AUTOLOGOUS
PRE-TRANSPLANT
CLASS

Please sign in on clipboard.
Please silence cell phones and turn off recording equipment.

Transition Nurses
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AUTOLOGOUS STEM CELL TRANSPLANT

- Bone marrow and cancer cells are destroyed with high dose or “conditioning” chemotherapy

- Stem cell transplant occurs after completion of conditioning chemotherapy

- Cells begin to grow or “engraft” and create new bone marrow in approximately 10 - 12 days
What is a Stem Cell?
AUTO TRANSPLANT TIMELINE

- **Initial Visit**
  - Treatment Plan
  - Vital Organ Testing
  - Central Line Placement

- **Stem Cells collected and frozen**

- **Conditioning Chemotherapy**

- **Stem Cell Infusion “DAY 0”**

- **Waiting for Engraftment**

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MOFFITT CANCER CENTER
CENTRAL LINE

- A hollow, plastic tube placed in the chest and tunneled under the skin
- Inserted before collection
- Removed before returning home
- Used for:
  - Collection and infusion of stem cells
  - Chemotherapy
  - Most blood samples
  - IV fluids and IV medications
STEM CELL COLLECTION (Apheresis)

- Growth factor injections (Neupogen/Zarxio/Mozobil) given once daily for 4-5 days
- 4th day: labs drawn to check stem cell count
- 5th day: collection begins
  - in outpatient apheresis center
  - can last up to 10 hours per day
  - can range from 1-3 days
  - Staff will notify you with instructions if more than 1 day of collection and additional growth factor injections are needed
- Cells are processed, divided into bags, frozen & stored
Conditioning therapy (chemotherapy) is given over 1 to 6 days depending on treatment plan.

Scheduled nausea medications given
  - Additional nausea medications available as needed

Ice chips with Melphalan chemotherapy
  - Decreases severity of mouth sores
  - Hold ice chips in mouth and allow to melt
  - Use 5 minutes before start of infusion, during infusion, and for 15 minutes after the end of infusion
Stem Cell infusion on Day “0”

- Pre-medications given to prevent reactions
- May receive IV fluids before/after transplant
- Stem cells are infused at bedside by nurse
- Length of time depends on # of bags
- Nurses monitor for possible reactions (itching, hives, cough, vital sign changes, etc.)
- Report any new symptoms to nurse right away
Red blood cells, white blood cells, and platelet counts will drop after conditioning therapy, which is expected.

These counts will rise as new blood cells start to grow from your stem cells following your transplant. This is called “engraftment”.

Usually, the first cells to return are white blood cells, then red blood cells, and finally platelets.

Neupogen is given daily starting on Day + 7 until Absolute Neutrophil Count (ANC) > 1500.

As you wait for engraftment, you experience the side effects of conditioning therapy and can experience complications of transplantation.
COMMON SIDE EFFECTS OF CONDITIONING THERAPY

- Nausea and vomiting
- Diarrhea
- Decreased appetite
- Mouth sores (mucositis)
- Hair loss
- Pain
- Fatigue, changes in memory & concentration
- Decreased blood cell counts
- Infection
PAIN MANAGEMENT

- Pain is common during transplant.
  - Examples: mucositis, abdominal pain, body aches, bone pain, continued chronic pain
- It is OK to use pain medication to control your pain!
  - You will not become addicted if using pain meds for pain management
  - Dosing can be adjusted to reduce side effects while still controlling your pain.
- Our goal is to keep your pain at a comfortable level.
  - We continuously ask about your pain to make sure we are meeting this goal. Please let us know your expectations.
DECREASED BLOOD CELL COUNTS

White Blood Cells (WBCs)
- Neutrophils are a type of WBC that can respond to infection
- Absolute Neutrophil Count (ANC) < 500 means you are neutropenic and at high risk for infection

Red Blood Cells (RBCs)
- Carry oxygen to the body
- Measured in the blood by Hemoglobin (Hgb)
- Hgb < 7.0 requires blood transfusion unless specified by BMT doctor

Platelets
- Help to prevent bleeding by helping the blood to clot
- Bleeding risk increases when platelet count is < 50
  - Please report any signs of bleeding
- Platelet count < 10 requires platelet transfusion
INFECTION

Can occur anywhere in the body

- You will take medications to prevent infections:
  - Bacteria (Antibiotics)
  - Viruses (Antivirals)
  - Fungus (Antifungals)

Temperature 100.4 degrees F or higher

- Nurses will start “Fever Protocol”
  - IV antibiotics
  - Tests are done to rule out infection
Infection Prevention
- Everyone MUST wash their hands (patients, visitors, staff)
- Absolutely NO sick visitors
- Follow immunosuppressed diet
- No fresh or dried flowers allowed
- Remove gel, artificial nails and all piercings except earrings
- No contact lenses- please bring your glasses

Bleeding Prevention
- Soft toothbrushes will be provided and avoid dental flossing
- Avoid “blood thinners” (ex. Aspirin, coumadin, Lovenox, Fragmin, etc.)
- Avoid forceful nose blowing
- Electric razors only
- Avoid trimming fingernails or toe nails
ADMISSION DAY

- Enter at Red Valet
- Proceed to the Admission Office
- Complete admission paperwork
- Room number and directions
You will be admitted to a room on 3 West or 4 West.

- All rooms are private.
- Each room has a television and internet access.
- Patients are not allowed to leave the unit unless it’s for a test or procedure (a mask must be worn when leaving the unit).
- Patients cannot visit in other patients rooms.
- Visiting hours are open, but visitors must be 12 years of age or older.
- One adult may stay overnight. A pull out bed and linens are available.
- Visitors may not use patient’s restroom.
- Restrooms are located in the hallway and a shower is available in the Family Lounge.

- **NO SICK VISITORS !!!**
Several changes of clothing, extra undergarments, hangers

Feet must be covered at all times when out of bed
- Slippers with non-skid soles, sneakers preferred for safety
- No “flip-flops”, Crocs®, and open toed shoes

Head coverings – hats, scarves, wig, turban

Personal care items - toothpaste, deodorant, liquid bath soap, skin lotion, shampoo, electric razors only

Clean or new pillow or comforter

Framed (non glass) pictures

Hearing aids and eyeglasses, if you use them

Small crafts, hobbies, cards, board games, books, reading materials, laptop computer, games, DVDs/CDs
ADDITIONAL ITEMS TO CONSIDER BRINGING

- Patient and Caregiver Transplant Guide
- Copy of Advance Directive
  - Living Will Declaration
  - Health Care Surrogate Designation
- Diabetic supplies
- Personal medical equipment
  - Walker, cane, wheel chair, Bipap machine, etc.
- Physician
- Fellow
- Advance Practice Provider
- Registered Nurses
- Social Workers
- Dietitians
- Case Managers
- Pharmacists
- Physical Therapy
Routine blood work
Daily weights
Weekly rectal swabs
Nursing assessments & vital signs every 4 hours
Orthostatic (postural) vital signs
Hourly rounding & hourly measurement of intake and output
EAT/DRINK/WALK
Exercise (Physical therapy/walking on unit)
Medications, IV fluids and transfusions as needed
Personal hygiene (CHG, saline mouth rinses)
CHG (Hibiclens) is a medication for your skin that helps prevent infection.

- CHG soap or wipes must be used daily.
- CHG soap is applied directly to skin and rinsed in the shower.
- CHG wipes can be used in place of showering and do not require rinsing
- Do not use CHG on face - use liquid soap/body wash instead.
MOUTH CARE

- Rinse mouth with saline 4 times daily
- Toothbrush should be changed 48 hours after chemotherapy completed and every 7 days while neutropenic
- Keep toothbrush open to air to dry
- No dental flossing, toothpicks or water picks until platelet count is greater than 50,000
ORTHOSTATIC (POSTURAL) HYPOTENSION

- Occurs when there is a significant drop in blood pressure and increase in pulse with position changes
- Staff will assess by taking your blood pressure while you’re lying and standing and compare the results
- When you have orthostatic hypotension you are great risk for passing out and falling
- Always report dizziness and light headedness to staff immediately
Staff will encourage you to drink more fluids

IV fluids

Doctors will review your medications to see if they are increasing your risk for orthostatic hypotension

Fall precautions- Your SAFETY is our #1 priority.
Falls can be caused by:

- Orthostatic hypotension
- Side effects of treatment/medication
- Weakness/Fatigue
- Dehydration
- Decreased blood counts
EVERYONE is at an increased risk for falling while in the hospital.

Here are some recent examples:

- 60 y.o. female, walking 30 or more laps per day, fell in the shower on day +8, fractured right lower leg requiring surgery
- 68 y.o. female, fell on the way out of the bathroom on Day -1, hit head on the bedside table requiring CT scans to rule out brain bleed
- 32 y.o. male, fell while getting off the toilet on Day +3, hit head on the grab bars, arms/shoulders scraped and bruised, CT scans and X-Rays required to rule out fractures and bleeding
Staff will assess you frequently to determine if you are at a high risk for falling.

- A bed or chair alarm WILL be turned on
- You will be asked to get out of your bed or chair only with staff present for assistance
- Staff will stay at your side while in the bathroom (this is where falls most commonly occur)
- A camera could be placed in your room for closer monitoring
Please partner with us to keep you safe!

- Call for assistance
- Wear closed-toe shoes and avoid slippery foot coverings
- Use recommended assistive devices
- Store personal items within reach
- Wear hearing aids & glasses if needed
Discharge occurs when:
- No fever for minimum of 24 hours
- Able to eat and drink
- Able to swallow oral medications
- IV meds/fluids manageable as outpatient

Preparation for Discharge:
- Caregiver is available 24 hours around the clock after discharge
- Caregiver needs to arrive to Moffitt 24-48 hours prior to expected discharge date to complete education and to prepare for discharge
- Housing arrangements are finalized with assistance of inpatient social workers
- All caregivers must attend BMT Caregiver Class
OUTPATIENT FOLLOW-UP

- Frequent visits to BMT Treatment Center
- Visits in BMT Clinic by your BMT doctor
- Stay locally for approximately 30 days after date of transplant with caregiver
  - Readmission to the hospital may be necessary during this time
  - Decision to return home is made by primary transplant doctor
QUESTIONS????