Once daily intravenous Busulfex as part of reduced—toxicity conditioning for patients with relapsed/refractory Hodgkin´s and non—Hodgkin´s lymphomas undergoing allogeneic hematopoietic progenitor cell transplantation — A multicenter

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More Than Minimal Risk Consent and HIPAA Form

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Protocol Number	WVU11310- IRB Number: 1503612611
Study Title	Once daily intravenous Busulfex as part of reduced-toxicity conditioning for patients with relapsed/refractory Hodgkin's and non-Hodgkin's lymphomas undergoing allogeneic hematopoietic progenitor cell transplantation - A multicenter phase II study
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Sponsor (if any)	West Virginia University - Mary Babb Randolph Cancer Center

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In the event you experience any side effects or injury related to this research, you should contact Dr. Kanate at (304) 598-4520. After hours, please contact the Hematology/Oncology doctor on call at (304) 598-4000.

For more information about this research and about research-related risks or injury, you can contact Dr. Kanate at (304) 598-4520.

For information regarding your rights as a research subject, to discuss problems, concerns, or suggestions related to the research, to obtain information or offer input about the research, contact the Office of Research Compliance at (304) 293-7073.

In addition if you would like to discuss problems, concerns, have suggestions related to research, or would like to offer input about the research, contact the Office of Research Integrity and Compliance at 304-293-7073.

Introduction

You, _____, are a patient that has relapsed/refractory Hodgkin's or non-Hodgkin's lymphoma and you are undergoing an allogeneic hematopoietic progenitor cell (HPC) transplantation. This research study has been explained to you by _____. Before agreeing to be in this research study, it is important that you read and understand this form. It describes the purpose, procedures, benefits, risks, discomforts and precautions of the study. It also describes the alternative procedures that are available to you and your right to withdraw from the study at any time. Your participation in this study is expected to last for about two years.

"Informed consent" includes:

- Reading this consent form,
- Having the study doctor or staff explain the research study to you,
- Asking questions about anything that is not clear, and
- Taking home an unsigned copy of this consent form. This gives you time to think about it and to talk to family or friends before you make your decision.

You should not join this research study until all of your questions are answered.

Things to know before deciding to take part in a research study:

- No one can promise that a research study will help you.
- Taking part in a research study is entirely voluntary. No one can make you take part.
- If you decide to take part, you can change your mind later on and withdraw from the research study.
- The decision to join or not join the research study will not cause you to lose any medical benefits. If you decide not to take part in this study, your doctor will continue to treat you.
- Parts of this study may involve standard medical care. Standard care is the treatment normally given for a certain condition or illness.
- Other parts of this study may involve experimental (investigational) drugs that are being tested for a certain condition or illness. An investigational drug is one that has not been approved by the U.S. Food & Drug Administration (FDA).
- Your medical records may become part of the research record. If that happens, your medical records may be looked at and/or copied by the sponsor of this study and government agencies or other groups associated with the study.
- Your medical insurance may be billed for any standard medical care you receive during the research study. If your insurance company is billed then it may have access to the research records. Insurance companies may not pay for treatment that is part of a research study. Taking part in a research study could affect your current or future insurance coverage.
- This study includes optional blood samples for research, including genetic testing described later in this form. You do not have to participate in the optional research to be in the main part of the study.

Purpose(s) of the Study

We are studying an investigational use of a drug called BUSULFEX® (busulfan) Injection, also known as IV (intravenous or given in the vein) busulfan. The US Food and Drug Administration (FDA) has approved the use ofBUSULFEX in combination with another drug called cyclophosphamide as a conditioning regimen before allogeneic hematopoietic progenitor cell transplantation (HPC) for chronic myelogenous leukemia (CML). CML is a type of cancer of the blood.

Although the FDA has approved the use of BUSULFEX in combination with cyclophosphamide as a conditioning regimen prior to HPC for CML, the purpose of this study is to find out the potential benefits and safety of giving IV busulfan in combination with fludarabine as a conditioning regimen before allogeneic hematopoietic progenitor cell transplantation (HPC) for the treatment ofrelapsed/refractory Non-Hodgkin's Lymphoma (NHL) and Hodgkin's Lymphoma (HL). Hematopoietic progenitor cells are the cells in the bone marrow from which all types of blood cells develop. An allogeneic HPC transplantation is the process of extracting progenitor cells from a donor's bone marrow and, after chemotherapy treatment with a conditioning

regimen, infusion of the donor's progenitor cells into your body.

Busulfan is a strong cytotoxic (harmful to cells) drug that suppresses the immune system and fludarabine is a chemotherapy (cancer fighting) drug. These drugs prevent the growth of cancer cells by breaking the DNA or genetic material which is necessary for the growth of both healthy and cancer cells. The use of IV busulfan in combination with fludarabine as a conditioning regimen prior to allogeneic HPC is investigational and has not been approved by the FDA.

We also will be giving busulfan by IV only once a day, which is not approved by the FDA. Most patients normally get busulfan every 6 hours. We want to see if using busulfan once a day and in combination with fludarabine is safe and effective for your cancer.

West Virginia University expects to enroll 32 subjects into this study.

Description of Procedures

The doctor in charge of this study or a member of the study staff has discussed with you the requirements for being in this study. A healthcare professional will evaluate your ability to be in the study.

Before you begin the study:

You will have the following exams, tests or procedures to find out if you can be in the study and are healthy enough to undergo a transplant. These exams, tests, or procedures are part of standard pre-transplant work-up and would be done even if you do not join the study. If you have had some of them recently, they may not need to be repeated. This will be up to your study doctor.

Standard tests include:

- Medical history and physical examination (includes vital signs, height, weight, and current medications)
- Blood tests to check your blood counts, kidney and liver function, and HIV status.
- A blood test to check for pregnancy for women of childbearing potential
- Kamofsky Performance Status to see how well you perform daily activities
- A MUGA scan or echocardiogram to test your heart function
- Bone marrow aspirate or biopsy to check your disease status
- A test to check your lung function
- A CT scan or PET/CT of your chest, abdomen, and pelvis to check on your disease

Tests needed for this study:

We will also ask you to donate a sample of blood and bone marrow (if done for standard of care) for future research (explained later in this consent form) if you consent to this portion of the study.

During the study:

If the exams, tests and procedures show that you can be in the study, and you choose to take part, then you will need the following tests and procedures. Most all these tests are standard of care and would be done even if you did not take part in this study.

You may be hospitalized for approximately 4-6 weeks or longer if necessary. You will need to remain in the

Morgantown area or nearby for approximately 100 days following your transplant in order for your condition to be monitored. After Day 100, you will need to make frequent visits back to Morgantown to see your transplant doctor for continued close medical care supervision for at least one year following your transplant.

Before treatment begins you will have central venous catheters (a small, flexible plastic tube inserted into a large vein above the heart, through which drugs and blood products can be given and samples withdrawn painlessly) placed.

Conditioning Phase (Day-7 to Day O (day of transplant)): This period will take 7 days. During this period you will receive the busulfan and fludarabine conditioning regimen. You will also be started on a graft vs. host disease (GVHD) prevention treatment that is normally done at WVU. This treatment includes drugs called tacrolimus, methotrexate, and anti-thymocyte globulin (ATG). You may only need ATG as determined by your doctor if your donor is unrelated. During this time you will be monitored closely daily for any changes in your general health that you may experience.

Day-7

The following procedures will be performed:

- Vital signs (blood pressure, heart rate and temperature) will be measured.
- You will be given medication to prevent seizures (convulsions or fits). It is standard of care to give anti-seizure medication with busulfex (the study drug) when it is combined with other drugs like in this study. The risks of the drugs are listed later in this form.
- You will have approximately 2 teaspoons of blood taken for routine laboratory tests including a complete blood count and blood chemistry to check on your general health.

Day -6 to Day -3

- Vital signs (blood pressure, heart rate and temperature) will be taken.
- You will have approximately 2 teaspoons of blood taken each day for routine laboratory tests including a complete blood count and blood chemistry to check on your general health.
- You will receive fludarabine through your vein for one hour (60 minutes) daily for four days (Days -6 through -3).
- After your dose of fludarabine you will receive busulfex through your vein for three hours (180 minutes) for four days (Days -6 through -3).
- On Day -6 only, (first day ofbusulfan), we will check the levels of busulfan in your blood after the infusion. The dose ofbusulfan may be changed on Day -4 and Day -3 if your blood levels are too high or too low. You will have a total of 6 teaspoons of blood taken at six various times after the completion of busulfan with the last sample drawn 8 hours after the start of the infusion. This blood is in addition to the 2 teaspoons we need for routine tests on Day -6.

Rest (Day -2 and -1)

There are no study procedures scheduled on these days. The study doctor or staff member will call you to ask how you are feeling and discuss the medications you are taking.

HPC Transplant (Day 0)

- Vital signs (blood pressure, heart rate, and temperature) will be taken.
- You will have approximately 2 teaspoons of blood taken to count your blood cells prior to your transplantation procedure.
- You will receive your donor's hematopoietic progenitor cells through an IV infusion.
- We will also ask you to donate a sample of blood for future research (explained later in this consent form) if you consent to this portion of the study.

Follow-up (Day O through Day 28)

- You will have approximately 2 teaspoons of blood taken to count your blood cells and perform routine laboratory tests. You will have blood drawn daily while you are in the hospital and then at least weekly after discharge until 28 days after your transplant (Day 0).
- Vital signs (blood pressure, heart rate, and temperature) will be taken
- You will have a complete physical examination including body weight measurements on Day 28.
- You will be asked questions about how you are feeling and your daily activities to determine your general health at Day 28.
- We will also ask you to donate a sample of blood for future research (explained later in this consent form) on Day 28 if you consent.

Follow-Up Clinic Visit (Day 63)

- Vital signs (blood pressure, heart rate, and temperature) will be taken.
- You will have a complete physical examination including body weight measurements.
- You will be asked questions about your daily activities to determine your general health.
- You will have approximately 3 teaspoons of blood taken to count your blood cells and perform routine laboratory tests.
- Your study doctor and study staff will ask you about how you are feeling and discuss the medications you are currently taking.
- We will also ask you to donate a sample of blood and bone marrow (if one was done as standard of care) for future research (explained later in this consent form).

Follow-Up Clinic Visit (Day 100, Day 180, Day 365 and Day 730)

- Vital signs (blood pressure, heart rate, and temperature) will be taken.
- You will have a complete physical examination including body weight measurements.
- You will be asked questions about your daily activities to determine your general health.
- You will have approximately 3 teaspoons of blood taken to count your blood cells and perform routine laboratory tests.
- You will have a CT scan or PET/CT of your chest, abdomen and pelvis to check on your disease.
- Your study doctor and study staff will ask you about how you are feeling and discuss the medications you are currently taking.

- We will also ask you to donate a sample of blood and bone marrow (if one was done as standard of care) for future research (explained later in this consent form).

We will talk to you about any side effects you may have experienced during this study at your normal clinic visits or hospital stays.

We will probably need about 39 teaspoons (13 tablespoons) of your blood for this research study. You will be in this study for about two years.

Optional Samples for Research
Throughout the study we would like to draw some of your blood and store it to do future research related to this study. In addition, if you have a bone marrow biopsy as standard of care, we would also like to have 1-2 ml of your bone marrow sample for future research. This blood and bone marrow will be stored in a laboratory at West Virginia University in the Mary Babb Randolph Cancer Center. We will keep these samples for as long as we need to complete the potential future research. We will do tests on the samples to look at parts of your blood that may help us learn more about your disease and/or response to treatment. This lab testing of your samples could involve both genetic and non-genetic tests; however the genetic tests do not involve research about diseases being passed on in families. Approximately 6 tablespoons will be collected during the two years you are in the study for the optional research samples.

You do not have to agree to store your blood or bone marrow for future research if you want to be in the main part of this study. You can make your choice about future research and storing your blood at the end of this consent form.

Risks and Discomforts

You may have side effects while on the study.

Everyone taking part in the study will be watched carefully for any side effects. However, doctors do not know all the side effects that may happen. Side effects may be mild or very serious. Your health care team may give you medicines to help lessen the side effects. Many side effects go away soon after you stop taking the study drugs. In some cases, side effects can be serious, long lasting, or may never go away. There is also a risk of death.

If you have any injury, adverse effect, or any other unusual health experience during this study, make sure that you immediately tell the nurses or the doctor You can call any time to tell us about your health expenences.

Busulfan Side Effects (the study drug)

Common Side Effects (reported in greater than 20% of patients)

Decreased blood counts
Severe decreases in bone marrow function; causing severely decreased blood cell counts (white and red blood cells as well as platelets). This effect may be prolonged for unknown reasons and may result in severe problems such as serious infection, neutropenic fever (fever due to low white blood cell counts) or anemia

(low red blood cells). Due to a decrease in your platelet count, your risk of bleeding may be increased.

Blood laboratory levels
The levels of electrolytes (examples include potassium/calcium/magnesium) in your blood may decrease. You may have high blood sugar.

Increased risk of infection
Due to the reduced production of white blood cells by the bone marrow, you may be temporarily more prone to infection. In some cases, these infections can be serious and rarely, fatal. You should avoid contact with people who have contagious infections and tell your doctor if you begin to notice the signs of an infection such as fever or chills.

General well-being
You may feel very tired. It is important to allow yourself plenty of time to rest. You may experience fever, chills, generalized pain, chest and back pain.

Gastrointestinal system
Most patients feel sick (nausea and vomiting) beginning a few hours after the treatment is given and this could last for some days. You may experience a loss of appetite. You may have heartburn and poor digestion. You may develop diarrhea, constipation (infrequent bowel movements), hard stools or straining during bowel movements and rectal discomfort. You may experience pain in your abdomen and bloating.

Respiratory system
You may develop a lung disorder or abnormal breath sounds. You may develop a cough, shortness of breath and nose bleeds.

Cardiovascular system
You may develop a fast heartbeat or abnormal heart rhythms. Many patients develop edema (abnormal collection of fluid under the skin or in body cavities), an abnormal increase in blood volume or weight increase. You are at risk to experience hypertension (high blood pressure) and development of a blood clot.

Liver and kidney systems
You may develop a decrease in liver functioning. Several liver enzymes (alkaline phosphatase, SGOT and SGPT) may increase. An increase ofbilirubin and liver enzymes may represent a decrease in liver function. You may experience a decrease in kidney function (renal insufficiency).

Nervous system and mental disorders
You may experience headache, dizziness, anxiety, depression or difficulty falling asleep.

Ear, Nose and Throat
You may develop very painful ulcers or sores in your mouth and other mucous membranes. These may affect your ability to drink and eat. You may develop a runny nose.

Skin changes
You may develop a rash, which may or may not be itchy.

Less Common (reported in 5% to 20% of patients)

Gastrointestinal system effects

You may experience hiccups and loss of gastrointestinal propulsive activity (ileus). This means that your intestines slow down or stop the movement that moves food and digestive fluids through your digestive system.

Respiratory system

You may experience asthma, or inflammation of the lung (pneumonitis).

Cardiovascular system

You may experience a rapid or very slow heart beat, changes in the rhythm of the heart beat, low blood pressure, widening of blood vessels (hot flashes or flushing). When a central catheter is used, occlusion of blood vessels might occur. You may also experience enlargement of the heart (cardiomegaly).

Liver and kidney function

Enlargement of the liver (hepatomegaly) may also occur. A severe form of this liver disorder can affect the blood vessels in your liver, which in rare cases, can be fatal. Symptoms of this may include increased liver enzymes, weight gain and enlargement of the liver. Weight gain may be caused by fluid retention (edema) as well. Kidney function tests may be abnormal. You may experience frequency in urination, inability to urinate and blood in your urine.

Skin changes

You may also experience itch (with or without a rash), acne, yellowing of the skin or eyes (jaundice) or changes in skin color (skin discoloration).

Musculoskeletal system

You may experience pain including joint pain (arthralgia), back pain or muscle pain (myalgia).

Bruising, bleeding and clotting

The production of platelets (which help the blood to clot) will be reduced with this treatment. Let your doctor know if you have any unexplained bruising or bleeding, such as nosebleeds, blood spots or rashes on the skin, bleeding gums, blood in the urine or stools, or cuts that won't stop bleeding. You may also develop blood clots.

Rare (reported in less than 5% of patients)

Gastrointestinal system

You may experience inflammation of the esophagus (esophagitis), inflammation of the pancreas (pancreatitis), bleeding in the stomach and intestines (gastrointestinal bleeding), vomiting of blood (hematemesis).

Respiratory system

You may experience an infection of the lungs (pneumonia),coughing up blood, or a collapse oflung tissue (atelactasis), breathing faster than nonnal (hyperventilation), decreased oxygen in the blood (hypoxia),

accumulation of fluid in the space around the lungs (pleural effusion), bleeding in the lung (pulmonary alveolar hemorrhage) or failure of the lungs to work properly (respiratory failure). Years after treatment with IV busulfan, some patients developed some type of scar tissue formation in the lungs (pulmonary fibrosis).

Cardiovascular system
You may develop a decrease of the fraction of blood pumped out of the heart with each beat (decreased ejection fraction), decrease of the heart's function as a pump (left-sided heart failure), not enough oxygen in body tissues due to impaired heart function (cardiogenic shock), the presence of fluid in the sac around the heart (pericardia! effusion) or inflammation of the sac around the heart (pericarditis). You may also experience an increased blood volume.

Nervous system and mental disorders
Symptoms you may experience may include agitation, bleeding in the brain (cerebral hemorrhage), coma, confusion, nervousness, delusions, hallucinations, diseases of the brain (encephalopathy) and drowsiness (somnolence). When high doses ofbusulfan are given in combination with cyclophosphamide there is a risk of seizure. Your doctor can discuss this with you and will give you medication to help prevent them.

Ear, Nose and Throat
You may develop an ear disorder. You may develop sinus inflammation (sinusitis).

Skin changes
You may also develop an inflammation of fat cells under the skin (erythema nodosum), redness (erythema) and scaling under the entire skin (exfoliative dermatitis).

Second cancer
With long-term use of these drugs over many years, there is a very small risk of developing a second cancer. In this study, you will not receive these drugs over many years.

Other
Your body may lose the function of many organs. This is called multi-organ failure and can be fatal. Your doctor will discuss with you this condition and the medications that are used to control it.

Other side effects besides the ones listed above have been reported less frequently, so make sure that you discuss these other side effects with your study doctor.

Allergic Reactions

Allergic reactions can vary in degrees of severity. They may cause death in rare cases. When a severe allergic reaction develops, it usually occurs at the time the medicine is entering the body (during drug infusion). Allergic reactions may cause trouble breathing, very low blood pressure, sudden swelling, and/or hives or rash.

Additional Risks and Toxicities Related to the Standard Transplant Procedure

There are certain risks related to a HPC transplant. There are risks from the medications and/or 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. Your doctor will give you medications to lessen some of the side effects. Some of these complications can be serious and may be fatal in some instances. The risk of death may be as high as 40% depending on individual patient related factors. You will be monitored closely during the transplant for any complications that may occur.

Risks Related to the Transplant Conditioning Regimen

Fludarabine: This medication is used in HPC transplants to reduce the risk of rejecting the donor's transplanted cells. This therapy will cause the lowering of your white blood cell counts (making you susceptible to infections), platelets (making you susceptible to bleeding), and red blood cell count (causing anemia and making you tired). Fludarabine may cause nausea, vomiting, loss of appetite and diarrhea, reversible hair loss, mouth sores/ulcers, headache, skin rash, fever, chills, tiredness, weakness, damage to the heart and lungs, shortness of breath, high blood sugar, blurred vision, fluid retention (swelling) and hearing loss.

Reproduction: The conditioning regimens discussed above are likely to cause women to enter pre-mature menopause. Men who receive these conditioning regimens are unlikely to be able to father children. However, there is no guarantee that this will happen to you, so you should discuss the need for birth control with your doctor. In any case, you are not protected from sexually transmitted diseases as a result of having these treatments.

Graft-versus-Host Disease (GVHD)
After the graft begins to function, there is a further risk of a reaction of the graft against your tissues. This reaction is called GVHD and may cause a skin rash, or abnormalities of the liver, or stomach. GVHD may cause nausea (feeling sick to your stomach), vomiting (throwing up), lack of appetite, stomach cramps, diarrhea (loose stools), and bleeding of the gut. Chronic GVHD may occur later after transplantation and may involve problems with the eyes, mouth, lips, throat and liver. Early (acute) or late (chronic) GVHD may become severe enough to result in death. GVHD is treated with drugs that weaken the immune system, and therefore make you more susceptible to infections.

Risks Related to the Medications Used to Help Prevent GVHD
NOTE: These drugs also decrease the risk ofrejection of the donor cells.

Tacrolimus: This medication is used to try to prevent GVHD. The immediate side effects you may experience include nausea (feeling sick to your stomach) or vomiting (throwing up) when the medications are given orally. Other side effects you may experience include high blood pressure (hypertension), shaking of the hands (tremor), increased hair growth and possibly an effect on mental function. If you experience these effects they generally go away when the dose of the medication is decreased. A few patients have had a seizure while taking these medications. You may experience a change ofliver or kidney function, in which case the medication dose will be reduced or possibly even withheld. In rare cases, the kidney damage caused may require the use of an artificial kidney machine (hemodialysis).

Some patients given tacrolimus develop diabetes and must take insulin while taking tacrolimus.

Methotrexate: This is also a medication used to try to prevent GVHD. Methotrexate causes damage to cells, and therefore can affect many different tissues of your body. It may cause or can worsen the mouth sores or inflammation of the mouth which you may have already developed from the procedures and medications used to prepare you for the transplant. It may also cause nausea (feeling sick to your stomach) and vomiting (throwing up). Methotrexate may slow down the recovery of blood cells after transplantation. Methotrexate can cause kidney damage. If your kidney is already damaged for other reasons, it can worsen kidney function. If kidney damage does occur, the methotrexate dose may be reduced or the medication may not be given at all.

Anti-thymocyte Globulin (ATG): This medicine is used to try to prevent GVHD. It can cause infusion reactions such as fever and chills. This drug may also cause allergic reactions (some could be severe) and it could weaken your immune system, which can cause you to get infections easily.

Tacrolimus, Methotrexate, and ATG: These medications interfere with the body's defense system (the immune system). This may cause you to have more infections (especially viral infections and pneumonia) for several months after transplant.

Risks and Procedures Related to the Transplant Procedure

The following risks are not specifically related to any one drug or the transplanted donor cells, but they are risks that are a part of the transplant procedure. The following applies to ALL patients.

Venipuncture: Although you may require a central venous catheter to donate cells, there may be an occasional need to have an intravenous catheter placed in your arm(s) or you may need to have blood withdrawn from the veins of your arm(s). Drawing blood from the arm may be associated with bleeding into the skin and may very rarely result in an infection.

Central Venous Catheter: A 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. Complications 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.

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.

Mouth Sores and Diarrhea: The chemotherapy causes 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 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.

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. It is rare, but your kidneys could be affected, causing anemia or high blood pressure. There is also a risk you may develop a second cancer including leukemia as a result of the chemotherapy, and/or your lymphoma. 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. Furosemide is a drug that is often given to help eliminate this excess fluid. This drug may cause hearing loss and loss of body chemicals such as potassium and sodium.

Bone Marrow Aspirate/Biopsy: You may feel a sharp sting and bum when the anesthetic numbs your skin over the aspiration or biopsy site. You may hear a crunching sound and feel pressure and some pain when the needle enters the bone. The pain usually lasts for only a few seconds. During an aspiration, you may feel a quick, shooting pain down your leg as the sample is taken. This pain stops as soon as the sample is removed. The biopsy site may feel stiff or sore for 1 or 2 days after the biopsy. You may have a bruise on the site.

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 may cause lasting effects on the reproductive potential of both men and women treated in this manner. 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, and you must use birth control. It is important that both men and women use birth control while on this study.

Risks Related to the Infusion ofHematopoietic Progenitor Cells

The HPC infusion is given similar to a blood transfusion. The infusion of HPC 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. Common, less serious reactions for patients include mild wheezing, mild shortness of breath, back or chest pain or lightheadedness. 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.

The amount of radiation (x-rays and scans to assess your disease) that you are exposed to in this study is considered standard of care for your disease. The risks of these procedures will be explained to you by your doctor and staff involved in your care. Risks from radiation exposure are cumulative (they increase) over time.

Alternatives

You do not have to participate in this study.

You do not have to take part in this study. Alternatives that could be considered in your case include:

- Taking part in another study
- Receiving other treatment or combination of treatments
- Receiving no further treatment
- Receiving comfort care (palliative care). This treatment helps reduce symptoms associated with cancer (pain, fatigue, appetite). It does not treat the cancer directly, but tries to improve the way that you feel and keep active.
- Your treating physician can discuss your treatment options with you.

Benefits

There is no guarantee that you will receive any medical benefit from taking part in this study. The potential benefit of this treatment is to help control/treat your disease. Information obtained from this study may benefit other patients with the same disease in the future.

Financial Considerations

You are strongly encouraged to contact your insurance company if you have one before you agree to be in this study.

You or your insurance company will be responsible for paying for procedures, tests and possibly medications that are standard treatment for patients undergoing HPC transplants. Some examples of standard procedures include routine laboratory blood tests, x-rays, MRIs, scans, surgeries, blood transfusions, physicians' charges and routine medical care. Examples of medications you could possibly

require in addition to the study medications include antibiotics or other medications to manage side effects of treatment. Your insurance company may not pay for costs associated with research studies like this one. You are responsible for any charges your insurance company does not pay. You may have to pay for some expenses related to this study, such as transportation, parking, meals, or others.

You will not be paid for taking part 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/insurancecoverage. 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 l-800-4-CANCER (l-800-422-6237) and ask them to send you a free copy of this information.

Voluntary Compensation

In the event of a research-related injury, necessary medical treatment will be provided to assist your recovery from the injury. This agreement to provide treatment does not include treatment for any injury/illness, which is not the result of the research.

There is no money set aside to help treat you if you get hurt or sick in this study. The study doctor and WVU or its partners do not have special funds to pay for research study injuries if they occur. Signing this form does not take away your legal rights.

Confidentiality

Any information about you that is obtained as a result of your participation in this research will be kept as confidential as legally possible. Your research records and test results, just like hospital records, may be subpoenaed by court order or may be inspected by the study sponsor or federal regulatory authorities (including the FDA) without your additional consent.

If any publications result from this research, neither your name nor any information from which you might be identified will be published without your consent.

Authorization (Permission) to Use or Disclose (Release) Identifiable Health Information for Research at West Virginia University

If you sign this form you are letting us use or give out your health information for research. This means the information we use or give out can be used to identify you.

We want to keep your health information private. That is why we need you to agree to let us use or give out your information or you cannot be in this research study. We will not use information to identify you unless we ask you first. This means we will not use your name or other information about you to write papers or talk about our research unless you let us.

Who do we need this information from? You (Patient/West Virginia University Hospitals/Mary Babb

Randolph Cancer Center)

Who needs this information for this study?

- The research site(s) carrying out this study. This includes UHA or UHA Affiliated, WVU, WVU Hospitals. It also includes each site's research staff and medical staff.
- Health care providers who provide services to you as part of this research study.
- Laboratories that are used for this study.
- The United States Department of Health and Human Services (which includes the National Institutes of Health, Food and Drug Administration (FDA)) and other regulatory groups
- Foreign regulatory agencies
- Dr. Kanate and the people and companies that are used to oversee, manage, or conduct the research
- The members and staff of any Institutional Review Board (IRB) that oversees this research study.
- West Virginia University Office of Research Compliance and Office of Sponsored Programs.
- West Virginia University Clinical Trials Research Unit

What information will we use?

- Your medical records and research study records
- New infonnation collected during this study like physical exams; visit notes from the research staff; lab results; and other test results like x-rays or ECG results.

The information is being disclosed for the following reasons:

- Review of your data for quality assurance purposes
- Publication of study results (without identifying you)
- Other research purposes such as reviewing the safety or effectiveness of the study drug and other products or therapies; conducting performance reviews of the study drug; evaluating other products or therapies for patients; developing a better understanding of disease; improving the design of future clinical trials

You may cancel this permission at any time by writing to the study doctor at the address on the first page of this document. Your permission will not expire unless you cancel it.

If you cancel this permission any information that we already have can still be used. If we already have information about you we can still give it out after you cancel your permission.

You have a right to see and make copies of your medical records, but not until the study is done. When the study is done you can see your records and correct anything that is wrong.

Voluntary Participation

Participation in this study is voluntary. You are free to withdraw your consent to participate in this study at any time.

The study doctor may stop you from taking part in this study at any time if he/she believes it is in your best

interest; if you do not follow the study rules; or if the study is stopped for any reason. If you stop being part of this study, the study doctor or one of the staff members will talk to you about any medical issues regarding the stopping of your participation. Your decision to stop being in this study will not affect your care here or your relationship with your doctor. Your study doctor may take you out of this study at any time without your consent. You could be removed from this study if:

- Your disease gets worse,
- You have unacceptable side effects,
- You do not follow the study instructions,
- The study is stopped,
- If it is in your best interest to stop taking part in the study.

In the event new information becomes available that may affect your willingness to take part in this study, this information will be given to you so that you can make an informed decision about whether or not to continue your participation.

You have been given the opportunity to ask questions about the research, and you have received answers concerning areas you did not understand.

Signature

Making your choice:

Please initial beside your choice about storing your blood and bone marrow for future research:

_____	**Yes,** I give the researchers permission to store my blood and bone marrow at West Virginia University to do future research.
_____	**No,** I do not give the researchers permission to store my blood and bone marrow at West Virginia University to do future research.

By signing agreeing to take part in this study, you are confirming the following:

- You have read all of the information in this Consent and Information Form, and you have had time to think about it.
- All of your questions have been answered to your satisfaction.
- You voluntarily agree to be part of this research study, to follow the study procedures, and to provide necessary information to the doctor, nurses, or other staff members, as requested.
- You may freely choose to stop being a part of this study at any time.
- You have received a copy of this Consent and Infonnation Form to keep for yourself.

Upon signing this form, you will receive a copy. I willingly consent to participate in this research.

Signature of Subject or Subject's Legal Representative	Printed Name	Date	Time

The participant has had the opportunity to have questions addressed. The participant willingly agrees to be in the study.

Signature of Investigator or Co-Investigator	Printed Name	Date	Time