



Fred Hutchinson Cancer Research Center  
UW Medicine  
Seattle Children's

*Working together to cure cancer*

# Preparing for Transplant



© Seattle Cancer Care Alliance 2011

# Table of Contents

<b>Important Phone Numbers</b>	<b>I</b>
<b>Introduction</b>	<b>1-1</b>
Welcome	1-1
Bone Marrow and Peripheral Blood Stem Cell Transplantation	1-1
Consultation Services	1-1
Finding Seattle Cancer Care Alliance and Fred Hutchinson Cancer Research Center	1-1
Parking	1-1
Free Shuttles	1-2
Smoke Free Environment	1-2
Airport Transportation Service	1-2
About Fred Hutchinson Cancer Research Center	1-3
Fred Hutchinson Cancer Research Mission Statement	1-3
Seattle Cancer Care Alliance Purpose	1-4
Patient Rights and Responsibilities	1-4
Advance Directives	1-5
Conflict Resolution	1-6
Patient Responsibilities	1-6
Personal Valuables	1-6
Weapons and Illegal Substances	1-7
<b>The Basics of Transplantation</b>	<b>2-1</b>
A Summary of Transplantation	2-1
Types of Transplant	2-2
Seven Steps of Transplant	2-2
<b>Step 1: Planning Ahead</b>	<b>3-1</b>
<b>Common Questions</b>	3-2
How Do I Decide?	3-2
How Long Will My Transplant Process Take?	3-2
What are the Donor Options?	3-2

# Table of Contents

## Step 1: Planning Ahead *(continued)*

What are the Housing Options?	3-2
What is the Weather like in Seattle?	3-2
What Should I Bring?	3-2
<b>Caregiver Requirement</b>	3-3
Is a Caregiver Required?	3-4
What are Caregiver Responsibilities?	3-4
Classes for Patients and Caregivers	3-5
What Should My Caregiver Bring?	3-5
<b>How Do I Manage Children?</b>	3-5
Bringing Children to Seattle	3-5
Hutch School	3-6
<b>Financial Consideration and Assistance</b>	3-7
Paying for Transplant	3-7
Living Expenses	3-7
<b>Special Preparations</b>	3-9
What Immunizations Do I Need?	3-9
What Are Advance Directives?	3-10
What If I Need to Use an Interpreter?	3-10
What Dental Care Do I Need?	3-10
What Are My Fertility Options?	3-10
<b>What Resources Are Available to Me During Transplant Process?</b>	3-12
Chaplaincy	3-12
Child Life Program at Seattle Cancer Care Alliance	3-12
Child Life Volunteers at Seattle Children's	3-12
Guest Services	3-12
Medical Nutrition Therapy Service	3-12
Patient and Family Education	3-13
Patient and Family Resource Centers	3-13
Physical Therapy	3-13

# Table of Contents

---

<b>Step 1: Planning Ahead</b> <i>(continued)</i>	
Pulmonary Function	3-13
Smoke Free Life Program	3-14
Social Work	3-15
Volunteer Services	3-15
<b>Step 2: Preparation</b>	<b>4-1</b>
How Do I Get Ready For Transplant?	4-1
Written Resources	4-1
Classes	4-1
The Medical Evaluation	4-1
Data Review Conference and Discussion Your Consent for Treatment	4-2
The Central Intravenous Line	4-2
Insertion of the Central Line	4-2
Communicating With Your Family	4-3
<b>Step 3: Conditioning</b>	<b>5-1</b>
Receiving Chemotherapy or Total Body Irradiation	5-1
High Dose Conditioning and/or Total Body Irradiation	5-1
Side Effects of High Dose Conditioning	5-1
Low Dose Conditioning Chemotherapy and Total Body Irradiation	5-1
Side Effects of Low Dose Conditioning	5-2
<b>Step 4: Transplant</b>	<b>6-1</b>
The Transplant Day	6-1
Allogeneic or Syngeneic Transplants	6-1
Autologous Transplants	6-1
Stem Cell Infusion Side Effects	6-1
<b>Step 5: Waiting for Engraftment</b>	<b>7-1</b>
Engraftment	7-1
Waiting and Watching	7-1

---

# Table of Contents

---

## **Step 5: Waiting for Engraftment (*Continued*)**

---

Complications 7-2

---

## **Step 6: Recovery After Engraftment 8-1**

---

Coping With Recovery 8-1

---

Graft Versus Host Disease 8-1

---

Preparing to Leave the Center 8-1

---

Departure Class 8-2

---

## **Step 7: Long-Term Recovery 9-1**

---

Resources After Transplant 9-1

---

Potential Chronic Problems 9-1

---

Quality of Life Following Transplant 9-2

---

## **Donor Information A-1**

---

What Is A Stem Cell? A-1

---

Peripheral Blood Stem Cell Collection Process A-2

---

Bone Marrow Harvest Process A-7

---

## **Definitions of Terms B-1**

---

## **Fundraising Ideas C-1**

---

## **Steps Through Transplantation Chart D-1**

---

## **Time Frame for Recovery E-1**

---

## **Maps F-1**

# *Important Phone Numbers*



## **Important Phone Numbers**

### **Airport Transportation Service**

Transportation to and from Seattle-Tacoma International Airport and Boeing Field is available for patients. To request transportation, please contact the Volunteer Coordinator at (206) 288-1075 at least three business days in advance of your arrival or departure.

### **Apheresis Unit**

Open between 8:00 a.m. and 4:30 p.m. (206) 288-2120.

### **Chaplaincy**

For spiritual support, information, or referral to a local church, synagogue, or mosque, please contact the Chaplaincy Care Department at (206) 288-1099.

### **Child Life Volunteers at Seattle Children's**

To request a Child Life Volunteer while you are at the hospital, please contact a Child Life Specialist at (206) 987-2100, ext. 3169.

### **Child Life Specialist at Seattle Cancer Care Alliance**

To request a Child Life Specialist while you are at SCCA, please contact (206) 288-7621.

### **Dental (Oral Medicine)**

For more information regarding dental health, please contact Oral Medicine Services at (206) 288-1333.

### **Guest Services**

To learn about current events, or to get answers to questions regarding transportation, support services, and local attractions, contact Guest Services at (206) 288-6701.

### **Hutch School**

For questions or information regarding the school or to enroll your child, please contact the Hutch School at (206) 667-1400 or visit [www.hutchschool.org](http://www.hutchschool.org).

### **Housing Options**

For questions or information regarding housing, please contact the Housing Coordinator at (206) 288-7263 or e-mail your questions to [housing@seattlecca.org](mailto:housing@seattlecca.org). Housing information is available online at [www.seattlecca.org/scca-housing-support.cfm](http://www.seattlecca.org/scca-housing-support.cfm)

### **Intake Office**

For information concerning entry into Seattle Cancer Care Alliance, please contact the Intake Office at 1-800-804-8824 or (206) 288-1024, or fax (206) 288-1025.

## Important Phone Numbers

### Long-Term Follow-Up

For questions about treatment or the management of symptoms after you leave SCCA, please contact the Long-Term Follow-Up office at (206) 667-6557.

### Outpatient Clinic

For questions about clinic appointments, your treatments or symptoms you are experiencing, contact the numbers below.

CALL FOR PROBLEMS	Transplant Patients
8 a.m.- 10 p.m., M-F 8 a.m. - 6:00 p.m., Sat. & Sun. 8 a.m. - 5 p.m., Holidays	<b>(206) 288-7600</b> <i>Adult &amp; Pediatric</i>
10 p.m. - 8 a.m., M-F 6 p.m. - 8 a.m., Sat. & Sun. 5 p.m. - 8 a.m., Holidays	<b>(206) 598-8902</b> <i>Adult</i> <b>(206) 987-2032</b> <i>Pediatric</i>

### Patient and Family Education and Information

For internal patient education documents, Transplant Manuals, Lunch and Lectures and monthly education classes, class handouts, caregiver information and website resources please contact Patient and Family Education at (206) 288-1472.

### Patient and Family Resource Center

Contact the Patient and Family Resource Center for information on support groups, classes, community resources, and business center. Please call (206) 288-2081.

### Patient Financial Services

To make financial arrangements, please contact the Patient Financial Services Office at (206) 288-1113.

### Patient Relations

Let your providers know if you have concerns or complaints about any aspect of your care. SCCA encourages you, the patient, to talk with your health-care team initially. Your nurse or social worker can be an advocate for you. If this course of action does not meet your needs, we encourage you to speak with Patient Relations at (206) 288-1056. You may also make complaints to the Washington State Department of Health at 1-800-633-6828 or to the Joint Commission by calling 1-800-994-6610, or on-line at [www.jointcommission.org](http://www.jointcommission.org) or e-mailing your concern to: [complaint@jointcommission.org](mailto:complaint@jointcommission.org)

## **Important Phone Numbers**

### **Security**

The SCCA has a 24/7/365 Security staff on the premises to provide assistance to patients, visitors and others. Contact SCCA Security for assistance with **lost and found items; directions, or obtaining a wheelchair** at (206) 288-1111.

### **Smoke Free Life Program**

For a plan to quit tobacco, please contact (206) 288-7766.

### **Social Work Office**

For information regarding patient and family services, please contact the Social Work Office at (206) 288-1076.

### **Transition Services**

For caregiver issues and discharge planning needs, please contact the Transition Office at (206) 288-2125.

### **Volunteer Services**

For information about volunteer services or to schedule a pickup at the airport, please contact the Volunteer Services Office at (206) 288-1075.

# *Introduction*

*“Cancer is not fair or selective of its victims. What our family has learned through this journey is that we control our attitudes. No matter if our lives are long or cut shorter than normal, we can choose to be happy and thankful for each day.”*

*Pediatric Unrelated Transplant  
Recipient 2000*



## **Introduction**

### **Welcome**

Welcome to the Fred Hutchinson Cancer Research Center Bone Marrow/Stem Cell Transplant Program at Seattle Cancer Care Alliance.

We are very pleased that you are considering treatment at our center in Seattle, Washington. Seattle Cancer Care Alliance (SCCA) brings together the best of three internationally renowned comprehensive cancer-care programs in the Pacific Northwest: Fred Hutchinson Cancer Research Center (FHCRC), University of Washington Medicine (UW Medicine), and Seattle Children's. Patients undergoing transplantation will be treated under FHCRC's Bone Marrow Transplant Program at SCCA.

Most people have many questions and practical concerns about transplants and treatments. We hope this information answers most of your immediate questions and helps you prepare for consultation or treatment. We suggest that you write down any additional questions you may have. We will be contacting you by telephone to discuss your questions and to make arrangements for your stay in Seattle. You may also use the Resources Directory at the front of this guide to contact us.

### **Bone Marrow and Peripheral Blood Stem Cell Transplantation**

Over 500 transplants are performed annually at Seattle Cancer Care Alliance in collaboration with the Fred Hutchinson Cancer Research Center protocols. Your treatment is based on your disease, health status, and previous health history.

### **Consultation Services**

We recommend that you take advantage of the expertise and experience of our staff. This can include physical examinations, diagnostic testing, and a consultation with a physician. The physicians will provide you with options and recommendations for treatment. Tours of both the outpatient and inpatient facilities are available by appointment.

### **Finding Seattle Cancer Care Alliance and Fred Hutchinson Cancer Research Center**

Outpatient services are provided at SCCA Clinic, located at 825 Eastlake Avenue, East in Seattle. Inpatient services are provided at University of Washington Medical Center. Please refer to the map at the end of this guide.

### **Parking**

Parking for you and your visitors is available in the parking garage beneath the Clinic. Have your parking ticket validated at the clinic first floor reception; you will need to pay \$4 per day. You may come and go throughout the day with "In and Out" privileges to the garage. SCCA and UW Medical Center garages (Triangle and Surgery Pavilion) offer reciprocal parking. Simply bring your receipt from a

## **Introduction**

participating garage to your next same-day appointment, and it will be honored. Based on Washington State law, the City of Seattle allows on-street parking at no cost to holders of Disabled Parking Permits, which are issued by the State of Washington. The Patient and Family Services Office has application forms.

## **Free Shuttles**

A free shuttle runs Monday- Friday between SCCA and UW Medical Center, and SCCA and Seattle Children's. Shuttle schedules are available at the clinic and at each hospital or on the web at [www.seattlecca.org](http://www.seattlecca.org).

## **Smoke-Free Environment**

Smoking is prohibited at SCCA. Smokers must leave the SCCA's premises in order to smoke. Washington State law prohibits smoking within 25 feet of all entrances, exits, windows, and ventilation systems of public places.

In support of this policy, SCCA staff encourages the efforts of patients, visitors, and employees who express a desire to stop smoking by providing a smoking cessation program. Contact the Smoke Free Life Program at SCCA to sign up for smoking cessation; additional details are mentioned in the Planning Ahead Section. Information is also provided on the web at [www.seattlecca.org/smoke-free-life.cfm](http://www.seattlecca.org/smoke-free-life.cfm). Or, call the Washington State Quit Line at 1-800-784-8669 (1-800-QUIT NOW) for free treatment and referral to other resources.

## **Airport Transportation Service**

Volunteer drivers provide transportation to and from the airport. Contact the Volunteer Coordinator at least three business days in advance of your arrival or departure. Please leave a message with the following information:

- Names of the patient and family members or caregivers, and the amount of luggage that you will bring.
- Your arrival date, time, airline, flight number, and city of origin for the flight.
- For departures from Seattle, please state the airline and flight departure time. You are advised to arrive at the airport at least one-and-a-half to two hours before the departure time.
- The name and address of your hotel or residence in Seattle.
- Your hometown, daytime and cell phone numbers, and the best time to reach you.

The Volunteer Services Program Assistant will contact you to confirm transportation arrangements. Please keep in mind that it may not be possible to arrange for volunteer transportation between 10:00 p.m. and 6:00 a.m. and on major holidays.

## **Introduction**

### **About Fred Hutchinson Cancer Research Center**

Fred Hutchinson Cancer Research Center is one of 43 Comprehensive Cancer Centers in the United States, as designated by the National Cancer Institute, and one of the largest bone marrow transplant centers in the world. It was here that Dr. E. Donnall Thomas pioneered bone marrow transplantation and received a Nobel Prize for his work. The significance of his efforts along with the work of many of the faculty at this center continues to be internationally recognized. Constant research and scientific advances since the 1960s have significantly increased the success of marrow transplantation. In addition to our contribution to science, we are recognized for the highest quality in clinical services.

### **Fred Hutchinson Cancer Research Center Mission Statement**

The mission of FHCRC is the elimination of cancer as a cause of human suffering and death. Hutchinson Center conducts research of the highest standards to improve prevention and treatment of cancer and related diseases.

In fulfilling the mission of FHCRC:

- Biological scientists conduct fundamental research to discover mechanisms underlying the life of normal cells and the changes in these processes that cause disease.
- Clinical research scientists develop and test new forms of diagnosis and therapy.
- Public health scientists develop and apply new knowledge to help individuals and communities reduce the incidence and death rate from cancer and related diseases.

Scientists from all fields share and integrate their findings and insights to foster the development and testing of new approaches.

FHCRC is dedicated to:

- Generating new scientific discoveries and translating them into effective medical practices, therapies, and public health approaches.
- Recruiting, supporting, and training highly qualified scientists and physicians in an environment that promotes collaboration and excellence.
- Cooperating with other research and medical institutions to assure worldwide access to new research findings and technical developments.
- Providing sensitive, efficient, and effective care for patients participating in experimental therapies and other studies.
- Promoting the importance of scientific research, responsible medical care,

## **Introduction**

healthy environments, and personal behaviors through public education and advocacy.

## **Seattle Cancer Care Alliance Purpose**

SCCA's Vision:

To lead the world in translating scientific discovery into the prevention, diagnosis, treatment, and cure of cancer.

A major focus of SCCA is to speed up the transfer of new diagnostic and treatment techniques from the research setting to patient care. The highly integrated approach to cancer research and treatment among SCCA partner organizations supports the flow of scientific information among researchers, clinicians, and patients, thereby accelerating the development of new knowledge and treatment of various cancers.

SCCA's Purpose:

- Provide state-of-the-art patient and family centered care.
- Support the conduct of cancer clinical research and education.
- Enhance access to improved cancer interventions and advance the standards of cancer care, regionally and beyond.

## **Patient Rights and Responsibilities Statement**

SCCA respects the rights of all its patients equally and individually.

As a patient at SCCA, you have the right to:

- Reasonable access to medical care within the capacity of our mission, purpose, and principles, and in compliance with the appropriate laws and regulations;
- Medical care guided by the best medical practice;
- Confidentiality regarding your care and medical records;
- Understand how SCCA uses and discloses your health information (“Notice of Privacy Practices”);
- Access your medical records (upon request) and to have this information explained as necessary, except when doing so is restricted by law;
- Receive information in a manner you can understand;
- Access to interpreter services if you are non-English speaking; or with vision, speech, hearing, or cognitive impairments;
- Voluntary participation in all medical research studies;

## **Introduction**

- Care that is respectful of your cultural, psychosocial, and spiritual preferences;
- Care that supports privacy, personal dignity, and individual needs;
- Delivery of care that is free from mental, physical, sexual, or verbal abuse, neglect, or exploitation;
- Security and protection of your physical person and rights;
- Priority of medical needs over the objectives of any research study;
- Participate and make decisions in all aspects of your care;
- Open discussions about your care;
- Refuse treatment or services to the extent permitted by law and be informed of the potential consequences of such an action;
- Treatment that does not prolong suffering, if your medical condition reaches a point where recovery is not realistically possible;
- End-of-life care that maximizes comfort, dignity, and quality of life as defined by you and your family;
- Access to SCCA Ethics Committee for assistance with ethical issues;
- Appropriate assessment and management of pain;
- Be informed of options for ongoing medical care if SCCA cannot meet the request or need for care, treatment, or services (including discharge or transfer);
- Inspect and clarify your billing statements.

## **Advance Directives**

If you are an adult, (at least 18 years of age, and have the capacity to make health-care decisions), you have the right to make your wishes known about the extent of the treatment you would desire if you become unable to communicate those wishes. This communication is called an Advance Directive. Two commonly used advance directives are:

- A health-care directive (living will), in which you communicate orally or in writing the specific treatment desired if you later cannot communicate these wishes.
- A durable power of attorney for healthcare, in which you designate another person to make decisions about your healthcare if you become unable to do so.

Advance directives are highly recommended. Social Work staff is available to assist you with advance directives. SCCA will respect the intent of your directives to the extent permitted by law and SCCA policy.

## **Introduction**

### **Conflict Resolution**

Investigate any wrongful actions against your rights;

Address concerns regarding patients' rights. SCCA encourages you, the patient, to talk with your health-care team initially. If this course of action does not meet your needs, we encourage you to speak with Patient Relations.

### **Patient Responsibilities**

As a patient at SCCA, you share in the responsibility for your care. You have the responsibility to:

- Participate in decisions involving your care;
- Provide complete information about your health, symptoms, and medications;
- Ask your provider questions when you do not understand the planned treatment, care, or what is expected of you;
- Follow the treatment plan, which you and your provider have agreed upon;
- Keep appointments or let us know if you cannot make them;
- Take responsibility for the outcomes if you do not follow the treatment plan;
- Be considerate of the rights of other patients, personnel, and property;
- Follow SCCA rules and regulations;
- Provide accurate and timely information about sources of payment and your ability to meet financial obligations;
- Promptly meet any financial obligation agreed to with SCCA;
- Let your providers know if you have concerns or complaints about any aspect of your care. SCCA encourages you, the patient, to talk with your health-care team initially. Your nurse or social worker can be an advocate for you. If this course of action does not meet your needs, we encourage you to speak with Patient Relations at (206) 288-1056. You may also make complaints to the Washington State Department of Health at 1-800-633-6828 or to the Joint Commission by either calling 1-800-994-6610, or on-line at [www.jointcommission.org](http://www.jointcommission.org), or by e-mailing your concern to [complaint@jointcommission.org](mailto:complaint@jointcommission.org).

### **Personal Valuables**

SCCA (including Fred Hutchinson Cancer Research Center, UW Medicine, and Seattle Children's) is not responsible for any loss or damage to your personal property including money, jewelry, watches, or other items of value. We strongly recommend that you not bring any of these items with you when you are in the hospital.

## **Introduction**

### **Weapons and Illegal Substances**

Weapons and illegal substances are not allowed on SCCA property (including Fred Hutchinson Cancer Research Center, UW Medicine, and Seattle Children's). To report or request assistance in handling a suspected case or actual observed violation contact our 24/7 Security Control Room. The existence of a concealed weapons permit does not exempt a person from this policy. Please secure weapons prior to entering the Clinic.

# *The Basics of Transplantation*

*“I am blessed to be among the fortunate transplant recipients who have virtually no sequelae of having been given a new immune system 10 years ago. Each year I reflect upon whether I have made good use of the gift, with hopes of making better use of it next year. I am forever grateful to everyone at FHCRC and to my donor, who as yet remains unknown to me.”*

*Unrelated Transplant Recipient 1997*



# The Basics of Transplantation

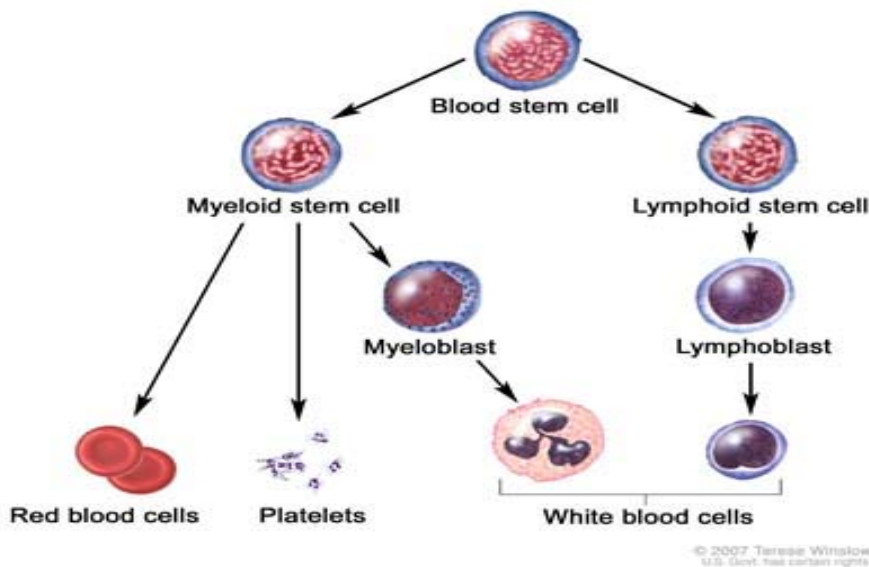
## Why Is Transplantation Done?

The purpose of transplantation is to cure otherwise fatal diseases using chemotherapy, radiation or both. The intense treatment also decreases the number of cells in your marrow that make blood cells. Your ability to make blood cells is restored by transplanting healthy stem cells into your body.

## What Is Being Transplanted?

The name for what is being transplanted has changed over the years. The names you might here include: bone marrow, stem cells, hemopoietic stem cells, peripheral blood stem cell and pluripotent stem cell transplant. Stem cells are very young cells that can grow into mature red blood cells, white blood cells and platelets or plasma cells (see the figure below). Stem cells are an essential part of a person's immune system.

Stem cells are made in your bone marrow. Stem cells are also in your blood. These are called peripheral blood stem cells. Stem cells are also present in the blood of the umbilical cord of a baby. Therefore, there are three places to obtain stem cells for transplantation: the bone marrow, the blood stream, and from the umbilical cord immediately after birth.



**Erythrocytes/ Red cells:** carry oxygen to other cells in your body.

**Leukocytes/White blood cells:** fight infection.

**Thrombocytes /Platelets:** help your blood to clot.

It takes several weeks for the stem cells to grow (engraft) in your bone marrow space and then produce red cells, white cells and platelets. During this time you are susceptible to complications and need close monitoring.

# The Basics of Transplantation

## Types of Transplant

The type of transplant is based on the type of stem cells. Disease and clinical status determine the type of transplant you are recommended to have.

Transplant	Source of Stem Cells
Autologous .....	The patient
Allogeneic .....	A related or unrelated donor or cord blood
Haplo .....	Parent, child or sibling – half match
Syngeneic .....	Identical twin

In an **autologous** transplant, your own stem cells are taken from your bone marrow or collected from your bloodstream. These cells are then stored in a freezer to be given back to you (transplanted) after you have received chemotherapy, radiation, or both.

In an **allogeneic** transplant, you will receive stem cells from another person, either someone in your family or an unrelated donor. The stem cells can come from the bone marrow, bloodstream or umbilical cord of the donor. In a **cord blood** transplant, blood is collected from the umbilical cord and placenta after a baby is born. This blood is rich in blood-forming cells. The donor chosen has a tissue type that matches your tissue type as closely as possible. If you do not have a suitable family member donor, you may be able to find a donor in the general population that closely matches your tissue type. A search is done by a bone marrow registry. A **mixed chimerism** transplant is a **sub-type** of an allogeneic transplant where patients receive lower doses of conditioning.

In a **syngeneic** transplant, the donor is your identical twin. In a **haplo** transplant your donor's cells half match your cells and are usually from a parent, child or sibling.

## Seven Steps of the Transplantation Process

Deciding to have a bone marrow/stem cell transplant is a significant event. It is like embarking on a long, challenging journey. The following seven sections describe each step in the transplantation process.

- Step 1: Planning Ahead
- Step 2: Preparation
- Step 3: Conditioning
- Step 4: Transplant
- Step 5: Waiting for Engraftment
- Step 6: Recovery After Engraftment
- Step 7: Long-Term Recovery

# *Step 1-Planning Ahead*

*“I have a new perspective on family, what’s important, and the work-life balance.”*

*Unrelated Transplant Recipient 2002*



# **Step 1: Planning Ahead**

## **Common Questions**

### **How do I decide?**

Many patients feel that having a transplant is a major turning point in their lives. Most people describe this process as an emotional rollercoaster. Research has shown that hope is a helpful force in surviving and coping with illness. At the same time, feelings of uncertainty may continue even after the decision is made.

The “Planning Ahead” phase is a busy time when you are organizing your personal affairs so that you can give your full attention to coping with the treatment experience. Many choices need to be made, from selecting a family member or friend to be your caregiver to making financial arrangements. If you live outside the Seattle area, you will need to make plans for travel and housing.

### **How long will my transplant process take?**

The length of transplant treatment is different for each patient, based on disease, the specific treatment plan, and your response to the treatment. Some patients will spend two to three weeks in the hospital and then receive care in the outpatient department for a number of weeks to months. Other patients will receive the majority of treatment in the outpatient department and enter the hospital if needed. Your nurse/doctor will explain the expected length of treatment to you. The total time varies from approximately two to four months.

### **What are the donor options?**

If you are having an autologous transplant, you will have your stem cells collected and stored prior to your transplant.

If you are having an allogeneic transplant, you will be looking for a donor among your family members. Information on bone marrow or PBSC collection and storage, is available in the “Donor Information” section in the back of this guide.

If a suitable family member donor is not available, you may decide to begin a search for an unrelated donor through a donor registry.

## **Step 1: Planning Ahead**

### **What are the housing options in Seattle?**

**You need to live within a 30 minute drive to the clinic.** A map showing 30 minute boundaries is located in the back of this book. It will be your responsibility to choose the most appropriate place to live for you and make arrangements directly with housing management. There is a Housing Coordinator who can answer your questions. The housing list can be found at [www.seattlecca.org/housing](http://www.seattlecca.org/housing). Contact your insurance company to learn if there is a housing and/or travel benefit included in your policy. If you have State Medicaid, see the housing list and follow the instructions for pre-authorization. You may email the Housing Team to answer any questions at [housing@seattlecca.org](mailto:housing@seattlecca.org). See the Important Phone Number section in the front of this booklet for phone numbers. If you choose housing that is not on the list, be very certain that you are clear about the terms of your lease agreement.

Shuttle services are sometimes included with your housing. A shuttle runs Monday- Friday between the SCCA Clinic and the Pete Gross House and the SCCA Clinic and the SCCA House. There is also a shuttle that runs Monday-Friday between the SCCA Clinic, UW Medicine and Seattle Children's.

### **What is the weather like in Seattle?**

Seattle has a moderate climate. The heaviest rainfall is from October through June. Clothing should include a raincoat, sweater and umbrella.

### **What should I bring?**

- Comfortable socks, shoes and slippers that are expandable - not slippers
- Bring casual, comfortable clothing. Dressing in layers is helpful as temperatures in the clinic as well as Seattle vary.
- Female patients may find sports bras helpful because of the central intravenous line connection
- Front buttoning pajamas
- Something to help you relax (such as music and tapes).
- Head cover ups, scarves, hats, or wig
- Comfortable loose fitting/oversized shirts, shorts, and sweat pants that are washable
- Portable PC, tape player, walkman, iPod, MP3 player
- Books, magazines, handwork to help pass the time between appointments
- Meat thermometer for monitoring food temperature for food safety
- Athletic /tennis shoes/ walking shoes
- Cuff weights and heart rate monitor (if you have them)
- Cell phone or phone cards

## Step 1: Planning Ahead

- Car (optional); as a patient, you may not be able to drive yourself much of the time in Seattle.
- Medical information (history, diagnostic films, reports, notes, list of current medications)
- Living Will and Medical Power of Attorney
- Insurance card
- Work-related materials if you will be telecommuting

## Caregiver Requirement

### Is a Caregiver Required?

**YES.** A caregiver is a responsible family member or friend who is able to provide physical care, observation and emotional support for you during and for the months after the transplant.

You must establish a plan for caregiving and identify specific caregivers who can support you during the outpatient phases of the transplant process. If needed, we will be pleased to assist you in exploring options for caregiver support. **You will not be accepted for transplantation at this center if you cannot identify a caregiver plan. You will have to provide a written caregiver plan. The length of time that you require a caregiver will depend on your clinical condition. Please see the example below.**

Dates	Caregiver Name	Relationship to Patient	Length of Time Available	Comments

Caregiver responsibilities may be shared among family members or friends. Typical responsibilities of the caregiver are listed on the next page:

## Step 1: Planning Ahead

### What are the Caregiver Responsibilities?

- **Making Arrangements**
  - Transportation to and from the clinic
  - Tracking appointments
  - Accompany patient to all appointments
- **Providing Emotional Support**
- **Providing Physical Care**
  - Caring for the central intravenous line
  - Helping the patient to take oral medications
  - Keeping track of medications taken
  - Giving intravenous fluids and medications using a pump device
  - Identifying changes in the patient's condition
  - Obtaining medical care if needed
  - Reporting symptoms to healthcare staff
- **Maintaining the Home Environment**
  - Cleaning
  - Food preparation
- **Gathering Information**
- **Serving as a Communication Link with Other Family Members and Friends**
  - The caregiver has a demanding role in helping with your treatment and recovery. It is important to consider in advance who would be able to be your caregiver. If more than one person will be taking care of you, a written schedule listing each person's time should be made before arriving for transplant.
  - **Consistent Support:** Caregiver is present the majority of the time; breaks should be less than 3-4 hours. Adult patients left alone should have access to the phone, the ability to contact emergency services, the ability to operate ambulatory pumps, the ability to get to the restroom, and access to food and fluids. Pediatric patients should not be left alone.
  - **Intermittent Support:** Does not need a caregiver majority of hours within a 24-hour period. A caregiver is available 2-3 times per day to provide assistance with dressing changes, medications, transportation, and processing information provided during conferences or clinic visits.

## **Step 1: Planning Ahead**

- **Minimal Support:** Patients do not require a caregiver, but do benefit from emotional support during a clinic visit and conferences.

### **Classes for Patients and Caregivers**

Patients and caregivers are strongly encouraged to attend classes. Classes are offered every week at the SCCA. Caregivers are taught how to give medications and intravenous fluids, take care of the central line, prevent infections, and recognize symptoms. Information on adjusting to recovery during and after the transplant are also offered.

### **What Should My Caregiver Bring?**

- Insurance cards and other important paperwork, passport, birth certificate, drivers license
- Comfortable clothing
- Laptop computer (If you have one)
- Camera
- Work-related materials if you will be telecommuting
- Large bag or back pack to carry materials to and from the clinic

## **How do I Manage Children?**

### **Bringing Children to Seattle**

Decisions regarding care of infants and young children need to be made before you come to Seattle. Spouses with small children have found it difficult to juggle the roles of parent and caregiver at this time. We recommend that you select a person to provide parenting and designate another person as your caregiver if possible. The decision on whether to bring your children to Seattle or to arrange for their care at home may be difficult. A Social Worker is available to discuss this with you.

There are no age limits for persons visiting you in the hospital. However, it is difficult for infants and young children to be at the hospital for long periods of time since there are few things for them to do. Siblings are not allowed to stay overnight at Seattle Children's. We do not provide day-care facilities for infants or children, nor do we recommend the use of community day care facilities because of increased exposure to common respiratory viruses. After school care is not provided.

## **Step 1: Planning Ahead**

### **Hutch School**

The Hutch School is an accredited program with the State of Washington and is an agency school of the Seattle Public Schools. Both school-aged patients and school-aged relatives of patients may enroll. Our comprehensive school program and curriculum are based on nationally recognized standards.

If your child is a patient at the SCCA, he/she is eligible for our patient tutoring program. When your child is an outpatient, the tutoring is still done on a one-to-one basis (unless the child's doctor agrees that the patient may be among other children, in which case attendance at the Family Member program is allowed).

As an outpatient, the student may come to the school for tutoring sessions. When the child is in the hospital, the teachers in the Children's Hospital program will serve as tutors. Children who come with the patient to Seattle may attend the Family Member program. The students in this program are grouped in the following way: 1) primary/elementary, 2) intermediate/middle, and 3) secondary/high school.

The Hutch School staff communicates with the student's home school to work out an appropriate academic plan. The personalized attention and small class can accommodate a variety of academic needs. The Hutch School program offers students a new, enriching academic environment. Rarely do children go home behind in their school work. Enrollment in Hutch School's Family Member program is a good way for your children to find support during a difficult time. Not only do the teachers have a great deal of understanding about their situation, but all of the other students empathize with their concern for the health of a loved one, as they are each going through the same thing. Students are encouraged to learn together, to enjoy the unique diversity of their classmates, and to benefit from the extraordinary circumstances that bring them to Seattle.

If your child is in high school, he or she is encouraged to bring math, foreign language, and higher-level science texts, if appropriate. Other course work will be provided by the Hutch School program. Arrangements will be made with the home school to meet credit requirements. Tutors are available for specific subject areas.

Students in the elementary grades are asked to bring their math books, and the younger children may bring workbooks in reading and language, if desired. When you return to your home, the Hutch School teacher will send either a report or grades to both you and your child's home school.

## **Step 1: Planning Ahead**

You may register your child for school after you arrive in Seattle. To learn more about Hutch School visit [www.Hutchschool.org](http://www.Hutchschool.org).

### **Financial Considerations and Assistance**

#### **Paying for Transplant**

Transplantation is a highly technical and expensive treatment. The Center requires a guarantee of funds to cover the costs, either by health insurance or by prepayment. A representative from the Finance Department will evaluate your insurance coverage.

#### **Living Expenses**

It is important that you consider the cost of living in Seattle during transplantation. Many families arrange fund-raising efforts at home before coming to Seattle for a transplant. These funds can help with transportation and living expenses as well as additional medical expenses not covered by insurance. Please contact your insurance case manager to see if any of these expenses are covered by your insurance plan.

The following table lists resources that may help with various expenses or offers other types of support. Contact the individual organizations for additional information. The assistance available varies among organizations. Please see the fundraising appendix at the end of this document for suggestions.

## Step 1: Planning Ahead

### Financial Considerations and Assistance

Inclusion on this list does not mean endorsement by the SCCA

Agency	Method of Contact
<b>American Cancer Society</b> <a href="http://www.cancer.org">www.cancer.org</a>	Contact your local organization. Look up the phone number in your city's telephone directory.
<b>Angel Flight West</b> Offers free air transportation on private aircraft for people with health care problems. They need one week notice and the <b>patient must be medically stable and able to walk</b> . See website at: <a href="http://www.angelflightwest.org">www.angelflightwest.org</a>	(888)-426-2643
<b>Carlson Wagonlit Travel</b> <a href="http://www.carlsonwagonlit.com/en/">http://www.carlsonwagonlit.com/en/</a>	Official FHCRC/SCCA Travel Desk (206) 667-3434
<b>Children's Organ Transplant Association (COTA)</b> <a href="http://www.cota.org">www.cota.org</a>	(800)-366-2682
<b>Corporate Angel Network (CAN)</b> Provides free air transportation for cancer patients traveling to and from recognized treatment centers in the United States without regard to their financial resources. CAN arranges for patients to use empty seats on corporate aircrafts operating on business flights. See website at <a href="http://www.corpangelnetwork.org">www.corpangelnetwork.org</a>	(866)-328-1313
<b>Leukemia &amp; Lymphoma Society</b> <a href="http://www.leukemia-lymphoma.org">www.leukemia-lymphoma.org</a>	Contact your local organization. Look up the phone number in your city's telephone directory.
<b>Marrow Power!</b> <a href="http://www.marrowpower.org">www.marrowpower.org</a>	(973)-895-3051
<b>National Children's Cancer Society (pediatric patients only)</b> <a href="http://www.children-cancer.org">www.children-cancer.org</a>	(800) 5-FAMILY
<b>National Foundation for Transplants</b> <a href="http://www.transplants.org">www.transplants.org</a>	(800)-489-FUND
<b>National Patient Travel Center</b> Free referrals are made to all known charitable, charitably-assisted and special patient discount commercial services based on an evaluation of the patient's condition, type of transport required and departure/destination locations. <a href="http://www.patienttravel.org">www.patienttravel.org</a>	(800)-296-1217 in the U.S. (757) 318-9145 elsewhere
<b>National Transplant Assistance Fund (NTAF)</b> <a href="http://www.transplantfund.org">www.transplantfund.org</a>	(800)-642-8399
<b>Social Security Supplemental Income Disability</b> <a href="http://www.ssa.gov">www.ssa.gov</a>	Contact your local Social Security office to apply for disability. Look up the phone number in your city's telephone directory.

## Step 1: Planning Ahead

### Special Preparations

#### What Immunizations Do I Need?

Vaccinations for Household Contacts and Caregivers of Transplant Patients	
Vaccine	Recommendations for Use
Hepatitis A	Routine vaccination is recommended for: <ul style="list-style-type: none"> <li>• Children 12 months of age or older; and</li> <li>• Other persons at risk for hepatitis A (i.e. food worker)</li> </ul>
Inactivated Influenza (Flu Shot)	Vaccination is strongly recommended during each flu season (i.e. October-April). All household contacts should be vaccinated annually.
Intranasal Influenza Vaccine (FluMist)	<b><i>The flu shot is preferred over the flumist vaccine</i></b> because flumist is a live vaccine that has a low risk of spreading the virus to others the first 7 days after getting the vaccine. If caregivers and household members experience cold and flu symptoms after getting the live flumist, they should avoid contact with the transplant patient and visits to the Seattle Cancer Care Alliance Clinic or hospital until the symptoms are gone.
Inactivated Polio Vaccine	Vaccination is not routinely recommended for adults but should be given to children that have not been vaccinated.
Measles, Mumps, Rubella (MMR)	Vaccination recommended for all persons 12 months or older and who are not pregnant or immunocompromised. Although MMR is a live vaccine, household transmission does not occur.
Rotavirus	Persons may receive the vaccine without any concern to the transplant patient. The vaccine is recommended for infants.
Pertussis, Diphtheria, and Tetanus	The combined vaccine is recommended without any concerns to the transplant patient. It comes in two different formulas: <ol style="list-style-type: none"> <li>1. Diphtheria, Tetanus, and acellular Pertussis (DTaP): For persons under 7 years of age.</li> <li>2. Tetanus, Diphtheria, and acellular Pertussis (TDaP): For adolescents and adults.</li> </ol>
Varicella (chicken pox)	Vaccination should be administered to all persons 12 months or older that are not pregnant or immunocompromised. The vaccine is a live vaccine and poses a very small risk of household transmission, usually only if the vaccinated person develops a rash. If the vaccinated person develops a rash, the transplant patient might be placed on an antiviral medication, such as acyclovir, if he or she is not already taking it.
Zostavax (shingles)	Only available to adults 60 and over. Household members and caregivers should talk to their primary care provider about whether or not it is beneficial to receive the vaccine. It is a live vaccine, so there is a small risk of developing a rash after getting the vaccine. In this rare instance, the transplant patient might be placed on an antiviral medication, such as acyclovir, if he or she is not already taking it.

Source: *Guidelines for Preventing Infectious Complications among Hematopoietic Cell Transplantation Recipients: A Global Perspective. Biology of Blood and Marrow Transplantation, Volume 15, Issue 10, Pages 1143-1238. June 2009. M. Tomblyn, T. Chiller, H. Einsele, R. Gress, K. Sepkowitz, J. Storek, J. Wingard, J. Young, M. Boeckh*

## **Step 1: Planning Ahead**

### **What are Advance Directives?**

Advance directives are documents in which you either state your choices for medical treatment or designate who should make treatment choices if you cannot make decisions. The two types of advance directives that we accept are the Living Will and the Durable Power of Attorney for Health Care. Prior to transplant, we recommend that you consider obtaining an advance directive. Be sure to bring these documents.

### **What If I Need to Use an Interpreter?**

Interpreters are necessary during medical consultation and consent conferences. Interpreters are helpful during conferences with your health care team when you are learning how to manage your care and for periodic updates on the progress of your treatment. Your individual needs for interpreter services will be discussed with you, and services to meet your needs will be coordinated by your medical team.

### **What Dental Care Do I Need?**

The mouth can be a source of infection following transplantation. These infections can be traced to pre-existing diseases of the teeth and gums. You should receive a thorough dental examination (including x-rays) before coming to Seattle for treatment. Dental cleaning, review of oral hygiene techniques, and repair of decayed or broken teeth should be done if your medical condition permits. Braces should be removed prior to arrival. Loose or poorly fitting dentures should be adjusted. If your dentist has any questions, he or she can contact Oral Medicine; the phone number is listed in the Resources section in the front of this document.

### **What Are My Fertility Options?**

Undergoing treatment with radiation and chemotherapy puts both males and females at risk of becoming infertile. Inability or difficulty in conceiving a child as a result of these therapies may be temporary or permanent. A number of factors, including the individual's gender, age at the time of treatment, type of chemotherapy drugs used, location of radiation, total dose of chemotherapy and/or radiation, and length of time since treatment all influence the ability to have a child after cancer treatment. Predicting the outcome for any individual patient is difficult. Your oncologist can discuss the fertility risk of your particular treatment regimen with you. Fertility Clinics at the University of Washington is also an option.

- **Fertility Preservation Options for Adult Men and Teens**

For some male patients, sperm banking may be possible. If interested, you should investigate the feasibility of sperm banking with your doctor prior to arrival in Seattle. Sperm bank centers are available throughout the country.

## Step 1: Planning Ahead

- **Sperm banking** services are widely available for men and for teens mature enough to ejaculate.
- **Testicular sperm aspiration** (TESE) this is the surgical removal of testicular tissues containing sperm. The sperm are then frozen. This procedure is usually performed by an urologist and is an option for teens who are Tanner stage 2 (ask your doctor about this) and for men with documented inability to ejaculate.
- **Fertility Preservation Options for Adult Women and Teens**

Women may want to consider storage of embryos prior to marrow transplantation. This procedure requires administration of hormones to induce ovulation. Please check with your gynecologist. Because of the time and expertise involved, if you are interested in this option, the work may be accomplished in a reproductive center prior to coming to Seattle so as not to delay treatment once you arrive. Fertility Clinics at the University of Washington is also an option.
- **Embryo cryopreservation** (fertilized egg freezing and storage) the administration of hormones to stimulate ovulation. Eggs are then removed surgically, fertilized with a partner's or donor's sperm, frozen and stored for future implantation in the uterus.
- **Oocyte cryopreservation** (egg freezing and storage) is not offered at all fertility clinics but when available is an option for teens and women who do not have a spouse or partner and want to preserve their fertility without having to use donor sperm. Like embryo freezing, this involves the use of hormones to stimulate ovulation. Eggs are removed, frozen and stored unfertilized.

Insurance coverage for fertility interventions varies. Work with your reproductive clinic to determine what may or may not be covered and what the costs will be. Ask them about financial assistance programs such as Sharing Hope, administered by the Lance Armstrong Association.

Fertility preservation services are not available through the SCCA, if desired this will need to be coordinated before you arrive. There are fertility resources available in Seattle.

Many patients have appreciated these suggestions and have had positive experiences later in life.

## **Step 1: Planning Ahead**

### **What Resources are Available to me During the Transplant Process?**

#### **Chaplaincy**

Chaplains can provide you with respectful spiritual and emotional care for all faiths and spiritualities including those that identify themselves as non-religious or non-spiritual. Chaplaincy provides worship, meditation sessions and can assist you in locating religious and spiritual resources. You can visit the Sanctuary, located on the 1<sup>st</sup> floor of the SCCA for quiet prayer, reflection or meditation.

#### **Child Life Program at Seattle Cancer Care Alliance Clinic**

This service helps your child cope with the stresses of illness. The Child Life Specialist uses medical play to explain treatments and procedures in language appropriate to their age and development. Child Life is available to help you or other family members with coping skills needed to care for a sick child.

Contact the SCCA's Child Life Specialist in advance to set a play date with a volunteer in the clinic's 5<sup>th</sup> floor play area.

#### **Child Life Volunteers at Seattle Children's Hospital**

Specially trained Child Life Volunteers offer companionship, games, and craft activities for pediatric inpatients at Children's Hospital. Siblings may participate in play sessions with volunteers in the Recreational Therapy playroom. To request a Child Life Volunteer while you are at the hospital, please contact the Child Life Specialist.

#### **Guest Services Desk at the Seattle Cancer Care Alliance Clinic**

Guest Services Volunteers can provide information on SCCA Clinic, Seattle area sightseeing, restaurants, transportation and recreational opportunities. Passes to selected Seattle attractions and free tickets to local events can be reserved by stopping by the desk. The Guest Services Desk is located in the main 1st floor lobby of SCCA Clinic and is open Monday – Friday, 8:00am to 4:00pm, and occasional Saturdays from 9:00am until noon.

#### **Medical Nutrition Therapy Services**

If you are now at a normal weight, it is not necessary to try to gain weight prior to transplant. However, if you are underweight, it is recommended that you try to gain weight. For people wishing to take vitamins or other supplements, we recommend a one-a-day multivitamin and mineral supplement that is iron-free (usually labeled as vitamins for older adults). Children may take a standard pediatric multivitamin. Check with your pediatrician if an iron-free one is necessary. Dietitians can help guide you on appropriate food choices.

## Step 1: Planning Ahead

### Patient and Family Education

Knowledge is power! You have the right to information regarding treatment options, disease information, treatment process, managing and monitoring health status in the home setting, and maintaining health after treatment. Ask your nurse for Patient and Family Education Materials, such as the, Transplant Manuals, Chemotherapy Cards, Symptom Sheets or Lecture and Lunch events.

### Patient and Family Resource Centers

The SCCA Patient and Family Resource Center offers free brochures and pamphlets on types of cancer, treatments and supportive care. The Resource Center Patient Navigator can provide information on classes, lectures and support groups at the clinic as well as referrals to support groups, appointments for free wig fittings and classes offered in the community. It also has computer workstations with free internet access, a printer, fax and copy machine for your use.

Family members and caregivers of SCCA patients at the University of Washington (UW) Medical Center may visit the Oncology Concierge Desk, which is located next to the family lounge on the eighth floor of the hospital. The Health Information Resource Center is available on the third floor.

Seattle Children's Family Resource Center is located in the Train Zone on 5th floor. The Family Resource Center provides information and support for families.

### Physical Therapy

You may be referred to see a Physical Therapist during your visit. This referral before your transplant will help to get an accurate measure of your pre-transplant function, strength, and range of motion in order to have baseline functional data to compare with your post-transplant progress. You will also be given an individualized exercise prescription (if appropriate) to help improve your cardiovascular strength and function, improve muscle mass and improve range of motion in an effort to prevent or minimize post-transplant physical complications.

### Pulmonary Function

Throughout your treatment you will have pulmonary function tests done. **You will be given instructions on how to prepare for these tests once you arrive.** These tests measure your lung function.

Three types of tests will be completed:

- Spirometry - measures how forcefully and how much air you can exhale in one breath.

## **Step 1: Planning Ahead**

- Lung Volume - measures the total amount of air in the lungs without forcibly blowing out.
- Testing the diffusion capacity (also called the DLCO) - allows the doctor to estimate how well the lungs move oxygen from the air into the bloodstream.

### **Smoke Free Life Program**

The goal of the Smoke Free Life Program is to help you create a plan to quit using tobacco that will work for you. We achieve this by addressing three key components:

- Ending or controlling the physical addiction and craving,
- Looking at your emotional reasons for smoking, such as stress or boredom, and identifying new ways to handle these issues, and
- Finding effective ways to break the habit of using tobacco.

If you are interested in using a medication to manage nicotine withdrawal symptoms, we can help you determine which medication is best for you and help you access it. If you smoke to manage stress or deal with other emotional issues, we can offer alternate approaches that will preserve and improve your health. Finally, we can help you find strategies to break the habit of smoking.

The Smoke Free Life Program is a service available to SCCA patients and their caregivers. You do not have to be in Seattle to participate and benefit from the program. Smoking cessation staff can meet with you in-person or talk on the phone, whichever suits your needs.

To gain access to the program you may:

- Request a referral from your physician to the Smoke Free Life Program, or
- Call the program directly.

Quitting Smoking after a cancer diagnosis can help: It's never too late to quit. Stopping tobacco use, even at the time of diagnosis for many cancers, can significantly increase patients' chance of survival and improves their quality of life. Continuing to smoke during cancer treatment can result in poorer outcomes.

### **Here are some of the great reasons for you to quit smoking when receiving cancer treatment:**

- If you are receiving radiation therapy or chemotherapy for your cancer, you may have a better response to the treatment and experience fewer side effects
- Your immune function may be improved

## **Step 1: Planning Ahead**

- You will have fewer pulmonary, circulatory and infectious complications
- You will recover and improve more quickly after surgery
- The time it takes to heal your wounds is reduced
- There will be a far less chance of being admitted to the Intensive Care Unit after surgery
- You lower your risk for disease relapse

### **Social Work**

The Social Work Department provides counseling, education and social advocacy. Social Workers can help you adjust to your illness, promote health care navigation, assist you in the development of coping strategies, and inform you about various resources. Social Workers are available to you and your family.

### **Volunteer Services Program for Patients and Their Families**

Volunteers can provide support for patients and their caregivers in a variety of ways. Volunteers offer companionship and practical assistance. Following are examples of ways that Volunteers can be supportive:

- Meet you at the airport when you arrive in Seattle. Provide rides to and from the airport for you and for family members and friends who are your primary caregivers.
- Help you get to know the city and provide transportation for grocery shopping and errands once or twice a week.
- Offer social activities and opportunities to take relaxing breaks.
- Offer weekly recreational outings for children and teens.

## *Step 2-Preparation*

*“I am so thankful every day for this time;  
Time to guide my three children through the  
precarious teenage years; Time to love my  
husband; Time to enjoy the beauty of the  
world; Time to give back and help others.”*

*Allogeneic Transplant Recipient 2003*



## **Step 2: Preparation**

### **How Do I Get Ready for Transplant?**

You may experience a sense of urgency to get started with treatment and feel “in limbo” waiting for test results.

However, this period of evaluation and orientation is essential to the success of your treatment. The medical exams and tests help us determine your treatment plan. During the conferences, the treatment plan is explained and you have the opportunity to discuss your questions with the doctor. You will need time to read and consider the treatment and protocol consent forms.

### **Written Resources**

During your “arrival appointment” at SCCA, you will receive the “Patient and Caregiver Resource Manual,” which has information to help you navigate the campus and the Seattle area, as well as content of classes and individual instruction you will receive during the transplant process.

### **Classes**

SCCA offers classes and individual instruction to patients, donors, caregivers, friends, and family members. You will be introduced to SCCA and given instructions on how to take care of your central intravenous line, prevent infection, and take medications. Your caregiver will learn to help manage your symptoms.

### **The Medical Evaluation**

After you arrive in Seattle, you will check in at SCCA. You will receive a physical examination, labs, and diagnostic tests. Studies may include tissue typing, a bone marrow aspiration, pulmonary function studies, chest X-rays, and an electrocardiogram. The attending physician will review your medical records and current condition, then meet with you and your family to outline the proposed treatment and answer your questions. During the evaluation, you and your family will also meet with other health-care providers: a physician assistant or fellow, nurse, social worker, pharmacist, and nutritionist.

The length of time needed to complete the evaluation depends on your medical condition. The date when your treatment is to be started depends on your individual treatment plan. If a family member is your donor (that is, your family member is providing bone marrow or stem cells for you as part of the treatment), then this family member will undergo a similar, but less extensive, medical evaluation. Most donors make a second trip to Seattle to donate later in the process. Other family members with limited time off from work or school may want to delay their arrival in Seattle until you begin treatment.

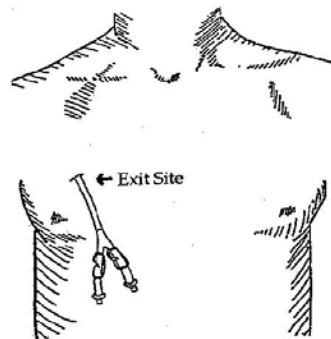
## Step 2: Preparation

### Data Review Conference and Your Consent for Treatment

A data review conference takes place before you begin treatment. This conference includes the attending physician and a nurse. Your specific treatment plan is outlined in detail. The reasons for each aspect of your treatment are described, as are the associated risks, complications, and duration of care required. At this conference, you will sign consent forms that summarize the potential risks and benefits of each aspect of the proposed treatment. It is important that you understand the information received and that you have all your questions answered prior to signing these forms. You must give your written consent for the treatment plan before your therapy can begin. In Washington State, parents or legal guardians must sign for minors: minors are considered individuals under 18 years of age. Additional research protocols beyond transplant protocols are optional. You are encouraged to read and ask questions about all protocols before signing them.

### The Central Intravenous Line

In preparation for treatment, you will have a small, flexible tube called a catheter inserted into a large vein in your chest. This is called your central line. This serves as a route to give you medications, fluids, and blood products, as well as draw blood samples for tests *painlessly!* You will have this line in place for several months after transplant until transfusions and intravenous medications are no longer needed.



### Insertion of the Central Line

The insertion procedure is done in the operating room; sedation will be given for the line placement procedure. A small incision (cut) called the "entrance site" is made on the neck or upper chest. A smaller cut or "exit site" is made lower on the chest. The catheter is then guided under the skin from the exit to the entrance site. Here the catheter is passed into a large vein until it reaches the entrance to the right upper chamber of the heart. The whole procedure takes 45 to 90 minutes.

## **Step 2: Preparation**

### **Communicating with Your Family**

Former patients and family members tell us that when faced with life-threatening illness, there is a benefit to discussing fears and concerns with family and staff. The benefits have been described as, “It has brought our family closer together,” “I thought I was the only one that felt that way until I talked with others,” and “Talking about my fears helped me put them aside so I could concentrate on curing my illness.”

Even though you or your family members may want to talk about the possibility of dying, it can seem very hard to do so, even with those closest to you. There are staff members that can help you with this: Social Workers, Chaplains, Nurses, Physicians, and Psychologists. Staff will be available to talk with you about your concerns and fears and will assist you in identifying support and resources that can help you throughout your transplant experience. This can include facilitating family communication.

# *Step 3-Conditioning*

*“I hate the word **survive**. I want to **Thrive!**”  
Autologous Transplant Patient 1999*



## **Step 3: Conditioning**

### **Receiving Chemotherapy or Total Body Irradiation**

During the next step in your transplant process, you will receive therapy called Conditioning. This involves receiving chemotherapy with or without Total Body Irradiation (TBI). This therapy can be high-dose, marrow-ablative chemotherapy or low-dose, non-myeloablative conditioning. The two approaches are discussed below.

### **High Dose Conditioning Chemotherapy and/or Total Body Irradiation**

High dose conditioning chemotherapy and/or irradiation is used to prepare you for an autologous or allogeneic transplant. The doses of chemotherapy and irradiation therapy you will receive are much higher than you have received as part of traditional treatment. The conditioning therapy kills rapidly dividing cells such as cancer cells. Bone marrow cells also rapidly divide so the conditioning therapy kills them too. Cells in the bone marrow are an important part of your immune system. Your immune system helps fight infections as well as recognizes cells that are not identical to yours. The high-dose therapy will lower your immune system and allow the new stem cells to grow. Other rapidly dividing cells in the body that are damaged by the conditioning include: hair follicles, the lining of the mouth, stomach, intestines, skin, and nails. A number of new conditioning treatment plans, such as those using radiolabeled monoclonal antibodies (specifically targeted), are being examined in place of, or in addition to, treatments using chemotherapy and/or TBI. These new therapies may improve disease control while reducing side effects. If you are eligible to receive one of these treatments, these options will be discussed with you.

### **Side Effects of High-Dose Conditioning**

Symptoms such as nausea, vomiting, fever, mouth dryness, and pain can occur when receiving chemotherapy and irradiation. We give medications to minimize discomfort and manage symptoms. It is important to follow through with these treatments, which promote healing and relieve symptoms. Let your nurse and doctor know how you are feeling. Your mouth may become very sore with a condition called oral mucositis. Frequently rinsing your mouth will help. It is a temporary condition that begins to heal with the production of white cells from the new marrow. Side effects associated with the specific chemotherapy prescribed for you will be discussed prior to administration. Both chemotherapy and TBI cause hair loss, starting about five to 10 days after treatment begins. Hair usually starts to grow back in a few months.

### **Low Dose Conditioning Chemotherapy and Total Body Irradiation**

Low dose conditioning chemotherapy and irradiation can be used to prepare you for an allogeneic transplant. The doses of chemotherapy and irradiation therapy you receive are low and work to suppress the cells of the immune system so that the new cells can grow in or engraft. This type of transplant will rely on the new

### **Step 3: Conditioning**

immune system of the donor to destroy remaining cancer cells. This is called the graft versus tumor effect. In this type of transplant, there is a time when there is a mixture of your immune system and the donor's immune system. This is called mixed chimerism.

#### **Side Effects of Low-Dose Conditioning**

You may experience symptoms such as nausea, vomiting, and fatigue which are related to receiving chemotherapy and irradiation but are generally mild in nature. With non-myeloablative conditioning, hair loss is mostly noted as thinning of the hair and not complete loss as is seen in high-dose conditioning.

# *Step 4 - Transplant*

*“As the last bag of my sister’s stem cells was being infused into me, my doctor left me with these words: ‘Now all we need is patience and stamina.’ They became a small but enduring mantra for my recovery. Twenty years later, I do not often find myself thinking about leukemia or transplant or even being a cancer survivor. Yet I live every day in the knowledge of how much illness and survival changed my life, of what I do for a career (social worker), of how my family has evolved (two adopted daughters), of how I conduct myself (with more balance, I hope). Patience. Stamina. Those words have lost none of their power in 20 years.”*

*Allogeneic Transplant Recipient 1986*



## **Step 4: Transplant**

### **Transplant Day**

Although the infusion of stem cells is a brief procedure, it is a significant event. You may receive your transplant either in the inpatient or outpatient setting.

### **Allogeneic or Syngeneic Transplants**

The bone marrow, cord blood, or peripheral blood stem cells that were collected from your donor are placed in bags that look very much like those used for transfusions. You will receive the cells through your central line.

### **Autologous Transplant**

Your own previously harvested and frozen stem cells are thawed and given to you through your central line. The preservative used during freezing has an odor and taste similar to that of garlic.

### **Stem Cell Infusion Side Effects**

During the stem cell infusion you will rest in bed and can read, watch television, or visit with family or friends. Some patients experience nausea, vomiting, shortness of breath, flushing, chills, or mild fever. Your nurse and doctor will work with you to control your symptoms.

# *Step 5- Waiting for Engraftment*

*“Everyday is a good day. Some days may  
just require more patience than others.”*

*Unrelated Transplant Recipient 2004*



## Step 5: Waiting for Engraftment

### Engraftment

Approximately 10 to 28 days after transplant, new stem cells start to grow/engraft. Blood counts are followed on a daily basis as the graft becomes stronger. Often the first sign of a graft is a rising white blood cell count.

### Waiting and Watching

You can keep a daily record of your blood counts to track the progress. In addition to watching for the first signs that the new immune system is working, staff are monitoring you very closely to detect any early signs of complications so they can begin treatment promptly if needed.

In the case of traditional ablative transplant (where your bone marrow could be destroyed by the conditioning therapy) a rising white count is the first sign of engraftment. However, a rising white count after a “mini” or non-ablative transplant does not necessarily mean donor engraftment. In this type of a transplant, special DNA measurements need to be taken by a blood test (usually done about a month after transplant) in order to tell donor cells from your own cells. This is because your own bone marrow can recover if the donor cells are rejected, an uncommon but real possibility.

Example of Record of Counts				
Date	WBC	ANC	Platelets	Hematocrit
7/15	.1	.03	18K	30.5
7/16	.12	.04	24K	29.5
7/17	.18	.06	15K	32.5
7/18	.16	.05	22K	31.0
7/19	.18	.06	17K	31.0

WBC = White Blood Count

ANC = Neutrophils - white blood cells that fight infection

Platelets = Clotting blood cells

Hematocrit = Red blood cells

It is common to feel scared during the time you are not protected by a fully functioning immune system. You may experience intense concerns about physical symptoms and worry about making it through transplant. In fact, you may feel like you are on an emotional roller coaster. You may feel like you have lost personal control of your life as you cope with the daily monitoring and medical procedures.

## **Step 5: Waiting for Engraftment**

All of these are common feelings during transplant and coping with them can be a challenge. It may help to develop a schedule that provides you some structure during this time.

Until the new cells engraft, you are very susceptible to infections, bleeding, and fatigue.

If you are not able to eat and drink at this time, you may receive IV nutritional support until you can eat and drink adequately.

### **Possible Complications Include**

- **Viral, bacterial, and fungal infections** can be serious problems after a transplant. Almost all infections can be treated successfully with antibiotics.
- **Pneumonia** is another complication that may occur in the first months after transplant. You will have regular chest X-rays, and we will watch for early signs of pneumonia.
- **Sinusoidal Obstruction Syndrome (SOS)** is a complication in which the liver's job of removing waste products from the body is impaired. If this occurs, it is most likely occur during the first month after transplant. We will give you medication to prevent SOS.

# *Step 6- Recovery After Engraftment*

*“I have a few muscle aches, pain, and stiffness when I get up. But what can you expect when you are almost 80!”*

*Autologous Transplant Patient 2007*



## **Step 6: Recovery After Engraftment**

### **Coping with Recovery**

As your new immune system is growing and developing, our goal is to support your recovery and manage any complications you may experience. Most patients feel very tired as they are recovering. You may find it difficult to focus on reading a book, watching television, or keeping up a conversation. During this time it is important to have reasonable expectations of what you will be able to accomplish. It takes time to recover. Balancing periods of rest with light exercise helps you recover and prevent the complications of bedrest.

Progress may seem slow. You may feel frustrated because you want to get well and put this experience behind you. **Taking one day at a time is one of the best ways to cope.** Work with staff to set manageable goals to achieve each day. By keeping track of the daily goals you achieve, it is easier to see the progress you are making.

We will teach you and your caregiver how to manage symptoms that might arise and how to seek medical care quickly.

### **Graft-Versus-Host Disease**

Graft-versus-host disease (GVHD) is a complication that occurs with allogeneic transplants. As your new donor stem cells start growing, they may recognize your body as foreign. The new cells (the graft) may attack some of your organs such as the skin, gastrointestinal tract or liver. This is acute GVHD, the form that can occur shortly after transplant. Chronic GVHD can begin as early as 3 months after transplant and may continue for months/years after transplant. There are medications that prevent and treat GVHD.

### **Preparing to Leave SCCA**

- **Allogeneic Transplants**

The average allogeneic transplant patient stays in Seattle for approximately 100 days after their transplant. The estimated time you should plan to stay in Seattle including the pre-transplant evaluation and conditioning is about 4 months. After you are producing adequate numbers of red blood cells, white blood cells, platelets, and you are medically stable, plans can be made to leave SCCA and return home.. A complete medical evaluation will be done at this time and you will receive the results and recommendations in a conference with your health-care team.

- **Autologous Transplants**

The average autologous transplant patient stays in Seattle 40 days after transplant. The amount of time in Seattle prior to transplant will depend on the procedure used to collect stem cells and will vary.

## **Step 6: Recovery After Engraftment**

- **Tandem Transplants**

Increasing numbers of patients are offered tandem transplants as part of clinical research studies. This is when two transplants are performed within about 2 months of each other. If you are having a tandem transplant, you may be in Seattle as long as 7 to 8 months from start to finish.

**Your transplant team will evaluate your individual case and provide you with the best estimate of time in Seattle based on your proposed transplant plan.**

### **Departure Class**

You will need to attend the Departure Class which meets weekly and will provide you with specific instructions on how to care for yourself after leaving SCCA.

# *Step 7- Long-Term Recovery*

*“We all look in the mirror to see changes and limitations we might not like. One either rises to the challenge or is defeated. I have chosen to challenge, which starts with everything from dialysis to overcoming other complications to the simplest of everyday things.”*

*Autologous Transplant Patient 2005*



## Step 7: Long-Term Recovery

### Resources After Transplant

SCCA's Long-Term Follow-Up staff is experienced in managing the long-term recovery needs of our patients. They are available to your referring physician and to you for consultation should the need arise. The staff is available by telephone to answer questions and assist you in your recovery. They also send periodic requests to you and your physician on at least a yearly basis to assess any prolonged medical, psychological, or social problems you think may be related to your transplant. We recommend that you return to Seattle for a detailed evaluation of your marrow graft and immune system one year after your transplant.

It takes time to recover from the transplant procedure, and you may experience a lack of stamina for a period of weeks or months after returning home. It may take up to a year or longer for your immune system to become normal. For this reason, you will be advised to continue measures that will help prevent infections. The decision to return to school or to full-time work depends upon your immune function, medical status, and the nature of your work.

### Potential Chronic Problems

Some complications are more likely to arise several months after your transplant. It is important that you report any new symptoms to your doctor promptly.

- **Chronic Graft-Versus-Host Disease (GVHD)** occurs in about one half of allogeneic transplant patients. It develops 3 to 18 months after transplantation. If you get GVHD you may experience some of the following symptoms: skin changes, liver abnormalities, vision changes, gastrointestinal distress, or breathing problems. Medications that treat GVHD are given at home as an outpatient in close collaboration with your referring doctor and the SCCA Long-Term Follow-up team.
- One of the possible side effects of total body irradiation or high-dose chemotherapy is **infertility**. Many women also experience premature menopause, the symptoms of which can be alleviated with hormone replacements.
- Total Body Irradiation and steroid therapy can increase the possibility of developing **cataracts**, a clouding of the lens of the eye. Cataracts can be surgically removed.
- **Growth and development** may not progress normally for children who have received total body irradiation or very high-dose chemotherapy or in those who have chronic GVHD. Potential problems will need to be followed closely after transplantation so appropriate therapy may be given.

## Step 7: Long-Term Recovery

- Unfortunately, even with a bone marrow transplant, some patients experience a **recurrence of disease**. Yet, despite the risk of serious complications and relapse, bone marrow transplantation does offer the hope of cure. Some of our first transplant patients are now decades post transplant and living normal, productive lives.

### Quality of Life Following Transplant

The large majority of long-term survivors after transplantation say they are leading meaningful lives. **What did it take to re-establish their lives?** For some, it included dealing with chronic physical complications. For others, it required an adjustment in relationships with their spouse, family, and friends. Still others changed their work or other priorities. Re-establishing life varied from easy and smooth with few problems to difficult and rough going.

Although the initial re-establishing of life often is a challenge, most survivors report that the quality of their lives is now the same or better than before transplant. They report benefits such as becoming more easy going, learning how to rise above personal fears, gaining a greater appreciation of life, and discovering a spiritual strength as a result of the transplant experience. With these gains, there also some common problems. Some people report that work or outside activities are less satisfying than before, and one of the more common issues survivors face is diminished sex life and sexual satisfaction. Realistically there are tradeoffs, with some gains and some losses.

# *Donor Information*

*The gift of life is an amazing gift to give.  
We couldn't do this without our dedicated  
donors.*



## **DONOR INFORMATION**

### **What is a Stem Cell?**

Within the various tissues of the body are immature cells called "stem cells" that contain basic genetic information about the particular cells of that organ or system. There are stem cells for skin, liver, intestines, ova, sperm, heart, brain, and blood.

The blood-forming or hematopoietic stem cell is the most primitive blood-forming cell. It is the "parent" cell of the blood supply and has the amazing capacity to mature into a red blood cell, white blood cell, or platelet based on the body's needs. These stem cells produce an unending supply of blood cells. On average, a small number of stem cells produce an ounce of new blood, about 260 billion new cells, each and every day.

You may view is a helpful video about being a donor:  
<http://www.youtube.com/watch?v=lv2LSVgNWjg&feature=youtu.be>

#### **Where are Hematopoietic Stem Cells Found?**

The majority of blood stem cells are found in marrow cavities of the body's large bones. Normally, only a small number circulate in the blood stream.

#### **How are Stem Cells Used in Cancer Treatment?**

High doses of chemotherapy and/or radiation are necessary to kill cancer cells. Doctors have discovered that bone marrow is very sensitive to the toxic effects of radiation and chemotherapy. In fact, these agents can destroy the ability of the bone marrow to produce blood cells.

Fortunately, bone marrow function can be restored by giving healthy stem cells to the person with cancer after the radiation and/or chemotherapy treatment. The healthy stem cells are given as a transfusion into the blood stream. The transplanted stem cells migrate back to the marrow space and grow into new blood cells.

#### **How are Stem Cells Collected from the Donor?**

There are two methods used at SCCA to collect stem cells: one is to withdraw bone marrow from the hip bones, called a Marrow Harvest, and the second is called Apheresis, which draws stem cells from the peripheral blood. These two methods of collection will be reviewed in this section.

Bone marrow can be "harvested" from the hip bone (pelvis). This procedure is done in an operating room. The donor usually receives general anesthesia. There is minimal risk involved in anesthesia for a normal donor. Marrow Harvest will be discussed later in this section.

## **DONOR INFORMATION**

Peripheral blood stem cells can be collected from the bloodstream in the clinic by means of a non-surgical procedure called Apheresis. This procedure is discussed below.

### **Peripheral Blood Stem Cell Collection Process**

Stem cell collection includes these steps, which will be briefly explained in the following pages:

- Donor Evaluation, Screening and Consent
- Donor Screening for Apheresis
- Assessment of Access to the Donor's Veins
- Mobilization of Stem Cells
- Stem Cell Collection by Apheresis
- Stem Cell Analysis
- Stem Cell Transfusion and/or Storage
- Follow-up Care

#### **Donor Evaluation, Screening and Consent**

The first step in the donation of stem cells is a thorough evaluation of the donor by a medical provider. This evaluation may include an extensive health history, physical examination, electrocardiogram, blood samples, and other diagnostic tests. These are done to ensure that the process of stem cell collection will not jeopardize your health, nor will the infusion of your blood cells be harmful in any way to the patient. Female donors must not be pregnant and avoid becoming pregnant during the time of growth factor and Apheresis/stem cell collection.

The attending physician will discuss the specific stem cell collection plan. You will be asked to read and sign consent forms for the collection protocol and for the testing of your blood. Donor screening includes a list of questions about your life to determine whether you have risk factors that may affect your suitability as a donor. These questions are very similar to those asked of people giving blood at blood centers. Your nurse will give you information on members of your team, telephone numbers for contacting the clinic, show you how the clinic functions, and how to access resources within the clinic.

#### **Donor Screening for Apheresis**

Prior to your first stem cell collection, you will be scheduled to visit the Apheresis Unit. An Apheresis nurse will explain the procedure, answer your questions, and show you the Apheresis Unit and equipment.

#### **Assessment of Access to the Donor's Veins**

The collection of blood stem cells by Apheresis requires the circulation of large volumes of blood through the Apheresis machine. Before your first Apheresis

## **DONOR INFORMATION**

appointment, the Apheresis team will determine the best way to get access to your blood stream.

In most cases, it is possible to use a large vein in each arm. An intravenous needle with tubing is placed in each arm. The blood moves from the vein in one arm, through the Apheresis machine, and is returned to the vein in the other arm. When the stem cell collection is complete, the intravenous needles are removed. This process is repeated each day of Apheresis collections. Two days of collection is typical for most donors.

In some cases, a donor's veins are not large enough to use for this procedure. Then it may become necessary to have a sterile catheter, or tube, surgically placed into a large vein. This catheter remains in place and is used each day during Apheresis. When the stem cell collections are complete, the catheter is removed.

You will be thoroughly prepared and instructed for whichever method is chosen.

### **Mobilization of Stem Cells**

In order to collect stem cells by Apheresis, it is necessary to stimulate the bone marrow with growth factors to produce larger-than-normal numbers of stem cells and release them into the blood stream. The process is called "mobilization."

#### **What are growth factors and what do they do?**

Growth factors are naturally occurring proteins that stimulate the production of stem cells in the body. With growth factor mobilization, the white blood cell count will increase dramatically. The number of stem cells in the blood stream will also increase, making it possible to collect these cells by Apheresis.

#### **When and how are growth factors given?**

Growth factors are given by injection. These injections will be given by a nurse in a daily visit over several days before the start of stem cell collection. The treatment plan for the patient determines the dose, number of days of growth factor and collection days for the donor. Generally, this is 4 to 6 days of growth factor injections and 1 to 3 days of collection. The doses of growth factor continue until the stem cell collections are complete.

#### **What are the side effects of receiving growth factors?**

The most common side effects of growth factor therapy are bone pain, muscle pain, or headache. For some people these symptoms may be mild, while others may experience more severe discomfort. Medications can be prescribed to help these symptoms. We will follow your daily blood counts. Your white blood cell count will likely rise 3 to 5 times your usual count.

## **DONOR INFORMATION**

Other temporary side effects of growth factor therapy may include a rash, mild fever, and flu-like symptoms such as loss of appetite and generalized fatigue. Nausea is an uncommon side effect, but can occur.

### **What specifically do I need to do during mobilization?**

The plan selected for you will be carefully explained along with your specific responsibilities. These will include:

- Daily blood draw.
- Continue daily injections of growth factor until the stem cell collection is complete or you are instructed to stop.
- Report any side effects you are experiencing to your nurse or physician so that prompt treatment can be given.

### **Stem Cell Collection by Apheresis**

Apheresis is a procedure that collects specific blood cells. This is accomplished by passing a donor's blood through a machine called an automated cell separator, similar to those used in blood banks.

#### **How does the cell separator work?**

A cell separator is used to obtain the specific cells we want to collect. After blood from the donor enters the machine, it circulates through a centrifuge. Centrifugal force causes the different types of blood cells to separate into layers. Some of the white blood cells, which include stem cells, are collected while the remaining blood cells and plasma return to the donor.

#### **Every precaution is taken to ensure your safety:**

- You are closely monitored by an Apheresis nurse.
- Your blood never leaves the sterile tubing circuit. Supplies are used for only one collection and then discarded.
- There is only a small volume (a little more than one cup) of your blood in the cell separator at any time; your blood is returning to you at the same rate it is being removed.
- A solution is added to your blood as it circulates through the Apheresis device to prevent clotting. This solution is quickly inactivated by your body.

#### **Where are the Apheresis procedures done?**

The Apheresis Unit is located in the SCCA clinic on the 5<sup>th</sup> Floor.

#### **What activities can be done during the procedure?**

You will be lying or sitting in a bed. Donors with peripheral intravenous lines in their arms for venous access are able to watch television, listen to music, or participate in any other quiet activity. Donors with a central catheter have less restricted activities (can read, sleep, play cards, do

## **DONOR INFORMATION**

handwork). A companion is welcome to stay with you during the procedure. If needed, a commode or urinal may be used at the bedside. Patients may bring a snack, however a snack station and lunch is available for the patient.

### **How long does each procedure take?**

This varies from one donor to another but will generally take about two to three hours.

### **What are the side effects during Apheresis?**

The daily insertion of intravenous needles or the one-time surgical insertion of a venous catheter is the only uncomfortable part of the Apheresis process.

The Apheresis procedure itself is painless. In fact, most donors report no noticeable or unusual sensations during the procedure. Though some experience mild side effects such as chilling, a tingling sensation on the face or body, light-headedness, and bone discomfort. Adverse reactions are extremely rare.

### **What will I feel like when the procedure is over?**

Some donors report feeling tired following Apheresis. Donors who have intravenous lines placed for the procedure will have soreness or tenderness in their arms at the site of the intravenous lines and will be instructed to limit their activities for several hours. Any sensation of bone discomfort generally eases within a day or two after Apheresis, as well.

### **How many Apheresis collections will I need?**

Generally, Apheresis collections continue daily for a preset number of days or until the desired quantity of stem cells is collected and stored. The number of donor collections varies according to the protocol; the average is 1 to 2 collections.

### **What do I need to do to achieve a successful stem cell collection?**

- Carefully follow your care plan before the collection with growth factor injections, blood draws, care of your intravenous catheter, etc. This is the most important action you can take toward successful stem cell collection.
- Make your stem cell collection top priority for the few days it will take. Pamper yourself and don't put unnecessary expectations on yourself during this time.
- Eat a normal meal before your appointments. Calcium-rich foods (milk, yogurt, cheese) eaten before Apheresis may help prevent mild side effects from the anticoagulant solution.
- Arrive on time for your Apheresis appointment and plan for the

## **DONOR INFORMATION**

procedure to take approximately three hours.

- During the procedure, immediately report any unusual sensations you experience to a nurse. **We are here to make this a safe and comfortable experience for you!**

**Please don't make travel plans to leave the area until the collections have been completed.**

### **Stem Cell Analysis**

Following the Apheresis procedure, the types and numbers of different blood cells present are calculated. Samples of each product are also tested for bacterial contamination.

### **Stem Cell Transfusion and/or Storage**

Stem cells collected by Apheresis may be transfused immediately into the patient, held overnight for next day Infusion, or stored by means of cryopreservation (freezing) for later use.

### **Follow-up Care**

Following your peripheral blood stem cell donations, you will return the next day for a follow-up visit at SCCA. We encourage you to inform your personal physician at your next visit with them, that you have undergone this procedure, and obtain a complete blood count to verify everything has returned to normal. We want to make sure you are in good health.

## **DONOR INFORMATION**

### **Bone Marrow Harvest Process**

Bone marrow collection includes these steps which will be briefly explained on the following pages:

- Donor Evaluation and Consent
- Donor Screening for Anesthesia
- Storage of Autologous Blood Unit
- Bone Marrow Harvest Procedure
- Bone Marrow Cell Analysis, Transfusion, and/or Storage
- Follow-up Care
- Long Term Recovery

#### **Donor Evaluation and Consent**

Evaluation for a Bone Marrow Harvest is similar to an Apheresis donor evaluation, which includes an exam and a health history by a medical provider, a donor questionnaire by a nurse, possibly an electrocardiogram, and other diagnostic tests. Your nurse will review the team members, telephone numbers to call, overview of the clinic operations, and consents. Consenting for the procedure will be done by the attending physician after the evaluation is complete.

#### **Donor Screening for Anesthesia**

There will be an evaluation done by the anesthesia staff at University of Washington Medical Center, either by telephone or in person. They will review, in detail, the choices in anesthesia available to you and complete a plan for surgery and anesthesia.

#### **Storage of Autologous Blood Unit**

A fairly large volume of bone marrow may be taken, based on the weight of the patient. Anemia, a low red blood cell count, is the most common side effect of the procedure. Anemia can make the donor feel tired and short of breath. A unit of blood is taken from the donor prior to harvest to be stored and returned to the donor at the time of surgery. Storing one's own blood is called an autologous donation. The minimum time for storage is 7 days prior to surgery, and the unit is good for 6 weeks. This applies to adult and pediatric donors greater than 12 years of age. Because there are medical risks from transfusion when your own blood has been taken and stored, your doctors will determine if it is in your best interest to receive your autologous unit after bone marrow donation.

#### **Bone Marrow Procedure**

The night before and morning of the procedure, you will need to shower and scrub with an antimicrobial soap. You should not eat or drink anything after midnight before the surgery, or as directed by your medical team.

## **DONOR INFORMATION**

### **Location of Surgery**

The harvest takes place at University of Washington Medical Center's surgery pavilion, or Seattle Children's, and is considered a day surgery procedure. You will be given specific instructions for the location and time you are scheduled for the harvest. You may have someone come with you to the hospital. **You will need to have a responsible adult with you to be discharged from the hospital.**

### **Bone Marrow Harvest**

The bone marrow is harvested by using large bore needles and syringes to pull the bone marrow from the pelvis. The entry sites are limited to 2 or 3 skin puncture sites on each side, while the bones are punctured multiple times.

### **Recovery**

The post anesthesia team will care for you until you are ready for discharge. It is possible that you will be kept overnight for fluids and further recovery and discharged the following morning. The recovery room and the Transplant Team assigned to your care in the hospital will make the decision after the procedure to keep you safe and comfortable.

### **Bone Marrow Cell Analysis, Transfusion, and Storage**

The amount of bone marrow cells required for harvest is based on the weight of the patient. During the harvest, a cell count is done periodically to determine the amount of cells needed to collect. The collected bone marrow is screened and filtered, collected in a large bag, and taken to the patient receiving the transplant. There are occasional times when the red blood cells or plasma need to be reduced in the bone marrow, which will delay delivery to the patient.

### **Follow-up Care**

You will be discharged from the hospital with a large dressing taped across your lower back to keep pressure on the sites to limit blood loss, if you are released the day of surgery. You will be discharged with pain medication and instructions for care.

The following morning, you will need to return to the clinic to have the bandages removed and replaced if needed. You will receive follow-up care instructions for returning home.

## **DONOR INFORMATION**

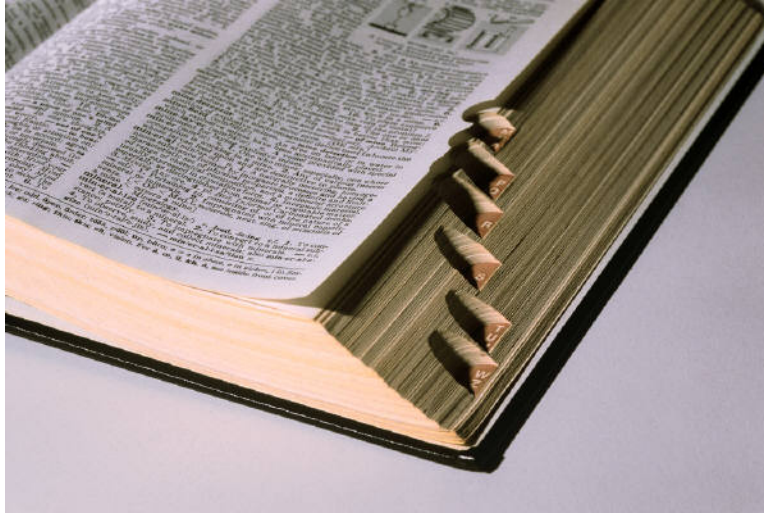
### **Long-Term Recovery**

Recovery will take at least a week after the surgery. You should avoid heavy lifting or any situation (contact sports) that could result in a blow to this area the first 7 to 10 days after surgery. Within 2 to 4 weeks you should be back to your regular physical activity. You should inform your personal physician of your donation the next time you are seen, for your medical records, but no follow-up blood work is recommended.

**If you have further questions regarding the collection of stem cells or bone marrow harvest, please feel welcome to ask any member of the Seattle Cancer Care Alliance health-care team. We are committed to providing you with the best possible care. For additional general information on bone marrow harvest and donation please visit the National Marrow Donor Program at [www.marrow.org](http://www.marrow.org)**



# *Definition of Terms*



## Definition of Terms

**Allogeneic Transplant (allograft):** A transplant in which bone marrow, peripheral blood stem cells, or cord blood stem cells come from a donor, such as a family member or unrelated person.

**ANC:** Absolute neutrophil count. A laboratory procedure which determines the number of neutrophils (a type of white blood cell) in a blood sample.

**Anticoagulant:** An agent that decreases the ability of the blood to clot.

**Apheresis:** A procedure used to collect certain types of blood cells. Blood from a donor is passed through a continuous-flow blood processor; the type of cell being collected is removed from the blood and the remaining blood components are returned to the donor.

**Attending Physician:** A doctor who leads the health-care team and supervises the medical care provided to the patient.

**Autologous Transplant (autograft):** A transplant in which the bone marrow or peripheral blood stem cells are taken from the patient, frozen, and later returned to the patient.

**Bacterial Contamination:** The presence of bacteria which makes a solution, surface, or body organ impure. For example, bacterial contamination of the blood.

**Biotechnology:** Engineering of procedures and agents used to alter or influence living organisms and processes.

**Blood Draw:** The removal of a small sample of blood from a vein.

**Bone Marrow:** The soft, spongy material in the center of bones that produces all of the blood cells in the body, such as white blood cells, red blood cells, and platelets.

**Bone Marrow Aspiration:** Obtaining a sample of bone marrow using a needle and syringe. This is done to obtain a sample for laboratory study.

**Bone Marrow Harvest:** Collecting marrow from the hip bones with a needle and syringe for use in transplant. Marrow is harvested in the operating room.

**Bone Marrow Transplant:** The process of treating disease with chemotherapy, radiation therapy, or both and then giving stem cells (directly from bone marrow, peripheral blood, or cord blood) to restore the production of blood cells.

**Cancer:** A general term used for over a hundred different diseases characterized by abnormal, uncontrolled cell growth.

## Definition of Terms

**Caregiver:** A responsible family member or friend who is able to provide physical care, observational care, and emotional support for a patient in the home setting.

**Catheter:** A rubber or plastic tube that is inserted into the body to drain fluids or deliver fluids or medication.

**CD 34 + Cells:** Lymphocytes (white blood cells) which have a specific antigen marker which allows them to be detected in a sample of cells. The number of CD 34+ cells are counted after stem cell collection to determine if adequate numbers of stem cells are present. It is still unconfirmed scientifically, but CD 34+ cells may, in fact, be a type of stem cells.

**Cell Separator:** A mechanical device used to collect blood cells and separate the various blood components, such as red cells and white cells.

**Central Intravenous Catheter/Line:** A small, flexible tube inserted into a large vein near the heart. This serves as a route for medications, fluids, and to obtain blood samples.

**Central Line Placement:** The process of inserting a catheter into a large vein. This is a minor surgical procedure performed in the operating room under either local or general anesthesia.

**Centrifuge:** A device which spins around a central axis to increase gravity, which separates materials of different densities. A centrifuge is part of an Apheresis machine used to separate and collect blood cells.

**Chemotherapy:** Medications used to destroy or slow the growth of abnormal cells, usually cancer cells.

**Collection:** The process of accumulating or keeping together, such as collecting stem cells.

**Complete Blood Count (CBC):** A laboratory procedure that determines the number of red blood cells, white blood cells, and platelets in a sample of blood.

**Complication:** An undesired symptom or medical problem that is a consequence of therapy, or another disease.

**Conditioning:** The treatment given to the patient prior to transplant which is intended to kill cancer cells and prepare the bone marrow to receive stem cells. This consists of chemotherapy and/or radiation therapy.

**Cord blood:** Stems cells collected from the umbilical cord and placenta when a baby is born and then frozen for future use.

## Definition of Terms

**Counts:** Usually refers to monitoring the ANC (or absolute neutrophil count) when watching for signs of engraftment.

**Donor:** A person who gives stem cells to be infused into the patient following chemotherapy and/or radiation. A donor may be the patient, family member, or unrelated person.

**Erythrocytes:** Red blood cells that use their main component, hemoglobin, to carry oxygen from the lungs to all parts of the body.

**Engraftment:** The process by which the normal growth and production of blood cells and the bone marrow resumes.

**Exit Site:** The place on the chest where the central intravenous catheter emerges from the skin.

**FHCRC:** Fred Hutchinson Cancer Research Center. The "Hutch" or "Hutchinson Center".

**Graft-Versus-Host Disease (GVHD):** A process whereby the transplanted cells (the graft) attack certain organs in the recipient (the patient/ host).

**Growth Factors:** Substances naturally occurring in the body that control the production and function of blood cells. These may be given after transplant to speed up engraftment, or given to donors to increase the number of stem cells in the blood stream that will be collected for transplant.

**Glycoprotein:** A protein that has carbohydrates attached to it.

**Hormone:** A substance produced by certain organs of the body that stimulates and regulate body functions.

**Immune System:** A complex network of organs, cells, and specialized substances distributed throughout the body which defend it from foreign invaders that cause infection or disease.

**Immunosuppression:** A decrease in the ability of the immune system to fight infection that can be caused by chemotherapy, radiation, or GVHD therapy.

**Informed Consent:** The process in which a patient learns about and understands the purpose, potential risks, and benefits of a research protocol and then agrees to participate. A patient may decline to participate.

## Definition of Terms

**Infusion:** Administration of medications or fluids into a vein over a period of time.

**Infusion Pump:** A device used to infuse medications or fluids through a catheter into a vein over a specific amount of time.

**Intravenous (IV):** A route of administration for fluids or medications that are given into a vein.

**Leukocytes:** White blood cells that play a major role in the body's immune system.

**Mixed Chimerism:** When stem cells from the transplant recipient and the donor's immune systems are present.

**Mobilization:** The process of stimulating the bone marrow to produce and release large numbers of stem cells into the bloodstream.

**Mucositis:** Reddening and soreness of the tongue, lips, mouth, throat, and gastrointestinal tract as a result of chemotherapy or radiation therapy.

**Neutropenia:** Low neutrophil (type of white blood cell) count. A person with neutropenia is at high risk for developing an infection.

**Neutrophil:** A type of white blood cell that provides defense against infection.

**Non-Myeloablative Transplant:** A transplant in which stem cells are received from a family or unrelated donor and conditioning is done with low-dose chemotherapy and/or radiation.

**Oncology:** An area of medical science that studies tumors and cancer.

**Peripheral Blood Stem Cell (PBSC's):** Cells made in the bone marrow that are circulating in the blood stream and that have the ability to develop into white blood cells, red blood cells, or platelets.

**Peripheral Blood Stem Cell Transplant:** A type of transplant in which stem cells circulating in the bloodstream are collected and later given back to a patient after chemotherapy or radiation therapy have been given.

**Platelets:** Tiny disc-shaped blood cells that help the blood to clot and thereby help prevent bleeding.

**Pneumonia:** A disease in which the lungs are inflamed or infected.

**Protocol:** The plan for a specific treatment. A protocol may be a scientific study such as a research protocol.

## Definition of Terms

**Protocol Consent Forms:** A document that outlines the treatment plan/research study that the patient signs to indicate understanding and consent.

**Radiation Therapy:** A type of treatment for cancer that uses radiant energy waves to damage or kill cancer cells.

**Red blood cell:** A type of blood cell (also called erythrocyte) that carries oxygen in the body.

**Rejection:** A process by which transplanted cells are attacked by the patient's immune system.

**SCCA:** Seattle Cancer Care Alliance.

**Side Effect:** An additional and usually undesirable effect from a drug or other treatment.

**Sinusoidal Obstruction Syndrome (SOS):** A disease caused by obstruction of blood flow through the small blood vessels in the liver, resulting in damage to the liver.

**Standard Treatment:** A treatment or other intervention currently being used that has been proven effective on the basis of past clinical studies.

**Stem Cells:** An immature cell which is the "parent" cell of the blood cell and has the capacity to mature into a red blood cell, white blood cell, or platelet.

**Syngeneic Transplant:** A transplant in which an identical twin donates stem cells to the other twin for transplant.

**Tissue Typing:** A series of tests done to determine how closely the tissues of a donor and the patient match.

**Total Body Irradiation:** Radiation treatment of the entire body, used to destroy malignant cells and bone marrow cells in preparation for transplant.

**TPN (total parenteral nutrition):** A form of nutritional support given intravenously. Also called Hyperalimentation.

**Venous Access:** A method used to gain entrance into a vein.

**Viable:** Capable of living.

**White Blood Cells:** A group of blood cells, the leukocytes, that helps fight infection.

# *Fundraising Ideas*



# Fundraising Ideas

## Fundraising Ideas

Even if insurance covers most of the treatment costs, you and your family may need additional funds to help pay for transportation, housing, food, and child care.

Take time to think through a strategy, set a timeline, and break up tasks into manageable pieces. Begin by building a team of people who will help you raise money and provide you with support. Ask people who you are close to and who want to help.

### **Foundation and Corporate Grants**

Large cash donations from foundations and corporations are almost exclusively given to organizations with federal tax exempt status. It can take six months to a year to be certified as a tax-exempt organization by the IRS.

This is one reason you might want to consider working with an existing not-for-profit organization. Local corporations often are willing to make “in-kind” donations of goods and services.

### **Set Your Fundraising Goal**

How much money do you need to raise? What do you need to pay for? It will help your fundraising if you can give people a very specific understanding of what their contribution will accomplish.

### **Build a Fundraising Team**

You may want to create a network of people who will join you in asking for money. Each can build their own network of givers. The more people and institutions that you can get involved in asking for money, the easier it will be to reach your goal. For example, rather than ask your friend for \$1,000, ask him or her to raise \$5,000 from colleagues, organizations you belong to, unions, and/or fraternal organizations.

### **Build a Prospect List of Potential Givers**

This is a brainstorming process, and the more people involved the better. The most important thing in developing a prospect list is to start close to home. Then widen the net and begin to identify other possibilities, such as calls to a church where you don't have a relationship, appeals to a local civic group, etc.

### **Personal Solicitations**

These can be face-to-face, telephone, or written requests for donations. The more personalized the request for a donation, the better. Face-to-face contact is better than a phone call. A personalized letter is better than a form letter.

## Fundraising Ideas

Rule #1 of personal solicitations is to ask for a specific amount. Determine the amount by the prospect's interest in your cause and ability to give.

For face-to-face contacts and telephone calls, practice what you will say in advance. Practice saying the words, "We need you to give \$1,000," or whatever amount you will be requesting. "We will use this to cover housing, procedures, travel, etc.". Avoid saying "We need you to give anything you can."

For fundraising letters, personalize it as much as possible. "Dear Jane" is better than "Dear Friend." Add a handwritten note or "P.S." Enclose a reply card with each letter that has space for the contributor's name, address, and phone number, and list the varying giving levels suggested in the letter. Be sure people know who to make the check out to. Always follow up the letter with a phone call, preferably from someone who knows the prospect. Follow-up phoning can double your response rate.

Ask people if they work for a "Matching Gift Company." Many corporations will match an employee's donation. This is a powerful way to double a gift.

### Special Events/Benefits

Special events can be very time consuming to plan and execute and, if you are not careful, very expensive. However, they can be an excellent way to generate publicity and enthusiasm for your cause, and involve a large number of people in the fundraising campaign. The more work you do BEFORE the tickets or invitations are distributed, the more successful the event will be.

Get creative with ideas. Here are a few to start:

- dinner dance
- auction and raffles
- golf outings
- block parties
- spaghetti dinners
- car washes
- bike-a-thons, bowl-a-thons or dance-a-thons
- rummage and garage sales

Make a budget and stick to it. The last thing you need is an event that costs as much as it raises. Get things donated such as printing, the event location, food, drink, etc. Recruit a benefit committee that will be responsible for selling tickets. Get very specific commitments from committee members about the number of tickets they will buy or sell.

# Fundraising Ideas

## **Selling Goods and Services**

This is usually the LEAST efficient way for small groups to raise money. Not only will a large part of sales revenue be eaten up by the cost of the goods you are selling, but precious volunteer hours may be diverted from more lucrative fundraising activities such as personal appeals. If you do decide to launch a sales campaign, choose a project with low or no upfront costs.

## **Keep Donors Posted**

Being thanked and knowing that the contribution has been put to good use helps turn donors into repeat donors. While it may not be possible to personally thank everyone, it is important to thank your major contributors with a note or phone call.

News releases to local media, notices in church bulletins, letters to civic and business organizations, etc., are excellent ways to keep the community informed about the success of your fundraising efforts and how their dollars are being spent.

Never miss an opportunity to say, “thank you” to the heart and soul of your campaign--your volunteers. Raising funds is hard work, but can be very rewarding if you know your efforts are appreciated.

## **Background Information**

Prepare a 1 to 2 page all-purpose information sheet that answers commonly asked questions. For example:

- Who will the fundraising benefit?
- What is your disease? Is a transplant the only chance to save your life?
- What is a bone marrow or stem cell transplant?
- Why do you need donations from the community? How much money must be raised? By when? What time? What specific expenses will the money be used to cover?
- Where should contributions be sent? To whom should the check be made? Are contributions tax-deductible?
- Who can be called for further information?

## **Identify Media/ Feature Stories**

Your local library or a public relations firm should have a directory of all media in your area. Try to determine the name of the health reporter if the media outlet has one. Most papers and TV stations regularly do feature or “human interest” stories. Find out who the features reporter is at your local paper or TV station and encourage him or her to do a story about you.

# Fundraising Ideas

## Media Releases/ Publicity

- Keep your releases short and focused—no more than one page.
- Summarize your message in the first paragraph and follow up with details.
- Use words and phrases that make your release interesting and convey a sense of urgency.
- If your news release is time-sensitive (for example, announcing a fundraiser), make sure it reaches the media in time to be printed or aired a few days before the event.
- The more stories you can generate on TV, radio, and in local newspapers, the more successful your fundraising will be.
- Provide the media with photos of the patient (crisp, clear, glossy black and white photos are preferable).

The previous information is taken from the November 1993 issue of “BMT Newsletter.” BMT Newsletter is written and published by Susan Stewart, a former BMT patient and executive director of a statewide consumer advocacy organization. To add your name to the mailing list, write Bone & Marrow Transplant Newsletter, 2310 Skokie Valley Road, Suite B, Highland Park, IL, 60035 or call 847-433-3313, toll-free: 888-597-7674, or via e-mail at [help@bmtinfo.net](mailto:help@bmtinfo.net) and on the web at [www.bmtinfo.net](http://www.bmtinfo.net).

# *Steps Through Transplantation*



<b>Step 1: Planning Ahead</b>	<ul style="list-style-type: none"> <li>• Assess financial coverage and other financial resources; consider fundraising</li> <li>• Select caregiver(s)</li> <li>• Make decisions about child care and schooling</li> <li>• Plan stay in Seattle; arrange transportation, housing</li> <li>• Complete Advance Directives (This can also be done in Seattle.)</li> <li>• Decide on arrival date at Seattle Cancer Care Alliance (SCCA)</li> <li>• Contact Volunteer Office for airport pickup.</li> <li>• Decide if special preparations are needed: dental, nutrition, fertility</li> <li>• For <b>allogeneic transplant</b>: Donor selection</li> </ul>
<b>Step 2: Preparation</b>	<ul style="list-style-type: none"> <li>• Arrive at SCCA. Receive your “color” team name. Meet your team, physician, physician’s assistant, and nurse</li> <li>• Meet with other members of your team: nutritionist, clinical social worker, oral medicine, chaplaincy, pharmacist, and psychology/psychiatry as appropriate</li> <li>• Get medical evaluation</li> <li>• Attend conference; read and sign consent forms and protocols</li> <li>• Attend teaching sessions with your Team Nurse</li> <li>• Ask questions; talk with staff about any concerns</li> <li>• Make a plan on how to cope with transplant</li> <li>• Attend classes for patients and caregivers</li> <li>• Central line is inserted</li> <li>• Keep active: walking, exercise of choice</li> <li>• For <b>autologous transplant</b>: Collection and storage of stem cells</li> </ul>
<b>Step 3: Conditioning</b>	<ul style="list-style-type: none"> <li>• Receive conditioning therapy</li> <li>• Take medication to prevent and relieve symptoms</li> <li>• Let staff know how you are doing and what you need</li> <li>• Balance rest and activity</li> </ul>
<b>Step 4: Transplant</b>	<ul style="list-style-type: none"> <li>• Receive infusion of cells through your central line</li> <li>• Celebrate!</li> </ul>

<p><b>Step 5: Waiting for Engraftment</b></p>	<ul style="list-style-type: none"> <li>• Monitor your counts</li> <li>• Receive transfusions of blood cells or platelets if needed</li> <li>• Staff will be monitoring you closely for side effects or complications of treatment, and signs of infection. You will be admitted to the hospital or seen in the clinic almost every day.</li> <li>• Take advantage of support services provided by chaplaincy, social workers, and volunteers</li> <li>• Keep as active as possible</li> <li>• Set goals for each day and watch the progress you are making.</li> </ul>
<p><b>Step 6: Recovery After Engraftment</b></p>	<ul style="list-style-type: none"> <li>• Your caregiver helps you with recovery: giving medications, monitoring your symptoms,...and more!</li> <li>• Get back to eating regular meals</li> <li>• Attend support groups</li> <li>• Gradually increase activity</li> <li>• Rest periods for recovery</li> <li>• Take things “day by day” and keep track of daily goals to see progress</li> <li>• Get out and do something fun!</li> <li>• Prepare to leave SCCA: Meet with the Long-Term Follow-Up Team and attend departure class</li> </ul>
<p><b>Step 7: Long-Term Recovery</b></p>	<ul style="list-style-type: none"> <li>• Return to the care of your referring doctor</li> <li>• Report any new symptoms to your doctor promptly</li> <li>• Contact the Long-Term Follow-Up staff if questions arise</li> <li>• <b>Allogeneic Transplant Patients:</b> Return to SCCA for your one-year evaluation.</li> </ul>

# *Time Frame for Recovery*





# Maps



# Living 30 Minutes from the SCCA Clinic



# Driving Directions to/from SCCA



## To SCCA from I-5 North or Southbound:

1. Take Exit 167 Seattle Center/Mercer St.
2. Move to the far right lane and turn right at Fairview Ave. N.
3. Turn right at Aloha St and go 2 blocks
4. SCCA clinic will be on the right. Visitor parking for the SCCA clinic is beneath the clinic building.

## To UW Medical Center from SCCA:

1959 NE Pacific St

1. Travel north on Fairview Ave N or Eastlake Ave E (street becomes Eastlake Ave E)
2. Cross the University Bridge
3. Turn Right at NE Campus Pkwy
4. Turn Right at Brooklyn Ave NE
5. Turn Left at NE Pacific St
6. Follow signs for hospital parking

## To Seattle Children's from SCCA:

4800 Sandpoint Way NE

1. Travel north on Fairview Ave N or Eastlake Ave E (street becomes Eastlake Ave E)
2. Cross the University Bridge
3. Continue North on 11th Ave NE
4. Turn Right at 45th Ave NE
5. Turn Left at Sand Point Way NE
6. Follow signs for Seattle Children's Hospital