the age of 18, using the Assent Section on the following page.

I have been informed about this study's purpose, procedures, possible benefits and risks. I have been given the chance to ask questions. My questions have all been answered satisfactorily. I understand that I can ask other questions at any time.

I voluntarily agree to take part, or to allow my child to take part, in this study.

By signing this consent form, I have not given up any of the legal rights that I (my child) otherwise would have as a patient in a research study.

_____ _____
Patient's Signature Date

If you are not the patient, please print your name_____
and indicate one of the following:

_____	The patient's parent	_____	The patient's guardian
_____	A surrogate	_____	A durable power of attorney
_____	A proxy	_____	Other, please explain:

_____ _____
Legally Authorized Representative Signature Date

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

_____ _____
Signature of person conducting informed consent Date

PATIENT CONSENT ***IRB #***

ASSENT SIGNATURES: For patients under the age of 18 years.

Assent of Minor

I have been told what I will be asked to do if I am in this study. I have been told that I don't have to be in this study. I may quit the study at any time, and no one will be mad at me. I have had a chance to discuss the study and ask questions. My questions have been answered. I agree to be in the study and do what I am asked to do so long as I continue in the study.

_____ _____ _____
Signature of Minor Date Age (years)
Study Personnel

I have explained the purposes, procedures, and risks involved in this research study in detail to:

_____
Print name(s) of Parents/Authorized Consenting Party, and

who in my opinion _____IS/____IS NOT capable of assenting to participate in this study.

Print child's name

_____ _____
Signature of Person Conducting Assent Date

ATTACHMENT A

RISKS AND TOXICITIES RELATED TO BONE MARROW TRANSPLANT

There are certain risks related to a marrow transplant. There are risks from the medications and irradiation therapy you will receive as part of the conditioning for the transplant and risks related to the transplant itself. Most of these risks and side effects are listed below, but they will vary from person to person.

Risks Related to the Transplant Procedure

Cyclophosphamide is a common medication used to treat cancer. This medication kills cancer cells by stopping them from growing. Cyclophosphamide may cause you to have diarrhea (loose stools), nausea (feeling sick to your stomach), vomiting (throwing up), short-term hair loss, short-term bladder problems, and, at times, bleeding from the bladder (blood in your urine). A few patients may have bladder damage and bleeding for a longer time. You will be given large amounts of a sterile solution through your central line to protect your bladder. A bladder catheter (thin plastic tube) may be inserted into your bladder, if your physician thinks that it can help you. Cyclophosphamide slows the making of new blood cells. This causes a risk of infection and/or severe bleeding until the transplanted donor cells begin to work in you. You will get blood transfusions as needed. Cyclophosphamide also lowers your immune (defense) system and as a result you may have more infections. In a small number of patients, cyclophosphamide can damage the heart muscle causing the heart not to pump as well (heart failure). If this occurs you may have shortness of breath and have fluids build-up in your body. Cyclophosphamide can damage the male (testes) or female (ovaries) sex glands. In men, the number of sperm may be reduced but you would still be able to have intercourse. Women who are still menstruating may have irregular periods or may no longer have any periods. Whether you are a man or woman, this medication may decrease your chances of being able to have a child.

Fludarabine may cause confusion, seizures, coma, or peripheral nerve damage with pain. It may also cause kidney, liver, and/or central nervous system dysfunction.

Antithymocyte globulin (ATG) may cause skin rash, skin itching, joint pain, swelling, and/or fever. Severe or life-threatening allergic reactions, including severe shortness of breath, throat swelling, and/or diarrhea may also occur. Some of these reactions can be life threatening or even fatal. Antithymocyte globulin can cause bleeding. ATG is an animal serum. Your doctor may decide to employ a rabbit or a horse product. The development of aggressive lymphomas (i.e., cancers of the immune system) has been reported in patients receiving ATG.

Total body radiation can cause skin redness, fever, nausea, vomiting, diarrhea, heart or lung damage with scarring, or low blood counts. If the bone marrow transplant that follows total body radiation is not successful, it will cause death.

Cyclosporine and tacrolimus may cause rash and/or liver and/or kidney damage. These effects are temporary, and in most cases reversible. Any or all of these complications can be severe, irreversible, and may lead to death. They may cause tremors, confusion and seizures, and/or other blood-related effects that are reversible upon stopping the drug. Rare, fatal cases of severe allergic reactions or the development of aggressive lymphomas have been reported in patients receiving cyclosporine and/or ATG or tacrolimus.

Methotrexate may cause mouth sores, rash, liver damage or kidney damage.

Graft rejection may occur. Graft rejection means the infused donor cells fail to grow in the patient's body and are unable to produce new blood cells. This can be a serious or life-threatening complication.

Graft versus host disease (GVHD) is due to immune cells (i.e. lymphocytes) from the donor attacking the patient's organs. The acute form of GVHD may cause redness of the skin, nausea, vomiting, diarrhea, and/or liver problems. The chronic form of GVHD may cause dryness of the eyes and/or mouth, and/or breathing problems. It may cause tightness and/or scarring of the skin, weight loss, diarrhea, and/or difficulty swallowing. Either one of the forms of GVHD can range from mild to severe to life-threatening.

Acute GVHD usually occurs within the first 100 days post-transplant. Chronic GVHD usually occurs between 100 days and 1 year post-transplant and occasionally greater than 1 year post-transplant. Using these drugs with other drugs could cause other side effects that are not seen when each drug is given alone. If any doctor other than the Study doctor prescribes other drugs, the patient must tell the study nurse or doctor right away.

The immune system is severely weakened for the first 6-12 months after transplantation and slowly improves over several years. Unusual or late infections may occur because of this problem. These infections occasionally lead to death.

This research study may involve unpredictable risks to the participants.

Central venous catheter is a flexible sterile tube that can be placed into a large vein either under the collar bone or in your groin area so that blood can be withdrawn. This tube is placed under local anesthesia. Complications may include blood clots and infection. Clotting may necessitate removal of the catheter or treatment of the clot by injecting a medicine that dissolves blood clots. If you develop an infection, you will require treatment with antibiotics. If the catheter is placed under the collarbone, other uncommon side effects may include swelling of the face and arm and/or lung collapse. If the lung collapses, it may be necessary to place a tube between the ribs to allow the lung to re-expand.

Low White Cell Count: Your white cell count will remain low for at least 3-4 weeks after receiving your new marrow. Infections (for example, pneumonia) can occur and they can be severe or life-threatening. They can be caused by bacteria, viruses or fungi.

Bleeding: Platelets help your blood to clot. Your platelets will be low until the new bone marrow grows and, as a result, bleeding may occur. This can be minor bleeding, such as nosebleeds or bruising, but more serious, life-threatening bleeding in the lungs, brain and other organs can occur if the platelet count remains low. Usually, there is success in preventing major bleeding problems with transfusions of platelets. However, some patients may not respond well to transfused platelets and may be at serious risk for bleeding.

Red Cell and/or Platelet Transfusions: As part of this treatment you are expected to need red cell and/or platelet transfusions.

Veno-Occlusive Disease (VOD): This can occur as a result of high dose chemotherapy, radiation therapy, or both. Veno-occlusive causes severe damage to the liver. Symptoms include jaundice (yellowing of the skin and eyes), weight gain, and extra fluid build-up in the abdominal cavity and other parts of the body. It can often be managed successfully, and completely resolved, but can potentially cause death.

Mouth Sores and Diarrhea: The chemotherapy and radiation cause irritation in the lining of the mouth and intestines. This can result in painful mouth sores and diarrhea and you may need medication to help control the pain. If your mouth sores are severe you may not be able to eat normally until the sores are healed. Mouth sores get better when the white blood count starts to rise.

Capillary Leak Syndrome: This may occur as a result of chemotherapy and radiation therapy. The blood vessels may become 'leaky' and fluid enters the abdominal cavity, lungs, and other tissues. You may gain water weight and not go to the bathroom as often as you normally do. Capillary leak syndrome can be difficult to manage if extra fluid enters the lungs and causes difficulty breathing. You may die if there is continued fluid collection in the lungs.

Unexpected Organ Damage and Other Side Effects: Although your major organs function well, it is possible you may experience unexpected, life-threatening heart, lung, kidney, or liver damage as a result of the transplant. Occasionally, the high doses of chemotherapy and radiation cause severe lung damage that cannot always be treated. If this happens, you may need to use oxygen or even a respirator. The lung damage can be life threatening. Rarely, multi-organ failure (such as lung and kidney failure) may occur, which is often fatal.

Thrombotic Thrombocytopenic Purpura (Thrombotic Microangiopathy): In this post-transplant complication, chemotherapy and/or radiation produce damage to the lining of the blood vessels causing generalized clotting in the bloodstream. These clots can choke the blood supply to some of the body organs and this can lead to brain and kidney damage, a drop in the platelet count, as well as high blood pressure. This complication may be severe or life threatening and plasma exchange may be required.

Late Effects: You may experience side effects that occur several months to many years after your transplant. You may experience poor function of the thyroid gland, requiring you to take thyroid medication. Symptoms of poor thyroid function include dry skin, constipation, fatigue,

cold intolerance, weight gain and poor appetite. As a result of radiation, cataracts may occur earlier in life compared to a person who had not had a transplant. If you develop cataracts they may require treatment. It is rare, but your kidneys could be affected, causing anemia or high blood pressure. There is also a risk you may develop cancer including leukemia as a result of the chemotherapy. If secondary cancers occur they generally do not occur until 10 to 15 years after the transplant but can occur sometimes within five years after transplant. The long-term effects upon heart, lung, and brain are unknown.

Fluid Build-up: You will receive intravenous fluids during the transplant process and you may have difficulty eliminating this fluid. Your doctor will use standard drugs to remove this fluid. This drug may cause hearing loss and loss of body chemicals such as potassium and sodium. This loss is temporary and reversible.

Risk to the Unborn

The treatment that you are undertaking has not been proven to be safe at any stage of pregnancy. Therefore, if you are pregnant or nursing, you are not eligible for this study. Women who have the potential of becoming pregnant must use some form of effective birth control.

Sterility and Future Childbearing Potential for Men and Women

Chemotherapy and/or irradiation can impair or decrease fertility and may cause lasting effects on the reproductive potential of both men and women treated in this manner. The transplantation procedure may cause a decrease in sexual desire and function. It should be emphasized that your cancer treatment/therapy may cause your menstrual periods to become irregular or cease altogether. However, this DOES NOT MEAN THAT YOU CANNOT BECOME PREGNANT, as the effect on fertility is usually not permanent or irreversible. You must use birth control if you want to avoid becoming pregnant.

Risks Related to the Infusion of Bone Marrow

The stem cell infusion is given similar to a blood transfusion. The infusion of stem cells usually has few side effects. Rarely the infusion may cause a headache, chest pain or trouble breathing, a slight fever, or blood in the urine. You will be given pre-medications just prior to the infusion to decrease the risk of a reaction. In rare instances, a severe allergic reaction can occur called anaphylaxis, which could cause a drop in blood pressure or extreme difficulty in breathing. You will be monitored very closely.