Patient and Caregiver’s Guide to Allogeneic Bone Marrow Transplantation
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Introduction

The purpose of this booklet is to answer some of the most commonly asked questions about your upcoming stem cell or bone marrow transplant (often called “BMT”).

In addition to this book, the doctors and nurses at UAB Hospital will be talking with you about what will happen during your stem cell transplant. Knowing what to expect will make things easier for you. Please feel free to share the information in this booklet with your family and friends. Also, make notes in the booklet about questions you want to ask the staff. Please bring this book with you to the hospital any time you are admitted. The nurses will use it in teaching you about your treatment and what to expect.

Directions to UAB Hospital

If traveling from Birmingham International Airport.
Follow I-20/59 West/South toward downtown Birmingham. Exit at Highway 31/280 (exit 126A). Proceed on Highway 31/280 and exit at 8th Avenue South (University Boulevard). Turn right onto University Boulevard and proceed to 18th Street. Turn right. Go four blocks to 4th Avenue South and turn right. Halfway down the block, the entrance to the UAB Hospital parking deck will be on your right. Airport transportation for international patients may be arranged by calling International Patient Services at 205.934.2096.

If traveling South on I-65.
Exit at 4th Avenue South (exit 259B). Proceed through the intersection of 4th Avenue South and 18th Street. Halfway down the next block, the entrance to the UAB Hospital parking deck will be on your right.

If traveling North on I-65.
Exit at University Boulevard (Exit 259). Proceed to 18th Street and turn left. Go four blocks to 4th Avenue South and turn right. Halfway down the block, the entrance to the UAB Hospital parking deck will be on your right.

If traveling West on Highway 280.
Follow Highway 280 until it merges to the right with Highway 31 North and becomes the Elton B. Stephens Expressway. Proceed North and exit at 8th Avenue South (University Boulevard). Turn right onto University Boulevard and proceed to 18th Street. Turn right. Go four blocks to 4th Avenue South and turn right. Halfway down the block, the entrance to UAB Hospital parking deck will be on your right.

Parking
The main parking deck for UAB Hospital is located at the corner of 4th Avenue South and 18th Street. The 1,200-space deck is connected to the hospital by a completely contained, climate controlled bridge.
UAB Hospital Parking Options

Please see any Guest Services information desk for full details.

4th Avenue Deck – enter near the corner of 18th Street South and 4th Avenue South
- Main deck for patients, families, and visitors
- $2.00/first hour; $1.00/each additional hour
- Maximum of $6.00/day

*Discount parking option for 4th Avenue Deck ONLY
- 30 day pass = $100.00 or 7 day pass = $30.00
- Non-refundable; allow unlimited access to this deck for one car only

University Boulevard Deck – enter near the corner of 19th Street South and (8th Ave S) University Blvd
- Public parking is available
- $2.00/first hour; $1.00/each additional hour
- Maximum of $6.00/day

Long Term Parking Lot – enter near the corner of 17th Street South and 4th Avenue South
- Across from the UAB Women & Infants Center
- $3.00/first hour; $4.00 flat rate/day
- $20.00 unlimited access weekly*

*Purchase at attendant booth or 2nd floor
4th Avenue parking deck desk

UAB Women & Infants Center Parking Lot – enter from 18th Street South
- Valet is available at no additional charge
- Monday – Friday
  - $3.00/first hour; $2.00/additional hour
  - Maximum of $9.00/day
- Saturday and Sunday
  - $5.00 flat rate

Spain Rehabilitation Center / Center for Psychiatric Medicine Parking Lot – enter from 6th Avenue South
- Valet is available at no additional charge
- Monday – Friday
  - $3.00/first two hours; $1.00/each additional hour
  - Maximum of $8.00/day
- Saturday and Sunday
  - $3.00 flat rate

UAB Hospital-Highlands Parking –
Free parking is conveniently located in the lot next to the building and in a deck on 12th Street South across from the UAB Hospital-Highlands ER. Valet parking is available for $5.00.

The Kirklin Clinic of UAB Hospital (TKC) & Whitaker Clinic of UAB Hospital Parking Options

The Kirklin Clinic of UAB Hospital & Whitaker Clinic of UAB Hospital Parking Deck – enter by the corner of 21st Street and 6th Avenue South
- Main deck for patients, families, and visitors
- For validated patients only:
  - $0.50/each half hour, maximum of $4.00/day
- For the general public:
  - $2.00/each half hour; no maximum
- Valet is available for a $5.00 flat rate
- Valet parking is available inside the parking deck and in front of the Whitaker Clinic of UAB Hospital

*Discount parking options for TKC of UAB Hospital Parking Deck & Whitaker Clinic of UAB Hospital ONLY
- Senior citizens (55+) – 30 coupons = $25.00
- General public/patients – 5 coupons = $10.00
- Purchase at parking deck kiosk or patient services

City of Birmingham Parking Authority

5 Points South Parking Deck –
2012 Magnolia Avenue
Phone: (205) 254-2629 for rates
- NOT within walking distance
- $4.00/day
- Long-term parking available

The DART bus (Green Line – Southside Loop) runs 7 days a week (except holidays) and is FREE with pick up areas along 20th Street. DART goes to and from the medical center district to the 5 Points area.

Monday – Thursday:
11:00 am – 2:00 pm, every 10 minutes
2:00 pm – 10:00 pm, every 20 minutes

Friday – Saturday:
11:00 am – 2:00 pm, every 10 minutes
2:00 pm – Midnight, every 20 minutes
Parking Continued

You will be able to park in the 6th Avenue parking deck. At your first visit, pull up to the gate and tell the gate guard you are a BMT patient; they will open the gate for you and give you a parking pass. We can also give you a parking pass in the clinic. You must put the pass in your dash when you are at appointments. This pass is for appointments ONLY and cannot be used while you are here for admission to the hospital. Please note, this parking is in the UAB parking deck, not The Kirklin Clinic parking deck.

We have a long-term parking option in the lot behind the Women and Infants Center (one block west of the 4th Avenue deck). Guests can park there for $20 per week (as opposed to $42 per week in the 4th Avenue deck). Guests can get information on this option and the parking tag from the Park Rite desk in the 4th Avenue deck of the 2nd floor North Pavilion Guest Services desk.

Parking Decks: There are several parking decks for family and/or visitors to use. The closest one is the 4th Avenue. South deck. It is open 24 hours a day. The maximum cost per day is $6.00. Validated parking is not an option at UAB. There is an option to purchase a long term pass for 7 days for $30 or additionally a 30 day pass for $100. Other parking decks include the Women and Infant’s deck with a max of $9 per day and the Spain Rehab deck for $8 per day.

Family members or visitors can park on the street in a metered parking space. Please be advised there are very diligent meter maids here in the UAB area, and if visitors exceed their allotted time, they will most likely get a parking ticket. If the person is going to be here longer than 2 hours, we do not recommend parking on the street. The exception to this is after 6:00pm on weekdays and all weekends. In the off hours, parking is free. Also, please advise anyone parking on the street that they must be in a metered space. If they park in a non-designated space or in a loading zone, they will most likely get a ticket.

Directions to the Unit

We refer to our Bone Marrow Transplant Unit as the BMT unit for short. The BMT unit is located in the West Pavilion of UAB hospital on the 3rd floor. We have several guest services employees that are able to help you with directions at any time.
Lodging

Transplant patients need to stay near the Birmingham area for a brief time before their transplants as well as after their transplants. Some insurance companies may have a housing allowance you can utilize. Our coordinators will assist you in hopes of finding prorated local housing. Please feel free to discuss this further with your transplant coordinator.

Two places commonly used by BMT patients and caregivers include the Hope Lodge, and the Church of Christ apartments.

**The Hope Lodge**  
205-558-7861  
1104 Ireland Way  
Birmingham, AL 35205

A reservation must be faxed over to hold a room for you, and of course there is no guarantee that a room will be available. Your coordinator or clinician will be glad to send a room request for you. Children are not allowed at the Hope Lodge. The Hope Lodge has a community kitchen; absolutely no eating is allowed in your room.

**Directions:** Start at 619 19th St. S., Birmingham, going toward 7th Avenue South. Go 0.5 miles. Turn left on 11th Avenue South, go 0.2 miles. Continue on 11th Court South and go 0.2 miles. Turn left on Ireland Way and go 0.1 miles. Arrive at 1190 Ireland Way.

**The Church of Christ Apartments**  
1245 29th Street South  
Birmingham, AL 35205

**Directions:** Turn onto University Blvd. Going toward St. Vincent’s Hospital, go under the overpass and pass the hospital on the right. McDonald’s is on the right. Turn right onto 28th Street at the light. This will dead-end into Highland Court. Take a left and go 2 blocks. At 29th Street South, turn right. Apartments are on the left next to a two-story gray house that has a brick fence. The number 1245 is difficult to see.
There are many local businesses, restaurants, and discount stores in close proximity to the hospital. We have created this short list to help orient you to the businesses closest to the hospital. There are several restaurants in walking distance to the hospital as well as two restaurants, a coffee shop, and a cafeteria within the hospital. You may have food delivered to the hospital. Our address is listed below the delivery section of the following guide. You will also find information for banks, drug stores, postal needs, hotels, grocery stores, malls, and dry cleaners.

### Restaurants

**IN THE HOSPITAL:**

**Subway**
Located in Jefferson Towers on the 2nd floor.

**The hospital cafeteria**
Located in the North Pavilion on the 2nd floor and houses an Au Bon Pain.

**Starbucks**
Right beside the cafeteria on the 2nd floor of the North Pavilion.

**There are two gift shops:**
One in the North Pavilion on the 2nd floor and one in the West Pavilion on the 1st floor.

**FAST FOOD:**

<table>
<thead>
<tr>
<th>Restaurant</th>
<th>Address</th>
<th>Phone</th>
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<tbody>
<tr>
<td><em>Arby’s</em></td>
<td>2100 7th Ave. S.</td>
<td>(205) 328-2586</td>
</tr>
<tr>
<td><em>Captain D’s</em></td>
<td>530 18th St. S.</td>
<td>(205) 323-6402</td>
</tr>
<tr>
<td><em>McDonald’s</em></td>
<td>1501 5th Ave. S.</td>
<td>(205) 933-1650</td>
</tr>
<tr>
<td><em>Milo’s</em></td>
<td>401 19th St. S.</td>
<td>(205) 322-6456</td>
</tr>
<tr>
<td><em>Wendy’s</em></td>
<td>2327 7th Ave. S.</td>
<td>(205) 226-0960</td>
</tr>
<tr>
<td><em>Chick-Fil-A</em></td>
<td>1913 5th Ave. N.</td>
<td>(205) 324-6161</td>
</tr>
<tr>
<td><em>Guthrie’s</em></td>
<td>1801 4th Ave. S.</td>
<td>(205) 327-1241</td>
</tr>
<tr>
<td><em>Taco Bell</em></td>
<td>2124 7th Ave. S.</td>
<td>(205) 224-5767</td>
</tr>
<tr>
<td><em>Dunkin Donuts</em></td>
<td>2109 6th Ave.</td>
<td></td>
</tr>
<tr>
<td><em>Burger King</em></td>
<td>2700 University Blvd.</td>
<td>(205) 716-1969</td>
</tr>
<tr>
<td><em>Lucy’s Coffee and Tea</em></td>
<td>2007 University Blvd.</td>
<td>(205) 328-2007</td>
</tr>
<tr>
<td><em>Sneaky Pete’s</em></td>
<td>3507 6th Ave. S.</td>
<td>(205) 254-9762</td>
</tr>
<tr>
<td><em>Wall Street Deli</em></td>
<td>535 Richard Arrington Jr. Blvd.</td>
<td>(205) 323-7966</td>
</tr>
<tr>
<td><em>Chipotle Mexican Grill</em></td>
<td>300 20th St. S.</td>
<td>(205) 326-8572</td>
</tr>
</tbody>
</table>
### MADE TO ORDER/SIT DOWN:

<table>
<thead>
<tr>
<th>Restaurant</th>
<th>Address</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td>Purple Onion Deli &amp; Grill</td>
<td>1717 10th Ave. S.</td>
<td>(205) 933-2424</td>
</tr>
<tr>
<td>Full Moon BBQ</td>
<td>525 25th St. S.</td>
<td>(205) 324-1007</td>
</tr>
<tr>
<td>The Fish Market</td>
<td>612 22nd St. S.</td>
<td>(205) 322-3330</td>
</tr>
<tr>
<td>McAlister's</td>
<td>1801 4th Ave. S. Ste. 111</td>
<td>(205) 933-2828</td>
</tr>
<tr>
<td>Los Juane's Mexican Restaurant</td>
<td>401 19th St. S.</td>
<td>(205) 214-0964</td>
</tr>
<tr>
<td>Moe's Southwest Grill</td>
<td>1801 4th Ave S.</td>
<td>(205) 250-6355</td>
</tr>
<tr>
<td>Jim N’ Nick’s</td>
<td>1908 11th Ave S. 20th St.</td>
<td>(205) 320-1060</td>
</tr>
<tr>
<td>Waffle House</td>
<td>1801 4th Ave. S.</td>
<td>(205) 244-1956</td>
</tr>
<tr>
<td>Wings Around the Clock</td>
<td>801 20th St. S.</td>
<td>(205) 581-8088</td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>431 20th St. S.</td>
<td>(205) 323-1221</td>
</tr>
<tr>
<td>Mellow Mushroom</td>
<td>1200 20th St. S.</td>
<td>(205) 212-9420</td>
</tr>
<tr>
<td>Magic Wok</td>
<td>401 19th St. S.</td>
<td>(205) 327-5000</td>
</tr>
<tr>
<td>Chicken Salad Chick</td>
<td>2118 7th Ave. S.</td>
<td>(205) 703-0601</td>
</tr>
<tr>
<td>Mooyah Burgers</td>
<td>2112 7th Ave. S.</td>
<td>(205) 224-5644</td>
</tr>
<tr>
<td>Sinbad (Mediterranean)</td>
<td>401 19th St. S.</td>
<td>(205) 714-9991</td>
</tr>
<tr>
<td>Sitar (Indian)</td>
<td>729 20th St. S.</td>
<td>(205) 323-6500</td>
</tr>
<tr>
<td>Sweet Tea</td>
<td>2205 3rd Ave. S.</td>
<td>(205) 745-3990</td>
</tr>
<tr>
<td>Taziki’s Mediterranean Café</td>
<td>301 18th St. S.</td>
<td>(205) 731-9001</td>
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### DELIVERY:

<table>
<thead>
<tr>
<th>Restaurant</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Hungry Howie’s</td>
<td>(205) 933-7373</td>
</tr>
<tr>
<td>Jimmy John’s</td>
<td>(205) 957-6565</td>
</tr>
<tr>
<td>La Catrina</td>
<td>(205) 591-6900</td>
</tr>
<tr>
<td>Marco’s Pizza</td>
<td>(205) 777-5555</td>
</tr>
<tr>
<td>New China Town</td>
<td>(205) 251-2373</td>
</tr>
<tr>
<td>Pita Loco</td>
<td>(205) 252-4899</td>
</tr>
</tbody>
</table>

Our address is 619 9th St. S.

Please note that all restaurants must have at least a 90% health rating, and all food consumed by the patient should be made fresh. Foods from food bars are not appropriate for the neutropenic patient (i.e. Moe’s, Subway).
### Banks

<table>
<thead>
<tr>
<th>Bank</th>
<th>Address</th>
<th>Phone</th>
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<tbody>
<tr>
<td>BB&amp;T</td>
<td>820 19th St. S.</td>
<td>(205) 445-2272</td>
</tr>
<tr>
<td>Regions</td>
<td>2101 6th Ave. S.</td>
<td>(800) 734-4667</td>
</tr>
<tr>
<td>BBVA Compass</td>
<td>701 20th St. S.</td>
<td>(205) 297-3394</td>
</tr>
<tr>
<td>Wells Fargo</td>
<td>2401 6th Ave. S.</td>
<td>(205) 320-2900</td>
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### Drug Stores

<table>
<thead>
<tr>
<th>Pharmacy</th>
<th>Address</th>
<th>Phone</th>
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<tbody>
<tr>
<td>CVS</td>
<td>1431 11th Ave S.</td>
<td>(205) 933-8374</td>
</tr>
<tr>
<td>Harbin Discount Pharmacy</td>
<td>521 Richard Arrington Jr. Blvd. S.</td>
<td>(205) 323-2474</td>
</tr>
<tr>
<td>Walgreens</td>
<td>2101 Richard Arrington Jr. Blvd. S.</td>
<td>(205) 939-1417</td>
</tr>
<tr>
<td>Walgreens</td>
<td>2101 Richard Arrington Jr. Blvd. S.</td>
<td>(205) 939-1417</td>
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### Hotels

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<tr>
<th>Hotel</th>
<th>Address</th>
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<tbody>
<tr>
<td>Courtyard by Marriott</td>
<td>attached to the N. Pavilion</td>
<td>(205) 254-0004</td>
</tr>
<tr>
<td>SpringHill Suites</td>
<td>2024 4th Ave. S.</td>
<td>(205) 322-8600</td>
</tr>
<tr>
<td>Marriott Residence Inn</td>
<td>821 20th St. S.</td>
<td>(205) 731-9595</td>
</tr>
<tr>
<td>The Doubletree Hotel</td>
<td>808 20th St. S.</td>
<td>(205) 933-9000</td>
</tr>
<tr>
<td>The Hotel Highland</td>
<td>1023 20th St. S.</td>
<td>(205) 933-9555</td>
</tr>
<tr>
<td>The Sheraton Birmingham</td>
<td>2101 Richard Arrington Blvd. N.</td>
<td>(800) 313-2164</td>
</tr>
<tr>
<td>The Westin Birmingham</td>
<td>2221 Richard Arrington Blvd. N.</td>
<td>(205) 307-3600</td>
</tr>
<tr>
<td>Embassy Suites Hotel</td>
<td>2300 Woodcrest Place</td>
<td>(205) 879-7400</td>
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### ATMs Are Located Within The Hospital At The Following Locations:

- West Pavilion 1st floor (near elevators)
- West Pavilion/Russell Wing 2nd floor (near vending machine)
- North Pavilion 2nd floor (across from Guest Services desk)
- North Pavilion 2nd floor (between North Pavilion and West Pavilion)
- Jefferson Tower (near Subway)
- Women & Infants Center 1st floor
Major Malls

Riverchase Galleria
I-459 at Highway 31 South
205-985-3039
The Galleria’s 200 specialty shops and stores include Belk, Macy’s, JCPenney, Von Maur, Godiva Chocolatier, The Disney Store, Starbucks, Forever 21, H&M, and many more. A huge center food court offers hamburgers, salads, tacos, deli sandwiches, and other casual restaurants.

The Summit
I-459 at Highway 280
(205) 967-0111
The Summit includes unique stores, such as Williams-Sonoma, SAKS, Belk, Anthropologie, Gap, Gus Myer, Talbots, Bed, Bath & Beyond, and many more! Surrounding restaurants: Cheesecake Factory, California Pizza Kitchen, Macaroni Grill, Johnny Rocket’s, Chuy’s, and PF Changs. Entertainment: Carmike Cinema.

Brookwood Village
Lakeshore Parkway
(205) 871-0406
Macy’s and Belk’s department stores anchor this well-designed, two-level mall. Brookwood Village also includes Brookstone, Betsy Prince, Victoria’s Secret, and a number of other specialty and gift shops. A food court and full-service restaurants serve a variety of quick and delicious meals for shoppers.

Discount Stores within 10 miles

Walmart
209 Lakeshore Parkway

CVS/Pharmacy
1431 11th Avenue South
Clairmont Plaza Downtown
221 20th Street North
Homewood
418 West Valley Avenue

Fred’s
1683 Center Point Rd.
Center Point, AL 35215

Sally’s Beauty Supply
1676 Montclair Rd. Ste 100
Birmingham, AL 35210

Ollie’s Bargain Outlet
808 Green Springs Highway, Suite 160
Homewood, AL 35209

Dollar Tree
223 Lakeshore Pkwy
Homewood

Sally’s Beauty Supply
618 Montgomery Hwy
Vestavia Hills, AL 35216

Dry Cleaners

Berthon’s Cleaners
2201 7th Avenue South

Spin Cleaners
201 Richard Arrington Blvd South

Flamingo Dry Cleaners
3330 Clairmont Avenue

Sani-Clean Laundromat
3008 12th Avenue North
Resources

American Cancer Society
http://www.cancer.org

The Bone Marrow Foundation
http://www.bonemarrow.org

National Cancer Institute
http://www.cancer.gov

Leukemia Society of America
http://www.leukemia.org

National Marrow Donor Program (NMDP)
http://www.marrow.org

UAB Blood and Marrow
Transplantation & Cellular Therapy Program
http://www.bonemarrow.uab.edu

Cleaning for a Reason
https://www.cleaningforareason.org

BMT Info Net (Caregiver Resources)
http://bmtsupport.org

Cancer Dietitian
http://www.cancerdietitian.com
## Appointment Log

<table>
<thead>
<tr>
<th>DATE</th>
<th>APPOINTMENT TYPE</th>
<th>LOCATION</th>
<th>NOTES</th>
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</table>
Questions for my BMT team
Important Phone Numbers

PRE-BMT COORDINATORS
(205) 934-1911
Diana Tate, BSN, RN, OCN
Lydia Deivanayagam BSN, RN, OCN
Megan Boullion, BSN, RN, OCN
Pat Lyons, MSN, RN

PATIENT AND FAMILY EDUCATOR
(205) 934-0912
Kaitlin Johnson, MSN, RN

PATIENT SERVICES COORDINATOR
(205) 934-1911
Karuna Henderson
Angela Holmes

SOCIAL WORKER
(205) 996-9449
Nel Pritchett, MSW, LICSW-PIP

TRANSPLANT FINANCIAL COORDINATOR
(205) 934-1911
Serita Sutton, CPAR

BMT PHYSICIANS
(205) 934-1908
Antonio Di Stasi, MD
Ayman Saad, MD
Donna Salzman, MD
Luciano Costa, MD
Racquel Innis-Shelton, MD
Ravi Bhatia, MD

BMT NURSE MANAGER
(205) 934-7355
Wendy Madden, BSN, RN, OCN

BMT NURSE PRACTITIONERS
(205) 934-7102
Amy Nance, MSN, CRNP
Binita Pareka, MSN, CRNP
Emily Plews, MSN, CRNP
Jessica Logan, MSN CRNP
Melinda Rogers, MSN, CRNP
Melissa Sentell, MSN, CRNP
Natalie McRae, MSN, CRNP
Stephen Horn, MSN, CRNP

POST-BMT NURSE CLINICIAN
(205) 934-0915
Sharon Jones, RN, BSN

BMT NUTRITIONIST
(205) 934-4560
Manisha Vaidya, MS, RDN, LD

BMT INPATIENT UNIT
(205) 934-7102

BMT OUTPATIENT CLINIC
(205) 975-2236

For pre-transplant questions, please call the coordinator's office.

For questions after your final evaluation, please call (205) 975-2236.

For life-threatening emergencies, call 911.
The BMT Team

There are a number of people on the Bone Marrow Transplant Team. The information below tells you what different members of the team do. We hope this will help you determine which person can best answer your questions. Do not forget, you can write your questions in this booklet.

- **Physicians** – The BMT physician is a specialist in the diagnosis and treatment of blood and cancer diseases and will be your primary UAB BMT doctor. He or she becomes the manager of your care before and after your bone marrow transplant. He or she will communicate with your personal hematologist/oncologist throughout the entire bone marrow transplant process. This will help your treatment flow as smoothly as possible. Your primary doctor is called the “attending”. In addition to the attending, Hematology/Oncology “fellows”, who are doctors in the final stages of their training as cancer specialists, will play a role in your patient care. The attending and fellow may rotate periodically during your hospitalization. The physician that discusses transplant with you is your primary physician; however, they may not be assigned to inpatient service when you receive your transplant. They will follow your progress and may visit you, but you will meet back up with them in the outpatient clinic.

- **BMT Nurse Coordinators** – The transplant nurse coordinator is a registered nurse who will arrange the coordination of your care before transplant.

- **BMT Patient and Caregiver Educator** – Our educator will answer your questions about transplant before, during, and after your transplant. You will be given an appointment to meet with our educator for a BMT orientation session before your transplant.

- **Nurse Practitioners** – Nurse practitioners are specially trained advanced practice nurses who assist the BMT physicians with providing care for you during all phases of the BMT process, both inpatient and outpatient.

- **BMT Nurse Manager** – The nurse manager is available to assist the nursing staff with complex clinical situations. Your satisfaction with the care provided by the unit staff is very important to us; therefore, the nurse manager is available to see you during your hospitalization to ensure that any concerns are addressed. Our nurse manager is Wendy Madden, MSN, RN, OCN.

- **Assistant Nurse Manager/Charge Nurse** – The charge nurse is available to assist with day-to-day management of the unit. Each 12-hour shift has an assigned charge nurse for that shift. The charge nurse is responsible for patient assignments, staffing, and daily duties of the unit. If you have a question or concern, please do not hesitate to ask to speak with the charge nurse.

- **BMT Staff Nurses** – The nursing staff on the Bone Marrow Transplant Unit have been specially trained in caring for patients receiving stem cell transplants. The nurses will be communicating with your doctor in planning and providing the best care for you. Please feel free to ask questions and express your concerns to them. You will have an assigned registered nurse to take care of you each 12-hour shift. He or she will assist you with your daily needs, administering medications, and assessing your physical, mental, and emotional health.

- **Pharmacist** – You will be responsible for managing your medications once you are discharged from the hospital. Our pharmacist will assist you in identifying the medications you are sent home with, as well as when and why you should take them.
• **Social Worker** – The social worker can give you information about insurance, medication assistance, or financial help if you need it. The social worker can also assist with arrangements for housing if needed after the transplant.

• **Dietitian** – Our dietitian will assist you in maintaining a good nutritional status while you are in the hospital. She will visit you on admission, at discharge.

• **Chaplain** – The chaplain is a member of the hospital's Pastoral Care Department. The chaplain is available to offer support in dealing with the stress of the transplant. There are religious services scheduled in the hospital chapel if your family and other visitors would like to attend. There is always a chaplain on call if you or your family wants this support. A chaplain may be reached by dialing Guest Services @ *55 from your room.

• **Unit Secretary** – The unit secretary will answer your call light and pass your needs along to the nurse.

• **Patient Care Technicians** – The PCT will assist you with showering and daily activities, including measuring your urine output, taking vital signs, and performing EKGs.

• **Environmental Services** – EVS is responsible for cleaning your room daily.

*A staff member’s role is defined by the color of their scrubs at UAB:*

- **LIGHT BLUE** – physicians
- **GREEN** – Nurse practitioners
- **WINE** – Pharmacy
- **NAVY BLUE** – Nurses
- **ROYAL BLUE** – Patient care technicians
- **SAGE GREEN** – Nutritionist
- **GREY** – Therapy departments
- **BLACK** – Respiratory
Patient Confidentiality

Because we are in the business of providing health care services, UAB Hospitals have a special responsibility to the patients we serve. Patient records, results of tests, diagnoses and other materials containing your private information must be held in the strictest confidence. No patient information shall be revealed to anyone outside of UAB Hospital without a court order or the expressed written authorization of the patient, his/her guardian, executor, or administrator. Any requests for the release of records must be managed by the UAB Medical Records Department.

Patient information must be held in confidence even inside UAB Hospital. Employees are required to sign a confidentiality agreement and are required to guard your medical information from others. **For this reason, we must ask that you and your family refrain from sitting/standing behind the desk area or in the hallway where other patients’ confidential information may be kept or overheard.** This also includes computer space/print outs or chart information. Also, the medical staff cannot answer specific questions regarding another patient’s status or care. Please help us maintain a confidential environment for you and our other patients. Thank you.
Medical Terms and the Human Body

**ABGs (arterial blood gas)** – a specimen of blood drawn from an artery to check the oxygen level of your blood. It is used to see how well you are breathing.

**Anemia** – A decrease in the number of red blood cells. Because the red blood cells carry oxygen to your cells, you may be more tired and or short of breath than you are with a normal amount of red blood cells. Here are a few tips for patients who are anemic: spread out your daily activities so you can arrange frequent rest periods between activities, and do not try to move too quickly from one position to another. If you are lying down, slowly sit up, and after sitting a minute, stand up.

**Antibiotic** – a medication used to treat a bacterial infection.

**Anti-emetic** – a medication used to control nausea and vomiting.

**BID** – twice a day

**Bilirubin** – is one of the waste products when the liver breaks down old red blood cells. An increase in the bilirubin can also be caused by an obstruction in the normal flow of bile. This obstruction may be in the liver, hepatic ducts, or the common bile duct. We will be monitoring this laboratory value in your blood as needed during your transplant to assess your liver function.

**Biopsy** – the removal of tissue that is then examined under a microscope.

**Bone Marrow** – Found in the long bones of your body and functions to produce stem cells that have the ability to become red blood cells, white blood cells, or platelets.
- **Platelets** – Help your body form clots
- **Red Blood Cells** – Help carry oxygen to the cells in your body
- **White Blood Cells** – Help your body fight infection
- **Lymphocytes** – Support your immune system by creating many cells that help your body fight infection

**Chemotherapy** – The use of drugs or medications to kill malignant cells. The success of chemotherapy depends on the malignant cell being sensitive to the drugs.

**Conditioning Regimen** – The chemotherapy or radiation therapy given before a transplant is called the conditioning treatment. This treatment is usually given in very high doses and serves to greatly reduce the number of malignant cells.

**Cryopreservation** – The technique used to keep cells frozen, intact, and functional for many years. The chemical DMSO is one of the more commonly used agents. The freezing temperature is much colder than that of a household freezer. Most patients will receive fresh stem cells rather than stem cells that have been cryopreserved.

**CMV (cytomegalovirus)** – a virus that is usually harmless in healthy people but can cause pneumonia or other infections in BMT patients.
**Engraftment** – The point in time when your blood cells have dropped and begin to come up again. This indicates that your body has accepted your new stem cells and is replicating them in your bone marrow.

**GI (gastrointestinal) Tract** – refers to the part of your body where food is processed. Begins with the mouth and ends at the rectum.

**Graft-versus-host disease (GVHD)** – A complication that may occur after transplant. This is when the immune system of your donor attacks your immune system. It can affect many bodily systems and organs including eyes, mouth, lungs, liver, gut, or skin. In attempts to prevent GVHD, we will administer immunosuppressants to you to suppress your immune system.

**Heart** – The heart is a four-chambered, muscular organ that lies in the chest cavity under the ribs, slightly to the left of the sternum (breastbone). Your heart pumps blood throughout the body so that oxygen and nutrients are carried to all parts of your body.

**Hematopoiesis** – The process of the formation and growth of blood cells.

**Immune System** – made up of the bone marrow, lymph nodes, lymphocytes, and spleen to help the body defend itself against infections.

**IV (intravenous)** – fluids or medications that are administered through your veins rather than being taken orally.

**Kidneys** – The kidneys are essential in maintaining water, salt, and electrolyte balance in your body. The kidneys help to control blood pressure and signal the bone marrow to make more red blood cells through hormone secretion. They are responsible for filtering many medications.

**Lymph Nodes** – Small structures about the size of a bean that contain large numbers of lymphocytes and are connected to each other by small channels. They are distributed throughout the body.

**Liver** – assist in the removal of toxins and distribution of medications in your body. It is found on the right side of your body right under your ribs. Please let us know if you feel any discomfort in this area.

**Lumbar Puncture (LP)** – a procedure or test in which a small needle is inserted into the fluid around the spinal cord to give medications or take a sample of fluid for tests.

**Lungs** – The lungs are responsible for the exchange of oxygen and carbon dioxide between the air and the blood.

**Magnesium (Mag)** – an electrolyte found in your cells that is required for normal body function. Some of your medications may cause your magnesium level to be low and you may require daily replacements of magnesium. We will monitor the magnesium in your blood daily.
**Mucous Membranes** – The inner lining of the mouth, nose, and sinuses. These cells are replaced by new ones on a regular basis to keep the lining intact and moist. Chemotherapy and/or radiation therapy can block the cells from replacing themselves as needed. This can cause dry and painful mucous membranes. The loss of their protective barrier can lead to infection.

**Myeloablation** – The severe or complete depletion of bone marrow cells. Myeloablative therapy eliminates an individual’s ability to make blood cells.

**Neutropenia** – A term used to describe when your body does not have enough white blood cells. When your white blood cells are low, you are more likely to develop an infection and need to take special precautions like washing your hands more frequently, wearing a mask in public, and eliminating your exposure to people who may have infections. If you notice any fever, pain, redness, tenderness, or swelling anywhere on your body, chills, burning when using the bathroom, diarrhea, cough, runny nose, or drainage from your body, please let your nurse know.

**NPO** – nothing to eat or drink by mouth.

**Pancytopenia** – A term used to describe when you have a low number of red blood cells, white blood cells, and platelets.

**Petechiae** – Tiny pinpoint purple bruise like spots on your skin. They are an indication that your platelets are low. Please let us know if you notice any petechiae, bruises, or develop a nosebleed or a headache.

**Potassium (K)** – An electrolyte that is necessary for your body, especially your heart, to function. You lose potassium daily through your bowel movements, urine, and sweat. Furthermore, chemotherapy may lower your potassium levels. We will monitor your potassium levels frequently and you may require frequent replacement.

**PRN** – A classification given to medications that your doctor has prescribed for you to receive if certain symptoms occur.

**Prophylaxis** – A treatment or medication given to prevent potential complications before they even occur.

**Thrombocytopenia** – A term use to describe a low platelet count in your body. When your platelet count is low, do not forget to use electric razors instead of blade razors, blow your nose gently, and use assistive devices to prevent falling and causing trauma to your body.
What Is a BMT?

The goal of a bone marrow transplant is to kill the malignant cells in your body and replace them with normal-growing cells. We do this by locating a donor with similar genetic makeup as you. Once the donor agrees to donate stem cells on your behalf, we then administer high doses of chemotherapy to you in an attempt to destroy your diseased bone marrow. Soon after the chemotherapy and/or radiation, we give you stem cells from your donor. Those stem cells will become the ones that inhabit and reproduce in your bone marrow.

Types of Transplants

Your BMT physician has determined that an Allogeneic transplant is the best option for your specific disease. Allogeneic means “from another person”. The bone marrow stem cells are taken from a donor who is a close match to your genetic makeup. Cells from a donor who is not related to you is referred to as a Match Unrelated Donor (MUD), meaning that your genetic makeup is similar but you are not related.

If a close relative such as a brother or sister is a match to your genetic makeup and they choose to donate stem cells to you, the transplant is known as a match related donor (MRD), meaning that your genetic makeup match and you share the same bloodline. There is only a 1 in 4 chance that each of your siblings match your genetic makeup.

If your parent or child donates to you, this type of transplant is known as a haploidentical hematopoietic cell transplantation (HAPLO). Compatibility is not guaranteed, because you only inherit half of your mom’s genetic makeup and half of your dad’s. The same is true for your children; they only receive half of your genetic makeup and half of your partners’. A syngeneic transplant is a transplant from an identical twin.

Donor Search and HLA Typing

An allogeneic transplant has been determined to be your best option, so a donor must be located. The more closely the donor’s genetic makeup (DNA) matches yours, the greater the chances of a successful transplant. Here are a few important points to note:

- Each person has a set of proteins on the surface of cells called human leukocyte antigen (HLA), which is what the immune system uses to distinguish between what is “you” and what is “not you” in its deciding to attack or not.
- These are the markers we look at when trying to locate a donor who closely matches your DNA.
- Our DNA is inherited from each parent. Your sisters and brothers are more likely to match your HLA type than a parent, grandparent, or relatives who are more distant.
- Each brother or sister has a 25% chance of matching your DNA. The more siblings you have, the greater the chance of finding a “matched related donor”.
- Unrelated donors may also be a match for your HLA. The National Marrow Donor Program is the primary source for locating these matches.
- Every effort is made to obtain the best match for your HLA type.
- An HLA sample can be collected from potential donors at home by swabbing the inside of their cheek with a provided cotton swab and sending it back to UAB or to a doctor’s office. Patients may also have lab work drawn at a doctor’s office.
Pre-Transplant Evaluation

Once you have made the decision to proceed with transplant, you will need to have a pre-transplant evaluation consisting of several tests. These tests are done on an outpatient basis to determine if your body is able to tolerate transplant. Your BMT coordinator will explain these tests and make the appointments for you. Below is a list of tests that may be ordered for you depending on your disease and medical history. The transplant team physicians will determine which tests are necessary for you.

1. **Bone Marrow Biopsy and Aspirate**: A sample of bone marrow is collected from the hipbone. This test looks at how well your bone marrow is working and will show if there is any disease present in the marrow.

2. **Pulmonary Function Tests (PFT)**: This test determines how well your lungs are functioning.

3. **Echocardiogram**: This is an ultrasound of the heart used to look at its function.

4. **MUGA Scan or Stress Test**: These tests measure overall cardiac or heart function.

5. **Electrocardiogram (EKG)**: This test may be done to look at the function and electrical activity of the heart.

6. **CAT scan (also called a CT scan)**: This test is done to look closely at the organs inside the body. It may be done to look for cancer or other problems with the organs. A CAT scan can be done with or without contrast dye and will take anywhere from 15 minutes to an hour.

7. **PET scan**: This test can be used to look for the presence of cancer. The scan itself will last about an hour, and you will have to lie as still as possible during this procedure.

8. **Bone Scan**: This test is done to see if there is any disease present in the bones.

9. **Blood and Urine Tests**: These tests are done to see how well your kidneys, liver, and bone marrow are working. You may also receive a container to perform a 24-hour urine collection at home. Specific instructions will be provided if this is needed from you.

10. **Infectious Disease Markers (IDM’s)**: Blood samples are drawn to test for a number of infectious disease markers to identify if they are present or absent.

11. **Psychosocial Evaluation**: All of our patients being evaluated for transplant are requested to meet with our transplant social worker or psychologist. This meeting will take at least an hour.

12. **Dental Evaluation**: We will request that you have a dental visit prior to transplant. If you are instructed to see the dentist, please take the letter given to you to your dentist’s office and have it completed before the day you sign the consents.

13. **Gynecological Exam**: We require that all of our female transplant patients have a gynecological exam, including Pap smear, within one year prior to transplant. If you are over the age of 40, you will need to have had a mammogram within the last year. Please provide your gynecological doctor’s name and office number to your transplant coordinator. All female patients will have a pregnancy test, if appropriate, during the transplant evaluation and within seven days of starting transplant chemotherapy.
14. **Lumbar Puncture**: A procedure or test in which a small needle is inserted into the fluid around the spinal cord to take a sample of fluid for testing. With certain diseases, we require you to have a lumbar puncture prior to admission for transplant.

15. **Colonoscopy**: For all patients age 50 and over a colonoscopy report is required prior to signing consent for stem cell collection and/or transplant. Your coordinator will talk with you about where the procedure was done and how he/she can get a copy of the report. If it has been more than 10 years since your last colonoscopy, the BMT physicians may require you to have it repeated before you can proceed.

**Donor Workup and Evaluation**

- The donor will undergo a workup similar to the workup you have completed. The basic workup includes blood work, chest x-ray, and EKG. Depending on the donor’s age, they may have additional testing.
- When the potential donor is being evaluated for donation, we must consider the donor’s health and well-being. For that reason, if anything abnormal is found during the evaluation phase, we may require the donor to get additional testing done or require them to see a specialist.
- Once the donor is cleared to donate, they will also be given a calendar. They will sign a consent and will have a final evaluation just like the patient.
- If the donor is traveling from out of town, there are several things they will consider when making travel plans:
  - They should not book any flights until they get the final okay from their pre-transplant coordinator.
  - They should know how long they are expected to be in the Birmingham area.
  - Flying after donation is strongly discouraged until the donor’s platelet count is at least 100,000. Airlines do not appreciate a passenger who is flying against doctor’s orders, especially if this causes an emergency during flight.
- Depending on the type of work the donor does, there may be a few limitations for a short time after the donation. They should discuss this with their pre-transplant coordinator.

**The Donation Process**

1. **The Apheresis Process**: The process of removing components of a donor’s blood and returning the unneeded parts to the donor. Apheresis uses continuous circulation of blood through a machine and filters out your stem cells while returning blood cells back to your donor.

2. **Mobilization of Stem Cells**: Donors will have their stem cells mobilized using subcutaneous injections of a medication. The medication stimulates the bone marrow to create extra stem cells that will overflow into the blood stream. Once the extra stem cells are in the blood stream, they can be collected in the apheresis process.
3. **Traditional Bone Marrow Harvest:** There may be occasions when donors need to go to the operating room for a traditional bone marrow harvest. In this case, the donor is under general anesthesia in the operating room. A hollow needle will be attached to a syringe that is used to withdraw from the top area of the pelvic bone. A precise amount of bone marrow will be removed. After the procedure, the donor is moved to the recovery room and typically discharged home by the end of the day. Donors may experience some soreness in their hip area for the next few days up to one week. Most donors are back to their normal routine within one week. Their body will regenerate the donated bone marrow quickly.

**Final Evaluation**

After your workup testing is complete, you will be given a date to sign consent forms agreeing to move forward with the stem cell transplant process. The day you sign the consents is called the “final evaluation”. The final evaluation day occurs in the Bone Marrow Transplant clinic- on the 3rd floor of the West Pavilion. The process usually lasts at least one hour. During that time, you will meet your primary BMT doctor. He or she will review your history, test results, and go through the consent process with you. He or she will also confirm the schedule that your coordinator has made for you. **It is required that at least one of your caregivers attend this meeting.** You will be given the opportunity to ask any questions you may have.
Central Venous Catheters

Before your transplant, you may need to have a central line placed. Your physician will decide exactly what line (catheter) is most appropriate for you. Typically, we place a Hickman line in our patients receiving an allogeneic transplant, so we will discuss the specifics of Hickman’s here. If you have a different line placed, our doctors and nurses will address anything you need to know about the line with you. A Hickman catheter is a long silicone tube inserted into a large blood vessel leading to your heart. A Hickman has three different lumens we can use to draw blood, administer your medications, fluids, and immunosuppressant medications through. Because your catheter will offer a direct entry to your heart, we all must take extra care to keep your line clean and free of infection. We are asking you to help us remember to always take extra care when accessing your line—make sure your nurses wash their hands, wear gloves, and clean with alcohol for at least 15 seconds before connecting anything to your line. There will not be much time that you and your caregiver are solely responsible for caring for your line, but we do want to educate you on how to care for your line if the situation arises. Again, please be aware that once you have your line placed, bacteria have an entryway directly to your bloodstream and heart. We all have normal bacteria living on our skin, but because we will be suppressing your immune system, the likelihood of developing an infection from those normal bacteria is increased. Because of this, you will be required to take a shower at least every 24 hours while in the hospital. We highly encourage you to do the same outside of the hospital.

Instructions for Interventional Radiology Procedures
(Having your line placed)

Most of our patients’ catheters are placed in the Interventional Radiology Department on the 6th floor of the North Pavilion. If your line is being placed in The Kirklin Clinic of UAB Hospital, you will report to the lab on the second floor for labs and then to the 4th floor for the line placement. After the procedure, you will return to the outpatient area. You will have received sedating medications. **YOU WILL NEED SOMEONE TO DRIVE YOU HOME.** If you need to have a surgeon place your catheter(s), your coordinator and nurse practitioner will talk with you about the procedure.
Food: You should stop eating solid food 6 hours before your line placement. You may have clear liquids up to 2 hours before your line placement.

Regular Medications: Take your regular morning medicines as normal, including your pain medicine. The only exceptions are listed below. Please discuss the following medications with your doctor when you sign consents if you are currently taking them. Your doctor will advise you if they would like to modify your doses.

- **Insulin**: Take only ½ your normal dose on the day of the procedure.
- **Diabetic Medications**: Do not take morning of procedure.
- **Glucophage**: Do not take morning of procedure, and hold for 48 hours after procedure.
- **Coumadin**: A. If Coumadin is taken due to prosthetic valve, your physician will determine adjustment of this drug. B. In all other cases, stop your Coumadin 3 days prior to procedure. Example: you are scheduled to have your procedure Wednesday, your last dose of Coumadin would be Saturday.
- **Lovenox**: Do not take morning of procedure.
- **Xarelto**: Hold for 24 hours
- **Arixtra**: Hold for 12 hours
- **Eliquis**: Hold for 48 hours
- **Pradaxa**: Call for instructions

The first thing you need to know about your line is ALWAYS WASH YOUR HANDS BEFORE DOING ANYTHING WITH YOUR CENTRAL LINE. It is expected that your chest where the line is placed will be sore and tender to touch for the first several days after placement. The radiology team may place a thick gauze padding under your dressing. You should keep this dressing on for at least 24 hours to allow the insertion site to clot. Please call us if your line is bleeding profusely.

Call us immediately if:
- You have drainage, swelling, unusual redness, or tenderness at the site
- The catheter is leaking, torn, or appears damaged
- The catheter is removed from its original placement
- You develop a temperature of 100.5 or greater
- You cannot flush the catheter

We will cover your line’s entry site with what is called an occlusive dressing. This dressing has a clear center so we can monitor your insertion site for healing and signs of infection. The border of the dressing is white and prevents bacteria from coming close to your insertion site. The dressing is considered protective unless any portion of the dressing is peeling up. You must cover your dressing while in the shower. You can purchase covers designed to cover your line, or you can use plastic wrap or a zip lock bag and some tape.
How to Change Your Dressing

What you will need:

- Mask
- Antiseptic solution (chlorhexidine, povidone-iodine, tincture of iodine, or alcohol)
- Non-sterile gloves
- Sterile gloves
- Sterile transparent semipermeable dressing
- Sterile tape or adhesive strips
- Label

Implementation:

- Gather equipment
- Wash your hands
- Put on clean gloves
- Place a mask on yourself, the patient, and anyone else in the room
- Begin to gently remove old dressing, peeling the corners to the insertion site. *Moving in the direction of the line will prevent accidental removal.
- Assess the insertion site for bleeding, redness, swelling, tenderness, increased temperature, skin irritation, and/or drainage
- Dispose of old dressing and gloves
- Wash your hands
- Put on sterile gloves
- Clean around the insertion site of the catheter with the antiseptic solution (chlorhexidine, povidone-iodine, tincture of iodine, or alcohol) using a back and forth motion. Note: the chlorhexidine is only activated to work when friction is applied. Allow the area to air dry completely. *Do not fan or blow on the site to assist in the drying process.
- Apply the skin protectant around the border where you plan to place the dressing.
- Apply the transparent semipermeable dressing to the skin, allowing the insertion site to be seen through the transparent window.
- Remove mask and gloves and wash your hands.
- Label the dressing with the date and time you changed it.

Your family member’s dressing needs to be changed every 72 hours and always needs to be changed if it is soiled or falling off. We suggest changing your dressing on Tuesdays and Fridays as we do in the hospital.
How to Flush Your Catheter

We recommend flushing your catheter every Tuesday and Friday after you change your dressing (or twice a week, whichever is more convenient to you and your family). Regularly flushing a catheter is necessary to assess and maintain patency of a line.

What you will need:

- Gloves
- Pre-filled normal saline solution syringes
- Antiseptic pads (alcohol, tincture of iodine, or chlorhexidine)

Implementation:

- Gather your equipment
- Wash your hands
- Put on gloves
- Thoroughly disinfect the end portion of the line where you will attach the new cap with an antiseptic pad (alcohol, tincture of iodine, or chlorhexidine) for 15-20 seconds and allow it to dry. Be sure you are using friction.
- While holding the clean lumen without touching the cap, attach the normal saline syringe.
- Unclamp the line
- Slowly inject about 2mL of the normal saline flush using a pulsating technique.
- Pull back on the flush to check for blood return
- Once blood return is noted, flush the remainder of the flush slowly, again using a pulsating technique.
- Clamp the line

You will need to flush all of the lumens on your line using the same process for each. Please notify us if you do not receive any blood return from a lumen or a lumen seems difficult to flush. Never force the flush if it is giving you resistance.
How to Change Your Caps

The caps on the end of each of your lumens are known as needleless connectors. Your caps function as an anti-reflux valve and prevent the flow of blood through your line. HINT: It will be easier for you to change your caps as you are flushing your line. We recommend flushing your catheter every Tuesday and Friday (or twice a week, whichever is more convenient to you and your family).

What you will need:
- Gloves
- Mask
- Alcohol pads
- A cap for each line
- A pre-filled normal saline syringe for each line

Implementation:
- Gather equipment
- Wash your hands
- Put on gloves and mask
- Open the cap’s package and the normal saline syringe. Keep the cap sterile in its package.
- Attach the pre-filled syringe to the new cap keeping the cap sterile
- Prime the cap with normal saline to remove any air in the cap
- Make sure the clamp of the lumen you are using is clamped
- Remove the old cap
- Clean the catheter hub with an antiseptic pad for 15-20 seconds and allow it to dry
- Remove the white protective cover from the tip of the new cap
- Attach the new cap to the hub and tighten it in place
- Unclamp the catheter
- Aspirate for blood return, and flush with the attached normal saline solution
- Re-clamp the catheter lumen
- Discard supplies and wash your hands

Living with a Catheter/Removal

We request that you do not use hot tubs, swimming pools, or swim in lakes or oceans while you have your central line to decrease your risk of infection.

Due to the need for access to draw your labs, give you medications, and blood products, your catheter will remain in place until your outpatient treatment is completed, as long as it remains free of infections and clots. The nurses in outpatient will be changing your dressing and caps every time you come to clinic, which should be twice a week for close to a month. Your doctor will discuss your specific needs for clinic visits.
Preparing For Admission

What to Pack
You will be admitted to a unit of the hospital called the Bone Marrow Transplant Unit. You will be in a private room that has a specially designed airflow system called a Hepa Filtration System to decrease your exposure to germs; the system pushes air outside of your door to prevent exposure to germs. Because of this, we ask that you keep your door closed AT ALL TIMES. Everything you bring to the unit needs to be new or freshly laundered. If you want to sleep on pillows like the ones you have at home, they should be new pillows (any type except feather). You may also bring a washable comforter from home if you like. We encourage you to bring comfortable clothes like pajamas, robes, and slippers with hard soles. Nightgowns and shirts that button down the front are more convenient for the nurses to access your line for medication administration and blood draws. Patients should not wear a wig during their hospitalization because certain chemotherapy drugs are excreted through the skin and will be absorbed into your wig. This may result in irritation to your scalp. Turbans and hats may be worn but should be changed or washed daily. We also ask that you do not wear dentures during your hospitalization, as they can also harbor bacteria.

Your family member is responsible for getting your clothing washed after it is used one time. A laundry room is provided on the unit for your convenience. You must supply your own laundry detergent that is hypoallergenic and fragrance free. We suggest that a one-week supply of comfortable clothing should be plenty. You will be required to shower and change clothes every 24 hours.

You should bring soft-bristle toothbrushes and toothpaste. You do not need to bring toiletry items like shampoo, lotions, hair products, makeup, or deodorant, because your skin will become very sensitive after chemotherapy and these items may irritate your skin. We will provide you with a fragrance-free soft lotion upon admission.

The space in your room is limited and we need to keep the things that can collect dust to a minimum. You can bring crafts or projects that you enjoy (painting, puzzles, books, model cars, DVDs, and electronics). Please do not bring any sharp items with you that you may cut or stick yourself with (i.e. sewing needles). Battery-operated radios and tape players are allowed. The hospital Biomedical Engineering Department will need to perform a safety check on any electronic items like laptop computers or CD players that are not battery operated before you use them in your room. You will have a TV with local cable and a DVD player in your room. Some movies are available on the unit. If you would like to bring a universal remote control for the TV, you are welcome to do so. Musical instruments such as a guitar or keyboard (with headphones) are also allowed.

You can decorate your room using “Stik Tak” by Devcon Duco to put things on the walls. Pictures from home, posters, and a calendar can brighten things up for you. You can have balloons and mobiles to hang from the ceiling. Some of your friends and family may be very creative and make things that remind you of home. Just keep in mind that table space for things is limited. Plants and flowers are not allowed because the soil and water can carry germs that would be harmful to you. You will not be allowed to use candles or diffusers of any kind that could nauseate
Here is a checklist of items you may want to pack. These items are **not** required.

- Transplant book
- Comfortable clothing
- Hypoallergenic fragrance-free laundry detergent
- Non-slip slippers/shoes
- Bedding
- Pillows
- Electronics/chargers
- Books
- Soft-bristle toothbrushes
- Baby wipes
- Movies
- Puzzles
- Pictures
- You do not need to bring your personal hygiene products with you.
- Medication list**

** Your medication list should include the medication name, dose, frequency, and the last time you took the medication. If you will be required to stay local to the Birmingham area after your transplant, you will need to bring your medications with you so you will have them once you are discharged. If you bring them with you, we will place them in a secure bag for you and our pharmacist will need to lock them away safely until you are ready to be discharged.

## Day of Admission

Admission day can be very emotional for both the patient and the family. Here are a couple of things that may make your admission a little less stressful. Try to arrive to the outpatient clinic at your assigned time. Do not feel like you have to bring all of your belongings with you at this time—you may leave them in the car and use the unit cart to move belongings to your room later in the day. If you are scheduled to receive your chemotherapy before 4 pm, you will receive your chemo in the outpatient setting and be admitted to the unit as soon as your room is available. If your chemo is scheduled at or after 4 pm, you will go straight to the unit if your room is available. You may want to bring something to entertain you while you are in the outpatient clinic. When you get to your room in the unit, you will be assigned a nurse for the remainder of that shift. This nurse will be responsible for admitting you to our computer system. He or she will be very busy to get you into our system as soon as possible.

Most patients are admitted in the main BMT unit, but patients may be cared for by the same specialized team in other units of the hospital, including intensive care units when necessary.
Visitors

- All visitors will need to check with our secretary and fill out a visitor illness questionnaire before entering your room.
- No more than three visitors can be in your room at any one time. Only one person will be allowed to sleep in the room with you. Please be mindful of making a clear walkway for the nurse to assess the patient. Each room is different, and your nurse may ask that you move your sleeping chair to a different position in the room for safety. For infection control, you or your caregiver are not allowed to visit another patient’s room. You may meet in the halls or speak through an open door, but you are not to enter another patient’s room; this is for infection prevention purposes.
- **Only immediate family and close friends should visit. Advise any friends or family who have been sick not to visit you at this time during your transplant journey.**
- Food for patients and family members may be kept in the kitchen refrigerator labeled with a name and date. Food may only be kept in the refrigerator 24 hours (after it is opened). After that time, it will be thrown away. Please label food with name and date opened. Supplies to do this are provided for you in the unit kitchen.
- Family members and visitors should not empty your urinal, specimen pans, or emesis basins (especially during chemotherapy). The PCT or nurse will do this.
- Water and ice for patients are taken from a special filtered machine in the BMT kitchen. You should not drink water from the sink. Bottled water is allowed, but not provided.
- Family members and visitors should NEVER correct the alarms on the IV pumps or monitoring devices. It is important that the nurse assess why the machinery is alarming, so please call your nurse to clear alarms.
- Family members and visitors should not give the patient any medications unless asked to do so by the nurse.
- Your visitors must wash their hands each time they enter the unit and again before they enter your room.
- Visitors are not allowed to use your bathroom. There is a separate shower for visitors to use and several other choices for toilet needs. Upon your arrival for admission, you will be oriented to the unit and where these are located.

Guidelines for Children

- Children under 12 must have an adult with them at all times. Children must be at least 4 years of age to visit. Children under the age of 4 are not allowed to visit.
- Children should be current on all immunizations. Oral polio and other live immunizations should be delayed.
- Children who have had the oral polio vaccine may not visit until 30 days after the vaccine. It is okay to visit if the vaccine was an injection.
- Children who have had an MMR vaccine are not permitted to visit for 30 days.
- If a visitor has been exposed to the chicken pox in the last 21 days, talk to the nurse before entering the room.
Caregivers

A basic requirement for transplant is having a dedicated caregiver. An active caregiver is critical to the success of the transplant process. Listed below are some of the functions that the caregiver of a transplant patient will be expected to perform. The length of time you will need a caregiver will vary with your unique medical needs and living situation.

A caregiver must be available to the patient 24/7 after discharge. The main caregiver will be expected to be present during discharge teaching. Duties include, but are not limited to:

- Help with basic hygiene as needed.
- **Household activities:** The patient’s environment should be kept as clean as possible. The patient should avoid contact with dirty items such as laundry, dishes, garbage cans, and pet items (bowls, cages, litter boxes, etc.). The caregiver should wash the patient’s sheets and towels regularly—at least every three days.
- **Transportation:** The caregiver must be available to take and pick up the patient for visits to the outpatient clinic.
- **Medications:** The caregiver must be able to assist with medications as well as assist the patient with managing symptoms such as pain, nausea, fever, etc. and must alert the care team to any concerns. Signs and symptoms to report will be reviewed throughout hospitalization, at discharge, as well as in the BMT clinic.
- **Food preparation and nutrition:** Transplant patients should not handle uncooked food items due to the risk of infection. Skins, peels, and rinds of fruits and vegetables may have harmful bacteria or fungus and must be washed and removed by the caregiver prior to eating.
- Psychosocial support
- **Emergency issues:** The caregiver will alert the care team of any emergencies and provide the team with emergency contact information.

Tips for Caregivers

**TAKE CARE OF YOURSELF!** Get enough sleep, eat well, and take some time off for yourself. When you take care of yourself you will be more at ease, alert, and capable of caring for your loved one. Communicate to friends that you will need their help during the time your family member is in the hospital. Recruit volunteers ahead of time to stay with your loved one while you take a break.

Your loved one may experience behavior changes. They may not “act like him/herself” and may become angry, depressed, or anxious. These changes may be related to the treatment, medications, or stress and should go away in time.

Ask questions of the BMT team and report any information that you feel is important. You are one of the best sources of information for your loved one’s health, and we need your assistance.

Your love, laughter, and support are often the “best medicine” a patient can receive.


Admission Teaching

Infection Precautions

• After you receive your first dose of chemotherapy, you will be at higher risk to develop an infection. The suggestions below will make you less likely to develop an opportunistic infection during this time.
• Please do not visit other patients (inpatient or outpatient), and ask that your family avoid this as well.
• Family members must wash their hands thoroughly after eating, toileting, or before helping you with any activities.
• No flowers, plants, silk arrangements, or fruit baskets are allowed in your room. Fruit should be stored in the unit refrigerator.
• You may bring items from home such as pictures, books, radios, tape or CD players, games, and crafts. These items need to be cleaned before they are taken into the room.
• **Family members and friends may not use your bathroom or shower.** There are restrooms located on the unit for their use.
• You must take showers daily and not return to your bed until new sheets have been put on the bed. Please call the nurses station to let the staff know when you are ready to get your shower so that we can change your sheets. No one other than the patient should sit on the bed.
• Wash your hands before mouth care, after toileting, and before eating. Do not pick anything up off the floor. Ask someone to assist you if you drop something, and have him or her clean it for you before using it again.
• Two body areas very susceptible to irritation are the mouth and rectum. You will need to take special care of these areas.
• Always wear a mask outside of your room.

Skin Care

• Everyone has germs on their skin that can cause an infection. Good skin care is an essential part of preventing infection.
• You will be required to take a shower every day using a chlorhexidine soap that we will provide to you. You will be required to take a shower every 24 hours, even if you do not feel like it. Our showers do have a bench that you can sit on while showering. You will be assisted by your nurse or caregiver if you feel too weak to shower on certain days.
• You may use a mild lotion that is provided to you on your skin after the shower to keep your skin from drying.
• Again, you will not need to bring items from home such as deodorant, shampoo, lotions, etc. Please do bring bedroom slippers to wear when walking around your room and the unit, so you don’t scrape your feet.

Mouth Care

• Replace toothbrush if an infection develops.
• You may floss your teeth if it was part of your previous mouth care regimen until your platelet count is less than 50,000.
• We will provide Vaseline for you to use to prevent your lips from drying and cracking, and you can bring any Chap Stick from home that you like.
• Dentures are prone to harbor bacteria; we ask that if you wear dentures, you remove them unless eating. Dentures may also irritate mouth sores during your hospitalization.
• The nurses will check your mouth daily for signs of infection. Let us know if you have pain or discomfort in your mouth or throat.
You will be asked and assisted to comply with this mouth care regimen 4 times daily, even if you are not eating certain meals. The medications and rinses required will be provided to you. Please note that this regimen helps you to keep a clean mouth, it does not in any way prevent you from developing sores in your mouth. However if you do develop sores, you will still need to comply with this regimen to keep the sores clean and free of bacterial and fungal growth.

** Please also know that part of your mouth care regimen will include what is called light therapy. Light therapy is a red glowing LED light created by NASA. The light functions to speed up the growth of cells in your mouth. You will hold the light in three different places: each cheek and under your chin for about two minutes in each spot. The light will turn off once each section cycle is complete. Do not hold the light directly on your skin; hold it about an inch away from your skin so the light can cover more surface area. Most patients will use a towel provided by the nurse to protect their eyes, but you are also free to wear sunglasses if you like.

**Clothing**
- You can wear your own pajamas, gown, or clothing if you want. You should put on clean clothes every day after your shower.
- Your family members or caregivers should wash your clothes for you (using hypoallergenic fragrance free detergent). Your clothes should be washed in hot water and dried in the dryer. There is a laundry room on the unit for your convenience. If washed elsewhere, the clean clothes should be brought to you in a clean bag. Your bathrobe, pillowcases from home, blankets, and comforters should be washed every 3 days or right away if they are soiled. Again, please bring your own laundry detergent, as we are not able to supply this for you.
- Please do not wear any jewelry, especially piercings, during your hospitalization. This includes wedding bands. Jewelry harbors germs and can become stuck on your fingers if your hands become swollen. If you bring valuables you do not wish to keep up with, we will need to place your valuables in the UAB Police safe until you are discharged.
- Because of the risk for infection, you should not wear your contacts during your transplant. Plan to wear your glasses.

<table>
<thead>
<tr>
<th>BONE MARROW TRANSPLANT UNIT MOUTH CARE REGIMEN</th>
<th>AFTER BREAKFAST</th>
<th>AFTER LUNCH</th>
<th>AFTER DINNER</th>
<th>BEFORE BEDTIME</th>
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<td>2. Swish and spit ½ cup of baking soda/salt mixture</td>
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**Peri-Rectal Care**

You should perform peri-rectal care after each bowel movement. This is especially important if you are having diarrhea or frequent bowel movements. Vaseline will be provided to prevent cracking on your rectal area. Unfortunately, we cannot provide you with a soft tissue to wipe with; we suggest bringing baby wipes or barrier wipes for your comfort. These are helpful when you are having diarrhea to prevent this area from becoming raw and painful. Ask your nurse for other tips and tricks to make you comfortable.

**Bleeding Precautions**

To prevent injuring yourself, you need to take special precautions because of your low platelet count.

- Use electric razors instead of blade razors.
- Do not blow or pick your nose. Call your nurse if you have a nosebleed.
- Always wear slippers or shoes when out of bed.
- File your nails rather than clipping them.

**Call your nurse if you notice any of the following:**

- Blood in your urine
- Black or bright red bowel movements
- Blood in the material you cough up or vomit
- Headaches and/or blurred vision
- Skin symptoms appearing as a rash or a bruise

**Activity**

- You should rest for 15-20 minutes between activities. Move slowly when moving from lying to sitting to standing so you do not get dizzy.
- You should get out of your room and walk in the halls daily (20 laps=1 mile). Do not forget to wear a mask outside of your room.
- **Do not stay in the bed all day.** We will encourage you to at least sit in the chair for meals.
- There is a pedal machine in each room for your use.
- You will also be instructed on use of an incentive spirometer to help expand your lungs and prevent pneumonia while you are in the hospital. You should do these exercises at least once every hour while you are awake. This will be required of you by your nurse if you are not walking the halls daily.

**Intake/Output and Weights**

- Your nurse will calculate your intake and output at 4 pm and 4 am daily. You will need to keep up with how much you have had to eat and drink. Keeping a log or writing it on the dry erase board is often very helpful.
- The nurses and patient care techs (PCTs) will record your weight in kilograms for the doctor at 4 pm and 4 am daily. The bed scales will also give the weight in pounds. Just ask the PCT if you would like to know. Before you get into your bed and every time we change your linens, we will “zero” the scale on the bed. This eliminates the weight of pillows and blankets in your weight we report. It is very important you help us in recalling what all should be on your bed when we zero it. If you would like to add or eliminate any pillows or blankets that is not a problem; please report this to your nurse.
- Medicines will be ordered and adjusted based on your weight, intake, and output, so accuracy is very important.
- We measure volumes of liquid in millimeters (mL) and ounces (oz)

  \[
  5\text{mL} = 1 \text{ teaspoon} \quad 15\text{mL} = 1 \text{ tablespoon} \quad 1 \text{ oz} = 30\text{mL}
  \]
Labs
Your nurse will collect labs at approximately 4 am every morning and at other times as needed. Your morning labs should be resulted by 9 am that morning. Your nurse will give you a “blue card” to help you keep up with the trends of your laboratory work. Ask your nurse to start your blue card on the day you are admitted. Just remind your nurse and he or she will be glad to fill out the card. You will receive electrolyte replacement and blood products based on your lab work and physical assessment.
Chemotherapy and/or Radiation

Chemotherapy is also called a conditioning regimen. It serves two purposes prior to transplant. The first is to destroy your disease. The second purpose is to eliminate your bone marrow so that the stem cells you will receive during your transplant can take over in your marrow and produce healthy cells.

The chemotherapy drugs used for transplant are given in high doses. You may receive a single drug or be given a combination of two or more drugs.

You may also receive radiation therapy as part of your conditioning regimen. You will meet with a radiation oncologist as part of your workup for transplant to develop a radiation schedule. Your coordinator and nurse practitioner will schedule this. Your radiation may occur in one day or may be divided into several doses each day and may last for several days. This technique is referred to as “fractionation of the dose”. Fractionation minimizes side effects such as lung injury, nausea, and vomiting.

You will be hydrated with large amounts of IV fluids while you are receiving chemotherapy. All of the IV fluids will be given through your central venous line. Each day you will be seen and examined by the care team regarding your fluid status.

High-dose chemotherapy is toxic to your tissues and organs, as well as to the diseased cells. The toxicity causes side effects that will vary in degrees depending on the drug(s) given. Most side effects are temporary and reversible. Discomforts can often be managed or prevented with medication. Severe side effects and long-term damage can occur, though less frequently. The expected side effects from your specific treatment will be discussed with you at your final pre-transplant consult.

Short-term side effects of chemotherapy include but are not limited to:

- Nausea and vomiting
- Mouth sores
- Diarrhea
- Hair loss
- Blood in your urine
- Muscle spasms
- Fluid retention
- Confusion (less common)
- Infections
- Anemia
- Thrombocytopenia
- Skin rash or color change

Long-term side effects may include:

- Possible sterility, making you unable to have children
- Possible damage to the liver, heart, kidneys, or lungs
- Numbness and tingling in hands and feet
Side Effects and Management

You will begin to note these changes several days after your chemotherapy and may experience them even after discharge.

Infection
Although special measures are used on the BMT unit, many patients may still get an opportunistic infection.

Everyone has germs that live in and on our bodies. These germs do not make us sick as long as our immune systems are working normally. The germs can make you sick during this period of immunosuppression.

The germs that other people have can also cause problems with infection. That is why hand washing is so important. If you did not see your nurse or PCT wash or gel their hands, please ask if they did. If he/she did not wash their hands, they will be grateful for the reminder. Please also help your nurses take good care of your central line.

If you develop a fever, the doctors may start you on antibiotics until we are sure that bacteria is not the cause of your fever. Antibiotics are usually given through your central venous line.

Mouth Changes
During the first few days after transplant, you may begin to notice that your mouth feels different. This change may be the beginning of mucositis due to chemotherapy. Mouth discomfort will improve when your white cell count begins to increase with engraftment. Suction can be set up in your room to help with thick secretions and difficulty swallowing. Performing your mouth care as directed will help to minimize infection to your mouth. Using the LED light therapy daily will improve the healing of sores in your mouth. Symptoms of mucositis may include:

- Swelling or inflammation of the lining of your mouth
- A change in the color of the inside of your mouth
- A coating on the inside of your mouth, especially on your tongue
- Sores on the inside of your mouth
- Pain with swallowing
- Thick saliva
- Pain when opening your mouth or talking
- Soreness and breakdown of the lining of your esophagus, gastrointestinal tract and rectal area

Pain
Please notify your nurse if you are experiencing any pain at any time. Medications will be available as needed to help minimize this side effect. The nurse will ask you every four hours to rate your pain on a scale of 0-10, with zero being no pain and 10 being the worst pain you have ever experienced. We use this scale to determine if the pain medicine we give you is effective by comparing it to your previous pain ratings.

Gastrointestinal Problems
Nausea and vomiting are common side effects of chemotherapy. Notify your nurse at the first sign
of nausea, as medications are available to help decrease these side effects and prevent nausea from progressing to vomiting.

Helpful tips include eating small meals, clear cool beverages, food at room temperature, dry toast and crackers, bland food, and taking the top off the tray before bringing it into the room to reduce odors.

Avoid fatty, greasy or fried foods, sweets, spicy foods, and foods with strong odors.

**Diarrhea:** Notify your nurse if you are having diarrhea. Sometimes stool samples will need to be collected before we can start you on any medications to prevent the diarrhea.

**Loss of Appetite:** You will likely lose your appetite and foods may not taste the same as they have before because your taste buds will change. Try to order foods that you can taste to encourage your appetite.

**Alopecia (Hair Loss)**
Hair loss will occur during your treatment. Here is what to expect:
- Your hair will start to thin after your chemotherapy and will gradually fall out in the days and weeks following treatment.
- We recommend shaving your head to help maintain a clean and healthy environment. Staff members are available to help you with this task. You may choose to shave your head before admission to the hospital.
- You may choose to wear a hat, scarf, or turban.

**Skin Changes**
You may experience some skin changes or rashes. The causes can vary. Medications, infections, and chemotherapy can all cause skin changes. Symptoms may include:
- Redness or itching
- Bumps, sores, rashes, or hives
- Excessive dryness

Treatment depends on the cause of the skin change. Sometimes medicated creams or steroids are used. If the problem is caused by a medication, that medication will be stopped. Let your nurse know if you notice a skin change.

**Fatigue**
You will become very tired while your blood counts are dropping. You still need to shower, be up in the chair, and walk daily even if you do not feel like it. If you are too tired to walk one day, you will be required to do your incentive spirometer. Take breaks and naps in between activities to make the most of your energy.

Ask the staff for assistance if you feel unsteady walking around the room; **safety is our number one priority.** One of our goals as nurses is to ensure that you do not encounter any harm while in the hospital. This includes making sure you do not fall. We know that you are capable of caring for yourself, but please remember it is our job to keep you safe, so you may feel like we are “hovering” at times. This is just because we know you are more fatigued than usual, experiencing stressors, are in
Fluid and Electrolyte Imbalance
Very often patients have difficulty keeping a good balance between fluids and electrolytes in the body. Chemotherapy, other medications, diarrhea, vomiting, and poor appetite can make it difficult for the body to make its normal adjustments. Your electrolytes will be measured through lab work, and you will receive the electrolytes that you need through your IV.

Swelling and fluid retention is also a sign of imbalance. You may be given medication to help you get rid of extra fluid that can accumulate in your feet, ankles, and legs. Fluid may also accumulate in your abdomen or lungs, which may cause shortness of breath. You will be weighed at 4 am and 4 pm to help us monitor for extra fluid weight. Let your nurse know if you feel short of breath or if you feel like you may have swelling in your legs or feet.

Organ Injury
The high dose chemotherapy that you will receive can cause organ injury. Your physician will discuss with you specific organ injuries and your individual risk factors.
Nutrition

You will receive a menu of selections from which you may choose, and you or a family member can call and order room service any time you like during operating hours. Meals are delivered within 45 minutes of placing your order. The kitchen opens at 6am and closes at 7pm.

The water you drink must come from the filtered water and ice machine in the BMT kitchen or be bottled. We will give you a UAB mug to use for your water. Please do not drink out of this mug directly or use the straw that comes with it. You should pour the water into a cup rather than drinking from the UAB mug. We will supply you with cups and straws that you can replace every 24 hours. This is an infection prevention measure.

It is normal to experience a loss of appetite, and food may not taste the same for some time after treatment with chemotherapy. It may be helpful to eat small, frequent meals and snacks throughout the day. Eating bland foods may also help.

If you are not eating well, the staff can prepare a variety of nutritional supplements that will help you get the necessary amount of calories. If you would like to have food brought in by your family, please talk with your nurse or dietitian about specific requirements. The food must be prepared fresh and have a food rating of 90 or above if it comes from a commercial facility outside the hospital.

The staff will keep track of how much you eat and drink; therefore, please do not allow a family member to eat or drink anything from your tray. It is helpful to keep a log of how much you are eating and drinking so that your intake is accurate.

Food Safety Guidelines

Transplant patients are at higher risk of food-borne illnesses, which can seriously compromise your health. While your immune system is compromised, we want you to be particularly aware of this to eliminate your risk for infection from the foods you enjoy. To prevent food-borne illnesses, we want to teach you to practice food safety. The booklet “Food Safety for Transplant Recipients” from the US Food and Drug Administration provides detailed information about this topic. To download the document free of cost, simply enter the title above in your search engine. For more information about food safety, visit: www.foodsafety.gov

You should maintain these food safety recommendations in your diet until you are no longer on immunosuppressant medications.

The following guidelines are helpful hints for food preparation, food storage, grocery shopping, and eating out. You will also find a do and do not eat list. You should be mindful of uncooked fruits and vegetables and animal products including uncooked or undercooked meats, unpasteurized milk products, and raw eggs.
**Food Preparation**

- Wash your hands before and after touching raw meats. Wash hands between handling different food groups to avoid cross contamination.
- Be mindful to keep your hands clean and use clean cutting boards, knives, and other utensils.
- If you choose to use a dishcloth, you should wash it in hot water after each meal preparation. We suggest using paper towels.
- When using canned goods, remember to clean the lid before opening. Clean your can opener after each use.
- Plan to separate foods in the preparation process. You should use a different or clean cutting board and knife when preparing meats, vegetables, and or fruits.
  - You should also separate raw meats and eggs from other foods in your shopping cart and in your refrigerator.
- Never place cooked food on a plate that once held raw meat.
- When using a microwave, cover your food, stir, and rotate for even cooking. If there is no turntable, rotate the dish by hand when cooking.
- Clean fruits and vegetables with a vegetable brush and cool running water before eating.
- Clean counter tops with warm antibacterial soap and water after each meal preparation.

**Food Storage**

- Your refrigerator should be set to 40°F and your freezer at 0°F. Keeping foods at cool temperatures slows the growth of harmful bacteria. Remember the danger zone is 40°F to 140°F.
- You should refrigerate leftovers within 2 hours and throw them out after 2 days.
- Do not thaw food at room temperature. It is best to thaw it in the refrigerator, in cold water, or in the microwave. Once thawed in cold water or in the microwave, food should be prepared immediately.
- Throw foods out that you think may have gone bad. Never taste these foods before throwing them out.
- If one piece of your loaf of bread has mold, throw the entire loaf out.
- Do not leave perishable foods out for longer than 1 hour.

**Grocery Shopping**

- When shopping, check all sell-by dates carefully.
- Take extra produce bags with you to the meat section to contain any meat juices from your other foods and produce.
- Buy pasteurized milk, eggs, and juices.
- Make sure none of your eggshells are cracked.
- Make sure canned goods are free of dents, cracks, and bulging lids.
- Only select fruits and vegetables with intact skins.
- Avoid tasting free food samples.
- Gather your refrigerated and frozen foods last to keep them at their intended temperature before you get home.

**Eating Out**

- You should avoid eating at buffet style restaurants for 30 days after your transplant.
- When eating out, you should only choose restaurants with a health food rating of 90 and above (It is the law that this information be posted).
- Ask your server if any of the foods you are interested contain raw foods.
- If you take home leftovers, make sure you have them in the refrigerator within 2 hours.
- We suggest eating out in downtimes to avoid rushed food preparation mistakes.
<table>
<thead>
<tr>
<th>Food Type</th>
<th>Recommendations to Eat</th>
<th>Recommendations Not to Eat</th>
</tr>
</thead>
</table>
| **Meats, Eggs, & Seafood** | • Your meats should be cooked completely. Safe minimal internal temperatures are:  
  • Beef, Pork, Veal, Lamb, Steaks, Roast, and Chops: 145°F  
  • Beef, Pork, Veal, and Lamb (ground): 160°F  
  • Fish: 145°F  
  • Egg dishes: 160°F  
  • Turkey, Chicken, Duck (pieces and ground): 165°F  
  • Canned and shelf stable (meaning they are stored at room temperature before they need to be refrigerated) meats.  
  • Commercially –packaged salami, bologna, hot dogs, and lunch meats that are heated until steaming or 165°F.  
  • Most pre-made foods from grocery stores, such as dressings, cookie dough and eggnog are made with pasteurized eggs | • Raw or undercooked meat, poultry, fish, tofu, or eggs.  
  • Non-pasteurized or free-range eggs.  
  • Meats and cold cuts from delicatessens.  
  • Raw sushi or raw oysters.  
  • Foods containing raw or undercooked eggs include: homemade Caesar salad dressings, homemade cookie dough, and homemade eggnog. |
| **Milk & Cheeses** | • All pasteurized milk and milk products including eggnog, yogurt, ice cream, frozen yogurt, sherbet, ice cream bars, milkshakes, processed cheese slices and spreads, cream cheese, cottage cheese, and ricotta cheeses. | • Unpasteurized or “raw” milk.  
  • Cheeses from delicatessens.  
  • Cheeses with molds.  
  • Soft cheeses made from unpasteurized milk include feta, brie, camembert, blue, and queso fresco. |
| **Fruits, Vegetables, & Nuts** | • Well washed fruits, vegetables, and salads.  
  • Cooked, canned, and frozen fruits and vegetables.  
  • Dried fruits and vegetables.  
  • Cooked Sprouts.  
  • Well washed and dried herbs and spices.  
  • Canned, shelled, roasted nuts. | • UNWASHED fruits, vegetables, and salad. Fruits or vegetables with bruises, cuts, and or mold.  
  • Raw Sprouts.  
  • Unroasted nuts.  
  • Non-pasteurized fruit and vegetable juices.  
  • Salads from delicatessens. |
| **Beverages** | • City water.  
  • Bottled water.  
  • Bottled or canned sodas.  
  • Herbal teas. | • Well and spring water (from a running spring, bottled spring water is safe).  
  • Fountain drinks and other self-serve beverage machines. |

*Rule of Thumb: When in doubt, throw it out! If food has a funny odor/color, do not take the chance. Do not lose sight of the overall importance of diet for a healthy immune system.

FOR MORE Information regarding food safety, visit http://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/UCM312793.pdf

With questions and concerns regarding diet, please contact your Clinical Dietitian, Manisha Vaidya, MS, RDN, LD, 205-934-4560
Transplant Day

DAY 0
You will be receiving your stem cells today!! Your transplant will be done in your room and your nurse will let you know what time it will take place. Your nurse practitioner and doctor will examine you carefully on the morning of the transplant.

It is natural to feel excited and anxious on transplant day. You may think about all the positive things in your future with a successful transplant. However, you may also worry about the negative things that could go wrong. Please share these feelings with your family, friends, and hospital staff.

Prior to your stem cell transplant, you may be given some pre-medications. These medications will be given about 30 minutes before your stem cells, and they are given to prevent side effects of the stem cell administration. The medicines may make you sleepy.

The stem cell product looks like blood, but it is thinner, brighter, and may be pink to red in color. It will be given through your central venous line. The staff will check your blood pressure, pulse and temperature frequently during the transplant. You will be monitored closely during the infusion. The time of the infusion procedure can be anywhere from 30 minutes to several hours, depending on how much volume is included with your cells. If you start having fever, chills, or any other unusual feelings, please tell the nurse right away.

You and your family may feel somewhat “let down” right after the transplant procedure has been completed. There were no fireworks and you do not feel any different on transplant day. During the next several weeks you will wait for the stem cells to grow. The transplanted stem cells enter the marrow cavities of your bones by way of the lungs and spleen. The cells begin to divide and produce red cells, white cells, and platelets. “Engraftment” is the term used when your bone marrow begins to make these normal cells.

Your white blood cell count will still be low because of the chemotherapy, meaning you are still at risk for infection. The time that your white cells are the lowest is also considered your highest risk for infection. Make sure you are showering everyday, keeping a clean environment, and that your caregivers and visitors are well and free of infection. If you develop a fever, your nurse will run several test to ensure you are infection free. Typically, your fever indicates that engraftment is occurring, but because you are immunocompromised, we will start you on broad-spectrum antibiotics until we are sure the fever is related to engraftment.

Your red blood cells and platelet count may also be low during this time. You will receive transfusions as you need them, perhaps every day.

Your white blood cells will be the first to engraft. You can monitor this by evaluating your lab results everyday with the help of your nurse. Once your white blood cell count reaches 500, your nurse will begin to collect an Absolute Neutrophill Count (ANC) daily. The ANC is what the doctors will use to determine the status of your cells. Once your ANC count is 500 or greater for three days in a row, we consider you engrafted. Again, the white blood cells will engraft first and are soon followed by the red blood cells and the platelets.
After Transplant Day

You and your caregiver will be required to stay in the hospital until your new stem cells engraft. Typically, this will be about three weeks. The time spent in the hospital is different for everyone.

After you receive your transplant, it may still be several days before you begin to feel the side effects of the chemotherapy and immunosuppression. When you begin to experience side effects, please let us know, as we may have ways to minimize the side effects. During this time we do ask that you get as much exercise as you can and that you eat what you can, when you can.

Once your cells begin to engraft, your nurses will begin discharge teaching. We like for you to have one caregiver present during the education process. There are several things we will cover at that time, but for now we think there are a few things you should know before you are admitted to the hospital for your transplant.

- You will be given information on ordering a medical alert bracelet at admission. Please plan on ordering one or having one mailed to your house. You may choose a bracelet or necklace of any type you like. The tag should read:

  “BMT PATIENT IRRADIATED-LEUKOREDUCED BLOOD PRODUCTS ONLY”

One local jeweler who has assisted many of our patients is:

Crowne Jewelers  
824 Greensprings Highway  
Homewood, AL 35209  
205-945-8803

Here are some links to sites where you can order your tag, or do your own search. There are many individualized tags available now.

http://www.medicalert.org/home.html  
http://www.americanmedical-id.com/

- If you are returning home after your transplant, you will need to have your home thoroughly cleaned before you return. This would be a great chore to pass on to willing family and friends. Make sure that your air filters are replaced, your bathrooms are deep cleaned, and the area you will sleep is very clean. If you have carpets in your home, make sure they are cleaned well. This would also be a great time to clean your refrigerator and pantry discarding any expired foods and cleaning the areas you will store food.
Graft-Versus-Host Disease (GVHD)

GVHD is a common complication after an allogeneic transplant. It can happen as soon as the third week post-transplant as the new marrow is starting to grow into new cells. These new cells may recognize the patient’s tissue as being different and may try to damage it. The reaction is similar to what happens when a germ enters your body and your immune system attacks it. GVHD can occur anywhere on your body in any organ including your eyes and skin. You might notice a rash, yellowing of the skin and whites of your eyes, joint tightness, nausea, vomiting, stomach pain, or diarrhea. Sometimes GVHD is a minor problem, but it can also be very serious. You may develop GVHD within days to months of your transplant. It is very important that you tell your physician, nurse practitioner, or nurse if you have any new rashes, skin changes, diarrhea, or dryness of your mucous membranes in your mouth or eyes. The sooner we know about the GVHD, the better we can fight it.

Below you will find a chart that will familiarize you with the signs and symptoms of GVHD in each organ system. You should know these so you can report any symptoms to us as quickly as possible. To further minimize your risk for GVHD, you should always take all of your medications, no matter how well you feel and you should always wear sunscreen while you are outdoors.

<table>
<thead>
<tr>
<th>Body Symptoms</th>
<th>Signs &amp; Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eyes</strong></td>
<td>Dry eyes, unrelieved irritation, or blurred vision.</td>
</tr>
<tr>
<td><strong>Skin</strong></td>
<td>Rashes, blisters, texture changes, thickening of skin, pigmentation changes, or nail changes.</td>
</tr>
<tr>
<td><strong>Joints</strong></td>
<td>Arthritis like symptoms, pain, and or stiffness.</td>
</tr>
<tr>
<td><strong>Stomach</strong></td>
<td>Unrelieved nausea, loss of appetite, vomiting, early feelings of fullness.</td>
</tr>
<tr>
<td><strong>Gut</strong></td>
<td>Diarrhea, unrelieved abdominal discomfort, abdominal bloating, blood in your stool.</td>
</tr>
<tr>
<td><strong>Lungs</strong></td>
<td>Unrelieved cough, shortness of breath, trouble breathing.</td>
</tr>
<tr>
<td><strong>Mouth</strong></td>
<td>Trouble opening your mouth, sores, unrelieved irritation, pain, intolerance to salty, spicy, or acidic.</td>
</tr>
<tr>
<td><strong>Liver</strong></td>
<td>Jaundiced skin or eyes, dark urine, upper abdominal discomfort, water weight gain resulting in swelling.</td>
</tr>
<tr>
<td><strong>Genitals</strong></td>
<td>Irritation, dryness, rashes, or painful intercourse.</td>
</tr>
</tbody>
</table>

Medications

After your transplant, you will need to manage several medications on a daily basis to prevent you from getting an infection. We will give you specific details for each medication along with a detailed plan of how and when to take these medications. You should expect to be given prescriptions for at least seven new medications in addition to the medications you are already taking. We will work with you to obtain these medications, but please be aware that you and your insurance company will be responsible for the cost of these medications. You will need to avoid grapefruit juice, satsuma, and blood oranges due to medication interactions after your transplant.

Long-Term Follow-Up

After you are discharged, we will want you to be close to the hospital for approximately 60 days. Each doctor has different preferences for how long they would like you to be close. If your labs are recovering and you are feeling well, your doctor will minimize your trips to clinic for checkups and may pull your central line at that time. Upon discharge, all questions you have should be directed to the BMT outpatient clinic or your patient educator. Your pre-transplant coordinators will not have any information on your medications or appointment times.

Allogeneic transplant outpatient follow-up without ANY COMPLICATIONS would be to visit twice a week for 60 days. After 60 days, you will come once a week, and the doctors may consider letting you go home on the weekends if you live close and are doing well. At day 100, we will begin to taper your immunosuppressant(s), and you will come to see us every two weeks. At day 200, your visits would be less frequent and we may refer you to your oncologist at this time. AGAIN, THIS IS ONLY IN A PERFECT WORLD. Having a transplant is a lifelong commitment. With potential complications, the amount of time you personally will need to spend coming to outpatient visits cannot be estimated. You and your caregiver should seriously consider if you can comply with this strict clinic visit schedule.

At 200 days, you may begin your re-vaccination process. You will receive your first round of vaccinations at your 200-day visit and your second round at your 1-year visit. It is very important that you get these vaccinations after you have had a transplant because the chemotherapy will eliminate the vaccines and immunity you previously received as a baby.