

# AUTOLOGOUS PRE-TRANSPLANT --- CLASS

Please sign in on clipboard.

Please silence cell phones and turn off  
recording equipment.

## Transition Nurses

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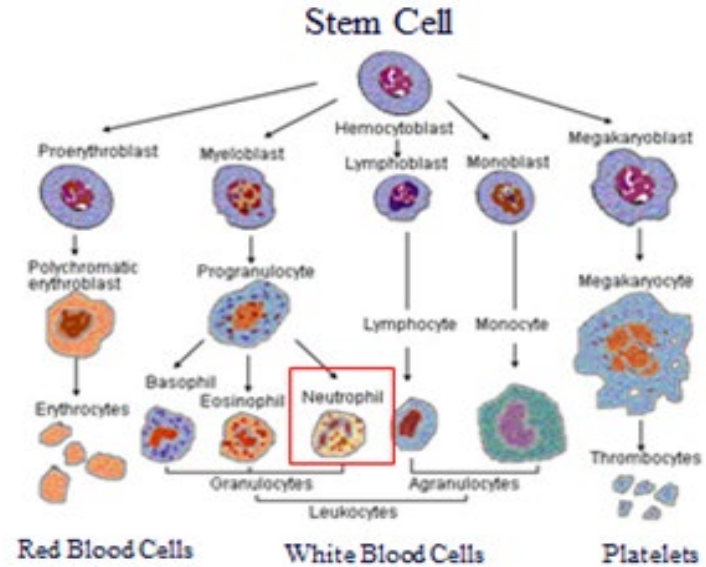
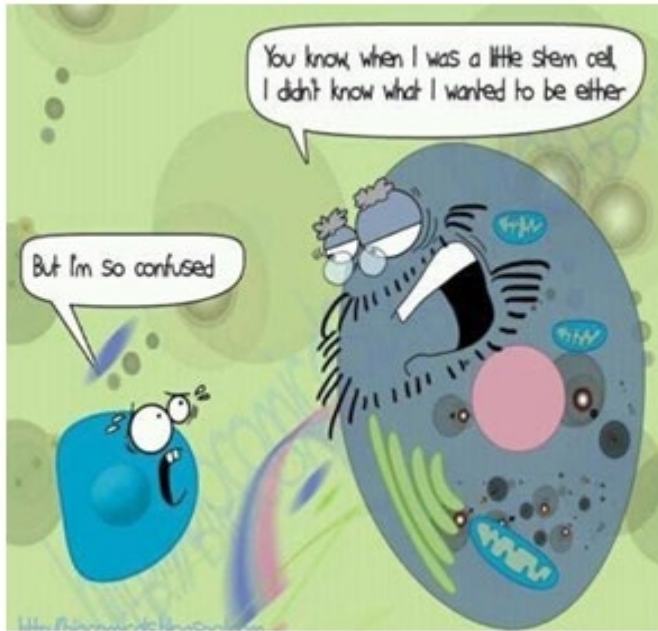
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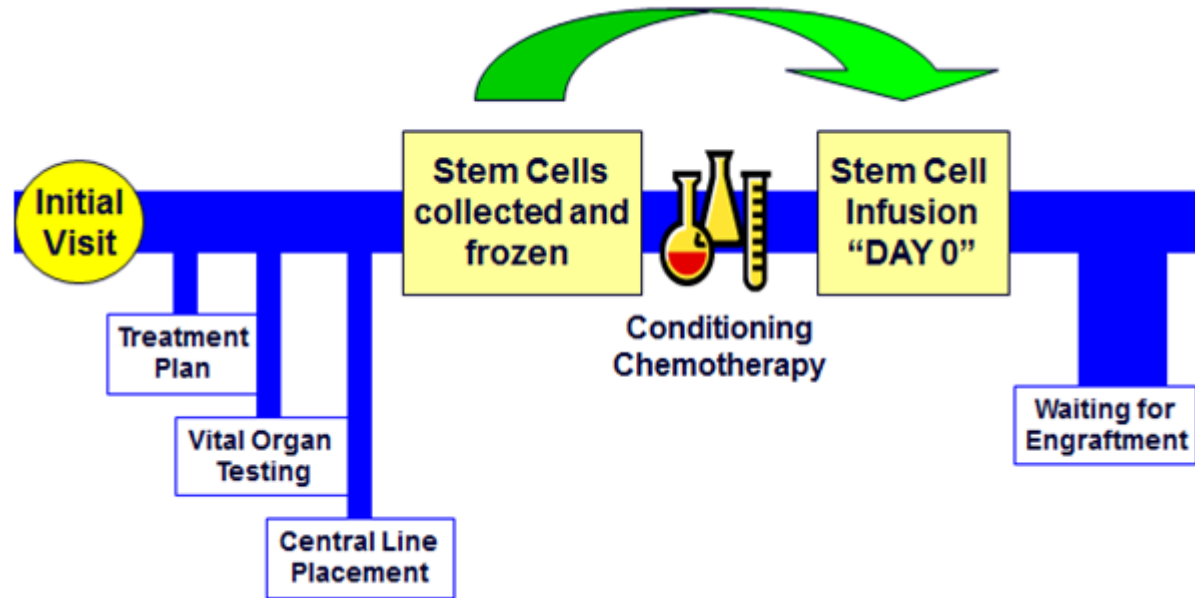
# AUTOLOGOUS STEM CELL TRANSPLANT

- ❑ 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?

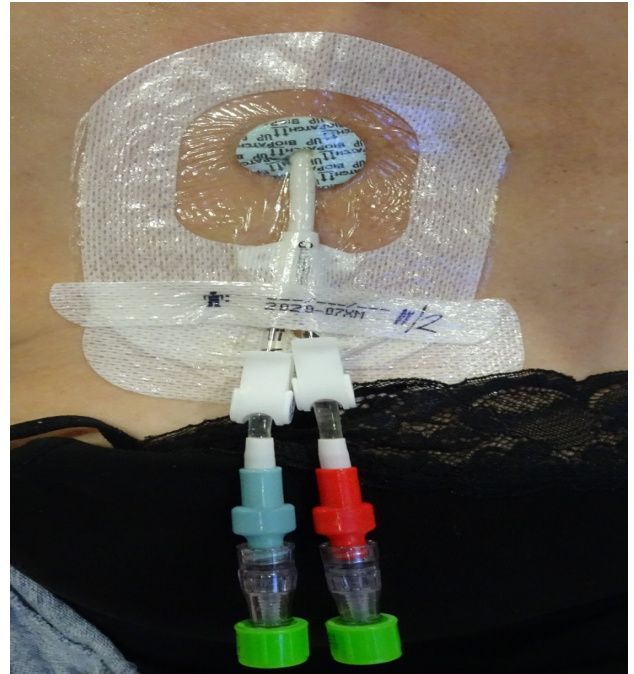


# AUTO TRANSPLANT TIMELINE



# 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
  
- ❑ 4<sup>th</sup> day: labs drawn to check stem cell count
  
- ❑ 5<sup>th</sup> 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

- 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

# TRANSPLANT DAY

- 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



# ENGRAFTMENT

- 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

# PRECAUTIONS BEGIN ON ADMISSION

## 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

# 3 WEST/4 WEST

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 its 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 !!!**



# ITEMS TO CONSIDER BRINGING

- 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.

# BMT SERVICE

- Physician
- Fellow
- Advance Practice Provider
- Registered Nurses
- Social Workers
- Dietitians
- Case Managers
- Pharmacists
- Physical Therapy

# DAILY ROUTINE

- 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)

- 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

# TREATMENT FOR ORTHOSTATIC HYPOTENSION

- 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

Falls can be caused by:

- Orthostatic hypotension
- Side effects of treatment/medication
- Weakness/Fatigue
- Dehydration
- Decreased blood counts

# FALLS

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

# FALL PRECAUTIONS

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

# PREVENTING A FALL

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 CRITERIA

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????

