

# REFERRING PHYSICIAN INFORMATION



Fred Hutchinson Cancer Research Center  
University of Washington Academic Medical Center  
Children's Hospital & Regional Medical Center

## BONE MARROW TRANSPLANTATION AT THE SEATTLE CANCER CARE ALLIANCE

The Seattle Cancer Care Alliance (SCCA) combines the best of the Pacific Northwest's world-class cancer research and patient care practices from the Fred Hutchinson Cancer Research Center (FHCRC), the University of Washington (UW), and Children's Hospital and Regional Medical Center. Patients coming to the SCCA have access to some of the most advanced oncology therapies available anywhere in the world, and a variety of treatment options for malignant and non-malignant diseases, including bone marrow, stem cell, and cord blood transplantation. Since most of the therapies are research-based, patients may be enrolled in phase I, II, or III clinical trials.

### Current Results

Bone marrow transplantation was developed by researchers at the FHCRC—it is the most fundamental advance in cancer treatment of the last quarter century. Thousands of people have been treated with this life-saving therapy.

The FHCRC has treated nearly 8,000 people with bone marrow transplants thus far. Each year, approximately 500 patients receive marrow transplants at the FHCRC, UW Medical Center, and Children's combined.

As a result of the FHCRC's long-standing focus on transplantation, cure rates are among the highest reported, documented by statistics from the National Marrow Donor Program (NMDP). Recent reports show survival rates, five years after a matched sibling transplant, of 90 percent for severe aplastic anemia, 90 percent for chronic myelogenous leukemia, and 75 percent for acute myeloid

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### Fred Hutchinson Cancer Research Center

The excellence of the Fred Hutchinson Cancer Research Center's (FHCRC) Bone Marrow Transplant Program will continue at UW Medical Center and Children's Hospital and Regional Medical Center through the use of the same FHCRC physicians, physician assistants, nurses, clinical protocols, and transplant clinical services.

The FHCRC opened its doors in 1975, creating the first cancer research center in the Pacific Northwest. Today, the FHCRC is known worldwide for its research efforts in the development of bone marrow transplantation.

Recently, the FHCRC formed an alliance with the University of Washington and Children's Hospital and Regional Medical Center to form the most comprehensive cancer care program in the Pacific Northwest called the Seattle Cancer Care Alliance (SCCA).

Through the SCCA, patients receive top-level care while undergoing the latest research-based therapies being developed, including the FHCRC's BMT Program.

### SCCA Services

The Alliance forms the most comprehensive cancer treatment program in the Pacific Northwest, spanning all ages and disease areas. We offer a variety of treatment options, designed from the latest research findings, for malignant and non-malignant diseases including:

- Blood Disorders
- Breast Cancer
- Brain & Nervous System Cancers
- Digestive System Cancers
- Gynecologic Cancers
- Head & Neck Cancers
- Kidney & Bladder Cancers
- Leukemia
- Lymphoma
- Liver Cancer
- Lung Cancer
- Melanoma
- Mesothelioma
- Multiple Myeloma
- Pancreatic Cancer
- Pediatric Cancers
- Prostate Cancer
- Sarcoma

Research-based treatment protocols are available using stem cell and marrow transplantation, gene therapy, specialized antibody therapies, high dose chemotherapy, radiation therapy, immunotherapy, minimally-invasive surgical techniques, and other specialized therapies.

### Appointments and Referrals:

For referrals and inquiries related to pediatric and adult oncology services, call (206) 288-SCCA (288-7222) or use your existing referral contacts.

Mailing Address:  
Seattle Cancer Care Alliance  
825 Eastlake Ave E.  
P.O. Box 19023  
Seattle, WA 98109-1023  
fax: 206-288-6643

[www.seattlecca.org](http://www.seattlecca.org)

## Bone Marrow Transplantation (continued)

leukemia in first remission.

A factor for improving transplant outcomes and increasing survival rates is the ongoing research to better understand and eliminate post-transplant complications. Studies at FHCRC are currently focused on decreasing the incidence and severity of complications due to bone marrow transplants, such as acute graft-versus-host disease (GVHD).

Although bone marrow is the traditional source of hematopoietic stem cells used for transplantation, other cell sources now include peripheral blood and umbilical cord blood. Researchers at the FHCRC were among the first to show that stem cells harvested from peripheral blood were viable for autologous transplantation. Recent studies show that peripheral blood stem cells lead to faster engraftment, fewer post-transplant infections, less relapse of malignant disease, and significantly improved survival rates overall.

Another significant factor in improving transplant outcomes is the use of genetic typing for donor selection. Approximately one in three potential transplant candidates will have a suitably matched family member to serve as a donor. Through the NMDP there are more than three million people willing to donate marrow for patients who may not have a matched family member. Selecting the best match is a highly complex process. Researchers at the FHCRC have led the way in defining the most important genetic determinants of compatibility. While many centers still rely of serologic matching, physicians at the FHCRC now use genetic typing for donor selection. This method of donor selection, in addition to improvements made in supportive care, has improved the outcome of unrelated donor transplantation, making it very similar to matched sibling transplants for many categories of disease.

Additional research efforts are focused on the development of more targeted and non-ablative therapies including:

- Radiolabeled monoclonal antibodies - Researchers at FHCRC, UW, and Children's pioneered the use of monoclonal antibodies to target high-dose radiotherapy to sites of malignant disease. When compared to standard total-body irradiation approaches, this technique allows for the delivery of higher doses of radiotherapy to sites of disease while sparing normal organs. Recent studies show survival rates as high as 75 percent five years after treatment.
- Antibody-targeted chemotherapy - Researchers at FHCRC and Children's developed the concepts, performed the preclinical studies, and led the clinical trials that resulted in the very first antibody-targeted chemotherapy approved by the FDA. Mylotarg, a combination of an anti-CD33 antibody and the potent antitumor agent calicheamicin, was recently approved by the FDA as a safe and effective treatment for patients with recurrent AML. FHCRC is now leading studies investigating the role of Mylotarg earlier in the treatment of AML.
- Non-ablative "mini" transplantation - Researchers at FHCRC have shown that it is possible to perform less toxic marrow and stem cell transplant procedures while achieving stable and complete engraftment of allogeneic marrow from matched siblings or matched volunteer donors using a combination of chemotherapy and very low dose total-body irradiation. Such transplants can be carried out entirely in the outpatient setting and can be used to treat patients up to and even older than 70. Complete and enduring responses have been achieved in the majority of patients with progressive hematological malignancies. Major responses have been documented in renal cell carcinoma, colon cancer, and melanoma with this approach.

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## SCCA APPOINTS ONCOLOGIST AS MEDICAL DIRECTOR

Dr. Marc Stewart, most recently the vice chair of the department of medicine, professor of medicine and cell biology, and chief of the Division of Hematology/Oncology at the University of Massachusetts Memorial Medical Center, joined the Seattle Cancer Care Alliance as its medical director on August 1, 2000.

Stewart was selected after "an exhaustive national search," says Dr. Fred Appelbaum, director of the SCCA and Fred Hutchinson Cancer Research Center's Clinical Research Division. Stewart brings with him more than seven years experience as a division director at University of Massachusetts and 10 years as director of bone marrow transplantation at the University of Virginia.

"My background for research has been not only in laboratory and clinical studies for bone marrow transplantation, but also clinical research in medical oncology," Stewart says. "My research has been broad-based, so I have the ability to understand what physicians and physician-scientists need to accomplish in an academic practice to provide excellent patient care."



Stewart says it may not be appropriate to completely integrate the practice styles and approaches of each institution within the SCCA. "The Hutchinson Center is the best clinical research transplant center in the world, and one doesn't want to change aspects of that practice that would diminish that reputation," he says. "My focus will be to put the patient as number one in priority and to see that resources are directed to support that philosophy."

Stewart received a bachelor's degree in chemistry in 1974 and his M.D. in 1977 from Indiana University.

He performed his internal medicine residency and oncology fellowship at Indiana University Hospital, followed by a hematology fellowship at University of Virginia. He is board-certified in hematology and oncology.

"I feel very honored to be a part of the premier cancer and transplant programs in the world," Stewart says. "Growing up in my academic life, I always looked to Seattle for where the best research was presented, and I modeled my care practices after many of the studies that were produced here."