What is a Stem Cell?
Stem cell is an immature cell found in the bone marrow and sometimes in the blood. It is the mother cell that is involved in the production of various types of cells in the blood. New blood cells are produced in the bone marrow.

Red Blood Cells carry oxygen from the lungs to the entire body.

Platelets help blood to clot when bleeding occurs.

White Blood Cells help fight bacteria, fungus and viruses that cause infection.

The Autologous Transplant Process
The blood or bone marrow is collected from the patient, not a donor.

1. Collection
Stem cells are collected from the patient’s bone marrow or blood.

2. Processing
Blood or bone marrow is processed in the laboratory to purify and concentrate the stem cells.

3. Cryopreservation
Blood or bone marrow is frozen to preserve it.

4. Chemotherapy
High dose chemotherapy and/or radiation therapy is given to the patient.

5. Reinfusion
Thawed stem cells are reinfused into the patient.

Because high-dose chemotherapy destroys stem cells in the bone marrow and mature cells in the blood, several problems can occur, including:

- Infection: White blood cells that fight infection are low.
- Bleeding: Platelets that help blood to clot are low.
- Difficulty breathing and fatigue: Red blood cells that carry oxygen to the body are low.
Collecting Stem Cells from Bone Marrow
- A needle is used to harvest bone marrow from several areas of the pelvis.
- The procedure is usually performed in a hospital operating room under general anesthesia.
- There is usually soreness in the hip area for several days to a couple of weeks.

Collecting Stem Cells from Blood
- Harvesting stem cells from the patient's blood, sometimes called peripheral blood stem cells (PBSC) has some advantages over bone marrow collection.
- No general anesthesia is required and the procedure is usually done on an outpatient basis.

Collection Procedures for PBSC Transplantation
- A procedure called mobilization moves stem cells from the bone marrow to the bloodstream. Your physician may also administer chemotherapy or other medications to help increase the number of stem cells in the blood.

A process called apheresis is used to collect the patient's blood. The blood is taken through a thin flexible plastic tube called a catheter. The catheter is inserted into the chest or the arm.

Common Side Effects from PBSC Collection
- Slight dizziness
- Tingling sensation in hands & feet
- Less common side effects are tremors, chills and muscle cramps.

Processing Stem Cells
- Non-target cells
- Harvested blood or bone marrow
- Concentrated stem cells

Processing the stem cells lowers the risk that some tumor cells will be rein infused back into the patient.

Bone marrow or peripheral blood is taken to the processing laboratory where the stem cells are concentrated and prepared for the freezing process.

Freezing Stem Cells
- Bone marrow or blood is preserved by freezing (cryopreserving) to keep stem cells alive until they are reinfused into the patient's bloodstream.
- DMSO (Dimethyl sulfoxide) is mixed with the blood or bone marrow to keep water in the cells from forming crystals that would damage the cells.

High-Dose Chemotherapy and/or Radiation Therapy
- High-dose chemotherapy (sometimes combined with radiation therapy) destroys cancer cells more effectively than standard chemotherapy because patients receive higher doses of anti-cancer medications. Treatment can last several weeks or several months with rest periods between cycles of treatment.

Common Side Effects of High-Dose Chemotherapy
- Nausea, vomiting and diarrhea
- Loss of hair
- Skin rash, mouth sores
**Reinfusion**

- After high-dose chemotherapy is completed, the frozen bone marrow or blood cells are thawed and injected into the bloodstream through the catheter. Infusion of stem cells usually takes 2 to 4 hours.

**Common Side Effects of Reinfusion (Temporary)**

- Nausea, vomiting, and cramping
- Chills
- Unusual odor, taste of garlic

In rare cases DMSO may cause side effects such as low blood pressure, fast heart rate, or shortness of breath.

**Engraftment and Recovery**

- During the process called engraftment, the stem cells that have been infused make their way to the bone marrow and begin producing replacement blood cells. This process lasts for several weeks.

**Patient Information**

- **Name of patient:**
- **Name of doctor:**
- **Doctor's telephone number:**
- **Your treatment is scheduled for:**
- **Please report to:**
- **Date and time:**
- **Additional instructions:**

If infection and fever occur, patients may receive antibiotics in the hospital.

---

This information is intended only as a guide for your health care.

Supported by IMML
If you need to cancel less than 48 hours before an appointment, call the medical center. For other cancellations, click on an appointment date listed below.

Note: Certain kinds of appointments (including mammography and other radiology tests) aren't listed here. If you need to check the status of an appointment that isn't listed, call the medical center where your appointment is scheduled.

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April 2 - 1st chemo session

Lynn did 'collected well'; S possible, ches

Yam c: mini - allogeneic transplant
for 2nd infusion
- 1st 6 mo/ determine of 2nd, needed

- nausea tonight?
- discomfort from line
Day 7: Mon
- diarrhea
- mouth sore

38º/

Day 9: 10 army drains/ drain pt; people get tired of dealing w/ it themselves

Karen

compazine (to take home for nausea)

Lymp: 100

before 0600

2 pills, up to 4/day

E. Annoyed (calm down)

Lynn: / month of catheter
Dr. Ginsberg, 30 March ‘07:

Catheter and chemo schedule, Tuesday, April 3:

--no breakfast; coffee and/or clear juice to 5 a.m (source: Jessica, Radiology).

7 a.m., check in at Infusion Center.

8 a.m., someone from Radiology will fetch me for catheter (Graschang) process.

9, should be done; I’ll be observed until 10:30 for possible “tenderness.”

Chemo, 60-90 min. worth, will be done after that; we should figure on at least half the day at Gp H. Take some food (banana & yogurt?) although they’ll provide lunch.

Re-infusion, Thursday April 4:

8 a.m. infusion, 30 min. process according to Dr. G; 15 min. per stem cell bag, according to Paulette in her earlier briefing, and I must have 3 bags from the 3 days of collection. She also said “2 hours IV hydration before.”

Then I’m watched for 4 hours. Will be in a room with bed and recliner; can read or work (revise Eiseley-Morris speech chunk for P-I piece?).

All in all, it looks as if we should figure on “most of the day,” as Dr. G said, at Gp H. Take some food (banana & yogurt?) although they’ll provide lunch. I’ll have the “garlic” taste in my mouth from the DMSO preservative; Paulette said orange wedges might help.

Catheter: because of my bad back, I have to sleep on my right side--can catheter placement allow for that?

--Yes; placement is negotiable. (It is a chest placement.)

If there are any mitigating medications--anti-nausea or anti-diarrhea or whatever--I’d like to pick them up at the pharmacy today, rather than face the pharmacy during any of the chemo procedure.

--None; this will be done with infusions during chemo process Mon./Tues.

Are Temazepam for sleeping and Lorazepam for calming down okay during all this?

--Yes.

Masks against possible infection: worth doing when I come here for appointments, or in any vegetable gardening I might do? Does the pharmacy stock them?

--Not necessary. But I must not dig in the dirt the first few weeks after chemo. (I’ll ask again later in the recuperation.)
In case I decide I need hospitalization at night or on a weekend, what are the exact specifics of getting admitted to Virginia Mason? Will it be a private room? If not, what does it take for me to get one?

--It’s a private room.
--I ought to be “okay”—i.e., no hospitalization—to Mon./Tues, April 9-10.
--If I do need to go to the hospital, the Virginia Mason emergency room is at Spring St. and Terry Ave.

If I’m recuperating at home, do Carol and I do any special evaluation on Fridays whether I can make it through the weekend at home or ought to go to the hospital?

--Group Health daily evaluations should handle this.

After the infusion and the reaction, how soon might I begin to feel better?

--first two weeks, I should show improvement.
--next four weeks, I should regain energy.
--in next six weeks—three months, I should reach the point of feeling “normal.” Dr. G. thinks my general good health should let me “bounce back” fairly rapidly.

Dr. G. said I’ll be taking antibiotic pills against shingles etc. for 4-6 months.

He had no concern about any of the readings in my March 26 blood test; said the 1.2 protein reading, “slowly rising” from last time, is “trivial” compared to the decline achieved during the drug regimen.

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April
MELPHALAN
(Alkeran)

How it Works:
Melphalan belongs to a group of anticancer drugs called alkylators. It stops cancer cell growth by binding to DNA, the genetic material in cells. Since the growth of normal body cells may also be affected, side effects may occur. Although some side effects do not appear very often when they do, they may require medical attention.

Common Side Effects:
Lowered blood counts 14-42 days after treatment
Nausea and vomiting
Loss of hair (not permanently)
Loss of appetite

Less Common Side Effects:
Mouth sores
Salt water rinses 1 cup water, 1 tsp salt
Skin rash
Lung changes (usually associated with long term use)

Call your Physician or Nurse if you:
*Develop fever > 100.5, chills, cough, or sore throat (may be signs of a cold or an infection).
*Have persistent nausea and vomiting and are unable to eat or drink for more than 24 hours.
*Develop any unexplained or bothersome effects, such as mouth sores, unusual bleeding or bruising, signs of bleeding include: black tarry stools, blood in urine or stool, pinpoint red spots on skin.
*Have any shortness of breath.
*Lower back, side, or joint pain.
*Painful or difficult urination.
*Swelling of feet or lower legs.
*Sudden skin rash or itching
Special Instructions:
  * Take on an empty stomach.
  * If you vomit shortly after taking a dose of melphalan, or if you miss a
dose, call your doctor.
  * Drink extra fluids so that you will pass more urine, this will help keep
your kidneys working well
  * Before any dental procedures, be sure to tell your dentist that you are
taking this medication. Also, let your oncology physician or nurse
know of any scheduled dental procedures.
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**GCSF (Neupogen) injections are done daily until stem cell collection is completed.**
March 06, 2007

IVAN C. DOIG
17277 15TH AVE NW
SEATTLE WA 98177

Dear Patient:

We have authorized your referral to this consulting specialist. Please call the specialist at 206-288-7222 if a visit has not already been scheduled.

SEATTLE CANCER CARE ALLIANCE
825 EASTLAKE AVE E
PO BOX 19023 MS G1-030
SEATTLE WA 98109-1023

Specialty: TRANSPLANT

Please note:

- Coverage is authorized for: Evaluate and Treat - Surgery if Indicated
- All elective surgeries require prior notification to Group Health.
- To include labs, catheter placement and vein checks.
- You are responsible for a $10.00 copayment. Copays for procedures or surgeries may vary. Please review your Certificate of Coverage for additional copay information or call Customer Service at (888) 901-4636.
- This referral begins 03/05/07 and ends 06/03/07.
- Group Health only covers care and services specifically authorized in advance.
- Please refer to the back of this letter for additional information.

If you need care after this date or require more visits, please contact your referring provider. For questions about this letter, please call 1-888-901-4636 (TTY/TDD 1-800-833-6388 or 711) from 8:00 a.m. to 5:00 p.m., Monday through Friday, or e-mail us at info@ghc.org.

Thank you. We appreciate the opportunity to serve you.

Sincerely,

Your Referral Services Team

cc: SEATTLE CANCER CARE ALLIANCE
AUTHORIZATION FOR PATIENT SERVICES

- Group Health will provide medical coverage subject to the terms and conditions of the patient’s certificate of coverage, including any applicable copayments, deductibles, benefit limits or coinsurance.

- The cost of any goods or services listed on the authorization and provided to the patient after his/her medical coverage is no longer in effect will be the responsibility of the patient.

- The cost of any goods or services provided to the patient, which are not listed on the authorization, will not be covered by Group Health.

- Any non-covered services provided to the patient will be billed by Group Health or the provider in accordance with the terms of the agreement between Group Health and the provider.

PATIENT INSTRUCTIONS:

General Care: You must continue to go to your Group Health personal physician or the medical center where your personal physician is located for any additional medical care needs that are not part of the authorization.

Hospital Care: Admissions to any facility for inpatient care or for short stay surgery (including hospitals and freestanding ambulatory surgical centers) are not included in this authorization unless otherwise noted.

Missed/Cancelled Appointments: You will be responsible for any charges resulting from missed or cancelled appointments in accordance with the provider’s policy.

Prescriptions, laboratory tests, and x-rays: X-rays, laboratory work and all prescriptions must be obtained at a Group Health medical center or Group Health contracted pharmacy unless otherwise noted. Present this document at the Group Health pharmacy when filling prescriptions ordered by non-Group Health providers. If a prescription is filled elsewhere or the drug is not carried or covered by Group Health, you will be responsible for payment.
HOW TO CONTACT YOUR HEALTH CARE TEAM

CLINIC HOURS: Monday – Friday (Closed Holidays) 8:30 am – 5:00 pm
TOLL FREE NUMBERS: 1-800-562-6300
FAX NUMBER: 206-323-2010

REGISTERED NURSES:
Paulette Bischoff  Dr. Callahan/Dr. Chen  206-326-2299
Sharon Hanquet/Marilyn Houser  Drs. Chen/Feldman/P. Kwok ARNP  206-326-2822
Lynn Flaherty  Dr. Ginsberg/Patti Kwok/Stem Cell  206-326-2645

MEDICAL ASSISTANTS:
Call with questions regarding referrals, general questions not needing medical advice.
Catie  Dr. Chen, Patti Kwok  206-326-3000 ext 5671
Angel  Drs. Ginsberg/Callahan/Feldman  206-326-3000 ext 5672

PATIENT CARE REPRESENTATIVES:
To schedule appointments.  206-326-3111

ONCOLOGY PHARMACIST:
Kelly Peterson  206-326-2254

ONCOLOGY SOCIAL WORKER:
Jean Catellani  206-326-3602

CONSULTING NURSE: (during non-office hours)  206-901-2244

ONCOLOGY INFUSION CENTER (OIC):
206-326-3109
Monday – Friday 8:00 am – 6:00 pm
Administration of chemotherapy, IV medication and blood transfusions
Welcome to the Hematology/Oncology department at Group Health Cooperative. Our goal is to help you achieve the best possible outcome from your treatment.

We would like to introduce you to the overall stem cell transplant process and the team who will be caring for you during this process. Throughout the process you will be actively involved in decision-making and helping with your plan of care.

In order to support you both physically and emotionally through this entire experience you need to thoroughly understand your individualized treatment plan, the risks and benefits, what is expected of you and what you can expect from us.

This notebook is your transplant information guide. It takes you through important steps prior to the transplant, describes complications from the transplant and long-term follow-up care after transplant. The contents of this book will be reviewed and explained to you step by step. We have provided space for you to take notes and encourage you to ask for clarification. In order to continue to improve the care we provide through this process we ask for your feedback and suggestions.

We look forward to working with you and we wish you well.

Sincerely,

Transplant team members at Group Health Central and Virginia Mason Medical Center
Peripheral Blood Stem Cell Transplant Educational Guide
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I. Introduction

Your oncologist has recommended a process known as "high-dose chemotherapy with peripheral blood stem cell rescue (HDCT)" to treat your type of cancer. Because this treatment has many risks, we have developed this guide to support you and your caregiver(s) as you make decisions and undergo treatment.

The following articles will provide you with useful information about this treatment. As you and your caregiver(s) carefully read the articles, write down questions or concerns you may have. Space has been provided for your notes. To help reduce confusion, a glossary of terms is provided.

Some patients bring a tape recorder to use during the many discussions required to explain the entire process. Recording the information is an excellent way to capture important information and listen to later when it may seem less overwhelming.

Please remember to bring this notebook with you for clinic appointments so we can refer to pertinent materials.
II. Process of Treatment

Stem cells are the beginning of your immune system. These special blood cells are formed in the spongy tissue inside your bones known as bone marrow. Your therapy will involve increasing the number of stem cells your body makes, collecting and storing those cells, receiving high doses of chemotherapy and/or radiation to destroy the cancerous cells and then giving your stored stem cells back to you. The stem cells then can help your immune system return to its normal function of fighting infection.

The treatment phases are:
- Mobilization chemotherapy and G-CSF injections
- Collection and storage of stem cells
- Disease staging
- High dose chemotherapy and/or total body irradiation
- Reinfusion of stem cells
- Post infusion care

These phases of treatment are more fully explained in this notebook and will be discussed with you and your caregiver(s) at appointments with the transplant team throughout the course of your care. We encourage you to ask many questions and let us know what we can do to help you best through this process.

Your care during stem cell transplant takes place in different places. You will be seen first in the specialty clinic by the oncologist and other team members. A portion of your care may be as a hospitalized patient at Virginia Mason Medical Center. If you are hospitalized, the specialty clinic will resume your treatment following your discharge. The services will be coordinated among all the different providers and settings. Your designated caregiver(s) can be very helpful with support and transportation for this part of your care.
III. Transplant Team

Before beginning this treatment it is critical that you are knowledgeable about the risks and benefits of stem cell transplantation.

Information about the transplant can be overwhelming. Several appointments with members of your transplant team will be arranged to provide you with knowledge and information to help you make decisions and participate in your care. Each member of the team is responsible for helping you in different ways. Team members work together to make certain you receive the best care. You and your caregiver(s) are also important members of the team.

As the team members provide you with the details of the risks and benefits of your treatment, you will be asked to make decisions and agree to different aspects of your care. Learning about your care and agreeing to the care is called “informed consent”. You will be asked to sign forms which state you clearly understand and agree with the treatment as described to you. **Never sign this form without reading it first.**

Sometimes certain conditions make a patient ineligible for enrollment onto an official transplant protocol. In this situation you will be treated with an equivalent high dose chemotherapy regimen but will not required to sign a consent. You will be informed of the treatment plan, benefits and possible side effects.
III. Transplant Team

Health Care Team Members

During your treatment you will be cared for by many different providers. Each one has a special role and responsibility for helping you. Knowing how each team member can help will make it easier for you to get the best care for your varying needs.

Your team members are:

♦ **Oncologist:** A physician specializing in the treatment of cancer. Your oncologist will decide if high dose chemotherapy with peripheral blood stem cell rescue is appropriate care for your particular disease. Your oncologist is responsible for your care both as an outpatient and if you are hospitalized.

  **Group Health Oncologist-Central** (Monday-Friday 8:30am-5:30pm)
  Eric Feldman M.D.  (206) 326-3119
  Kent Callahan M.D.  (206) 326-3117
  Steve Ginsberg M.D.  (206) 326-3120

♦ **Oncology Nurse Practitioner:** An Adult Registered Nurse Practitioner with special training to care for patients with cancer. Coordinates timing of different phases of your treatment. May also care for you as an outpatient under the direction of the oncologist.

  **Group Health Oncology Nurse Practitioner** (Mon.-Thurs. 8:30am-5pm)
  Patti Kwok ARNP  (206) 326-3111

♦ **Oncology Nurse:** A Registered Nurse working in the oncology clinic with extensive experience caring for cancer patients.

  **Group Health Oncology Nurse** (Monday-Friday 8:30am-5:30pm)
  Janelle Olney RN  (206) 326-3117
  Responsible for scheduling procedures and patient teaching about stem cell transplant process. Works with Dr. Callahan.

  **Andree Kolling RN**  (206) 326-3119
  Responsible for telephone advising and triage. Helps problem solve symptom relief. Works with Dr. Feldman

  **Judy Duvall RN**  (206) 326-3120
  Responsible for telephone advising and triage. Helps problem solve symptom relief. Works with Dr. Ginsberg and Patti Kwok ARNP

♦ **Medical Assistant:** Staff trained to assist physician and nurse practitioner with patient care. Assists with scheduling and takes vital signs. Not qualified to provide medical advice of any kind.

  **Michele Bonet** works with Dr. Callahan and Dr. Feldman.
  **Erna Stafronski** works with Dr. Ginsberg and Patti Kwok ARNP.
III. Transplant Team

Health Care Team Members

♦ Consulting Nurse: A Registered Nurse available by telephone after clinic hours to answer questions and provide advice. The nurse will contact the available physician as necessary. **Be sure to let the nurse know you are a stem cell transplant patient.**

Group Health Consulting Nurse: *For urgent situations and after clinic hours:* 1-800-297-6877

♦ Home Heath Nurse: A Registered Nurse who provides services in your place of residence. Responsible for making sure you are medically stable and able to function at home with the help of your caregiver(s). Usually begins services following placement of central line catheter and/or high dose chemotherapy. Helping you care for your catheter and using it for activities such as blood draws and medications is also the role of the home health nurse.

Group Health Central Home Health  (206) 326-4530

♦ Pharmacist: Specialist with knowledge of medications and their usage.

Oncology Pharmacist – Rebecca Lau  
(206) 326-3876

Available during clinic hours to answer questions about chemotherapy drugs pain medications or drugs to treat side effects.

Clinic RN is also able to provide medication advice.

**24 Hour Pharmacy Line (206) 326-2880**

If you require a refill of chemotherapy medication, antibiotic, nausea medication or IV fluids. Anticipating your needs for medication helps avoid contacting a pharmacist after hours.

♦ Transplant Coordinator: A Registered Nurse who makes certain you are cleared financially to proceed with stem cell transplantation and directs you to appropriate resources within Group Heath Cooperative as required.

**Group Health Transplant Coordinator** (Monday-Friday 7:00am-5:30pm)

Leslie Holmes RN CCM  (206) 326-2260

(206)998-0322 pager

♦ Oncology Social Worker: A medical Social Worker assisting with practical problem solving, resource information, caregiver(s) preparation, and emotional support to patients and their loved ones.

Meg Johnson MSW  (206) 326-3898
Rick Philips MSW  (206) 326-3466

♦ Nutritionist: A Registered Dietitian knowledgeable about foods and nutrition for restoring and maintaining health. During hospitalization will assess your calorie intake and monitor weight. Advises for the need for intravenous nutrition or additional nourishment.

**Virginia Mason Nutrition Services**  (206) 223-6729
III. Transplant Team

Facilities

Central Medical Center Main Building – Fifth Floor
Oncology Clinic
125 16th Avenue East
Seattle, WA 98112-5260
(206) 326-3111
Clinic Hours Mon.-Fri. 8:30-5:30
Specialty clinic where GHC Central oncologists and staff provide services.

Central Medical Center Main Building-Fifth Floor
Short Stay Services
201 16th Avenue East
Seattle, WA 98112-5260
(206) 326-3109
Clinic Hours Mon.-Fri. 7:00-5:30
Unit where procedures such as mobilization, high dose chemotherapy administration and stem cell reinfusion take place.

Seattlwe Cancer Care Alliance
Apheresis Unit
825 Eastlake Ave East
Seattle, WA 98109
(206) 288-2120
Clinic Hours Mon.- Fri. 8:00-5:30
Unit where stem cells are collected and stored until needed.

Virginia Mason Medical Center
925 Seneca St.
Seattle, WA
(206) 223-6600
Hospital for emergency and inpatient admission.

Central Urgent Care
201 16th Ave. E. St.
Seattle, WA 98112-5260
206-326-3223
Hours Mon.-Fri. 7am-Midnight, Weekend and Holidays 8am-Midnight
Urgent care for after hour services.

Maps for the facilities where different aspects of your care will occur follow. The transplant team members will assist with scheduling and directing you to the various locations.
Patients
CMCS Parking Garage
Patient and Visitor Parking Lots
Lots P4 behind CMCN
P5 Next to Family Health Center
First 30 minutes - free
30 minutes-2 hours - $1.00
2-4 hours - $2.00
4-6 hours - $3.00
6-7 hours - $4.00
7-8 hours - $5.00
8-24 hours - $6.00

Visitors
CMCS Parking Garage
First 30 minutes free.

$2.00 for 3 hours, with a maximum of $5.00 a day

Patient and Visitor Parking Lots
Lots P4 behind CMCN
P5 next to Family health Center
3 hours of parking, no validation needed

Extended parking permits available at parking and Commuting Services or scall (206) 326-3299.

Service Personnel use lot P13. Check in with Parking and Commuting Services at EXT 3299.
Central Medical Center South
125 16th Avenue East
Seattle, WA 98112
Main Switchboard: (206) 326-3000
Mail Code:

Clinic Hours: Mon.-Fri. 8:30 a.m.-5:30 p.m. (some departments vary)

Map & Directions
By bus from Downtown
1. At 4th & Pike (on the waiting platform
to Pike St. outside Pay n’ Save) take #10 Capitol
   Hill bus.
2. Get off approximately 13 minutes later at 15th
   Ave. E. & E. John St. in front of Group
   Health Hospital.

On I-5 Northbound:
1. Leave I-5 at Olive Way/Denny Way Exit
   166.
2. Take E. Olive Way up the hill.
3. E. Olive way curves to the right and
   becomes E. John St. at Broadway E.
4. Continue on E. John St. to 15th E.

On I-5 Southbound:
1. Leave I-5 at Stewart St./Denny Way Exit 166.
2. Turn left/east at light.
3. Take Denny Way up the hill and make a left onto E. Olive Way.
4. E. Olive Way curves to the right and becomes E. John St. at Broadway E. Continue on E. John St. to 15th Ave E.

On I-5 Southbound:
1. Leave I-5 at Roanoke Exit.
2. Turn Left/east at light. Go over I-5 overpass
3. Turn right/south at the second light at 10th Ave E.
4. Turn Left/east at E. Boston St. Follow E. Boston St., which winds around and becomes 15th Ave E. Take 15th Ave to E. John St.

By car from Mercer Island:
1. On Mercer Island Floating Bridge stay in righthand lane.
2. Take the first Rainier Ave. S. Northbound Ext.
3. Turn right/north-northwest on Rainier Ave S. Continue on Rainier Ave. S. as Rainier Ave. S. changes to go due north as 12 Ave. S.
4. Continue on 12th Ave. S. past Seattle University on your left for approximately 2 miles until you reach E. John St.
5. Turn right on E. John St. Travel 3 blocks to 15th Ave E. Group Health hospital faces you.

By car from Eastside across Evergreen Point Floating Bridge:
1. Take Evergreen Point Floating Bridge and exit to the right at Lake Washington Blvd. (first exit after the bridge).
2. Follow off ramp to the blinking light and stop sign, and take a right.
3. Follow road to stoplight.
4. Take a left onto Montlake Blvd. And follow arterial (which becomes E. Thomas St.) All the way up Capitol Hill to E. John St.
5. Turn right to 16th Ave E. Group Health Hospital is on the left/south.

Or
1. Take the 3rd Exit Vancouver B.C. after Evergreen Point Floating Bridge.
2. Almost immediately take the first right Roanoke St. Exit.
3. Take Roanoke St. E. Go east over overpass across I-5 to 10th Ave E.
4. Turn right/south at 10th Ave E. Travel southerly on 10th Ave E. to E. Boston St.
5. Turn left/east on E. Boston St., and follow road which winds around and becomes 15th Ave E.
6. Take 15th Ave. E. to E. John St. Group Health Hospital is on the left/south.
Driving Directions to the Seattle Cancer Care Alliance Clinic
825 Eastlake Avenue East

From I-5 north or south
Take the Mercer Street exit
Turn right at the light at the bottom of the exit ramp
Turn right onto Fairview Avenue North
Turn right at Ward Street
Turn right on Yale Avenue North
Turn left on Aloha Street
The Seattle Cancer Care Alliance Clinic is on the right
Parking is under the Seattle Cancer Care Alliance Clinic building

APEHERESIS UNIT
Enter underground parking: take elevator to the first (1st) floor and then take the elevator to the (5th) floor. Please report to the reception desk and let them know that you are a donor for the Apheresis Unit. They will then direct you down the hall to the unit when it is time for your appointment.

If you enter from the lobby: come into the lobby and take the elevator to your right to the fifth (5th) floor. Report to the reception desk and let them know that you are a donor for the Apheresis Unit.

If you have any questions on directions or instructions, please call the Apheresis Unit at (206) 288-2120
III. Transplant Team

Social Work Services

Social work support services are available to you and your caregiver(s) through the transplant process. These services include assistance with practical problem solving, resource information, emotional support, and caregiver preparation. There is no charge or co-payment for social work services.

Living Arrangements
The fragile nature of your health at this time requires that you be within 20-30 minutes from Group Health Central Campus and/or Virginia Mason Hospital. If you live further away than these limits you may want to take advantage of housing with family and friends in the area. The social worker can provide information about local accommodations and housing resources and will inform you about financial sources and assistance for housing expenses.

Financial Resources
Financial needs fall within three categories; income replacement, medical coverage and miscellaneous expenses.

Income replacement assistance is available from the following resources:

1. Employer based: You may qualify for paid benefits from your employer such as sick leave, short or long term disability, or programs allowing co-workers to donate sick leave to someone with a catastrophic illness.

2. Washington State Department of Social and Health Services (DSHS) provides financial assistance dependent on income and resource qualification. The local office is found in the Blue Pages section of the telephone directory under State of Washington, Community Services Offices. Apply at the office that serves your zip code.

3. Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI). SSDI is an earned benefit and eligible persons receive it regardless of other income or assets. There is a six month waiting period to receive benefits. SSI is another Social Security administered program which is means tested, in other words, only low income persons with limited assets can qualify. Qualified individuals may receive DSHS benefits while awaiting SSI. For information and to apply, call Social Security Administration at 1-800-772-1213.
III. Transplant Team
   Social Work Services

Medical coverage assistance may be required as many insurance policies do not cover all expenses related to an illness. You should understand what your own coverage provides. Call Group Health Cooperative Customer Service Center at 1-888-901-4636 to answer your questions regarding your medical coverage. For transplant specific questions refer to Leslie Holmes, Transplant Specialist. You may be eligible for DSHS medical insurance also and should apply for Medicaid as a back-up insurance (see above). Some specific cancer support organizations will reimburse for uncovered expenses or maintain loan closets for durable medical equipment and other needs. The enclosed “Cancer Resources” brochure can offer referrals or talk with your social worker about your concerns.

Miscellaneous expenses for transportation, housing, meals, or other needs are required during your treatment. Family and friends want to express their support and help in a way that they really feel makes a difference. You are encouraged to allow fundraising efforts on your behalf and to accept offers of their help.

There are many expenses associated with the illness and treatment of cancer. There are many sources of financial help for patients. Planning ahead for your needs is helpful in avoiding some of the stress of worrying about money. Your social worker can help with these concerns.

Advance Directives

Advance directives are legal documents signed by the patient to express their wishes in the event they are unable to speak for themselves. There are two types of advance directives. A Living Will also called a Directive to Physicians indicates your wishes for certain types of medical interventions if you are in a permanent coma or are terminally ill. To assure a level of quality of life, a Living Will asserts your right to refuse certain medical treatments. Living Wills are sometimes confused with Code Status or Do Not Resuscitate (DNR) orders. Code Status tells medical providers your wishes if your heart stops beating or you stop breathing. You may choose efforts from full resuscitation with artificial breathing and shocks to the heart to refusing any interventions towards the efforts of resuscitation. Each patient has their own feelings about these issues and their wishes will be respected.

The other type of advance directive is a Power of Attorney. Patients who are competent can designate in advance a person who can act for them in the event that they cannot speak for themselves. If a patient has not designated a Power of Attorney, their legal next of kin will be asked to make decisions. Legal Next of Kin goes in the following order – spouse, parent, child, sibling. If a person prefers someone other than their legal next of kin for a decision maker, they can name them in a Power of Attorney. A Power of Attorney can also grant permission to transact financial business for the patient. A Power of Attorney must be notarized.
III. Transplant Team
Social Work Services

Emotional Concerns

Everyone's experience of cancer is unique. Your diagnosis may be very recent or you may have been coping with this disease for many years. Your medical response to treatment may also vary from someone else with the same diagnosis. These experiences could lead to difficult feelings. Each person has a different way of coping dependent upon their own personality. Your emotional health contributes to your general well-being and is important in your care. Common concerns include coping with the difficult side effects which could accompany high dose chemotherapy such as mouth pain, nausea, and diarrhea; trying to maintain a positive outlook and focusing on hope for extended time periods over the course of treatment; coping with the information provided by your team of providers to prepare you for the treatment without becoming frightened. Preparation for transplant also means preparing emotionally.

Suggestions for strategies you may find helpful follow. You will probably think of others as you proceed with this treatment.

The support of loved ones is often invaluable. Having someone available to help you 24 hours a day even if you are admitted to the hospital, can make you feel less vulnerable. Having a trusted advocate to interact with staff, asking questions, voicing your concerns can be very reassuring. Having familiar people around you can also help if confusion occurs.

We encourage you to personalize your hospital room. Your family and friends can help you with this. Photographs, posters, banners, drawings, cards, balloons and other reminders of your loved ones’ thoughts and caring for you are very helpful and comforting. Please remember flowers and fresh fruits are not allowed because of the risk of infection.

Pleasurable activities help to counteract periods of discomfort and boredom. Bringing favorite music to listen to or videos to watch will help pass time. Other sensory experiences such as fragrant massage oils, favorite comfortable clothing, other sources of beauty or pleasure are welcome. Humor is very therapeutic and to helps maintain a positive outlook. Cartoons or just plain silliness can never hurt.

We encourage you to be open and expressive with feelings as they arise. There is no right way to feel. You will probably feel many different ways during your treatment. Determination, pride, appreciation, and courage are some of the positive feelings associated with cancer treatment. Nearly everyone experiences some fear, also.
III. Transplant Team

Home Health

The Home Health care nurse is another member of your transplant team. A catheter will be placed during the apheresis phase of your treatment. Helping you care for your catheter and using it for activities such as blood draws and medications throughout the transplant process is one of the responsibilities of the home health nurse. (S)he will make sure you are medically stable and able to function with the assistance of your caregiver(s) while you remain outside of the hospital setting.

Caregiver(s)

The physical, emotional, and often financial struggles this treatment presents may lead to tremendous stress for you and your family. The support of designated caregiver(s) is important for the success of the therapy. Commitment to both psychological and technical support for you during your transplant is expected from your caregiver(s). Responsibilities of the caregiver(s) are throughout the course of your treatment and encompass both the time you may be hospitalized and also while you are an outpatient. While less is expected during hospitalization, just having the presence of a loved one in the room at night can greatly relieve stress. Daily visits are extremely helpful if your caregiver(s) are unable to stay over.

Because of the fragility of your health during the transplant process you will be required to live within 20-30 minutes of Group Health Central Campus/ Virginia Mason Hospital. You may need to relocate to a temporary home to be within these limits. Separation from your family, friends and community may be lengthy at this time. Your oncologist will determine when you may return home. If there are no major complications, most patients typically return home 3-4 weeks or earlier after stem cell reinfusion. Your caregiver(s) support is very important during this time.

Caregiver(s) responsibilities include the following:

- Assisting with activities of daily living involves food preparation to help assure good nutrition and adequate fluids. Helping with bathing, toileting, dressing, keeping track of medications, notifying providers of symptoms and maintaining the home environment may also be required. Physical availability 24 hours per day beginning with the week of high dose chemotherapy is necessary.

- Supporting with technical activities which will be taught to you and your caregivers. You will be expected to help manage these activities during the process.

- Transporting to clinic for testing, exams, care provider conferences and other routine activities before and during treatment and up to several weeks after hospitalization. Availability for urgent transportation if complications occur even in the middle of the night.
III. Transplant Team

Caregiver(s)

- Your caregiver(s) have special needs of their own as they help you through your treatment. Information, education and emotional support are available to them also from members of the transplant team. Caregiver(s) are considered a very important part of the team and we will help them with their responsibilities as they help you. The social worker is trained to be helpful with support and resources.
III. Use this space for your notes, questions, concerns.
IV. Phases of Treatment

**Disease Staging**

Determining your disease staging helps in treatment decision-making and predicting prognosis for outcome. Staging usually involves assigning a number or letter that designates the extent of your disease. Testing is required to make this determination. You may undergo blood draws, CT scans, bone scans, bone marrow aspiration and biopsy, MUGA scan, spinal taps, or ECG. You should understand the purpose of each of the tests, how they are performed and most importantly the results and their meaning for your care. **How the stage of your disease may determine your response to transplant treatment will be discussed with your physician.**

If you are enrolled onto an official protocol, staging testing may be required previous to transplant and again 60 days and one year following transplant.

**Mobilization**

Mobilization is a process that involves increasing the number of stem cells in your circulating blood. Naturally occurring proteins known as growth factors and chemotherapy are given by injection. Your specific disease process will determine your need for one or both of these treatments. The dosage of growth factor for mobilization is much higher than you may have had during previous chemotherapy. You will be informed of potential side effects and your physician can treat you for those symptoms.

You will have daily blood draws for approximately 10 -14 days following the start of mobilization. Your blood counts will indicate when the stem cells are ready for collection. A double lumen central line catheter is placed at this time to provide access to your circulating blood. The catheter will be in place several weeks before and usually until 6-8 weeks after transplantation.

**Apheresis**

The non-surgical process of collecting your stem cells is known as apheresis. Blood is withdrawn by way of your catheter and circulated through a special machine that separates and removes the stem cells. The blood is then returned to you through your catheter. You may require blood or platelet transfusions during this time to compensate for some blood lost with the procedure. The process takes approximately four hours and takes place at Fred Hutchinson Cancer Research Center (FHCRC). You may be required to undergo this procedure multiple times before adequate stem cells have been collected. Your prior chemotherapy exposure, specific mobilization regimen or your age may influence the number or collections required. Following collection, your stem cells will be cryo-preserved, or frozen, until they are ready to be reinfused.
IV. Phases of Treatment

**High Dose Chemotherapy**

High dose chemotherapy is a combination of drugs given in doses exceeding routine amounts. Studies indicate recurrent or especially aggressive tumors respond better to the increased dosages. The route of administration is usually intravenous or in some instances orally by a pill. The many side effects are the result of the temporary destruction of cells of the hair follicles, linings of the mouth and gastrointestinal tract, and bone marrow cells in addition to the cancerous cells. Hair loss, nausea, vomiting, heart burn or stomach upset, diarrhea, fever and infection are the resultant side effects. Early menopause and infertility also occur due to the treatment. Without the reinfusion of your collected stem cells following the high dose chemotherapy, your immune system would be permanently destroyed. The serious life threatening risks of these medications should be discussed thoroughly with the physician. The benefits of this treatment usually outweigh the risks.

**Total Body Irradiation**

You may be registered on a transplant protocol that includes Total Body Irradiation (TBI). The purpose of the irradiation is similar to chemotherapy and sometimes these two treatment modalities are used together to treat your disease. As with chemotherapy, this procedure is used to destroy malignant cells. Unfortunately it also affects normal bone marrow leading to destruction of healthy white and red blood cells and platelets. Side effects of TBI are temporary nausea, vomiting, diarrhea, total body hair loss and painful swelling of the parotid gland (near the ear). Radiation may also cause inflammation of the lungs resulting in shortness of breath. The irradiation dose, like the high dose chemotherapy will likely result in sterility.

**Stem Cell Reinfusion**

Following high dose chemotherapy and/or TBI you will be given your previously collected stem cells. Your stem cells will act to restore your immune system following its destruction by high dose chemotherapy and/or TBI. The procedure for reinfusion usually begins a day or more after high dose chemotherapy and/or total body irradiation to avoid interfering with stem cell growth and maturation.

This procedure requires pre-medications and intravenous fluids and takes approximately 6-8 hours. The frozen stored stem cells are brought to your bedside and thawed in a warm water bath. After a few minutes they are ready for reinfusion through your catheter. To prevent formation of ice crystals and cell destruction, the preservative dimethyl sulfoxide (DMSO) is used during the freezing phase of stem cell storage. This may cause you to experience a garlic-like smell or taste persisting from 30 minutes to 24 hours following reinfusion. The odor may be noticeable on your breath, or in your urine, stool or perspiration. It should disappear completely within a week but may be noticeable by others for approximately two to four days.
IV. Phases of Treatment

**Stem Cell Reinfusion**

Other side effects associated with reinfusion of stem cells include fever, chills, nausea, vomiting, stomach cramps, or diarrhea. Complications include slowing of your heart rate, reddish urine (due to the destruction of some red blood cells collected during apheresis), and calcium depletion which could cause tingling around the mouth and fingers. Approximately one half hour before the infusion you will receive intravenous medications known as premedications to help reduce these potential side effects. These premedications include antihistamines, steroids and anti-nausea drugs. Most of the unpleasant side effects are reversible and usually dissipate within a few hours. Expect your urine to return to a normal color within 24 hours.

**Post infusion**

The most critical part of the transplant process begins a day or so after stem cell reinfusion when your blood counts start to fall. The transplant process severely compromises your immune system and you are no longer able to fight off infection. The high dose chemotherapy side effects of fatigue, sore mouth, loss of appetite, and dehydration also occur at this time. Fever, indicating an infection, or any of these symptoms may require you to be admitted to the hospital. Your caregiver(s) also may become overwhelmed or fatigued during this phase.

If you are admitted, your hospital stay may be 2-3 weeks. The actual time spent hospitalized varies for each person with complications leading to a more lengthy stay. One close family member or friend is encouraged to spend the night with you in your hospital room. Visitors who have no symptoms of infection are urged to come to visit in the hospital. Familiar items from home such as photos, your pillow or blanket are welcome. Personalizing your hospital environment helps to increase your spirits during what can be a difficult time.

If your condition is otherwise stable and your care giver is able, the treatments for many of these side effects can be provided as an outpatient. This may be done in Short Stay Services or Urgent Care. Your care team will coordinate your treatment with these other departments.

**Engraftment**

During this phase of your transplant your reinfeused stem cells migrate back to the bone marrow and begin to develop into mature red and white blood cells and platelets. This process takes about ten to twelve days. During this time you are very susceptible to life-threatening infection and bleeding. Your immune system has been destroyed and cannot fight infection. You lack the important blood cells, which allow your blood to clot and to carry oxygen. Daily blood draws determine the number of blood cells as they return to normal amounts. This is known as engraftment. Nurses monitor the counts along with other events in your course of care to be aware of when engraftment occurs. The lining of your mouth, stomach and intestines begin slow healing and fever subsides as mature white blood cells begin to fight infection. As your red blood cells and platelets return to normal you will need fewer transfusions.

Patient Education Notebook
IV. Phases of Treatment

Engraftment

Your stem cell reinfusion is a rescue of your immune system that has been permanently damaged by high dose chemotherapy used to destroy cancerous cells.

Post transplant

Your care continues with frequent physical exams and blood draws. The appointments are usually twice a week during the first month after stem cell reinfusion. During the second and third month after transplant, blood draws are every two weeks progressing eventually to every three to four weeks. You should bring a list of all your medications and questions to discuss with your physician at each of your appointments. Your transplant oncologist will begin to see you quarterly following the first 90-120 days if you are doing well. Quarterly follow-up care is essential for 24 months after transplant. You may be released to the care of your primary oncologist if you come from outside the Seattle area but protocol requirements may dictate that you return to your transplant oncologist quarterly.
IV. Use this space for your notes, questions, or concerns.
V. Medical Interventions

You will experience multiple technical activities during the course of your care. To help you understand what to expect and how you will participate in your care these activities are described below. Your transplant team will teach you the skills necessary to manage these interventions.

**Intravenous infusions**

*Patient Controlled Emesis*

This therapy is used for control of nausea and vomiting that is not well managed with oral medications. This system allows for administration of continuous and/or bolus intravenous nausea medication providing a more therapeutic effect and helping avoid hospitalization for this side effect. A home infusion pharmacist will teach you how to use the therapy if it is prescribed.

*Total Parenteral Nutrition (TPN)*

Some high dose chemotherapy regimens are very toxic to the gastrointestinal tract. It may become very difficult to eat or drink adequate amounts following the transplant procedure. TPN provides intravenous supportive fluids and nutrition. This may be required during hospitalization and up to a few weeks following discharge. The nurse and pharmacist will provide instruction and supplies for managing this therapy. TPN is not required by all patients.

*Intravenous Fluids (IV fluids)*

Drinking enough fluids to maintain good hydration can be difficult following transplant. Supplemental hydration with IV fluids can assist with this effort. You will be taught how to administer these fluids to yourself by a nurse and a home infusion pharmacist.

*Intravenous Antibiotics (IV antibiotics)*

Most patients develop a fever and/or infection during the process when their white blood cell counts are low. IV antibiotics are started at the onset of fever and/or when blood counts begin to drop. Usually the fever resolves with the engraftment of stem cells. It is not unusual, however, to develop recurrent fever or new infection. Administering antibiotics at home can help to avoid admission or a prolonged hospital stay.

**Central Line Catheter**

The double lumen plastic tube known as a central line catheter surgically placed in your chest below your collarbone allows for direct access to your circulatory system. The catheter is tunneled under the skin into a large vein that empties into the right side of your heart. The two branches of this catheter allows for ease in collecting and infusing peripheral blood stem cells, giving intravenous fluids, nutrition, antibiotics, chemotherapy, blood products, and blood draws.
V. Medical Interventions

Central Line Catheter

These catheters require meticulous care to avoid becoming dislodged or infected. Sometimes these problems occur despite the best care. You will be instructed in caring for it to prevent it from coming out or becoming clotted or infected. The dressing covering your catheter will need to be changed daily and flushed with heparin to keep the lines open. The nurses in the Short Stay Unit and home infusion pharmacists will help you learn to care for and provide supplies for your catheter. The catheter will be in place several weeks before hospitalization and until usually 6-8 weeks after transplantation.

Transplant Medications

Some of the most common medications taken during the transplant process are described below. You will be informed of purpose and side effects of all the medications you receive during your treatment. It is important to notify your transplant team of any allergies you may have to medications or environmental factors. Also inform your providers of any untoward effects of any medications during your treatment.

Avoid use of herbal preparations at least three months before and after transplant. A high incidence of fungal contamination during the processing or packaging of these products could lead to risk of infection.

Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allopurinol</td>
<td>Protects kidneys. Usually well-tolerated. Side effect may include an itchy rash.</td>
</tr>
<tr>
<td>Dilantin</td>
<td>Prevent seizures while taking a chemotherapy medication called busulfan. May cause drowsiness, blurry vision, and difficulty concentrating.</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>Prevent fungal infections. Usually well tolerated but can cause nausea, headache, skin rash.</td>
</tr>
<tr>
<td>Acyclovir</td>
<td>Prevent herpes infection. May cause nausea diarrhea.</td>
</tr>
<tr>
<td>Bactrim</td>
<td>Prevent infections. May cause nausea.</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>Prevent infections.</td>
</tr>
</tbody>
</table>
VI. Self Care

Caring for your self during the transplant process is integral to your sense of well being and independence. Knowing how to respond to the various activities and procedures your body will experience assists with your recovery. Assuming normal daily activities will help confirm your sense of getting better and successful treatment. You, along with the assistance of your caregiver(s) and transplant team, will come to know how your body responds to transplant better than anyone. Identifying your needs and coping appropriately are goals for regaining health. Awareness of complications and how to deal with them will help prevent unnecessary risks and improve your outcome. This section of your notebook will provide information to help with these activities. You may need to refer to these issues over a prolonged period of time. Please note your responses to differing situations and advise the nurse or oncologist as required.
VII. Reasons to Contact Your Transplant Physician

- Temperature greater than 100.5° and/or uncontrollable shaking chills
- Pain uncontrolled by your prescribed medications
- Bleeding - examples - nose bleeds, blood in urine or stool, catheter site
- Chest pain or shortness of breath or rapid breathing
- New onset of irregular heartbeat or palpitations
- New uncontrollable cough
- Nausea or vomiting not controlled by your prescribed medications
- Diarrhea every 1-2 hours, especially if large amount, watery with abdominal cramping, or tar like stools
- Light headedness or dizziness - can't stand up
- Change in mental status - examples - confusion, incoherent, cloudy or unclear thinking, not able to arouse
- Sudden change in vision - double vision, no vision, spots or floaters
- Sore mouth or throat so painful unable to swallow own secretions or pills
- Central line problem i.e., increasing redness, tenderness, warmth, swelling, drainage pus or blood, or can't flush
- New rash or sores
- Inability to sleep or anxiety
- Constipation or no bowel movements in 2-3 days
VIII. Complications and How to Manage

Infection

White Blood Cells (WBC), or leukocytes, are a type of blood cell and are an important part of the body's immune system. White blood cells rid the body of harmful material. They destroy invading viruses and bacteria and also hurt abnormal cells originating within the body itself. By doing this, leukocytes constitute one of the body's major defenses against cancer. A normal white blood cell count is 3,500-10,000 cells per cubic millimeter of blood. When the WBC count drops, the risk for infection increases.

Call the nurse or physician if you experience any of the following symptoms of infection:
- Temperature greater than 100.5°F orally
- A shaking chill
- Burning during urination, frequent urination
- Diarrhea, vomiting
- Redness, tenderness or drainage from a central line site
- Pain, redness, swelling, in any area
- Diarrhea, nausea, vomiting (may also be a side effect of chemotherapy)

Handwashing

Careful handwashing by you and your caregiver(s) is an important protection against infection. Many bacteria and viruses are transmitted by hand-to-mouth or hand-to-nose contacts.
- Good handwashing before meals and after using the bathroom is very important.
- Brushing your teeth after meals, snacks and before bed
- Bathing or showering daily (less often if skin is dry).
- Following instructions for central line catheter care.

Diet and decreased immune functioning

Persons with decreased immune function due to cancer or cancer therapy are at increased risk of developing various infections. The purpose of the following section is to help you avoid specific foods that are potential sources of infection causing organisms while allowing maximum healthy food choices. You may want to discuss the safety of these or other foods with the dietitian.

This diet should be followed before and after all conditioning (chemotherapy and/or radiation) therapy. Your doctor and dietitian will provide guidelines as to when the diet is no longer required. It is recommended that chemotherapy, peripheral blood stem cell, and autologous transplant patients follow the diet during the first three months after chemotherapy or transplant. Allogeneic transplant patients should follow the diet until off all immunosuppressive therapy (e.g., cyclosporine, Prednisone). Prior to the end of these time periods, patients
Infection

and their caregiver(s) should discuss with their referring physician whether or not the diet or parts of the diet should be continued.

Remember that all food must be stored and handled properly to avoid food related infections and illness. Also avoid all moldy, spoiled foods as well as food products that are outdated.

You may contact Virginia Mason Nutritional Services at (206) 223-6729 for questions.

Home Food Handling and Storage Check List for the Immunosuppressed Patient

Personal Hygiene
- Wash hands with soap and water before and after every step in food preparation and before eating.
- Wash hands after using the rest room, handling garbage, and touching pets.
- Use separate cutting boards (plastic, glass, laminated, and wooden are acceptable) for cooked foods and raw foods.
- Wash cutting boards after each use in hot, soapy water or in the dishwasher. Counter tops and boards should be sanitized weekly using a solution of 1 part household bleach to 10 parts of water.
- Keep counter and kitchen surfaces free of food particles.
- Thaw meat, fish, and poultry in the refrigerator or microwave, not on the kitchen counter.
- Wipe up spilled meat juices with a paper towel.

Sink Area
- Have available liquid or bar hand soap for hand washing.
- Use paper towels for drying hands.
- Sanitize dishcloths and sponges daily in a bleach solution or toss in with dishwasher loads.
- Do not store food supplies under the sink. Do not store chemicals and cleaning solutions near food supplies.

Refrigerator/Freezer
- Maintain refrigerator temperature between 34° to 40° F.
- Maintain freezer temperature to less than 5° F.
- Store all food in covered containers after cooling. Cool hot foods first, uncovered, in the refrigerator; cover storage containers after cooling. Ensure that covers seal tightly.
- Discard eggs with cracked shells.

VIII. Complications and How to Manage
Infection

- Discard food older than their “use by” expiration dates; discard all prepared foods after 72 hours (3 days).
- Discard entire food packages or containers with any mold present, including yogurt, cheese, cottage cheese, fruit, vegetables, jelly, and bread and pastry products.

Cupboards/Pantry

- Discard without tasting any bulging, leaking or cracked cans, or those deeply indented in the seam area. Monitor expiration dates.
- Ensure food storage areas remain reasonably clean: no obvious insect or rodent contamination is evident.
- If home canned foods are used, review the processing procedure to be sure it was appropriate for the pH of food, size of bottle, and elevation above sea level. Look for mold and leaks. Check seals.

Microwave Cooking

- MICROWAVE COOKING CAN LEAVE COLD SPOTS IN FOOD WHERE BACTERIA CAN SURVIVE. ROTATE THE DISH A QUARTER TURN ONCE OR TWICE DURING COOKING IF NO TURNTABLE IN THE APPLIANCE. STIR SEVERAL TIMES DURING HEATING/REHEATING.

Tap and Well Water

- If well water is used, check that the well has been tested and found safe (minimum testing 2 - 4 times per year with the filters changed regularly). If unsure of water source, do not use directly from tap. Boil the tap or well water for five minutes and use for all cooking and drinking. Refrigerated, boiled water should be used within 24 hours.

High Risk Food Sources

- Salad bars
- Delicatessens
- Smorgasbords, buffets, potluck meals
- Sidewalk vendors
- Soft serve ice cream, frozen yogurt, or milkshakes
- Food in bulk store, self-serve containers
- Raw sprouts of all kinds
VIII. Complications and How to Manage

**Infection**

**Grocery Shopping**
- Check packaging date on fresh meats, poultry, and seafood. Check for odd-odor and mold or insect contamination.
- Check “Sell By” and “Use By” dates.
- Reject damaged, swollen, rusted, or deeply dented cans. Check that packaged and boxed foods are properly sealed.
- Avoid foods from self-select, bulk containers.
- Avoid yogurt and ice cream products dispersed from soft serve machines.
- Avoid tasting free food samples
- Reject cracked unrefrigerated eggs.
- Purchase frozen and refrigerated foods last, especially during the summer months.
- Store groceries promptly; never leave food in a hot car!
- Avoid raw, unpeeled fruits and vegetables if white blood count is below 1000. Sprouts and leafy vegetables are especially risky.

**Miscellaneous**
- Potted plants and cut flowers should be avoided when your white blood count is low. The soil or water may contain harmful bacteria.
- Avoid the use of marijuana prior to and for at least three months after transplant as it may contribute to fungal infections.

**Dining Out - Is it Safe?**
- Avoid eating out if WBC count is below 1000.
- Select restaurants with a reputation for cleanliness.
- Ask that food be prepared fresh in fast food establishments.
- Request single serving condiment packages: avoid self-serve bulk condiment container.
- Be cautious about salad bars, delis, buffets and smorgasbords, sidewalk vendors pot luck meals, and soft-serve ice cream, milkshake, or yogurt machines.

*Resource:* Fred Hutchinson Cancer Research Center, Clinical Nutrition Department April 1994

**Dehydration**

Often patients are not able to take in enough fluids either before or after hospitalization. This should be monitored closely and kept track of daily. Usually it is required that a patient drink close to two liters (65 oz) per day Sometimes patients require intravenous fluids at home via pump infusion through catheter.

Call your nurse or physician if any of the following symptoms occur:
- **Decreased output of urine**
- **Excessively dry mouth**
- You are unable to keep down at least four cups of fluids a day.
- You feel lightheaded when you sit or stand up.
VIII. Complications and How to Manage

**Malnutrition**

Tips to enhance your appetite and increase your food intake include:

- Eat in a calm, relaxed, leisurely environment.
- If you are a smoker, eliminating smoking may improve your appetite. If you are unable to quit, abstain from smoking at least one hour before eating.
- Eat small meals more often, every two hours if needed.
- Keep snacks handy for between meal nibbling.
- Consume high calorie nourishment long enough before the next meal that it does not interfere with your appetite.
- Avoid sweets right before a meal and do not let them monopolize your diet. Very sweet foods can curb your appetite.
- If snacks seem to decrease your appetite at meal time then make snacks low in fat and high in calories, examples:
  - Hard candy
  - Popsicles
  - Slushies
  - Dried fruit
  - Canned fruit in heavy syrup
  - Sherbet
  - Sherbet shakes
  - Toast with jam or jelly
  - Angel food cake
  - 7-Up, Gingerale, or your favorite carbonated beverage

- Include your favorite foods in your menu planning, you may be more likely to eat bigger portions.
- At meal time, try to eat solid foods instead of filling up on liquids. Drink liquids after your meal.
- Use the days or weeks between treatments to make a concentrated effort to eat more.

The book "Eating Hints For Cancer Patients" has many good suggestions. This book is readily available in your clinic so if you have not received a copy please ask us. Short Stay Services also has extra copies.

You will be counseled by a nutritionist with specific guidelines describing what to expect and acceptable foods. If appropriate, you will be taught how to administer intravenous nutrition.

**Tips for eating a high calorie high protein diet**

Ways to Increase Your Caloric Intake:

- Eat several small meals throughout the day.
- Include your favorite foods at meals plus some new ones to add variety and stimulate your appetite.
- Set an attractive table and enjoy your meals in a relaxed atmosphere.

VIII. Complications and How to Manage

**Malnutrition**

- Suggestions:
Cream, Half & Half, or Nondairy Creamer - use as the liquid ingredient in soups, milkshakes, eggnogs, hot chocolate, and cooked cereals and puddings.

Whipped Cream, Whipped Topping or Marshmallows - use with desserts such as gelatin, pudding, and custard. Use in hot chocolate and other beverages.

Sour Cream - use on fruits and vegetables and in soups, dips, and meat sauces.

Butter or Margarine - use for frying meats, fish, and vegetables. Use in soups, vegetables, mashed potatoes, rice, and hot cereals. Melt on hot breads.

Mayonnaise - use in meat, vegetable, and fruit salads. Use on sandwiches.

Gravies or Sauces - use on meats, fish, vegetables, rice, and noodles.

Concentrated Sweets - use sugar, honey, syrup, candy, jams, jellies, gelatin, pies, cakes, cookies, pastries, ice cream, custards, puddings, and popsicles.

Ways to Increase Your Protein Intake
Include at least one protein source at each meal.
Use protein supplements in preparing foods

Suggestions:
- Dry Milk - add instant dry milk powder to regular milk to increase protein content. (Add 1 cup of dry milk powder to 1 quart of whole milk). Add instant dry milk powder to hot or cold cereals, soups, gravies, scrambled eggs, casserole dishes, ground meats, custards, puddings, milkshakes, eggnogs, and cocoa.
- Milk, Half & Half, or Evaporated Milk - use instead of water in instant cocoa packets, canned creamed soups, and pudding mixes.
- Cheese or Cheese Spreads - add to sauces, soups, vegetables, casseroles. Use in sandwiches, on crackers, or apples.
- Cottage Cheese - use in vegetable dips, gelatin salads, or with fruit.
- Yogurt - use in dips, sauces, salad dressings, or with fruits.
- Eggs - use hard cooked eggs in sauces or vegetable and meal salads. Try deviled eggs and omelet.
- Meat, Fish, Poultry - use your favorite recipes. Add cooked shrimp, crab, tuna, Vienna sausage, and cubed cooked ham to sauces, soups, and casseroles.
VIII. Complications and How to Manage Malnutrition

- Peanut Butter - use on bread, crackers, celery, fruit or in cookies or milkshakes.
- Nuts - use in cookies, cakes, pies, breads, salads, or with cooked vegetables.
- Dried Peas, Lentils, and Beans - use in hot soups and casseroles.
- Tofu - use in soups, casseroles, and vegetable dishes.

High calorie high protein recipes

Homemade Milkshake
Yield: 250 ml
9 ounces ice cream (3 cartons)
120 cc whole milk (4 ounces)

Calories: 450
CHO: 51
PRO: 13
FAT: 19

Blend together in beverage maker and freeze.

Orange Frappe
Yield: 350 ml
60 cc lemonade (2 ounces)
60 cc orange juice (2 ounces)
120 cc half and half (4 ounces)
6 ounces orange sherbet (2 cartons)
4 ounces vanilla pudding

Calories: 682
CHO: 100
PRO: 8
FAT: 30

Blend together thoroughly in beverage maker and freeze.

Banana Yogurt Shake
Yield: 300 ml
120 cc vanilla yogurt (4 ounces)
1 tablespoon orange juice concentrate
1 ½ teaspoons sugar
½ banana
60 cc whole milk (2 ounces)

Calories: 350
CHO: 58
PRO: 8
FAT: 5

Blend together thoroughly in beverage maker. Store in freezer.

Fruit Frappe
Yield: 240 ml
8 ounces fruit yogurt
120 cc half and half (4 ounces)
60 cc cranberry juice (2 ounces)

Calories: 430
CHO: 57
PRO: 8
FAT: 17
VIII. Complications and How to Manage

**Malnutrition**

**Lemon Frappe**
Yield: 300 ml  
Calories: 320  
120 cc buttermilk (4 ounces)  
CHO: 45  
120 cc lemonade (4 ounces)  
PRO: 12  
6 ounces vanilla ice cream (2 cartons)  
FAT: 12

**Pineapple-Orange Frappe**
Yield: 300 ml  
Calories: 375  
90 cc plain yogurt (3 ounces)  
CHO: 79  
6 ounce cup orange sherbet (2 cartons)  
PRO: 6  
90 cc canned pineapple (3 ounces)  
FAT: 5

**CIB - Regular**
Yield: 215 ml  
240 cc whole milk (8 ounces)  
Calories: 280  
CHO: 36  
PRO: 14  
FAT: 9

Mix well in beverage maker and refrigerate.  
Flavors: French Vanilla, Strawberry Creme, Creamy Chocolate

**CIB - No Sugar Added**
Yield: 215 ml  
Calories: 190  
Flavors:  
CHO: 22  
Creamy Milk Chocolate, Classic,  
PRO: 14  
Chocolate Malt, French Vanilla,  
FAT: 6  
Strawberry Creme

**Sustacal**
Yield: 240 ml  
Vanilla, Strawberry, Chocolate  
Calories: 240  
Eggnog  
CHO: 33  
PRO: 15  
FAT: 6

Serve as is or freeze.

**Sustacal Plus**
Yield: 240 ml  
Vanilla  
Calories: 360  
Serve as is or freeze.

CHO: 45  
PRO: 14
VIII. Complications and How to Manage

**Malnutrition**

**Punch Citrotein with Lemon Lime**

Yield: 270 ml  
180 cc lemon lime soda (6 ounces)  
1.0 ounce (1/4 cup) citrotein punch flavor powder  

Calories: 280  
CHO: 60  
PRO: 10  
FAT: 0

Mix together. Refrigerate.

**Nectar Slush**

Yield: 240 ml  
240 ml nectar (8 ounces)  

Calories: 120  
CHO: 30  
PRO: 0  
FAT: 0

Freeze.

**Gatorade**

Volume: 240 ml

Calories: 60  
CHO: 15  
PRO: 0  
FAT: 0

Serve as is.

**Katy Jell-O**

Yield: 180 ml  
90 cc vanilla ice cream (3 ounces)  
60 cc jell (4 ounces)  
60 cc cottage cheese, blended smooth (2 ounces)  

Calories: 120  
CHO: 17  
PRO: 6  
FAT: 3

Blend together in beverage maker. Refrigerate.

**High Cal High Pro Diabetic Blueberry Drink**

Volume 360 ml  
1 tablespoon Promod  
1 cup half and half  
1 packet Equal  
1/3 cup frozen blueberries  
Options: canned peaches or frozen blackberries.

Calories: 375  
CHO: 25  
PRO: 9  
FAT: 27

Blend together. Freeze.  
2 tablespoons = 1 ounce = 30 ml; 1 cup = 8 ounces = 240 ml; 1 ml = 1 cc
VIII. Complications and How to Manage

Diarrhea and Constipation

It is common for your bowels not to function normally sometimes for up to two months after transplant. You should call the nurse if the diarrhea is becoming more frequent, or you experience abdominal cramps or pain, bloating, or no bowel movement for 3 days or more.

Constipation
Constipation may be caused by pain medications, anti-cancer drugs, or lack of fluids and fiber in your diet.
- Include foods in your diet that normally help your bowels move. For some people this may be fruit, corn, prunes, fruit juice, etc. Increasing your fluid intake is very important. If you normally are prone to constipation, your doctor may prescribe a stool softener.
- Milk of Magnesia may be taken according to the directions on the bottle (two tablespoons at bedtime). It is usually gentle and not habit-forming.
- Establish a routine with high-fiber foods and fluids (and medications if needed) to keep your bowel movements regular and prevent constipation. High-fiber foods are whole-grain cereals, dried and fresh fruits, vegetables, dried bean and peas.
- Drink plenty of liquids. Tea, hot water, and fruit juices are all helpful.
- Take a walk as part of your daily routine.
- If the condition persists more than 3-4 times days, call the nurse or physician for further suggestions.

Diarrhea
Chemotherapy and irradiation affects rapidly dividing cells therefore cells in the small intestine are prone to injury. Some transplant regimens cause more diarrhea than others. Diarrhea and cramping most often result from receiving methotrexate, Ara-C, 5FU, hydroxyurea, doxorubicin and busulfan. Your stools may also increase during or after irradiation.

Diarrhea is the passage of loose and/or watery stools more frequently than your normal pattern. Please call the nurse if your bowel pattern changes. When diarrhea occurs, stool cultures are sometimes taken to rule out infection.

Some tips for helping you through this time:
- Eat a low residue diet high in calories and protein. Some good foods are bananas, rice, and applesauce.
- Avoid foods that stimulate the bowel. These include popcorn, raw vegetables, dried fruits, hot or cold liquids.
- Avoid tobacco and alcohol.
- Drink 8-10 glasses of liquid daily. For example, Gatorade, boullion, or weak tea.
Bleeding

Call the nurse or physician immediately at first signs of bleeding (nose, gums, around catheter site, rectal bleeding).

Lowered Blood Counts
Blood is a complex liquid. The average-sized woman has about eight pints of blood in her circulation, while the average-sized man has about ten pints. About 55% of blood is composed of a liquid portion called plasma. The other 45% is a solid portion consisting of many trillion microscopic cells; red cells, white cells and platelets. The bone marrow manufactures "stem cells" that grow and mature into a red cell, white cell, or platelet. Certain cancers and certain cancer treatments can affect the production of all these cells. During this time you will have blood drawn to check your "counts" (i.e., your red cells, white cells and platelets).

Red blood cells are the blood's oxygen carriers. There are two ways to measure red blood cells: hemoglobin and hematocrit. The normal hemoglobin level for men is 13 to 16 grams (gm) per 100 milliliter (ml) of blood. Women's normal level is 12 to 14 gm/100ml. Hematocrit is reported as a percentage of red blood cells per volume of whole blood. Normal ranges for healthy adults are as follows:

<table>
<thead>
<tr>
<th>Adult</th>
<th>Female</th>
<th>36-45%</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>39-51%</td>
</tr>
<tr>
<td>Senior Adult</td>
<td>Female</td>
<td>30-54%</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>36-56%</td>
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</tbody>
</table>

Symptoms of low hematocrit:
- Skin - lips and nail beds look pale.
- Our body needs more oxygen - we breathe faster and harder to get more air.
- Our heart works harder to make blood circulate faster.
- Dizziness, headache, weakness, and feeling tired are also symptoms. You can be given a transfusion of red blood cells to raise your hematocrit.

Platelet - The tiniest blood cells help blood to clot. The approximate normal range is 200,000-350,000 per cubic millimeter of blood. Platelets circulate fully in the blood. When there is a tear in a blood vessel wall from a scraped knee or a cut finger, the platelets rush to the area of injury and become sticky. They stick both to the torn blood vessel wall and to each other to form a plug that seals off the leak. A series of secretions in the body eventually form a clot.
VIII. Complications and How to Manage

**Bleeding**
Spontaneous bleeding does not usually occur with a platelet count greater than 50,000. When a person has an infection or has severe marrow suppression from chemotherapy or disease, the risk of bleeding is increased. If there is active bleeding or the platelet count falls below 10,000, a platelet transfusion is considered.

**Symptoms of low platelets:**
- Bleeding longer than usual with an injury
- Bruising more easily
- Bleeding from nose or gums
- Blood in the urine or stool
- Petechiae (appear as a tiny, red, pinpoint rash)

Report any of the above symptoms to the nurse or physician.

If the platelets fall to a very low level (under 5,000) spontaneous and life-threatening bleeding can occur. Headaches, trouble with vision, confusion, and/or seizures may indicate bleeding within the head. If these symptoms occur, call 911 or go to Virginia Mason Emergency Room. After notifying the inpatient oncology unit, your oncologist will also be notified.

**Breathing problems**
Increasing shortness of breath or worsening cough always warrants calling the nurse or physician immediately. Also call if you experience chest pain or an irregular heart beat.

**Pain**
You may or may not develop pain with cancer and/or treatment. If you do, it can be controlled in a variety of ways. When your pain is under control, you will feel more interested in doing things you enjoy. Pain should not become the focus of your life.

There are many causes of cancer pain. Most of the pain comes when a tumor presses on bone, nerves, or body organs. Cancer treatment can cause pain, too. Everyday stresses and strains can cause headaches or pains, or you may have other conditions, such as arthritis, that cause pain.
VIII. Complications and How to Manage

**Pain**

Please be sure to bring up the subject of pain control with the doctor or nurse. Cancer pain is usually treated with medicine. But surgery, radiation therapy, and other treatments can be used along with medicine to give even more pain relief. The doctor or nurse will help you to be as descriptive as possible about your pain. You will need to tell them:

- Where it is.
- What happens to cause it, or is it a constant pain?
- What words describe it: burning, throbbing, crushing, aching?
- On a scale of 0 to 10 can you rate the pain?

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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>no pain</td>
<td>mild</td>
<td>moderate</td>
<td>distressing</td>
<td>horrible</td>
<td>unbearable</td>
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The medication you will be given for pain may cause side effects of some drowsiness and constipation.

"Managing Cancer Pain." by the U.S. Department of Health and Human Services is a helpful booklet. The nurse can provide you with a copy.

**Fatigue**

Feeling tired and weak is called fatigue. There are many things that cause fatigue. Not eating right or not sleeping well can cause fatigue. It is a very common side effect of chemotherapy and radiation. These treatments lower your red blood cell count. Red blood cells carry oxygen to all parts of your body. Oxygen gives you the energy you need for daily activities. Side effects of cancer treatments (nausea, irritated mouth, diarrhea) can wear you out. And finally, stress and depression can cause fatigue, or make it worse. Fatigue is felt in many ways: weakness, exhaustion, difficulty concentrating, or loss of appetite.

Please mention your feelings to the doctor, nurse, or other care providers. They can suggest treatments and help you cope with fatigue. The following are a few suggestions you can do for yourself that may help you feel better:

- Plan your day so that you have time to do the things you want to do most. You may want to allow time for naps or rest periods before or after activities.
- Take several short naps or breaks rather than one long rest period.
- If you blood counts permit, take short walks or do some light exercise. Many people find that this decreases their fatigue.

Remember, you don't have to do everything. Involve your family and friends in helping to plan your schedule to meet your most important needs.
VIII. Use This Space For Your Notes, Questions and Concerns
IX. Resuming Daily Life

- **Expectations**

**Recovery**
Your body has been through a very stressful procedure. Most importantly you should be aware of expected complications, treatment of these complications, and the more serious complications that require you or your caregiver(s) to get in touch with the nurse or physician. If you live more than 20 or 30 min. from the clinic you may be required to stay locally with friends, family or in an apartment close to the facility the first 2-3 weeks after transplant.

**Follow-up care**
You will require ongoing monitoring by the oncologist following your transplant. The frequency of your physical exams and blood draws are determined by the time since transplant and your response to the procedure. Within the first few months you will be seen as often as twice a week for routine monitoring and more frequently if complications arise. As you become more stabilized, following the first 90-120 days, appointments become quarterly and continue on that schedule for 24 months after transplant. If your permanent residence is outside the Seattle area, the transplant oncologist will determine when it is appropriate for you to return to the care of the local oncologist. If enrolled onto a protocol, requirements dictate monitoring quarterly by the transplant oncologist.

- **Major side effects**
For a few weeks after transplant you may still require intravenous nutrition and/or intravenous fluids. The chemotherapy medications cause stomach and intestinal symptoms for possibly many months. Common symptoms such as mouth soreness, dryness, heartburn, feeling full easily, nausea, diarrhea, stomach discomfort may persist after chemotherapy. These symptoms can be controlled with medication. As time passes your gastrointestinal tract will begin to heal and the symptoms will diminish. Be sure to discuss these symptoms with the nurse or physician.

**Fatigue may last for 3-6 months or longer but should gradually diminish.** Some people say it takes almost a full year before their energy level is back to normal. There are different activities and things you can slowly work up to that may help regain your strength and muscle tone. Slowly work up to your normal routine of activity and exercise. Rest, exercise and good nutrition are extremely important in order to overcome fatigue.
IX. Resuming Daily Life

**Expectations**

Frustration or even depression is very common during this time. We sometimes prescribe antidepressants and most of the time talking to your healthcare providers, social worker and/or other patients who have been through a similar procedure can be very helpful.

**Gonadal function**

Gonadal dysfunction has been associated with alkaling agents and may be related to patient age and chemoradiotherapy intensity. All studies have been involving patients receiving TBI regimens or busulfan and cytotoxan for conditioning. Women who do not have breast or ovarian cancer should have FSH levels followed and receive hormone replacement with cyclic estrogen/progesterone therapy to prevent complications of menopause. Consult with the oncologist or nurse practitioner about hormone replacement therapy if you are a female with breast or ovarian cancer.

**Hygiene**

**Handwashing**

You should wash your hands before any contact with food. Be conscientious especially before eating in public places. Wear disposable gloves if you must change diaper-wearing babies or children.

**Mouthcare**

Careful and thorough flossing and brushing are very important. You should not floss if your platelet count is unusually low (less than 50,000). Continued saline rinses can help if your mouth is dry, if you have excess mucous or if you are being treated for oral fungus or other oral infections. (Use 3/4 tsp. table salt with 1 quart of warm water). Visiting the dentist for routine cleanings and dental work should be postponed during the first year. Contact your physician if emergent dental work needs to be done. There may be an increase risk for decay after transplant. Excellent oral hygiene and daily home use of fluoride rinses, fluoride gels or custom fluoride trays can help prevent this. Contact the nurse or physician for changes such as bleeding, increasing dryness, soreness or difficulty swallowing.

**Skin**

Avoid extended (over 1 hour) exposure to the sun's rays. For dry skin use oil in bath water, natural soap such as "Nature's Creek," or "Neutrogena," and try to avoid bathing everyday. Report skin changes to your health care provider such as new rash, itching, or redness.
IX. Resuming Daily Life

Hygiene

Eye Care
Do not ignore changes in your eyes. Watch for discharge, itching, burning, redness or any irritation. Advise the nurse or physician if this occurs.

Plants and Pets
Contact with household pets and plants are fine. Gardening is safe after the first three months. You should also avoid contact with barnyard animals and cleaning up body excretions of all animals. You should avoid the use of pesticides, solvents, fertilizers, or other agents that might possibly interfere with your blood counts. If you are taking cyclosporin or other immunosuppressive medications you should avoid working in the garden.

Pools and hot tubs
Avoid community pools, lakes and hot tubs for at least 3-6 months especially while you still have a central line catheter in place.

Nutrition and Hydration
Good nutrition is important for keeping your strength and sense of well-being. Follow the guidelines provided to you by the dietitian. You may be on TPN for awhile after discharge from the hospital. Keeping a daily food diary will be very helpful to your physician to determine when the TPN can be safely discontinued. Don't get discouraged; it takes several months to resume to your normal pattern of eating.

Fluid intake
Most people require 1 ½ to 2 liters (6-8 8 oz. glasses) of fluid a day. The transplant procedure and some of the medications required to control symptoms put you at risk for becoming dehydrated. Adequate fluid intake is particularly important with diarrhea, fever, and in hot, dry weather. When your body lacks enough fluid you can easily become more fatigued, nauseated, constipated, lightheaded or dizzy with possibly a constant mild headache. If you are not able to consistently drink 1 ½ to 2 liters of fluid a day you may require intravenous fluids at home for a short time.

Daily Activities

Exposures
Avoid crowds, especially children that you do not know until advised by your care providers that it is safe (usually when your blood counts have returned to normal).
IX. Resuming Daily Life

Daily Activities

Return to work or school
It is suggested that you wait until 6-9 months after transplant, but home tutoring or working from a home office before this time is acceptable. You may feel a need to return to work sooner. Discuss this with your care providers.

Sexual activity
Sexual activity is safe although fatigue and decreased libido or interest are common symptoms after transplant. Normal cleanliness should be observed. Some women may experience vaginal dryness. Lubricants such as Replense or Astro-glide are available for over-the-counter purchase. Vaginal estrogen preparations are helpful, however, if you have breast cancer these are not advised.

Infections
All transplant patients undergo a time of immune deficiency when you are highly vulnerable to infection. How long this is significant in the peripheral blood stem cell transplant patient is unknown. However, in the autologous marrow recipient, immune deficiency is most severe in the first several months after transplant. During this time, you are most susceptible to bacterial, fungal, and viral infections as well as nonbacterial interstitial pneumonia. After six months there is evidence of improving and probably adequate return of immune function.

You should avoid persons with viral infections such as measles, mumps, and chicken pox. Handwashing is the most important infection control measure you can do for yourself. Take your temperature twice daily or whenever you feel chilled. Let the nurse know if your fever is greater than 100.5 F.

Varicella zoster virus (VZV)
VZV infections develop in 40-50% of marrow transplant patients within the first year following transplant. This infection is commonly called "shingles". Shingles starts as a blister-like rash and a tingling, burning sensation on the skin. If you have not had chicken pox in the past be sure to let the oncologist know. You will need an injection of immune globulin if you are exposed to someone with chicken pox.
IX. Resuming Daily Life

Infections

Pneumonia
Nonfungl pneumonia occurs most frequently 40-80 days after transplant. Please notify the nurse if you are experiencing any shortness of breath, cough or fevers. You may be prescribed an antibiotic (bactrim or dapsone) after transplant to prevent infection with pneumocystis carinii, a common source of infection for those who have had a transplant or are immunosuppressed.

Immunizations
Full recovery of normal immune function in the patient who undergoes an autologous stem cell transplant is not well studied. It is assumed that you may no longer have protection against measles, mumps, rubella, or polio. You will begin a series of vaccinations for this purpose approximately 1 year after transplant. Live virus vaccine for measles, mumps, rubella should not be given within the first two years after transplant. Should the Sabin Oral Polio Vaccine (OPV) be given to family infants, the patient should be isolated from the infant as shedding the virus can continue for 8-12 weeks. If you transfer your care to an oncologist outside of Group Health, you will need to ask your doctor or nurse about a schedule of vaccinations.
IX. Use This Space For Your Notes, Questions and Concerns
X. Glossary and Index

**Acute:** Having a short and relatively severe course; not chronic.

**Alkylating agents:** A diverse group of chemical compounds generating highly reactive electrophils which interact with nucleophilic groups such as amino, carboxyl, phosphate, or sulfhydryl, forming a covalent bond.
See p. 48: Resuming Daily Life - Gonadal Function

**Allogeneic transplantation:** Transplantation in which donor and recipient are the same species but not genetically identical.

**Anemia:** Condition in which blood has too few red blood cells, or not enough hemoglobin in those cells.
See p. 20: Phases of Treatment - Apheresis
See p. 43: Complications and How to Manage- Bleeding

**Antibody:** A substance produced in response to the presence of an antigen.

**Antigen:** A foreign substance in the body capable of stimulating antibody production.

**Apheresis:** Technique for separating blood into its different components in order to collect or discard a component.
See p. 20: Phases of Treatment - Apheresis

**Ascites:** An accumulation of serous fluid in the peritoneal cavity.

**Aspiration (marrow):** To draw out the marrow by suction using a syringe.
See p. 5: Process of Treatment

**Autograft:** See graft.

**Autologous transplantation:** Transplantation in which tissue infused is derived from the individual receiving it.

**B cells:** Lymphocytes responsible for humoral immunity.

**Biological response modifiers (brms):** Agents which act either by augmenting the host immune responses or by altering the cancer in such a way as to render it more susceptible to destruction by normal defense mechanisms.

**Biopsy:** Removal of small piece of tissue for microscopic examination.
X. Glossary and Index

**Cellular immunity:** Immunity mediated by cells, particularly white blood cells.
See p. 5: Process of Treatment
See p. 21: Phases of Treatment - High Dose Chemotherapy, Stem Cell Reinfusion
See p. 22: Phases of Treatment - Post Infusion
See p. 29: Complications and How to Manage - Infection
See p. 50: Resuming Daily Life - Infection

**Chemotherapy:** Treatment with chemical substances, particularly anticancer drugs.
See p. 5: Process of Treatment
See p. 20: Phases of Treatment - Mobilization
See p. 20-21: Phases of Treatment - Apheresis, High Dose Chemotherapy

**Chronic:** Persisting over a long period of time: not acute.

**Clinical trial:** A carefully controlled and monitored experiment to test a new drug or therapy, involving human patients.

**Colony stimulating factor:** A protein that causes the proliferation of a particular type of bone marrow cell.
See p. 20: Phases of Treatment - Mobilization

**Complement:** A system of protein substances in normal serum which destroys cells or bacteria that have been sensitized with specific antibodies.

**Conditioning regimen:** Therapy designed to completely destroy a transplant patient’s bone marrow in preparation for a transplant; also called marrow ablation, preparation or preparative therapy.
See p. 21: Phases of Treatment - High Dose Chemotherapy, Total Body Irradiation

**Cytotoxic:** Destructive to cells by means of a cellular poison.

**Differentiation:** Process by which pluripotent stem cells, after many cell divisions gradually assume characteristics of mature specific cell types.
See p. 22: Phases of Treatment - Engraftment

**Dysphagia:** Difficulty and/or pain in swallowing.
See p. 34: Complications and How to Manage - Mucositis

**Engraftment:** Process of cells of transplanted bone marrow settling in marrow space of host and starting to divide and function.
See p. 22: Phases of Treatment - Engraftment

**Esophagitis:** Inflammation of the esophagus.
See p. 34: Complications and How to Manage Sore Mouth or Throat
X. Glossary and Index

**Fractionation (of tbi):** Total dose of tbi is divided into fractions and delivered in several treatment sessions.
See p. 21: Phases of Treatment - Total body Irradiation

**Graft:** Tissue taken from one individual and implanted or infused in another; an autograft is tissue from the same individual moved from one part of the body to another or, in bone marrow/stem cell transplant, infusion of patients' own marrow.
See p. 21: Phases of Treatment: Stem Cell Reinfusion

**Graft-versus host disease:** Condition that develops when donor t cells attack the cells of the patient.

**Graft-versus-leukemia effect:** Donor t cells destroy patient's residual leukemic cells and thus prevent relapse.

**Granulocyte:** A mature granular leukocyte (neutrophils, eosinophils, and basophils).
See p. 29: Complications and How to Manage - Infection

**Growth factors:** Natural substances that stimulate cell division and growth.
See p. 20: Phases of Treatment: Mobilization

**Haplotype:** A half set of chromosomes contributed by one parent. The half sets are in germ cells (ova or sperm) and the two halves unite on fertilization to form the whole set found in body cells.

**Hematocrit:** The volume of packed red blood cells in a given volume of blood after centrifugation at a given speed for a given time.
See p. 43 Complications and How to Manage - Lowered Blood Counts

**Hematologic:** Relating to blood and blood-forming tissues.

**Hematopoiesis:** The process of production and differentiation of blood cells. The formation and development of blood cells.
See p. 22: Phases of Treatment - Engraftment

**Histocompatible:** Mutual tolerance of tissues of two individuals.

**Host:** In bone marrow transplant, the patient; the recipient of the graft.

**Human leukocyte antigens:** Antigens expressed on surface of leukocytes and most body cells which are used for typing tissues of donor and recipient.

**Humoral immunity:** Immunity mediated through antibodies in body fluids.
X. Glossary and Index

**Hyperalimentation**: Intravenous feeding of all necessary nutrients, also called total parenteral nutrition. See p. 25: Medical Interventions - Total Parenteral Nutrition

**Hyperfractionation (of tbi)**: See fractionation; hyperfractionation divides total dose of tbi into even smaller doses. See p. 21: Phases of Treatment - Total Body Irradiation

**Immune response, humoral**: The development, proliferation, and differentiation of b-cells after exposure to antigen.

**Immunotherapy**: Treatment using tumor fragment "vaccines," drugs and monoclonal antibodies to stimulated the host immune response in an attempt to destroy tumor tissue.

**Immunotoxin**: A cellular poison linked to an antibody; the antibody targets unwanted cells and carries the poison specifically to them.

**Informed consent**: A form a patient is required to sign before undergoing a medical or surgical procedure such as bone marrow transplant; they must first achieve an understanding of all that is involved. See p. 6: Transplant Team

**Infusion**: The introduction of a liquid into the body via a vein. See p. 25: Medical Interventions: Intravenous Fluids, Central Line Catheter

**Intrathecal**: Within the spinal canal.

**Leukocyte**: Any one of the white blood cells formed in the myelopoietic, lymphoid, and reticular portions of the reticuloendothelial system in the various parts of the body and normally present in those sites and in the circulating blood. See p. 29: Complications and How to Manage - Infection

**Leukopenia**: Any situation in which the total number of leukocytes in the circulation blood is less than normal, the lower limit of which is generally regarded as 5,000 per mm³. See p. 29: Complications and How to Manage - Infection

**Lymphocyte**: A variety of white blood cells arising in the reticular tissue of the lymph glands involved in immune response; b- and t-cells are the two major subtypes. See p. 29: Complications and How to Manage - Infection

**Lysa**: To burst a cell, usually by disintegration of the membrane surrounding it.
X. Glossary and Index

**Marrow ablation:** See conditioning regimen.
See p. 21: Phases of Treatment - High Dose Chemotherapy, Total Body Irradiation

**Megakaryocyte:** The bone marrow cell responsible for platelet production.
See p. 43-44: Complications and How to Manage - Bleeding

**Mixed leukocyte culture:** Samples of recipient and potential donor leukocytes are mixed and observed for any sign of a reaction. Such a reaction could mean the donor is unsuitable.

**Monoclonal antibody:** Antibodies of exceptional specificity used to identify antigens on particular cells (e.g. tumor cells, the different blood-cell types). Identical antibodies derived from a single plasma cell; these antibodies may then bind to a single unique antigen, as in tumor cells, to deliver a drug or toxin selectively to the tumor.

**Mucosa:** Mucous membranes: mucus-producing linings of parts of body such as mouth, gut, vagina.
See p. 21: Phases of Treatment - High Dose Chemotherapy, Total Body Irradiation
See p. 34: Complications and How to Manage - Mucositis
See p. 42: Complications and How to Manage - Diarrhea and Constipation
See p. 47: Resuming Daily Life - Major Side Effects
See p. 48: Resuming Daily Life - Mouthcare

**Natural killer cell:** T cells that destroy tumor cells, infected cells, and cells they perceive as foreign.
See p. 29: Complications and How to Manage: Infection

**Neutropenia:** The presence of abnormally small numbers of neutrophils in the circulating blood.
See p. 29: Complications and How to Manage - Infection

**Peripheral blood stem cell:** Pluripotent stem cell circulating in bloodstream.
See p. 5: Process of Treatment
See p. 20-23: Phases of Treatment - Mobilization, Apheresis, Stem Cell Reinfusion, Post Infusion, Engraftment
See p. 43: Complications and How to Manage - Bleeding

**Platelet:** A little plate or plaque; specifically a blood platelet, an irregularly shaped disk containing granules in the central part and peripherally; clear protoplasm but no definite nucleus.
See p. 21: Phases of Treatment - Total Body Irradiation
See p. 43-44: Complications and How to Manage - Bleeding
X. Glossary and Index

Pluripotent stem cell: Stem cells from which all blood cells arise: they are undifferentiated and capable of developing into any of the blood-cell types.
See p. 5: Process of Treatment
See p. 20-23: Phases of Treatment: Mobilization, Apheresis, Stem Cell Reinfusion, Post Infusion, Engraftment
See p. 43: Complications and How to Manage: Bleeding

Preparative regimen: See conditioning regimen.
See p. 21: Phases of Treatment: High Dose Chemotherapy, Total Body Irradiation

Purging: Treatment of autologous bone marrow to remove or destroy viable tumor cells.

Regimen: A defined system of treatments.

Remission: Complete or partial disappearance of symptoms of a disease in response to treatment.

Stem cell: Progenitor of mature, functional differentiated cells.
See p. 5: Process of Treatment
See p. 20-23: Phases of Treatment - Mobilization, Apheresis, Stem Cell Reinfusion, Post-Infusion, Engraftment
See p. 43: Complications and How to Manage - Bleeding

Steroids: Hormones produced naturally by the adrenal cortex or synthesized in the laboratory, which influence or control body functions, including damping down t-cell response in gvhd.

Stomatitis: Inflammation of the mucous membrane of the mouth.
See p. 34: Complications and How to Manage - Mucositis
See p. 47: Resuming Daily Life - Major Side Effects
See p. 48: Resuming Daily Life - Mouthcare

Syngeneic transplant: Transplantation in which donor is an identical twin.

T cells: Lymphocytes responsible for cellular immunity.
See p. 43-44: Complications and How to Manage - Bleeding

Thrombocyte: Platelet; clotting cell. See platelet

Thrombocytopenia: Condition of too few platelets in the blood. A condition in which there is an abnormally small number of platelets in the circulating blood.
See p. 43-44: Complications and How to Manage - Bleeding

Total parenteral nutrition: See hyperalimentation.
See p. 25: Medical Interventions: Total Parenteral Nutrition
Toxicity: The quality of being poisoned.

Wbc: White blood cell or white blood (cell) count.
See p. 29: Complications and How to Manage - Infection
HOW TO CONTACT YOUR HEALTH CARE TEAM

CLINIC HOURS: Monday – Friday (Closed Holidays) 8:30 am – 5:00 pm
TOLL FREE NUMBERS: 1-800-562-6300
FAX NUMBER: 206-323-2010

REGISTERED NURSES:
Paulette Bischoff          Dr. Callahan/Dr. Chen  206-326-2299
Sharon Hanquet/Marilyn Houser Drs. Chen/Feldman/P. Kwok ARNP  206-326-2822
Lynn Flaherty              Dr. Ginsberg/Patti Kwok/Stem Cell  206-326-2645

MEDICAL ASSISTANTS:
Call with questions regarding referrals, general questions not needing medical advice.
Catie                   Dr. Chen, Patti Kwok  206-326-3000ext5671
Angel                  Drs. Ginsberg/Callahan/Feldman  206-326-3000ext5672

PATIENT CARE REPRESENTATIVES:
To schedule appointments.  206-326-3111

ONCOLOGY PHARMACIST:
Kelly Peterson          206-326-2254

ONCOLOGY SOCIAL WORKER:
Jean Catellani          206-326-3602

CONSULTING NURSE: (during non-office hours) 206-901-2244

ONCOLOGY INFUSION CENTER (OIC):
Monday – Friday 8:00 am – 6:00 pm
Administration of chemotherapy, IV medication and blood transfusions  206-326-3109
Huton p. 17
main injections
Muni. CD34 - 8AM.

@ Lab
10 a.m. to collect
collection following day, 9:10
4-6 hr apnea
(collect for 2 transplant)

4 hr heparin-thinned blood
add tests before or after (transfusion possible)

Analgesia
pelvis & sternum pain
Tylenol
Vicodin can be prescribed
usual 4 days to collection (i.e. 4th day)
- urea, injection center
- inject salt on collection days too

CMV virus testing etc. (today)
HIV test

collection for re-infusion (remplin nuclei)
Methotrexate: 2 hrs/day, 2 days
- go home after
- feel OK until next day
- 1st day of 4th day re-infusion
- re-infusion Cap H, in infusion center
- 15 min/bag; (2-4 bags)
- 2 hrs IV hydration before
- DMSO: garlic odor/taste (orange wedges help)
- abdominal cramps
- go home; come back daily to infusion center for
IV fluids available
hospital w/ a use after infl- infusion
  - low blood counts
  - mouth sore
  - diarrhea (dehydrated)
  - infection

First (before unwell):
  - oral n: Home 1-2 fluids
  - mouth salt: Day 1 start Meclizine

WBC counts will drop after infl- infusion
  - dry mucous membranes
  - drink lots of water
  - eat. light
  - soft toothbrush. Tom's of Maine
  
chemo affects tissues:
  - hair/ailleur, bone marrows
  
alt 5 days after chemo (3-5 days after infl- infusion)

digestive tract is lined w/ mucous membranes

SAH daily infusion center tastes: 2 hrs of fluids
diarrhea (don't get dehydrated)
  - no m/w work w/ alcohol

2: monitor me for fever, 100.5 → surgery n/n @ Va Mason
  - after hrs, contact nurse

4-6 hrs/ transfusion
  (once or twice during use)

1st w/ 4 daily SAH, provable hospital
  Do to appoint 1 wks after hospital discharge
no chance before is in my favor (bone marrow responds to quickly)
- catheter done 1st clean no day
- let let add for transplant phase
- Save veins for esplanade cap H lab people

Collection not yet confirmation ci doc call lab in day or early next mor m

(3/5) today: lab for red tests
injection 20 6 body up ph
- check in @ reception
nursing visit in ob in rm

next, A read for lab of red tests

Th/Lin pick up Nemb @ N'gabe pharr
David Lasker
- trip Sat.
  6:30 / Wed.
- mid-day
3/14
Kens 88 for my 1st B.G. Fergusson
McDonald
3/26
206-326-3580
Radiology # catheter
7 a.m. A P3 pre-appt.
- done by 9 - wait until 10:30
- tenderness
3/30 320 - 3550 9:43

Jessica

#2 Tony's another - Producer

about 225 empty

7-11fan in center

up 3/10 8 still me to Radiology

- nothing after midnight
- clean light / black coffee / after 5 PM
3.35 collected today
6.59 total
another 10gay vol.
2-
whenever:
call @8/Paulette 326-2299
counts dropping 71
5 away by transplants
— infusion center @8;
Wednesday, 14 March ‘07:

4:40 alarm clock

breakfast: blackberry smoothie and half-bowl of bran flakes and Honey Bunches for substance. Have my usual cup of coffee, then don’t drink anything.

--wear short sleeve shirt and cord jacket
--take computer glasses
--my briefcase with MP3 player etc.
--take cell phone
--yogurt and banana

8:00 Carol drives me to Cap Hill where I am to go to the infusion center for an injection of Neupogen (GCSF) at 9:00. Take the can of discarded needles to turn in. (May have to do so at lab.)

--On the way to SCCA, eat yogurt and banana.

9:30 at SCCA. Collection is scheduled from 10 until 2 or beyond, and on basis of yesterday’s three-hour stint that’s probably all I can tolerate. Carol can drop me and go on to shopping chores and home, and come back by 2. I can phone her from bedside--542-6658 home, 200-4143 cell--if she should come back earlier.

--During the collection I’ll be on my back in a hospital bed, tilted up at enough of an angle to ease my back, with my arms extended at my side, each resting on a pillow. On the basis of yesterday’s experience, I should listen to MP3 player to help pass the time. I should also have my arms moved on the pillows every so often and bend my knees and shift my body more than I did yesterday. Also, I should again have a condom catheter. Have a power bar if need be.

I will be called that evening to let me know if I have to go back for further collection on Thursday.
Apheresis Instructions and Follow up Care

**ACTIVITY:** Resume regular activity.

**EATING:** You may resume your regular diet.

**MEDICATIONS:** If you have questions about your medications, please ask your nurse.

**SPECIAL INSTRUCTIONS:**

1. You will need to be seen in the transplant clinic the day following the final apheresis.

2. If you feel faint, dizzy or lightheaded, lie flat with your feet elevated. And drink a lot of fluid. Please notify the Apheresis Unit at 206-288-2120 Monday – Friday from 7am-6pm, with any concerns regarding the Apheresis procedure.

3. Your symptoms of discomfort will ease over the next two weeks.

**IV:**

1. If you have an IV, please leave your bandage/s on for at least 4 hours.

2. Should there be some bleeding at the site, apply pressure for 2-5 minutes, then reapply another bandage for 3-4 hours.

3. Avoid heavy lifting or carrying for the next 12 hours.

**CATHETER:**

1. If you observe fresh blood on your catheter dressing call your nurse.

2. If you have had a Mahurkar line that has been pulled, please leave the bandage on for 24 hours.

**Additional instructions**

**Nurse:** ______________________  **Phone:** ______________________ 206-288-2120

I have reviewed these follow-up instructions and understand and accept them before starting the procedure.

**PATIENT/GUARDIAN SIGNATURE:** ______________________  **DATE:** __________

<table>
<thead>
<tr>
<th>CALL FOR PROBLEMS</th>
<th>Transplant Patients</th>
<th>General Oncology 4th Floor Patients</th>
<th>Women’s Center 3rd Floor Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am-10:00pm, M-F</td>
<td>206-288-7600 Adult &amp; Pediatric</td>
<td>206-288-7400</td>
<td>206-288-7300</td>
</tr>
<tr>
<td>8:00am-6:00pm, Sat, Sun</td>
<td>206-288-7600 Adult &amp; Pediatric</td>
<td>206-288-7400</td>
<td>206-598-6190: Ask for the Fellow/Resident On-Call</td>
</tr>
<tr>
<td>8:00am-5:00pm, Holidays</td>
<td>206-598-8902 Adult Pediatrics</td>
<td>206-598-6190: Ask for the Fellow/Resident On-Call</td>
<td></td>
</tr>
<tr>
<td>10:00pm-8:00am, M-F</td>
<td>206-987-2032 Pediatrics</td>
<td>206-598-6190: Ask for the Fellow/Resident On-Call</td>
<td></td>
</tr>
<tr>
<td>6:00pm-8:00am, Sat, Sun</td>
<td>206-987-2032 Pediatrics</td>
<td>206-598-6190: Ask for the Fellow/Resident On-Call</td>
<td></td>
</tr>
<tr>
<td>5:00pm-8:00am, Holidays</td>
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<td>206-598-6190: Ask for the Fellow/Resident On-Call</td>
<td></td>
</tr>
</tbody>
</table>

**ADDRESSOGRAPH**

**SEATTLE CANCER CARE ALLIANCE**

**FOLLOW-UP INSTRUCTIONS: POST APERHESIS**
Stem cell collection at SCCA, probably 13 March ‘07:

This depends on the CD34 blood test, 8 a.m. at Cap Hill lab, 12 March, to measure the blood stimulation created by the Neupogen injections. I will be phoned that afternoon (Monday) after Gp H staff has that blood test result and told whether the stem cell collection is to proceed the next day or be delayed until Wednesday, 14 March. If stem cell collection is not to proceed on Tuesday the 13th, I am to have another CD34 blood test, 8 a.m. again, at Cap Hill lab.

--By Tuesday the 13th I will have self-injected the 4 days’ worth of Neupogen prescribed for me, and if the stem cell collection still does not happen on Wednesday, 14 March, because the blood stimulation has not yet reached the level needed, that morning I am to come in for another 8 a.m. CD34 blood test and will be given a Neupogen injection at the infusion center.

Stem cell collection itself:

--The couple of days before, I should eat high calcium foods, i.e. dairy products such as cottage cheese, yogurt and milk, and some Tums, because the anti-coagulant used in the collection process binds with calcium in the blood.

--The day before, I should drink lots of liquid.

--On the day itself, I can have my usual cup of coffee if it’s at least a couple of hours before 8 a.m., then should not drink anything. I can be provided with a condom catheter for urination during the process (and I should do this, I’ve decided).

--At SCCA, we can go directly to Apheresis Unit on 5th floor rather than starting at main floor registration.

--The collection usually takes 2-3 hours, although it will depend on the capacity of my veins. The limit is 6 hours, although I’m unsure whether that’s on the collection machine or includes any possible transfusion. There’s also the possibility of a 2nd day of collection if needed, and I hope not.

--During the collection I’ll be on my back in a hospital bed, tilted up at enough of an angle to ease my back (I hope), with my arms extended at my side, each resting on a pillow. Thus I won’t be able to read, although I can listen to MP3 player if wanted. My note: I should judge at the start whether I want to keep regular glasses on or wear my computer pair so I’ll have some close-up capacity.

--Carol is free to come and go.

--Results of the collection are not known for 3 hours, and depending on those, I may need a blood or platelet transfusion.

After stem cell collection:

--Paulette told me I then do not have any medical appointments until chemo starts, most likely on Monday, 26 March.
Tuesday, 13 March ‘07:

4:40 alarm clock

6 a.m. Neupogen self-injection

breakfast: shredded wheat and bran flakes (with glass of whole milk) for roughage for bowel movement. Have my usual cup of coffee and cup of herbal tea, then don’t drink anything after about 8 a.m.

7:30 walk

after walk, rest, read or do light work

10:30 lunch: yogurt, sliced banana and glass of milk. Short nap afterward.

12 Carol drives me to SCCA for 1 p.m. stem cell collection.

--wear short sleeve shirt and cord jacket

--take computer glasses

--my briefcase with MP3 player etc.

--take cell phone

--At SCCA, we can go directly to Apheresis Unit on 5th floor rather than starting at main floor registration.

-- This is a “regular” collection which may take 3-4 hours. During the collection I’ll be on my back in a hospital bed, tilted up at enough of an angle to ease my back (I hope), with my arms extended at my side, each resting on a pillow. Thus I won’t be able to read, although I can listen to MP3 player if wanted. But I intend to try to simply lay back and observe the procedure. My note: I should judge at the start whether I want to keep regular glasses on or wear my computer pair so I’ll have some close-up capacity. I will ask for a condom catheter for urination during the process.

--Carol is free to come and go.
Pandetta, 3/12/07

Group Health phone call Mon. Afternoon 3-4

ask if I need blood or transfusion after stem cell collection results are known, well that be @ 6:45 infusion center or back to SCCA?

Ask: will it be called out chemotherapy? - Dr. G will need? thanks, okay!

Ask: susceptible to infection after collection? - haircut in about 10 days? no

Ask: if stem cell collection is not done on

Tuesday, how do we handle Neupogen injections? -

- do I have one @ 6:45 Central when it come in @ 7.30 AM? Two more, then inject myself. What if that's stem cell collection day?

10,000 normal

write back cell count hi 23,000

40 hemat

341 platelet
5/11/11
10 a.m. Wed. / infusion center
9-9:30 → Cynlal
6 hrs / age well with you
- call that evening if go back

3/23
Transfusion / to infusion center
or 4th / un-extended chart
3/17
Mike Condo (323) 462-0428
#2 Steve p'work
- Carol's SS #1

3/17
Paulette 5<5F
-

CD34 count measure
+ stem cells

collection
not am 12:00
Mon afternoon will call abt plan
on Tue, bed draw

Newspaper 1200/1700
Wed inf in infusion center injection
if needed - bed draw
3/6/07
Panetta / 5p.m. 12 to 10 1/2
- Neupogen only / use vein
- collection @ Hutch / vein checks in arms
- Wed @ 3:45
- 10 o'clock today:
  - consent forms
  - reg'tn packet
  - injection: practice run
Tuesday, 15 March ‘07:

phone call from Paulette with stem cell collection schedule, 3:10 p.m.

--tomorrow at 1, I am to be at SCCA for a “regular” collection which may take 3-4 hours. I’m to give myself the fourth self-injection of Neupogen that morning as I have been doing.

--Wednesday by 9:30, I am to go to the infusion center, Cap Hill, for an injection of Neupogen. At 10, I am to be at SCCA for a “large volume” collection which may take 6 hours. I will be called that evening to let me know if I have to go back for further collection on Thursday.

My CD34 test results were good, she said, 8.3 (although I don’t know what the scale is). My white blood cell count, stimulated by the Neupogen, is 23,000; normal is 10,000. My hematocrit count is 40 and my platelet count is 341, both normal. With these test results, she doubts that I will need a transfusion. If I do, the transfusion is done at Cap Hill, in the infusion center or the 4th-floor extended observation center.
Monday, 12 March ‘07:

4:40 alarm clock

breakfast: yogurt, sliced banana, and glass of milk

6 a.m. Neupogen self-injection

7:10 Carol drives me to Grp Health, Cap Hill.

8 a.m. at Cap Hill lab, CD34 blood test, to measure the blood stimulation created by the Neupogen injections. I must remember to ask the lab technician to use a vein in my hand so the ones in my arm can be saved for the stem cell collection.

Return home: start to drink lots of liquid for the rest of the day.

10:45 Carol goes to lunch party at Margaret’s.

--lunch: if I have enough energy, try a blender recipe? if not, more yogurt.

nap; start laundry (two loads, underwear and dark clothes including hankies)

I will be phoned that afternoon after Gp H staff has the CD34 blood test result and told whether the stem cell collection is to proceed the next day or be delayed until Wednesday, 14 March.

If stem cell collection is not to proceed on Tuesday the 13th, I am to have another CD34 blood test that day, 8 a.m. again, at Cap Hill lab and should repeat the general diet and drinking of liquid. If it doesn’t proceed on Wednesday the 14, I am to have both another CD34 test at the lab and a Neupogen injection at the infusion center.

dinner: cheese omelet etc.
March 6 '07 injection practice session w/ Amy, Cap Hill:

Be careful not to overdose. Have the pharmacist show me on the syringe the measurement of the dose. I could mark that spot on the syringes with Sharpie pencil. (The syringes are not re-used, i.e. a new one each time.)

My note: do this sitting down, in downstairs bathroom where there's good counter space to operate.

I am to alternate sides of my abdomen for the Neupogen injections.

--Wipe the top of the dosage bottle stopper w/cotton ball and alcohol.

--Use the top edge of the syringe stopper (i.e., not the bottom edge) to measure milliliters of dose. (She guessed my dosage will be .5, i.e. 1/2 on the fractional numerical scale on the syringe.) Draw air into the syringe to the same amount as the dose.

--Insert needle into stopper and push out the air (to break vacuum in bottle).

--Draw the fluid and a bit more into the syringe; tap it and push out the 'bit more' to get rid of air bubble.

--If I put down syringe, keep the needle off any surface.

--Wipe area of abdomen w/cotton ball and alcohol.

--The needle is to be inserted with the bevel of the point facing up, i.e. the long portion of the needle point into the skin first. Insert needle at 45 degree angle to the skin; on the practice insertion on right side of my abdomen, that meant aiming the needle at my belly button.

--If syringe has a safety device, flip it up into position after the injection so I don't stick myself getting rid of the syringe.

If there is bone discomfort after the injection, physical activity might help.
CONSENT FOR HIV ANTIBODY TESTING

I have received a copy of “Information About HIV/AIDS and the HIV Antibody Blood Test.” I have read it and understand it. My healthcare provider has discussed the information with me to my satisfaction, specifically:

- What my risk of HIV infection might be
- How I can reduce that risk
- What the HIV antibody test is
- What the test results mean
- The benefits and risks of having the HIV antibody test
- How I will be notified of my test results
- The confidentiality of test results
- The need to notify my sexual and/or drug use partners if my test is positive

I have been given the information I need to make an informed decision about HIV antibody testing. I have had the opportunity to ask questions, and all of my questions have been satisfactorily answered.

I hereby consent to have a blood test to detect whether I have antibodies in my blood to the Human Immunodeficiency Virus, or HIV. I specifically authorize Group Health Cooperative (GHC), its agents and employees to take a blood sample for the test. I will not hold GHC, its staff, agents or employees liable for taking the blood sample or disclosing the results of the test as required by law.

Signature of consumer

Date

Signature of provider

Date

ORIGINAL: Hospital Record or Outpatient Medical Record/Correspondence Section
(circle one)

CANARY: Patient

MATKON #32599 OM-1038 MRF0531/10 (9/96)
CONTRACT FOR MARROW OR PERIPHERAL BLOOD STEM CELL STORAGE

This contract is between Seattle Cancer Care Alliance (SCCA) and the patient referenced at the end of this Agreement (Patient). The parties agree as follows:

1. **Storage of Cells.** SCCA agrees to process and store bone marrow or other cells collected from patient or from others for use by patient (Cells). SCCA does not guarantee the viability of the Cells or their availability for transplantation. This contract applies to all Cells stored at SCCA regardless of whether collection occurred at SCCA or another facility.

2. **Length of Storage and Destruction of Cells.** The Cells will be stored by SCCA for an initial period of twenty-four (24) months from the date of this contract indicated below. At the end of the initial twenty-four (24) months, the Patient will have sixty (60) days within which to notify SCCA and arrange for shipment of the Cells to another location at the Patient’s expense, or the Patient may decide to continue storage of Cells on a year-to-year basis based upon the receipt of payment of nonrefundable annual fee for storage as described in Section 4 below. If the Patient dies while the Cells are stored at SCCA the contract will terminate and, the Patient’s executor, administrator or other authorized representative will have sixty (60) days from the date of the Patient’s death to notify SCCA and arrange for shipment of the Cells to another location at the representative’s expense. The Patient’s executor, administrator or other authorized representative may also request to have the cells disposed of or transfer the Cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, and Children’s Hospital and Regional Medical Center) to be made available for research purposes. If SCCA does not receive notice to ship the Cells to another location, dispose of, or transfer the Cells as provided in this Section, SCCA may discard the Cells or make them available for research purposes. If the Cells are made available for research purposes, they may be used to develop a cell line or other product, which could be patented and licensed or otherwise used for commercial purposes. You will not receive any financial compensation should this occur.

3. **Transfer of Cells.** SCCA agrees to release the Cells to another storage facility upon written request by Patient. Shipment of the Cells to another facility will be at Patient’s expense, and SCCA shall have no further liability for the Cells once they leave SCCA.

4. **Fee for Storage.** If the Cells are stored beyond the initial twenty-four (24) months, the Patient agrees to pay, in advance, a nonrefundable annual fee for each additional year of storage (the first twenty-four (24) months of storage are included in the initial processing/storage fee). The storage fee will be SCCA’s customary charges for storage services at the time payment is due. If the Patient defaults in the payment of the storage fee and fails to cure the default within thirty (30) days after written notice of the default from SCCA, SCCA may discard the Cells or use them for research purposes as provided in Section 2.

5. **Limitation of Liability and Remedies.** SCCA agrees to indemnify Patient against any loss or damage to the cells stored with SCCA to the extent such loss or damage is caused by negligent or reckless acts, omissions, or intentionally wrongful misconduct of SCCA; provided, however, in no event will SCCA be liable for incidental or consequential damages or for any destruction, damage or loss caused by circumstances or persons over whom SCCA has no control including any other laboratory. The indemnification in this Section 5 is in lieu of all other remedies of Patient against SCCA for destruction of, damage to or misuse of the cells stored under this agreement. SCCA’s willingness to process and store cells under this Agreement is partially in consideration for the limitation of liability and remedies in this Section 5.

6. **Notice.** The Patient or his guardian must notify the SCCA Facility for Cellular Therapy of any change of name or address. SCCA will only send notices or mail to the patient’s last known address. Failure to advise the Facility for Cellular Therapy in writing of a change of information will result in disposal of Cells. All notices under this agreement will be personally delivered or sent to the parties by registered or certified US mail postage or by private overnight mail courier service to the address listed at the top of this document or the Patient’s address shown at the end of this agreement:

7. **Authority.** Patient acknowledges that he or she has read the agreement and has had his or her questions pertaining to this Agreement answered. If the person is signing as a parent, guardian, or other representative he or she represents and warrants that he or she is authorized to sign on behalf of the Patient.

(Patient’s signature)

**PATIENT**

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
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<tbody>
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</tbody>
</table>

**Name of Patient (Please print)**

**Name of Parent/Guardian (if applicable) (Please print)**

**Address and Phone:**

**WHITE - Cellular Therapy Lab**

**YELLOW - Medical Record**

**PINK - Patient**

**CEL002 (12/03)**
Date information collected: ____________ Presenting problem: ____________

PATIENT NAME:
Legal (last) ____________ (first) ____________ (m.i.) ____________ (suffix: i.e. Jr.) ____________
Preferred name / Nickname (if any): ____________
SS#: ____________ DOB: ____________ Gender: ____________
Address: ____________ City: ____________
State: ____________ Zip: ____________ Country: ____________ Interpreter needed? ____________
Phone (home): ____________ (work): ____________ (cell): ____________
Home Internet Access? Yes ____________ E-mail address: ____________

If patient ≤ 18:
Legal Guardian(s):
Address: ____________ Relationship: ____________
City: ____________ State: ____________ Zip: ____________ Phone (home): ____________
Patient Lives With:
Address: ____________ Relationship: ____________
City: ____________ State: ____________ Zip: ____________ Phone (home): ____________

If patient > 18:
Legal Next of Kin: ____________ Relationship: ____________
Address: ____________ City: ____________
State: ____________ Zip: ____________ Phone (home): ____________
Other Contact:
Address: ____________ Relationship: ____________
City: ____________ State: ____________ Zip: ____________ Phone (home): ____________

PROVIDER INFORMATION
• Treating MD: ____________ Ph: ____________ Fax: ____________
Address: ____________ City: ____________
State: ____________ Zip: ____________ E-mail address: ____________
UPIN: ________ Correspondence: Yes ____________ Note: This is the MD that will assume the patient’s care when they return home

• Other MDs:
Address: ____________ City: ____________
State: ____________ Zip: ____________ E-mail address: ____________
UPIN: ________ Correspondence: Y N Type of MD (PCP, etc.)
Ph: ____________ Fax: ____________

Address: ____________ City: ____________
State: ____________ Zip: ____________ E-mail address: ____________
UPIN: ________ Correspondence: Y N Type of MD (PCP, etc.)
Ph: ____________ Fax: ____________

>>> Form revised: 8/15/03
INSURANCE INFORMATION

• PRIMARY Insurance Company/HMO: ______________________________ Phone # _____ - _____ - _____
  Case Mgr / Contact __________________________________________ Fax # _____ - _____ - _____
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Country: _______
  Group Name: Public Employees Group #: 0100300
  Policy / I.D # 00215849

Subscriber Information (for Primary Insurance)
  Name: Carol M. Doig __________________ Relationship to Pt: ___________
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Phone (home) _____ - _____ - _____ Fax _____ - _____ - _____
  DOB: ___________ SSN: ______________ Gender: F M
  Employer: Shoreline Community College - Retired
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Phone (home) _____ - _____ - _____ Fax _____ - _____ - _____

• SECONDARY Insurance Company/HMO: ______________________________ Phone # _____ - _____ - _____
  Case Mgr / Contact __________________________________________ Fax # _____ - _____ - _____
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Country: _______
  Group Name: _____________________________ Group #: ___________
  Policy / I.D # _______________________________________________

Subscriber Information (for Secondary Insurance)
  Name: _____________________________ Relationship to Pt: ___________
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Phone (home) _____ - _____ - _____ Fax _____ - _____ - _____
  DOB: ___________ SSN: ______________ Gender: F M
  Employer: ___________________________________________________
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Phone (home) _____ - _____ - _____ Fax _____ - _____ - _____

GUARANTOR INFORMATION
  Name: _____________________________ Relationship to Pt: ___________
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Phone (home) _____ - _____ - _____ Gender: F M
  Employer: ___________________________________________________
  Address: ___________________________________________________
  City: ___________ State: _______ Zip: _______ Phone (home) _____ - _____ - _____ Fax _____ - _____ - _____

>>> Form revised: 8/15/03
PATIENT NAME: ____________________________

CLINICAL INFORMATION:

Has patient been previously HLA typed?  YES  NO (circle) (If YES please send results)

Dx: __________________ Date of Dx: _______ Phase of disease: ____________________ # of CRs: _______

ABO/Rh: ___ Transfused?: ____ Radiation Rx?: ____ Chemo? ____

Height: ___ (in. cm.)  Weight: ___ (lb. kg.)  circle  Ethnic Origin: ______________________

⇒ Please complete all blanks  (if none enter 0)
⇒ Total number of Living - Full Siblings: ____ Half-Siblings: ____ Children: ____

<table>
<thead>
<tr>
<th>Please circle Relation i.e. (child)</th>
<th>Living?</th>
<th>Legal Name</th>
<th>Last</th>
<th>m.i.</th>
<th>Age</th>
<th>Previously HLA typed? (If yes, please send results)</th>
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<tbody>
<tr>
<td>Spouse</td>
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<td>CAROL</td>
<td>DOIG</td>
<td>M.</td>
<td>73</td>
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<td>Mother</td>
<td>Yes</td>
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<td></td>
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<tr>
<td>Father</td>
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<td>Full sib ½ Sib Child</td>
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<tr>
<td>**Parent of children if other than spouse</td>
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</tbody>
</table>

>>> Form revised: 8/15/03
**AUTHORIZATION TO RELEASE HEALTHCARE INFORMATION**

- **DATE:** 3/6/07
- **Full Name (include middle initial):** [Handwritten: Dona Ivan C]
- **Chart Base:** [Handwritten: CC215848]
- **Previous name if applicable:** [Handwritten: 6-27-939]
- **Date of Birth and Social Security Number:**

### GHC CONSUMER NUMBER: ____________

### DAY TIME PHONE: ____________

### PURPOSE OF DISCLOSURE:  
- [ ] Legal  
- [ ] Continuing Care Outside GHC  
- [ ] Insurance  
- [X] Other (explain): Stem cell transplant

### I HEREBY REQUEST AND AUTHORIZE THE FOLLOWING RELEASE OF INFORMATION:

**INFORMATION TO BE RELEASED BY:**

**ORGANIZATION:** [Handwritten: SCCA]

**ADDRESS:**

**PHONE:**

**INFORMATION TO BE RELEASED TO:**

**NAME:**

**ORGANIZATION:**

**ADDRESS:**

**PHONE:**

### (city, state, zip)

### GENERAL MEDICAL INFORMATION:

<table>
<thead>
<tr>
<th>records</th>
<th>dates: from/to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic Records</td>
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<tr>
<td>Lab Results</td>
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</tr>
<tr>
<td>Radiology Reports</td>
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<tr>
<td>Radiology Films</td>
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<tr>
<td>Provider letter</td>
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</tbody>
</table>

Signature of patient or patient’s authorized representative: [Handwritten: Dona Ivan C]

<table>
<thead>
<tr>
<th>records</th>
<th>dates: from/to</th>
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</thead>
<tbody>
<tr>
<td>Home Care Records</td>
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<tr>
<td>Skilled Nursing Facility Records</td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Relationship to patient if not patient:

### RELEASE REQUIRING SPECIAL CONSENT:

My signature below specifically authorizes the release of healthcare information relating to testing, diagnosis or treatment for:

- [X] HIV/AIDS Virus
- [X] Sexually Transmitted Diseases
- [ ] Mental Health/Psychiatric Disorders
- [ ] Drug, Alcohol Abuse/Treatment

Signature of patient or patient’s authorized representative: [Handwritten: Dona Ivan C]

### CONSENT OF MINOR:

A minor patient’s signature is required in order to release information concerning care for: (1) conditions relating to the minor’s sexuality including, but not limited to, contraception, pregnancy and pregnancy termination, sterilization, and sexually transmitted diseases (age 14 and above), (2) alcoholism and/or drug abuse (age 13 and above), (3) mental health conditions (age 13 and above).

Signature of patient:

This authorization expires 90 days after the date it is signed. There may be charges associated with your request for records. Identification may be required before releasing information. This authorization may be revoked in writing.
INFORMED CONSENT
FOR TRANSFUSION
OF BLOOD AND BLOOD PRODUCTS

WASHINGTON STATE LAW GUARANTEES THAT YOU HAVE BOTH THE RIGHT AND OBLIGATION TO MAKE DECISIONS CONCERNING YOUR HEALTH CARE. YOUR PHYSICIAN CAN PROVIDE YOU WITH THE NECESSARY INFORMATION AND ADVICE. BUT AS A MEMBER OF THE HEALTH CARE TEAM YOU MUST ENTER INTO THE DECISION-MAKING PROCESS. THIS FORM HAS BEEN DESIGNED TO ACKNOWLEDGE YOUR ACCEPTANCE OF TREATMENT RECOMMENDED BY YOUR PHYSICIAN.

1. I understand that a blood or blood products transfusion may be a necessary part of the course of treatment of the following condition(s) which has (have) been explained to me: ________________

2. I have been informed how a transfusion is given. I understand that a blood or blood products transfusion does not always successfully produce a desirable result and that a transfusion may produce ill effects. I understand that transfusions involve risks of incompatibility reaction, allergic reaction, circulatory volume overload, fever, hives and in rare circumstances infectious diseases such as hepatitis and HIV/AIDS. I understand that blood banks take precautions to screen blood donors and match blood for transfusions, but that these precautions do not eliminate risks and complications. I have been informed of possible alternative forms of treatment, including non-treatment:

3. I understand that, during the course of the operation, post-operative care, medical treatment, anaesthesia or other procedure, unforeseen conditions may necessitate additional or different procedures than set forth above. I therefore authorize my below-named physician, and his/her assistants or designee, to perform such procedures that are considered necessary and desirable, in their professional judgement. The authority granted under this paragraph shall extend to the treatment of all conditions that require treatment and are not known to my physician at the time the medical or surgical procedure is commenced.

4. I understand that emergencies may arise when it may not be possible to make adequate cross-matching (blood type) tests, and that immediate need may make it necessary to use existing stocks of blood that may not include the most compatible blood types.

5. I hereby authorize Dr. ________________ and/or such associates or assistants as may be selected by said physician to administer a transfusion(s) of blood and/or blood products to ________________ if deemed medically necessary.


I CERTIFY I HAVE HAD THE OPPORTUNITY TO ASK QUESTIONS, I HAVE HAD ALL ASPECTS OF THIS MEDICAL TREATMENT EXPLAINED TO MY SATISFACTION, AND I CONSENT.

I HAVE READ AND UNDERSTAND THIS FORM. I AM THE PATIENT OR THE LEGALLY AUTHORIZED PERSON TO SIGN ON THE PATIENT'S BEHALF.

__________________________
PATIENT/OTHER LEGALLY RESPONSIBLE PERSON SIGNATURE

__________________________
RELATIONSHIP OF LEGALLY RESPONSIBLE PERSON TO PATIENT

Witness: ____________________

Date: __________

Time: __________

I CERTIFY THAT I HAVE DISCUSSED THIS MEDICAL TREATMENT WITH THE ABOVE-NAMED PATIENT OR LEGALLY RESPONSIBLE PERSON.
CONSENT FOR CARE

I, the patient or patient’s legal representative, hereby grant permission to Seattle Cancer Care Alliance (SCCA), UW Medicine (includes University of Washington Physicians / Dentists), Children’s Hospital & Regional Medical Center (Children’s), Children’s University Medical Group (CUMG), and Fred Hutchinson Cancer Research Center (FHCRC) (collectively the “Providers”) to perform such examinations and medical and therapeutic procedures as may be professionally deemed necessary or advisable and to communicate about them via telephone, mail, fax, and e-mail for my/the patient’s diagnosis, treatment, payment and health care operations.

I acknowledge that the SCCA serves as a clinical practice site for medical education and that teachers, trainees and students may observe or participate in the care provided. I understand that all physicians providing services to me are independent contractors and are not employees or agents of SCCA. I am aware that the practice of medicine is not an exact science and that no guarantees or promises have been made to me as to the result of treatment or examination.

FINANCIAL AGREEMENT

I agree:
1. To the release of all financial information to the Providers to include verification by them and/or their agents.
2. To assign to the Providers all insurance benefits (including Medicare benefits) otherwise payable for services rendered to the patient, but not to exceed the balance due for services rendered.
3. To pay to the order of the Providers all balances remaining after insurance benefits.
4. That the Providers may impose reasonable interest, late charges, costs and/or reasonable attorney’s fees should my account become delinquent and that any lawsuit for collection of the account may be brought in King County, Washington.

I understand that:
1. The processing of insurance claims is a service and does not relieve me of my financial obligation.
2. The Providers may submit separate bills for their services.
3. Financial responsibility will be waived or reduced if I am determined eligible for charity care and that not all services provided at the SCCA are eligible for charity care.
4. Charges for donor work-up and collection of blood products (including bone marrow and peripheral blood stem cells) for infusion to a recipient other than myself will be billed to the recipient and that I will not be financially responsible.
5. I will not be financially responsible for procedures funded by a research study in which I participate.

RELEASE OF INFORMATION

I authorize the Providers to release the patient’s health information to any person or organization (including Medicare) that may be responsible for payment for the care the patient receives from the Providers when information is necessary to determine liability for payment and to obtain payment. I hereby release the Providers from all legal responsibility that may arise from disclosure of my records to the above persons or organizations.

NOTICE OF PRIVACY PRACTICES ACKNOWLEDGEMENT

I have been provided a copy of the SCCA Notice of Privacy Practices and acknowledge receipt. The current SCCA Notice of Privacy Practices can be obtained from the SCCA web page at www.seattlecca.org.

I have read this consent and understand the above and hereby affix my signature:

Signature of Patient or Person Authorized to Give Consent: 

IVAN D015

Date: 6 March 07

PATIENT NAME -- PLEASE PRINT: ________________________

Relationship to patient:

Name of Guarantor – Check here [□] if guarantor is same as patient or person authorized to give consent.

Seattle Cancer Care Alliance

Fred Hutchinson Cancer Research Center

UW Medicine

Children’s Hospital and Regional Medical Center

ADDRESSOGRAPH

CST001 11-14-00; 12-12-00; 12-3-01; 7-2-02, 11-02; 3-27-03
CONSENT FOR PERIPHERAL BLOOD CELL COLLECTION

You are scheduled to undergo one or more apheresis procedures for:

Collection of Peripheral Blood Hematopoietic Progenitor Cells or Mononuclear Cells

Procedure

During an apheresis procedure blood is removed and processed by an apheresis machine or cell separator that uses a centrifuge to separate plasma (the liquid part of your blood) from the blood cells. The mononuclear cells and peripheral blood hematopoietic progenitor cells can be collected and the rest of the cells returned to you with the blood plasma. Blood may be drawn and returned through needles placed in the veins in your arms or drawn and returned through an intravenous catheter. An anticoagulant is added to the blood to keep it from clotting while it is in the machine. Small samples of blood (less than one tablespoon) may be collected for testing of your blood cell counts and your blood type. A similar sample may be obtained for testing for infection that can be transmitted by blood such as hepatitis or human immunodeficiency virus (HIV, the virus that causes AIDS). You have the right to review the results of any laboratory tests performed.

Risks

You may experience side effects during the procedure. It is important that the Apheresis Unit staff be made aware of any adverse symptoms you might experience. There may be some discomfort and perhaps bruises from the needle sticks. Common side effects of this procedure are temporary numbness, tingling or muscle cramping in the jaw or fingers and a sour taste in the mouth. Rarely, the muscle cramping may be severe. Other less common side-effects include anxiety, nausea, vomiting, fainting and seizures. Symptoms from the procedure can be decreased by slowing the procedure or by giving you calcium. Anticoagulants (medications to prevent the blood from clotting) are used during the procedure. Your blood will remain anti-coagulated for one to four hours after the procedure and you must avoid cuts or bruises. In the unlikely event of blood clotting in the apheresis machine or malfunction of the centrifuge the procedure might need to be stopped. This could result in the loss of blood. The amount of blood outside of your body at one time is about one cup.

To reduce the loss of blood for smaller donors, the apheresis device may first be “primed” with red blood cells and/or albumin. Red blood cells will be compatible with your blood but has the risk of causing infection such as hepatitis or HIV (human immunodeficiency virus, the cause of AIDS) or other infections. This is the same risk found with any blood transfusion. Albumin very rarely causes allergic reactions or infections. A drop in your blood counts will occur as a result of the apheresis procedures. Your platelet count may fall by one half. This increases the risk of bleeding. You may require platelet transfusions before or after the apheresis procedure. It is unlikely that the loss of red blood cells will require transfusion.

It is possible that the procedure may need to be repeated several times or may not be effective.

Consent Statement

You should sign this form only if each of the following is true: a) you have read and understood this consent; b) your questions about the purposes, risks and alternatives to the procedure described in this consent have been answered to your satisfaction by your physician or the Apheresis Unit physician; c) you authorize the Seattle Cancer Care Alliance Apheresis Unit to perform the procedures described in this consent (including the use of red cell or albumin prime if necessary) as well as any additional response to unforeseen complications or reactions; d) you will receive a copy of this consent; and e) you are the person on whom the procedure described in this consent is to be performed or an individual authorized to sign on that person’s behalf.

Signature of Patient or Legal Representative

Date

PLEASE PRINT – PATIENT OR LEGAL REPRESENTATIVE NAME

If signed by Legal Representative – relationship to patient

SIGNATURE OF PHYSICIAN

Addressograph
This is not a bill.
Please retain this copy for your records.

Important Message
Thank you for utilizing the Seattle Cancer Care Alliance (SCCA) for your healthcare needs. We appreciate your use of our services and facility. As part of our goal to be a Patient and Family Centered Care Facility, we are providing you detailed information regarding your recent service(s).

These charges will be billed to GROUP HEALTH MEDICARE. If you do not have coverage with GROUP HEALTH MEDICARE, please contact our Customer Service Department as soon as possible at (206) 288-6225 or (800) 304-1763.

Service Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement Date</td>
<td>01/19/2015</td>
</tr>
<tr>
<td>Patient Name</td>
<td>IVAN C DOIG</td>
</tr>
<tr>
<td>Account Number</td>
<td>60882696</td>
</tr>
<tr>
<td>Date(s) of Service</td>
<td>01/01/15</td>
</tr>
<tr>
<td>Total Charges</td>
<td>$410.00</td>
</tr>
</tbody>
</table>

Please see reverse for additional account information.

Insurance Information

If your insurance or address has recently changed, please complete the change of address and/or insurance information portion of this statement or call our customer service department.

<table>
<thead>
<tr>
<th>Insurer</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>GROUP HEALTH MEDICARE</td>
</tr>
<tr>
<td>Secondary</td>
<td>None on File</td>
</tr>
</tbody>
</table>

Contact Us

Customer Service
1-206-288-6225 or 800-304-1763
Monday thru Friday 7:30 am to 4:00 pm

Complete the form on the back and return for insurance changes, or change of address.

Correspondence address:
P.O. Box 19023, MS LG300
Seattle, WA 94109

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Number</td>
<td>60882696</td>
</tr>
<tr>
<td>Service Date</td>
<td>01/01/15</td>
</tr>
</tbody>
</table>

Please complete and return the form on the reverse side to update address or insurance information.
**Billed Charges**

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY, (LAB) GENERAL</td>
<td>$410.00</td>
</tr>
</tbody>
</table>

**Total Charges**

|                         | $410.00 |

---

**CHANGE OF ADDRESS OR HEALTH INSURANCE INFORMATION**

If you have a new health insurance or a new address, please enter the information below.

<table>
<thead>
<tr>
<th>PATIENT NAME(PRINT)</th>
<th>NEW ADDRESS</th>
<th>CITY</th>
<th>STATE ZIP CODE</th>
<th>NEW PHONE#</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLICY HOLDER'S NAME/RELATIONSHIP TO PATIENT</td>
<td>ID/CASE#</td>
<td>GROUP#</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFFECTIVE DATE</td>
<td>DOB OF INSURED</td>
<td>MEDICARE/HMO/PPO/OTHER</td>
<td>INSURANCE PHONE#</td>
<td></td>
</tr>
<tr>
<td>IF GROUP INSURANCE, NAME OF GROUP (EMPLOYER, UNION/ASSOCIATION)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSURANCE COMPANY NAME</td>
<td>INSURANCE ADDRESS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMPLOYER</td>
<td>EMPLOYER ADDRESS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2015 through December 31, 2015
Customer ID: U2563919
For Products: AUTO PBSC

ANNUAL MARROW AND PBSC STORAGE FEE: $410.00

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

☐ Option 1a: Extend storage for one year - Self-Pay. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract.
   ☐ Enclosed is my check payable to Seattle Cancer Care Alliance.
   ☐ Please charge to credit card (circle one: VISA or Mastercard):
     Expiration date: ___________ CVV (3 digit verification number on the back of the card): ______
     Name on credit card (print): ___________________ Signature: ____________________

☑ Option 1b: Extend storage for one year - Insurance Submission. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract. Please submit a claim to the following carrier(s) on my behalf. I agree to pay any remaining balance not covered by my carrier. Please contact your insurance carrier if you have questions regarding your coverage for this service. Medicare Patients: Medicare does not pay for this service, you must choose Option 1a, Option 3 or Option 4.
   Subscriber Name: Carol D. Doig
   Insurance Carrier Name: Washington State Health Care Authority
   Carrier's Address: PO Box 12684, Olympia WA 98504-2684
   Carrier's Phone: (360) 412-1200 Subscriber ID#: 150-214-4523
   Group #: PEBB-Higher Ed-Retirees Plan Name: Group Health Classic

☐ Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

________________________________________________________________________
________________________________________________________________________

Signature: _______________ Date: ____________

Please mail the Patient Election Form to:
(if self-pay please enclose check or credit card information)
SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
Seattle, WA 98109

See other side
2015 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2015
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007
Type of Cells: AUTO PBSC

SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $410.00

To help us provide you with the best possible service, please update us with any changes in your address, phone number, or referring physician to help us keep our records current.

Contact: Cellular Therapy Lab Program Assistant
Phone: (206) 288-1121
Toll Free: (800) 811-3253
FAX: (206) 288-1325

Or, update below and return the form:
New Address: ______________________________________

________________________________________________________________________
________________________________________________________________________

New Phone: __________________________

Physician on file with Cellular Therapy Lab: (if incorrect, please update)
New Physician: ________________________
Physician Address: ______________________

________________________________________________________________________
________________________________________________________________________

Physician Phone: ______________________

Seattle Cancer Care Alliance
Cellular Therapy Laboratory, E1-415 · PO Box 19023 · Seattle, WA 98109-1023
PH: (206) 288-1121 · FAX: (206) 288-1325 · 1 (800) 811-3253
Dear IVAN,

Enclosed you will find a new Patient Election Form for storage of your bone marrow and/or stem cells. This election form gives you the following four options, as described below. Please be sure to consult with your physician regarding this decision.

1. You may extend your storage agreement for one year. If you choose this option, you agree to pay a one-year storage fee of $410.00.
2. You may request that Seattle Cancer Care Alliance (SCCA) send your cells to another location. If you choose this option, you agree to pay for all transportation and shipping charges associated with this process.
3. You may request that SCCA discard your cells.
4. You may turn over your cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, and Seattle Children's Hospital) in which case the cells may be made available for research purposes.

When determining whether to continue storing your cell products, it is important that you and your physician feel confident that you have all the information you need to make this decision. Below are some talking points for discussion with your physician, as well as general information about cell storage. The SCCA Cellular Therapy Lab Medical Director is available for questions and discussion if needed. You can obtain advice from the Cellular Therapy Lab Medical Director initially if you are considering disposing of cells, however, your physician must be consulted before your cells will actually be removed from storage. Failure to do so will result in automatic continuation of your storage agreement at SCCA’s then current cell storage rates.

Talking points to discuss with your physician:
- Your current disease status, including the chance that you are cured, the chance of relapse and expected future course of your disease.
- The possible need to use your cells in the future in case of disease, relapse or other complications.
- Whether your stored cells may now be “obsolete” because of newer treatments for your disease.

General information about cell storage:
- Cells that are stored for 5 years or less usually retain excellent viability with minimal loss of cells after thawing. Therefore, a sample vial of stored cells is usually not thawed to test viability before using a product unless a low cell dose was originally collected and frozen.
- Cells that have been stored for more than 5 years often have good viability, but cell recovery after thawing may be reduced by prolonged storage in the freezer. Therefore, we often test a sample vial for viability at the time when a product is considered for use.
PLEASE COMPLETE THE ATTACHED PATIENT ELECTION FORM, SIGN, AND RETURN IT TO THE PATIENT FINANCE DEPARTMENT WITHIN 45 DAYS OF RECEIPT OF THIS NOTIFICATION. IF NO RESPONSE IS RECEIVED A STATEMENT OF YOUR CURRENT CHARGES WILL BE AUTOMATICALLY GENERATED AND MAILED TO YOU.

For questions regarding the status of your account or insurance claim, please contact SCCA Patient Finance Customer Service at (206) 288-6226 or toll free at (877) 849-8368.

For any questions concerning the content of this letter, please contact the Cellular Therapy Lab Program Assistant at (206) 288-1121 or toll free at (800) 811-3253.

Thank you for your prompt attention to this matter.

Sincerely,

Michael Linenberger, MD
Medical Director
Cellular Therapy Laboratory
Seattle Cancer Care Alliance

Enclosures
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2014 through December 31, 2014
Customer ID: U2563919
For Products: AUTO PBSC

ANNUAL MARROW AND PBSC STORAGE FEE: $410.00

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

☐ Option 1a: Extend storage for one year - Self-Pay. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract.
☐ Enclosed is my check payable to Seattle Cancer Care Alliance.
☐ Please charge to credit card: (circle one: VISA or Mastercard):
Expiration date: __________ CVV (3 digit verification number on the back of the card): __________
Name on credit card (print): __________________ Signature: __________________

☒ Option 1b: Extend storage for one year - Insurance Submission. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract. Please submit a claim to the following carrier(s) on my behalf. I agree to pay any remaining balance not covered by my carrier. Please contact your insurance carrier if you have questions regarding your coverage for this service. Medicare Patients: Medicare does not pay for this service, you must choose Option 1a, Option 3 or Option 4.
Subscriber Name: Carol D. Doig
Insurance Carrier Name: Washington State Health Care Authority
Carrier's Address: PO Box 12684, Olympia WA 98504-2684
Carrier's Phone: (360)692-9000 Subscriber ID#: 150-2n-3203
Group #: PEBB-Higher Ed-Retirees Plan Name: Group Health Classic

☐ Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

____________________________________________________________

____________________________________________________________

Signature: Ivan C. Doig Date: Nov 2, 2013

Please mail the Patient Election Form to:
(if self-pay please enclose check or credit card information)
SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
Seattle, WA 98109

See other side
Seattle Cancer Care Alliance  
Cellular Therapy Laboratory  
Patient Election Form

Patient's Name:   IVAN C. DOIG  
New Contract Date:   January 01, 2014 through December 31, 2014  
Customer ID:   U2563919  
For Products:   AUTO PBSC

If you are choosing one of the following options listed below, please be sure to consult with your physician prior to making your selection. To discuss any medical questions or concerns regarding whether to dispose of cells, please contact the Cellular Therapy Lab Medical Director at (206) 288-1121; (800) 811-3253

☐  Option 3: Discard the cells. I direct the SCCA to discard the stored cells.

I have discussed with my physician the general storage and viability parameters of cryopreserved cellular products and considerations for the potential use of these stored cells for my particular disease and transplant indications and we have had the opportunity to consult with the Cellular Therapy Lab Medical Director and to resolve questions or concerns regarding the disposal of these cells.

Please provide your current physician’s name and phone number: ____________________________

☐  Option 4: Turn over stored cells to SCCA. I hereby transfer the stored cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine and Seattle Children's Hospital) and agree that they may be made available for research purposes if a consent is on file. If the cells are made available for research purposes, they may be used to develop a cell line or other product, which could be patented and licensed or otherwise used for commercial purposes. You will not receive any financial compensation should this occur.

I have discussed with my physician the general storage and viability parameters of cryopreserved cellular products and considerations for the potential use of these stored cells for my particular disease and transplant indications and we have had the opportunity to consult with the Cellular Therapy Lab Medical Director and to resolve questions or concerns regarding the disposal of these cells.

Please provide your current physician’s name and phone number: ____________________________

Signature: ____________________________  Date: ____________________________

Name (please print): ____________________________

Relationship to Patient (if applicable) (e.g., personal representative, spouse, child, etc): ____________________________

Please mail the Patient Election Form to:  
SEATTLE CANCER CARE ALLIANCE  
Attn: Follow-up Supervisor  
825 Eastlake Ave; Mallstop LG-300  
Seattle, WA 98109
2014 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2014
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007
Type of Cells: AUTO PBSC
SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $410.00

To help us provide you with the best possible service, please update us with any changes in your address, phone number, or referring physician to help us keep our records current.

Contact: Cellular Therapy Lab Program Assistant
Phone: (206) 288-1121
Toll Free: (800) 811-3253
FAX: (206) 288-1325

Or, update below and return the form:

New Address:

________________________________________

________________________________________

New Phone:

________________________________________

Physician on file with Cellular Therapy Lab:
(If incorrect, please update)

MD011458 ERIC CHEN, M.D.

New Physician:

________________________________________

________________________________________

Physician Address:

________________________________________

________________________________________

Physician Phone: __________________________

________________________________________

________________________________________
Dear IVAN,

Enclosed you will find a new Patient Election Form for storage of your bone marrow and/or stem cells. This election form gives you the following four options, as described below. Please be sure to consult with your physician regarding this decision.

1. You may extend your storage agreement for one year. If you choose this option, you agree to pay a one-year storage fee of $410.00.
2. You may request that Seattle Cancer Care Alliance (SCCA) send your cells to another location. If you choose this option, you agree to pay for all transportation and shipping charges associated with this process.
3. You may request that SCCA discard your cells.
4. You may turn over your cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, and Seattle Children's Hospital) in which case the cells may be made available for research purposes.

When determining whether to continue storing your cell products, it is important that you and your physician feel confident that you have all the information you need to make this decision. Below are some talking points for discussion with your physician, as well as general information about cell storage. The SCCA Cellular Therapy Lab Medical Director is available for questions and discussion if needed. You can obtain advice from the Cellular Therapy Lab Medical Director initially if you are considering disposing of cells, however, your physician must be consulted before your cells will actually be removed from storage. Failure to do so will result in automatic continuation of your storage agreement at SCCA’s then current cell storage rates.

Talking points to discuss with your physician:
- Your current disease status, including the chance that you are cured, the chance of relapse and expected future course of your disease.
- The possible need to use your cells in the future in case of disease, relapse or other complications.
- Whether your stored cells may now be “obsolete” because of newer treatments for your disease.

General information about cell storage:
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- Cells that have been stored for more than 5 years often have good viability, but cell recovery after thawing may be reduced by prolonged storage in the freezer. Therefore, we often test a sample vial for viability at the time when a product is considered for use.
PLEASE COMPLETE THE ATTACHED PATIENT ELECTION FORM, SIGN, AND RETURN IT TO THE PATIENT FINANCE DEPARTMENT WITHIN 45 DAYS OF RECEIPT OF THIS NOTIFICATION. IF NO RESPONSE IS RECEIVED A STATEMENT OF YOUR CURRENT CHARGES WILL BE AUTOMATICALLY GENERATED AND MAILED TO YOU.

For questions regarding the status of your account or insurance claim, please contact SCCA Patient Finance Customer Service at (206) 288-6226 or toll free at (877) 849-8368.

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Thank you for your prompt attention to this matter.

Sincerely,

Michael Linenberger, MD
Medical Director
Cellular Therapy Laboratory
Seattle Cancer Care Alliance

Enclosures
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2013 through December 31, 2013
Customer ID: U2563919
For Products: AUTO PBSC

ANNUAL MARROW AND PBSC STORAGE FEE: $406.00

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

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Subscriber Name: Carol D. Doe
Insurance Carrier Name: Washington State Health Care Authority
Carrier's Address: PO Box 52680, Olympia WA 98507-2680
Carrier’s Phone: (360) 512-1200 Subscriber ID#: 150-26-6523
Group #: PEBB-Higher Ed-Retirees Plan Name: Group Health Classic

☐ Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

________________________________________________________________________
________________________________________________________________________

Signature: ___________________________ Date: ___________________________

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(if self-pay please enclose check or credit card information)
SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
Seattle, WA 98109

See other side
2013 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2013
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007  Type of Cells: AUTO PBSC
SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $406.00

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Contact: Cellular Therapy Lab Program Assistant

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Toll Free: (800) 811-3253
FAX: (206) 288-1325

Or, update below and return the form:

New Address: ___________________________________________________________
___________________________________________________________
___________________________________________________________

New Phone: ___________________________________________________________

Physician on file with Cellular Therapy Lab:
(if incorrect, please update)

MD011458 ERIC CHEN, M.D.

New Physician: _________________________________________________________

Physician Address: ______________________________________________________
___________________________________________________________
___________________________________________________________

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Sincerely,

Michael Linenberger, MD
Medical Director
Cellular Therapy Laboratory
Seattle Cancer Care Alliance

Enclosures
This is not a bill. Please retain this copy for your records.

Important Message

Thank you for utilizing the Seattle Cancer Care Alliance (SCCA) for your healthcare needs. We appreciate your use of our services and facility. As part of our goal to be a Patient and Family Centered Care Facility, we are providing you detailed information regarding your recent service(s).

These charges will be billed to GROUP HEALTH MEDICARE. If you do not have coverage with GROUP HEALTH MEDICARE, please contact our Customer Service Department as soon as possible at (206) 288-6226 or (800) 304-1763.

Service Summary

Statement Date 01/17/2014
Patient Name IVAN C DOIG
Account Number 60665758
Date(s) of Service 01/01/14
Total Charges $410.00

Please see reverse for additional account information.

Insurance Information

If your insurance or address has recently changed, please complete the change of address and/or insurance information portion of this statement or call our customer service department.

Insurer
Primary GROUP HEALTH MEDICARE
Secondary None on File

Contact Us

Customer Service
1-206-288-6226 or 800-304-1763
Monday thru Friday 7:30 am to 4:00 pm

Complete the form on the back and return for insurance changes, or change of address.

Correspondence address:
P.O. Box 19023, MS LG300
Seattle, WA 94109

Patient Name IVAN C DOIG
Account Number 60665758
Service Date 01/01/14

Please complete and return the form on the reverse side to update address or insurance information.
<table>
<thead>
<tr>
<th>Billed Charges</th>
<th>Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY, (LAB) GENERAL</td>
<td>$410.00</td>
</tr>
</tbody>
</table>

Total Charges $410.00

CHANGE OF ADDRESS OR HEALTH INSURANCE INFORMATION
If you have a new health insurance or a new address, please enter the information below

<table>
<thead>
<tr>
<th>PATIENT NAME(PRINT)</th>
<th>NEW ADDRESS</th>
<th>CITY</th>
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<tbody>
<tr>
<td>POLICY HOLDER'S NAME/RELATIONSHIP TO PATIENT</td>
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catheter placement for sleeping on my right side.
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Correspondence address:
P.O. Box 19023, MS LG300
Seattle, WA 94109

Patient Name: IVAN C DOIG
Account Number: 60437255
Service Date: 01/01/13

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<tr>
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</tr>
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<tr>
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Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2012 through December 31, 2012
Customer ID: U2563919
For Products: AUTO PBSC

ANNUAL MARROW AND PBSC STORAGE FEE: $406.00

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

☐ Option 1a: Extend storage for one year - Self-Pay. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract.
☐ Enclosed is my check payable to Seattle Cancer Care Alliance.
☐ Please charge to (circle one: VISA or Mastercard): __________________________ Exp: ________
                         Name on credit card (print): __________________________ Signature: __________________________

☒ Option 1b: Extend storage for one year - Insurance Submission. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract. Please submit a claim to the following carrier(s) on my behalf. I agree to pay any remaining balance not covered by my carrier. **Medicare does not pay for this service.** Please contact your insurance carrier if you have questions regarding your coverage for this service.

Subscriber Name: Carol D. Doig
Insurance Carrier Name: Washington State Health Care Authority
Carrier's Address: PO BOX 12681, Olympia WA 98507-2681
Carrier's Phone: (360)412-2200 Subscriber ID#: 150-21-1523
Group #: PEBB-Higher Ed-Retirees Plan Name: Group Health Classic

☐ Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Signature: [Signature] Date: Nov 4, 2011

Please mail the Patient Election Form to:
(if self-pay please enclose check or credit card information)
SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
Seattle, WA 98109

Seattle Cancer Care Alliance
Cellular Therapy Laboratory, LV107 · PO Box 19023 · Seattle, WA 98109-1023
(206) 288-1121 PH · (206) 288-1258 FAX · 1 (800) 811-3253
Page 1 of 2
2012 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2012
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007
Type of Cells: AUTO PBSC

SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $406.00

To help us provide you with the best possible service, please update us with any changes in your address, phone number, or referring physician to help us keep our records current.

Contact: Cellular Therapy Lab Program Assistant
Phone: (206) 288-1121
Toll Free: (800) 811-3253
FAX: (206) 288-1258

Or, update below and return the form:

New Address: __________________________________________
________________________
________________________

New Phone: __________________________________________
________________________
________________________

Physician on file with Cellular Therapy Lab:
(If incorrect, please update)

New Physician: ________________________________________
________________________
________________________

Physician Address: ___________________________________
________________________
________________________

Physician Phone: _____________________________________
________________________
________________________

Dear IVAN,

Enclosed you will find a new Patient Election Form for storage of your bone marrow and/or stem cells. This election form gives you the following four options, as described below. Please be sure to consult with your physician regarding this decision.

1. You may extend your storage agreement for one year. If you choose this option, you agree to pay a one-year storage fee of $406.00.
2. You may request that Seattle Cancer Care Alliance (SCCA) send your cells to another location. If you choose this option, you agree to pay for all transportation and shipping charges associated with this process.
3. You may request that SCCA discard your cells.
4. You may turn over your cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, and Seattle Children's Hospital) in which case the cells may be made available for research purposes.

When determining whether to continue storing your cell products, it is important that you and your physician feel confident that you have all the information you need to make this decision. Below are some talking points for discussion with your physician, as well as general information about cell storage. The SCCA Cellular Therapy Lab Medical Director is available for questions and discussion if needed. You can obtain advice from the Cellular Therapy Lab Medical Director initially if you are considering disposing of cells, however, your physician must be consulted before your cells will actually be removed from storage. Failure to do so will result in automatic continuation of your storage agreement at SCCA’s then current cell storage rates.

Talking points to discuss with your physician:
• Your current disease status, including the chance that you are cured, the chance of relapse and expected future course of your disease.
• The possible need to use your cells in the future in case of disease, relapse or other complications.
• Whether your stored cells may now be “obsolete” because of newer treatments for your disease.

General information about cell storage:
• Cells that are stored for 5 years or less usually retain excellent viability with minimal loss of cells after thawing. Therefore, a sample vial of stored cells is usually not thawed to test viability before using a product unless a low cell dose was originally collected and frozen.
• Cells that have been stored for more than 5 years often have good viability, but cell recovery after thawing may be reduced by prolonged storage in the freezer. Therefore, we often test a sample vial for viability at the time when a product is considered for use.
Please complete the attached Patient Election Form, sign, and return it to the Patient Finance Department within 45 days of receipt of this notification. If no response is received a statement of your current charges will be automatically generated and mailed to you.

For questions regarding the status of your account or insurance claim, please contact **SCCA Patient Finance Customer Service at (206) 288-6226 or toll free at (877) 849-8368.**

For any questions concerning the content of this letter, please contact the Cellular Therapy Lab Program Assistant at (206) 288-1121 or toll free at (800) 811-3253.

Thank you for your prompt attention to this matter.

Sincerely,

Michael Linenberger, MD
Medical Director
Cellular Therapy Laboratory
Seattle Cancer Care Alliance

Enclosures
Important Message

Thank you for utilizing the Seattle Cancer Care Alliance (SCCA) for your healthcare needs. We appreciate your use of our services and facility. As part of our goal to be a Patient and Family Centered Care Facility, we are providing you detailed information regarding your recent service(s).

These charges will be billed to GROUP HEALTH MEDICARE. If you do not have coverage with GROUP HEALTH MEDICARE, please contact our Customer Service Department as soon as possible at (206) 288-8226 or (800) 304-1763.

Contact Us

Customer Service
1-206-288-8226 or 800-304-1763
Monday thru Friday 7:30 am to 4:00 pm

Complete the form on the back and return for insurance changes, or change of address.

Correspondence address:
P.O. Box 19023, MS LG300
Seattle, WA 94109

Service Summary

Statement Date 01/20/2012
Patient Name IVAN C DOIG
Account Number 60251108
Date(s) of Service 01/01/12
Total Charges $406.00

Please see reverse for additional account information.

Insurance Information

If your insurance or address has recently changed, please complete the change of address and/or insurance information portion of this statement or call our customer service department.

Insurer
Primary GROUP HEALTH MEDICARE
Secondary None on File

Patient Name IVAN C DOIG
Account Number 60251108
Service Date 01/01/12

Please complete and return the form on the reverse side to update address or insurance information.
**Billed Charges**

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<tr>
<th>LABORATORY, (LAB) GENERAL</th>
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Total Charges $406.00

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**CHANGE OF ADDRESS OR HEALTH INSURANCE INFORMATION**

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2011 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2011
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007
Type of Cells: AUTO PBSC

SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $406.00

To help us provide you with the best possible service, please update us with any changes in your address, phone number, or referring physician to help us keep our records current.

Contact: Cellular Therapy Lab Program Assistant
Phone: (206) 667-3184
Toll Free: (800) 811-3253
FAX: (206) 667-6547

Or, update below and return the form:

New Address: ____________________________________________

_____________________________________________________________________

New Phone: _________________________________________________

New Physician: Dr. Eric Chen

Physician Address: Capitol Hill South Bldg.
125 16th Ave. E.
Seattle WA 98112-5260

Physician Phone: (206)326-3000

_____________________________________________________________________

__________________________

Seattle Cancer Care Alliance
Cellular Therapy Laboratory, DE590 · PO Box 19023 · Seattle, WA 98109-1023
(206) 667-3184 PH · (206) 667-6547 FAX · 1 (800) 811-3253

Page 1 of 2
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2011 through December 31, 2011
Customer ID: U2563919
For Products: AUTO PBSC

ANNUAL MARROW AND PBSC STORAGE FEE: $406.00

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

☐ Option 1a: Extend storage for one year - Self-Pay. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract.
   - Enclosed is my check payable to Seattle Cancer Care Alliance.
   - Please charge to (circle one: VISA or Mastercard): ___________________________ Exp: ______
   - Name on credit card (print): _____________________________________________ Signature: __________________________

☐ Option 1b: Extend storage for one year - Insurance Submission. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract. Please submit a claim to the following carrier(s) on my behalf. I agree to pay any remaining balance not covered by my carrier.

   Subscriber Name: Carol D. Doig
   Insurance Carrier Name: Washington State Health Care Authority
   Carrier's Address: PO Box 12684, Olympia WA 98504-2684
   Carrier's Phone: (360) 725-8000
   Subscriber ID#: 150-21-1523
   Group #: PEBB-Higher Ed-Retirees
   Plan Name: Group Health Classic

☐ Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

                                                                                       

                                                                                       

Please mail the Patient Election Form to:
(if self-pay please enclose check or credit card information)
SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
Seattle, WA 98109

Seattle Cancer Care Alliance · Cellular Therapy Laboratory, DE590 · PO Box 19023 · Seattle, WA 98109-1023 · (206) 667-3184 PH · (206) 667-6547 FAX · (800) 811-3253 · Page 1 of 2
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2011 through December 31, 2011
Customer ID: U2563919
For Products: AUTO PBSC

If you are choosing one of the following options listed below, please be sure to consult with your physician prior to making your selection. To discuss any medical questions or concerns regarding whether to dispose of cells, please contact the Cellular Therapy Lab Medical Director at (206) 667-3184; (800) 811-3253

☐ Option 3: Discard the cells. I direct the SCCA to discard the stored cells.

I have discussed with my physician the general storage and viability parameters of cryopreserved cellular products and considerations for the potential use of these stored cells for my particular disease and transplant indications and we have had the opportunity to consult with the Cellular Therapy Lab Medical Director and to resolve questions or concerns regarding the disposal of these cells.

Please provide your current physician’s name and phone number: ______________________________

☐ Option 4: Turn over stored cells to SCCA. I hereby transfer the stored cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine and Seattle Children’s Hospital) and agree that they may be made available for research purposes if a consent is on file. If the cells are made available for research purposes, they may be used to develop a cell line or other product, which could be patented and licensed or otherwise used for commercial purposes. You will not receive any financial compensation should this occur.

I have discussed with my physician the general storage and viability parameters of cryopreserved cellular products and considerations for the potential use of these stored cells for my particular disease and transplant indications and we have had the opportunity to consult with the Cellular Therapy Lab Medical Director and to resolve questions or concerns regarding the disposal of these cells.

Please provide your current physician’s name and phone number: ______________________________

Signature: ________________________________ Date: ________________________________
Name (please print): ________________________________
Relationship to Patient (if applicable) (e.g., personal representative, spouse, child, etc): ________________________________

Please mail the Patient Election Form to:
SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
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Medical Director  
Cellular Therapy Laboratory  
Seattle Cancer Care Alliance

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Our records indicate that you have no insurance coverage. If you do have insurance, please contact our Customer Service at (206) 288-6226 or 1-800-304-1763 immediately or complete and return the form on the reverse side.

The amount due reflects the 10% discount we extend to all uninsured patients. Save an additional 10% by calling our Customer Service Department today and paying your patient balance amount in full using your MasterCard or Visa.

You may be eligible for financial assistance. Please contact our customer service department for detailed information.

Contact Us

Customer Service
1-206-288-6226 or 800-304-1763
Monday thru Friday 7:30 am to 4:00 pm

Complete the form on the back and return for insurance changes, or change of address.

Correspondence address:
P.O. Box 19023, MS LG300
Seattle, WA 94109

---

Make Check Payable to Seattle Cancer Care Alliance

Please include your Account Number on your check.

Enclose this payment stub with your payment.

☐ Check box if you have updated address/insurance carrier information on reverse side.

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<table>
<thead>
<tr>
<th>GUARANTOR NAME</th>
<th>ACCOUNT NUMBER</th>
<th>AMOUNT DUE NOW</th>
<th>AMOUNT I AM PAYING</th>
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<tbody>
<tr>
<td>IVAN C DOIG</td>
<td>60072882</td>
<td>$365.40</td>
<td>$</td>
</tr>
</tbody>
</table>

Check One:

☐ Payment Enclosed  ☐ Charge (Complete below)

☐ Visa  ☐ MasterCard

Credit Card Number

Exp. Date

Credit Card Holder's Signature

CVV Code

(Cannot be processed without and CVV - 3 digit code on back.)
Payment is due at this time.

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Monday thru Friday 7:30 am to 4:00 pm

Complete the form on the back and return for insurance changes, or change of address.

Correspondence address:
P.O. Box 19023, MS LG300
Seattle, WA 94109

---

Service Summary

Statement Date: 01/17/2011
Patient Name: IVAN C DOIG
Account Number: 60072882
Date(s) of Service: 01/01/11
Total Charges: $406.00
Discounts: ($40.60)
Account Balance: $365.40

Please see reverse for additional account information.

Insurance Information

If your insurance or address has recently changed, please complete the change of address and/or insurance information portion of this statement or call our customer service department.

Insurer
Primary: None on File
Secondary: None on File

---

 Guarantor Name | Account Number | Amount Due Now | Amount I am Paying |
--- | --- | --- | --- |
IVAN C DOIG | 60072882 | $365.40 | $ |

Check One:
☐ Payment Enclosed ☐ Charge (Complete below)
☐ Visa ☐ MasterCard
Credit Card Number Exp. Date
Credit Card Holder’s Signature CVV Code
(Cannot be processed without and CVV - 3 digit code on back.)
### Billed Charges

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**Total Charges**  $406.00

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### CHANGE OF ADDRESS OR HEALTH INSURANCE INFORMATION

If you have a new health insurance or a new address, please enter the information below.

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<th>PATIENT NAME(PRINT)</th>
<th>NEW ADDRESS</th>
<th>CITY</th>
<th>STATE ZIP CODE</th>
<th>NEW PHONE#</th>
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<td>ID/CASE#</td>
<td>GROUP#</td>
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<td>DOB OF INSURED</td>
<td>MEDICARE/HMO/PPO/OTHER</td>
<td>INSURANCE PHONE#</td>
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<tr>
<td>EMPLOYER</td>
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<td>EMPLOYER ADDRESS</td>
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</tr>
</tbody>
</table>
TO ENSURE PROMPT & ACCURATE POSTING
TO YOUR ACCOUNT PLEASE
• Write account number on check
• Enclose bottom portion of statement
• Make sure our address shows through window
November 02, 2009

IVAN C. DOIG
17277 15TH AVE NW
SEATTLE, WA  98177
USA

Dear IVAN,

Enclosed you will find a new Patient Election Form for storage of your bone marrow and/or stem cells. This election form gives you the following four options, as described below. Please be sure to consult with your physician regarding this decision.

1. You may extend your storage agreement for one year. If you choose this option, you agree to pay a one-year storage fee of $325.00.
2. You may request that Seattle Cancer Care Alliance (SCCA) send your cells to another location. If you choose this option, you agree to pay for all transportation and shipping charges associated with this process.
3. You may request that SCCA discard your cells.
4. You may turn over your cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, and Children’s Hospital & Regional Medical Center) in which case the cells may be made available for research purposes.

Please complete this form, sign, and return it to the Patient Finance Department within 30 days of receipt of this notification. If no response is received a statement of your current charges will be automatically generated and mailed to you. If you elect to extend the storage agreement for another year and choose to self-pay, please include a check payable to Seattle Cancer Care Alliance, or include your credit card information (VISA or Mastercard only). If you’d like the Patient Finance Department to bill your insurance, please supply us with the necessary insurance information to submit a claim directly to your insurance carrier.

For questions regarding the status of your invoice or insurance claim, please contact SCCA Patient Finance Department Customer Service at (206) 288-6226 or toll free at (877) 849-8368.

Any questions concerning the content of this letter, please contact the Cellular Therapy Lab Administrative Assistant at (206)-667-3184 or (800) 811-3253. Please update us with any changes in your address, phone number, or referring physician to help us keep our records current.

Thank you for your prompt attention to this matter.

Sincerely,

[Signature]

Shelly Heimfeld, Ph.D.
Laboratory Director
Cellular Therapy Laboratory

Enclosures
2010 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2010
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007
Type of Cells: AUTO PBSC

SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $325.00

Please mail the Patient Election Form to:
(if self-pay please enclose check or credit card information)

SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mailstop LG-300
Seattle, WA 98109

To help us provide you with the best possible service, please notify us if you have moved or changed your name, telephone number, or doctor. Contact: Cellular Therapy Lab Administrative Assistant

Phone: (206) 667-3184
Toll Free: (800) 811-3253
FAX: (206) 667-6547

Or, update below and return the form:

New Address: 

New Phone: 

New Physician: 

Seattle Cancer Care Alliance
Cellular Therapy Laboratory, DE590 · PO Box 19023 · Seattle, WA 98109-1023
(206) 667-3184 PH · (206) 667-6547 FAX · 1 (800) 811-3253
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient's Name: IVAN C. DOIG
New Contract Date: January 01, 2010 through December 31, 2010
Customer ID: U2563919
For Products: AUTO PBSC

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

Option 1a: Extend storage for one year - Self-Pay. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract.
☐ Enclosed is my check payable to Seattle Cancer Care Alliance.
☐ Please charge to my (circle one: VISA or Mastercard): ____________________________ Exp __________
Name on credit card (print)_________________________ Signature_____________________

Option 1b: Extend storage for one year - Insurance Submission. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract. Please submit a claim to the following carrier(s) on my behalf. I agree to pay any remaining balance not covered by my carrier.

Subscriber Name: Carol D. Doig
Insurance Carrier Name: Washington State Health Care Authority
Carrier’s Address: PO Box 2684, Olympia WA 98501-2684
Carrier’s Phone: (360) 412-4200
Subscriber ID#: 150-24-1523
Group #: PEBB-Higher Ed-Retirees Plan Name: Group Health Classic

Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

If you are choosing one of the following options listed below, please be sure to consult with your physician prior to making your selection.

Option 3: Discard the cells. I direct the SCCA to discard the stored cells.

Option 4: Turn over stored cells to SCCA. I hereby transfer the stored cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, & Children's Hospital & Regional Medical Center) and agree that they may be made available for research purposes if a consent is on file. If the cells are made available for research purposes, they may be used to develop a cell line or other product, which could be patented and licensed or otherwise used for commercial purposes. You will not receive any financial compensation should this occur.

Signature: ___________________________ Date: Nov. 5 2009

Name (please print): Ivan C. Doig

Relationship to Patient (if applicable) (e.g., personal representative, spouse, child, etc): ___________________________
January 02, 2009

IVAN C. DOIG
17277 15TH AVE NW
SEATTLE, WA 98177
USA

Dear IVAN,

Enclosed you will find a new Patient Election Form for storage of your bone marrow and/or stem cells. This election form gives you the following four options, as described below. Please be sure to consult with your physician regarding this decision.

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4. You may turn over your cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, and Children’s Hospital & Regional Medical Center) in which case the cells may be made available for research purposes.

Please complete this form, sign, and return it to the Patient Finance Department. If you elect to extend the storage agreement for another year and choose to self-pay, please include a check payable to Seattle Cancer Care Alliance, or include your credit card information (VISA or Mastercard only). If you’d like the Patient Finance Department to bill your insurance, please supply us with the necessary insurance information to submit a claim directly to your insurance carrier. Please also update us with any changes in your address, phone number, or referring physician to help us keep our records current.

If you have any questions concerning the content of this letter, please contact Ruth Buckingham at (206) 667-3184; (800) 811-3253; or rmbuckin@fhcrc.org. For questions regarding the status of your invoice or insurance claim, please contact SCCA Customer Service at (206) 288-6226 or toll free at (877) 849-8368.

Thank you for your prompt attention to this matter.

Sincerely,

Shelly Heimfeld, Ph.D.
Laboratory Director
Cellular Therapy Laboratory
Seattle Cancer Care Alliance

Enclosures
2009 Bone Marrow and/or Peripheral Blood Stem Cell Product Annual Storage Fee

Date of Service: January 01, 2009
For Patient: IVAN C. DOIG
Customer ID: U2563919
Date of Initial Storage: March 14, 2007
Type of Cells: AUTO PBSC

SCCA Federal Tax ID#: 91-1935159
CPT Code: 86999
ICD-9 Code: 273.1

ANNUAL MARROW AND PBSC STORAGE FEE: $325.00

Please mail the Patient Election Form to:
(if self-pay please enclose check or credit card information)

SEATTLE CANCER CARE ALLIANCE
Attn: Follow-up Supervisor
825 Eastlake Ave; Mallstop LG-300
Seattle, WA 98109

To help us provide you with the best possible service, please notify us if you have moved or changed your name, telephone number, or doctor. Contact:

Ruth Buckingham
Phone: (206) 667-3184
Toll Free: (800) 811-3253
FAX: (206) 667-6547
Email: mbuckin@fhcrc.org

Or, update below and return the form:

New Address:


New Phone:


New Physician: Dr. Eric Chen
Seattle Cancer Care Alliance
Cellular Therapy Laboratory
Patient Election Form

Patient’s Name: IVAN C. DOIG
New Contract Date: January 01, 2009 through December 31, 2009
Customer ID: U2563919
For Products: AUTO PBSC

I understand that the previous contract for the annual storage of my cells at Seattle Cancer Care Alliance (SCCA) has now expired, and a new revised contract will now be in effect. Please do the following with my stored cells (Please select only one of the following options):

☑ Option 1a: Extend storage for one year - Self-Pay. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract.
☐ Enclosed is my check payable to Seattle Cancer Care Alliance.
☐ Please charge to my (circle one: VISA or Mastercard):
  Name on credit card (print): ___________________________ Exp: __________
  Signature: ___________________________

☐ Option 1b: Extend storage for one year - Insurance Submission. I agree to extend my storage contract for one (1) year under the terms and conditions as stated in the contract. Please submit a claim to the following carrier(s) on my behalf. I agree to pay any remaining balance not covered by my carrier.

  Subscriber Name: ___________________________
  Insurance Carrier Name: ___________________________
  Carrier’s Address: ___________________________
  Carrier’s Phone: ___________________________ Subscriber ID#: ___________________________
  Group #: ___________________________ Plan Name: ___________________________

☐ Option 2: Ship cells to new location. Please send the stored cells to the following location. I agree to pay all shipping and handling charges. (Please give the name of the facility, a shipping address, and a contact name and phone number).

  ___________________________

If you are choosing one of the following options listed below, please be sure to consult with your physician prior to making your selection.

☐ Option 3: Discard the cells. I direct the SCCA to discard the stored cells.

☐ Option 4: Turn over stored cells to SCCA. I hereby transfer the stored cells to SCCA or its member institutions (Fred Hutchinson Cancer Research Center, UW Medicine, & Children’s Hospital & Regional Medical Center) and agree that they may be made available for research purposes if a consent is on file. If the cells are made available for research purposes, they may be used to develop a cell line or other product, which could be patented and licensed or otherwise used for commercial purposes. You will not receive any financial compensation should this occur.

Signature: ___________________________ Date: 5 Feb. 2009

Name (please print): Ivan Doig

Relationship to Patient (if applicable) (e.g., personal representative, spouse, child, etc): ___________________________
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<th>Total Discounts</th>
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<td>$325.00</td>
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<td>$325.00</td>
</tr>
</tbody>
</table>
THE ENCLOSED CHECK IS BEING SENT TO YOU FROM SEATTLE CANCER CARE ALLIANCE FOR THE FOLLOWING:

CHECK ISSUED TO:        IVAN C. DOIG OR CAROL M. DOIG
AMOUNT OF CHECK:        $325.00
PATIENT NAME:           DOIG, IVAN C
SCCA PATIENT NUMBER:    2563919
SCCA BILL NUMBER(S):    5001
SUBSCRIBER NUMBER:
CLAIM NUMBER:
EXPLANATION:            PATIENT AND INSURANCE PAID

PLEASE DIRECT QUESTIONS REGARDING THIS CHECK TO:

BETTY B.  206-288-6428
Patient Information on Peripheral Blood Progenitor Cell Collection (PBPC)
Peripheral Blood Progenitor Cell Collection
(referred to from now on as PBPC collection)

This pamphlet has been especially written for you who may be about to undergo a PBPC collection. We hope the pamphlet and a discussion with the medical staff help you understand this procedure and what it involves.

What Actually Happens During a PBPC Collection?
The collection is accomplished with a medical device called a blood cell separator. The COBE Spectra is such a device. It uses a centrifuge to separate mononuclear cells, which include peripheral blood progenitor cells, from the other blood components and plasma. The cells are then collected into a bag. Qualified medical personnel operate the blood cell separator and will monitor you and your medical status at all times. Here is an illustration of how blood separates in the blood cell separator.

Anticoagulant is added to the blood to keep it from clotting. The blood and anticoagulant enter the compartment of the blood cell separator where the mononuclear white blood cells and peripheral blood progenitor cells are separated from the other cellular components and plasma and pumped into a collection bag. The other cellular components and plasma are returned to you, usually through the return port of the central venous catheter.

What is a PBPC Collection?
A PBPC collection is a procedure involving the separation and collection of progenitor cells from the peripheral blood.

Why is a PBPC Collection Necessary?
Your physician has recommended a high dose chemotherapy as an appropriate treatment. However, the use of high dose chemotherapy suppresses the ability of the bone marrow to make blood cells, and peripheral blood progenitor cells are needed to restore bone marrow function.

Therefore, prior to the use of high dose chemotherapy, a prescribed number of peripheral blood progenitor cells will be collected and frozen for storage.

After the high dose chemotherapy is administered, the peripheral blood progenitor cells will be thawed and transfused back to you. The progenitor cells migrate to the bone marrow and begin the process of creating new blood cells.

The latest technology blood cell separators accomplish all the above steps in an automated, continuous, and safe manner. The sterile tubing sets and needles are used one time only and then discarded.

Some Considerations Which May Arise
1. Sometimes to achieve adequate blood flow from the central venous catheter, the medical staff may request you to change your position in the bed or donor chair.

2. Although the blood cell separators remove and replace only a small portion of blood from a patient at any one time, changes in blood volume may make some patients feel dizzy or light-headed. You should immediately tell the medical staff if you begin to feel uncomfortable.

3. The anticoagulant used to keep the blood from clotting might cause a sour taste in the mouth, blurring around the lips or sharp pains, like pins being stuck in the fingers or toes. You should immediately tell the medical staff if you feel any of these symptoms.

What are Progenitor Cells?
Progenitor cells are immature cells that grow and divide into mature red blood cells, white blood cells, or platelets. The type of blood cell a progenitor cell develops into is determined by the specific needs of your body, and through the stimulus of special substances called "growth factors."

Progenitor cells can be collected from the peripheral blood — a PBPC collection and/or from the bone marrow via a bone marrow harvest.

Before performing a PBPC collection, you may receive a prescribed dose of chemotherapy and/or other drugs called growth factors. These drugs will generally cause the release of a large number of peripheral blood progenitor cells into the bloodstream.

When your physician has determined that your white blood cell count has increased to a sufficient level, a series of PBPC collections will begin.

You may also have a medical device called a central venous catheter placed into your chest by a physician. This will allow blood to be easily removed and returned during the PBPC collection.
Other Questions Frequently Asked

Q. Will there be any pain?
A. If you do not have a catheter, insertion of needles may cause some discomfort. Staying relatively still for the time required for the procedure may be uncomfortable.

Q. Is PBPC collection a safe medical procedure?
A. Greater than 25,000 PBPC collections are performed worldwide each year with few problems. Another one million procedures, which are similar to PRSC collections, are performed each year on volunteer donors for plasma and platelets, again with few problems.

Q. Are there any reactions or lasting side effects from the PBPC collection procedure?
A. You may feel tired after a PBPC collection and require rest.
Side effects during the procedure might include feeling dizzy, light-headed, nauseated, and cold. Some patients may feel tingling in the fingers and around the mouth.

It is extremely important to notify the medical staff immediately if you feel these symptoms or feel uncomfortable. The medical staff can slow down or stop the procedure for a short time before deciding whether to continue.

There may be some side effects from the chemotherapy or growth factor drugs that may be administered. Questions about these side effects should be directed to the medical staff.

Q. How long does a PBPC collection take?
A. This varies from patient to patient. The latest technology blood cell separators usually perform a PBPC collection in approximately two to four hours.

Q. Will I be left on my own?
A. No. The medical staff will be there all the time. A physician will be available nearby throughout the procedure.

Q. How often will PBPC collections need to be performed?
A. The number of PBPC collections varies, according to the disease being treated, patient response and treatment protocol. The physician determines the necessary number and frequency of PBPC collections to be performed.

Q. Can I catch a disease from the supplies being used?
A. No. The blood tubing set and needles are sterile, used one time only, and discarded.

Q. What can I do during a procedure?
A. Quiet activities such as reading, writing, or watching television may be done during the procedure. You should drink some fluids and use the bathroom before the procedure begins.

Q. Can I have visitors?
A. Once the procedure is underway, the medical staff will determine if you can have visitors.

Are there any other questions you would like to have answered? Write them in the space provided so that you can ask the medical staff or physician.