



## AUTOLOGOUS STEM CELL TRANSPLANT

Welcome to the NYU Langone Medical Center Autologous Stem (Progenitor) Cell Transplantation Service. You and your family or care partners will spend 3 to 4 weeks here at Tisch Hospital for your transplant and the beginning of your recovery process. Our staff wishes to make your experience as comfortable as possible. This handout will help you understand more about autologous stem cell transplantation and what happens before, during, and after your transplant. It explains how you and your family or care partners can help with your care. Your doctors and nurses will review this handout with you and answer any questions you may have. Your social worker will talk with you about any concerns you may have. Your nutritionist will be working with you to develop a healthful diet and check the levels of nutrients in your body.

### Autologous Stem Cell Transplant:

Stem cells are cells that become blood cells. Stem cells can become red blood cells (RBC), white blood cells (WBC), or platelets. The type of cell that a stem cell will grow into is decided by the needs of your body. Stem cells live in the bone marrow. Bone marrow is the soft tissue in the space inside your bones.

Autologous means “your own.” In an autologous stem cell transplant, your stem cells are taken from your blood (*harvested*), stored until needed, and given back to you (*transplanted*) after you have received high dose chemotherapy. They will then move into your bone marrow and start to develop (*engraft*) into new, healthy red blood cells, white blood cells, and platelets.

High dose chemotherapy destroys your bone marrow. By giving you back your harvested and stored stem cells, your body will be able to make healthy new blood cells and your *blood counts* (RBC, WBC, and platelets) will slowly get back to normal.

### What Happens Before the Transplant?

#### Tests

Before you are admitted to the hospital for your stem cell transplant, you will need to have some tests. These tests will tell us how your body is working. Some of the tests you might have include:

- Blood tests
- Echocardiogram or MUGA scan which measures your heart function
- Pulmonary function tests (PFTs) which measure your lung function
- CT scans (if you have non-Hodgkin’s lymphoma or Hodgkin’s disease)
- Other tests if needed

***Intravenous Access***

A *central venous catheter* is a narrow, flexible tube that may be placed in a vein in your chest when you are admitted to the hospital or on the day before your transplant. This catheter makes it easier and more comfortable for you when we need to draw your blood and give you intravenous (IV) fluids, medications, blood products, and nutritional support. If you already have a Hickman or Broviac catheter, you will not need a central venous catheter. We will use the catheter that is already in place. A Mediport can be used during the transplant, but your doctor may decide that you need a central venous catheter as well.

***Dental Evaluation***

Decayed teeth and gums are common sources of oral (mouth) infections in patients going through stem cell transplant. It is important to find and treat all possible causes of oral infection (cavities, gum disease, etc.) before your transplant. We recommend you see your dentist for a check-up before you are admitted to the hospital. However, no major dental work should be done at this time.

***Packing*****What can I bring?**

- Clean, comfortable clothes.
- Posters, pictures, etc. to help make the room feel more like your own.
- Sheets and/or blankets from home to help make your bed feel more comfortable and like your own.
- A calendar to 'count down' the days until your discharge.
- Food, which you can store in the refrigerator. Check with your nurse, doctor, or nutritionist about what foods, if any, you should not be eating at this time.
- Entertainment such as books, magazines, portable CD player, laptop, etc., but not so much that it will clutter the room.

**DO NOT bring:**

- Stuffed animals.
- Flowers and/or plants because they can carry bacteria.
- Blenders, electric razors, or other electrical equipment that needs to be plugged in to use. You will be able to use a microwave oven on the nursing units.



## The Transplant

### **Admission**

When you arrive at NYU Langone Medical Center, you will go to the admitting department to register.

**Tisch Admitting** is located on the **1st** floor of the Tisch Hospital Building at **560 First Avenue**. When you are done at the admitting desk, you will then take the '**A**' elevators up to the 16<sup>th</sup> floor and make a left turn onto **16 East**.

You do not need to be placed in a private room as soon as you are admitted. You will need to begin isolation the day before you get your stem cells back (day -1 / day minus one) OR when your absolute neutrophil count (ANC) is less than 500 (whichever day comes first). Neutrophils are a type of white blood cell that fight infection. We will check your ANC every day as part of your daily blood work.

When you arrive onto the unit (16 East), you will be seen and examined by your doctors and nurses. During your hospital stay, you will meet other members of the healthcare team including social workers and nutritionists who will all do everything reasonable to make your stay as pleasant as possible.

### **Phase I**

Phase I starts when you arrive at the hospital and continues until you get your stem cells back (Day 0 / day zero). This is the time when you will get your chemotherapy and start isolation.

Within the week before your transplant you will receive high dose chemotherapy. This chemotherapy will be much stronger than what you have received in the past. Your nurse will provide you with chemotherapy information sheets and review them with you.

Chemotherapy may upset your stomach. You will be given medicine before the chemotherapy to help prevent nausea and vomiting. If you still feel sick, ask your nurse for more medicine that can help you feel better.

You will be given a break from chemotherapy for one or two days before your transplant. This rest period will give your body time to recover and rid itself of some of the chemotherapy that could harm the stem cells you will be receiving.

Once you are in a private room, you will be considered to be in 'reverse isolation'. This means that we are protecting you from any germs that are outside you and your room. **Everyone** who enters your room **must** wash their hands with soap and water in your sink. Check with your nurse for any additional instructions for you and your visitors.

**Phase II**

Phase II starts when you get your stem cells back (Day 0) and ends when your blood counts start to recover (about Day 14). This phase usually lasts about two weeks. During this phase you may not feel so great. You will probably be experiencing the side effects of the chemotherapy.

**Fatigue (A tired feeling)**

You may want to sleep a lot because many things can make you feel tired. Your body is working overtime to heal itself. Your red blood cell count may be low which will make you feel tired. You are probably not sleeping as well as you did at home and medicines that treat nausea and pain can cause sleepiness.

To help you feel better, take naps often, get out of bed to sit in the chair, move around in the room. Activity can actually give you energy. You will be getting red blood cell transfusions because your stem cells have not started to work yet.

**Bleeding**

Since your stem cells are not working yet, your platelet count will be low which means you can bleed easily. You will be getting platelet transfusions to help prevent bleeding.

To help prevent bleeding, avoid picking your nose and avoid blowing your nose too hard.

Do not use a toothbrush to brush your teeth. The nursing staff can provide you with mouth swabs called *toothettes*. Do not use dental floss.

Be careful when moving around in your room. Avoid sharp objects and corners. DO NOT scratch too hard. Use moisturizer for dry skin if needed. DO NOT clip your nails.

**Fevers**

Since your stem cells are not working yet, your white blood cell count will be low and your body will not be able to defend itself against germs. Fevers may be a sign of infection and are very common during transplant. You may have shakes and chills with fever. If you develop a fever, you will be given antibiotics to help your body fight any infection. Different antibiotics fight different germs, so you will probably be given more than one antibiotic. You will also remain in isolation during this time. You should wear a mask when you go outside your room to avoid any infections that are spread through the air.

To help stay “infection-free”, teach your visitors about isolation and hand washing. If you do not feel comfortable doing this on your own, ask your nurse for help to explain.



Bathe daily.

DO NOT eat the following foods:

- raw vegetables (salads)
- fruits that cannot be peeled
- take out foods
- raw eggs and fish
- cheeses
- non-pasteurized milk and juices

If you feel like eating, the hospital will prepare your food using these guidelines.

### **Mouth Problems**

Because of the chemotherapy, you may develop painful sores in your mouth and throat called *mucositis*. Ask your nurse for pain medication if you are having mouth pain. The medication will be given through your IV. Because of the mucositis, you may not feel like eating or drinking. You will receive nutrition through your IV as well.

To help yourself feel better, rinse your mouth every hour while you are awake on the days of chemotherapy. If you feel like eating, try soft, bland foods.

### **Diarrhea**

Chemotherapy can irritate your stomach and intestines, which can cause diarrhea. Intestinal infections can also cause diarrhea. As your body heals from your transplant, you will begin to feel better.

If it becomes hard to make it to the bathroom, you can ask your nurse for a portable toilet to keep by your bed. You should not eat milk products and greasy or spicy foods.

### **Skin changes**

Some chemotherapy drugs can darken your skin and nails and cause your skin to become more sensitive to the sun.

You should protect your skin after leaving the hospital by avoiding the sun completely between 10am and 3pm if possible. Wear protective clothing (long pants, long sleeves, sunglasses) and a hat even on cloudy days. **Always** apply sunscreen with SPF 15 or more at least 15-30 minutes before going outside and as often as needed.

### **Hair loss**

You may have hair loss already if this is not the first time you are receiving chemotherapy. If you are receiving chemotherapy for the first time, your hair may begin to fall out in about 2 weeks.



Many people choose to cut their hair shorter or shave it off so it is not such a drastic change. Avoid daily shampooing. Allow your hair to dry naturally rather than blow-drying. Remember, your hair **will** grow back.

### ***Phase III***

Phase III is the recovery phase. It is during this phase that you are discharged from the hospital. Most of this phase occurs once you are at home and can take a few months. Your blood counts are now higher and your stem cells are doing their job in your bone marrow to make lots of new blood cells.

Throughout your hospital stay, your doctor and nurse will give you instructions on how to take care of yourself when you go home. These instructions include when to call your doctor for emergencies, when to return for follow up visits with your doctor, etc. This information will be reviewed again when you are ready to leave the hospital.

### **Laundry while in the hospital**

Your family or care partner may need to do laundry while you are in the hospital. If they do not want to take everything back and forth to your home, they can use the laundry room located in the 4<sup>th</sup> floor North corridor of Rusk Institute within the Physical Therapy wing. The washers and dryers accept only quarters and are open 24 hours a day.