



Masonic Cancer Center News

A publication for those who support cancer research, education, and care at the University of Minnesota

Care after cancer

U program supports survivors' unique health concerns for a lifetime

Taryn Lambrecht, M.D., took note of her patient's symptoms. The 30-something woman felt unusually tired and sluggish, and she'd gained some weight. Her muscles and joints ached.

Lambrecht, a primary care physician at Allina Woodlake Medical Clinic in Richfield, didn't have to reach far to surmise what was going on. Because the patient had been treated for Hodgkin's lymphoma 10 years earlier, she faced an increased risk for hypothyroidism.

This was one of the potential late complications of being treated with head and neck radiation, as described in a report Lambrecht received from the Long-Term Follow-Up Clinic at the University of Minnesota Masonic Cancer Clinic. Three of her patients are cancer survivors who visit the follow-up clinic for annual checkups.

"I receive a comprehensive medical summary of a patient's diagnosis and treatment, any complications of treatment, and a nice outline of long-term management" for these patients, Lambrecht says. For example, she says, women who received chest radiation for childhood cancer are screened for breast cancer starting at a much younger age than other women.

More survivors, new research

The number of people who defeat cancer has increased significantly since the 1970s. Today, about 67 percent of adults and 77 percent of children diagnosed with cancer live at least five more years, according to the National Cancer Institute.

As cancer therapies improve and the population ages, the number of survivors is expected to grow. That's why researchers across the country are devoting more attention to long-term outcomes and quality of life—something University researchers have been tracking for nearly 30 years.

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Photo by Scott Strebbe



Daniel Mulrooney, M.D., and Anne Blaes, M.D., lead the University-affiliated long-term cancer survivorship clinics.

Care after cancer continued from cover

Whether cancer strikes a child or an adult, the disease and its treatment can lead to a variety of long-term complications or “late effects.”

Nearly every organ system may be affected by treatments such as chemotherapy and radiation, notes Daniel Mulrooney, M.D., who directs the Long-Term Follow-Up Clinic’s

childhood cancer program.

Complications may include heart, lung, bone, thyroid, and fertility problems, as well as an increased risk of a second cancer. Cancer survivors also may experience emotional, psychological, or social challenges, such as readjustment to school or work, anxiety or

Starting over as a survivor

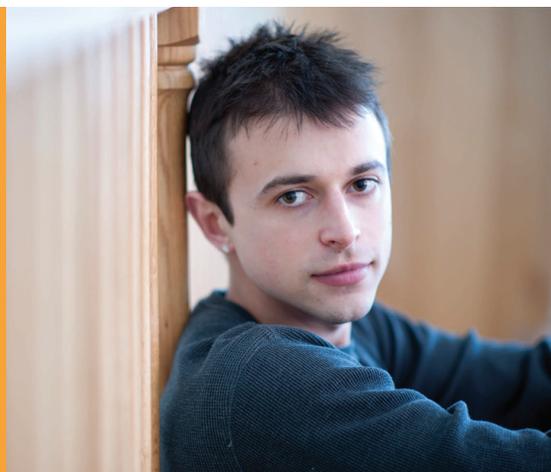


Photo by Scott Strebbe

Vladimir Spector celebrates two birthdays: the date he was born 21 years ago, and the date—March 24, 2005—he received a stem cell transplant at University of Minnesota Medical Center, Fairview.

“On your transplant day, you’re literally starting over,” Spector says. “It feels like everything on you dies, even your fingernails; you’re pretty much a brand-new baby.”

Now a marketing major at Winona State University (WSU), Spector was in eighth grade when what he thought was a winter cold continued to worsen. On Christmas Eve, he and his family received the diagnosis: Hodgkin’s lymphoma. Spector spent Christmas Day 2003 in the hospital undergoing testing. His treatment, including radiation and five rounds of chemotherapy, ended in summer 2004.

But six months later, doctors found a spot on Spector’s spleen. Backed by the family, his doctors decided to proceed with high-dose chemotherapy followed by an autologous stem cell transplant, using cells from Spector’s own bone marrow rather than from a donor.

“They called me ‘the miracle child,’” Spector says of his recovery. He gives his care team much

of the credit and believes that if his family hadn’t moved to Minnesota from Ukraine when he was 6, he probably wouldn’t be alive today. “They would always come with social workers, counselors, people to help with insurance, people seeing if we needed help with anything. We never were wondering, ‘Oh, what do we do about this?’”

Thanks to his close-knit family and his medical care, Spector survived both cancer and adolescence, developing a depth of perspective that’s rare in someone so young. He also appreciates things most young adults take for granted, such as the taste of food.

“When I was on chemo, my taste buds died, and the only thing I could taste was buffalo wings,” he recalls. “Buffalo wings got me through.”

In remission since 10th grade, Spector continues to see Daniel Mulrooney, M.D., at the Long-Term Follow-Up Clinic in the University’s Masonic Cancer Clinic. Mulrooney addresses the implications of Spector’s treatment for his future health. Each year he’s in remission, his chances of a recurrence diminish, but he faces an ongoing risk of complications related to treatment.

“We can’t change the therapy he had,” Mulrooney says. Rather, the follow-up visits help to ensure that Spector is living a healthy lifestyle and getting appropriate and vigilant care.

Spector carries a 3.75 grade-point average, and he’s looking forward to an internship in the WSU sports marketing department this spring. Spector also plays intramural basketball at WSU. “I work out a lot; that’s my stress release,” he says.

“He’s a terribly impressive young man, and a pleasure to take care of,” Mulrooney says. “This is the kind of outcome we’d like to see for any child. He’s going to be very successful in life.”

depression, and learning disabilities.

As a pioneer in the field of cancer survivorship—thanks in part to the longtime support of Children’s Cancer Research Fund—the University’s Masonic Cancer Center serves as an important resource for both survivors and the medical community. The Cancer Outcomes and Survivorship Program is advancing the field through studies of everything from the basic biology of how late effects occur to prevention of cardiovascular complications in patients receiving a particular type of chemotherapy.

The latest findings are put into practice at the Long-Term Follow-Up Clinic. First established in 2005 for survivors of childhood cancer, the clinic expanded its services in 2008 to those who survived cancer as adults.

Both Mulrooney and Anne Blaes, M.D., director of the adult clinic, also conduct clinical studies focused on improving long-term outcomes for all cancer survivors.

Knowing what to watch for

Any cancer survivor, regardless of where he or she received initial cancer treatment, can make an appointment at the Long-Term Follow-Up Clinic. A typical visit includes a physical exam and counseling about recommended screening for possible long-term complications. Patients may also meet with a social worker, and some receive a neuropsychological assessment to check for memory problems or cognitive impairment.

After the visit, the patient receives a detailed treatment record and summary of recommendations. The report also goes to the person’s primary care doctor.

“Our goal is not to take patients away from the primary care physician, but to make sure the patient gets appropriate care,” says Blaes.

Lambrecht points out that primary care physicians often are the first to hear of a potential problem. “When patients aren’t feeling well, they’re not likely to go to their oncologist; they’re more likely to go to their primary care physician.”

Daniel Albright, M.D., an internal medicine/pediatric physician at Park Nicollet Clinic, relies on the University-affiliated follow-up clinic to understand the “maintenance issues” of his patients who’ve had cancer. “The blessing of our

advances is that people are surviving and living better lives, but they need different care and different screening,” Albright says. “Awareness is important for physicians and patients.”

Educating survivors and providers

The Masonic Cancer Center hosts an annual conference for survivors (see page 7 for more information). And this year the center, in collaboration with the Minnesota Cancer Alliance, will hold its first-ever survivorship conference for health professionals.

It’s designed to help bridge the “odd transition” survivors may experience when moving from cancer care back to general health care in the community, says Kim Robien, Ph.D., a cancer epidemiologist with the Masonic Cancer Center.

“Sometimes patients feel abandoned at that time,” she says.

Internal medicine and family medicine providers often are in the best position to track chronic disease issues in survivors, Robien says. “How do we exchange information so that cancer survivors get the best care going forward? We’re trying to encourage a team approach to making that happen.”



Kim Robien, Ph.D.

Life after cancer

Possible long-term complications of cancer and cancer treatment include:

- Elevated risk of a second cancer
- Heart problems, such as atherosclerosis, heart failure, and heart attacks at an early age
- Thyroid problems
- Infertility
- Premature menopause
- Bone loss
- Sexual dysfunction
- Nerve weakness or numbness
- Fatigue
- Memory, attention, or learning problems
- Growth or developmental delays in childhood cancer survivors
- Psychological and social issues

Learn more

Long-Term Follow-Up Clinic at the Masonic Cancer Clinic

www.umphysicians.umn.edu/Clinics/long-term-follow-up-clinic

612-672-7422

Philanthropy accelerates clinical trial for new therapy

Malignant brain tumors remain one of the most deadly forms of cancer. They're also the leading cause of cancer deaths in children.

That's why Masonic Cancer Center scientists John Ohlfest, Ph.D., and Christopher Moertel, M.D., have devoted their careers to combating them.

Ohlfest and Moertel are now examining a new "vaccine" for three types of recurrent brain tumors: glioblastoma, medulloblastoma, and ependymoma. While many vaccines work to prevent disease, this one treats existing disease.

Customized by using a patient's own immune cells, the therapy is designed to stimulate an immune response that destroys tumor stem cells—the parent cells responsible for tumor growth.

The Phase I clinical trial began at University of Minnesota Medical Center, Fairview and University of Minnesota

Amplatz Children's Hospital in late 2010. It includes both children and adults who have recurrent brain tumors despite extensive treatment with surgery, chemotherapy, and radiation.

The team recently enrolled the study's first participant. "This person couldn't have waited another year," Ohlfest says.

Early investment = Quicker results

Working with Ohlfest and Moertel on the clinical trial is Walter Low, Ph.D., professor in the Department of Neurosurgery, and a 20-member lab staff. The research grew out of a strategic approach developed by John Wagner, M.D., the Hageboeck/Children's Cancer Research Fund Chair in Pediatric Cancer Research. Five years ago,

Wagner put together a core group—including Ohlfest, Moertel, and David Largaespada, Ph.D.—to lead the fight against malignant brain tumors. He made sure they got the funding they needed to transform the way brain tumors were treated.

"I knew that breakthrough research would only come about if we invested in the research," Wagner says.

The crucial early investments came from Children's Cancer Research Fund, a 30-year partner in supporting the University's pioneering research to prevent, treat, and cure childhood cancer. Brain tumor research is a priority for the organization, says CEO John Hallberg.

"Our generous donors provided fast access to unrestricted funds ... so University scientists could accelerate their work," he says. "This has yielded positive clinical results for patients and additional dollars in funding."

A special interest

Longtime Children's Cancer Research Fund donors John and Jean Hedberg have taken a special interest in this research. Their granddaughter, Anda Moettus, had a brain tumor at age 4. Extensive treatment saved her life but left her with significant disabilities. Now 19, Anda has graduated from high school and is learning to live independently.

"Our family became interested in the University's research to advance the treatment of brain cancer and to reduce the problems for people who survive," John Hedberg explains.

Hallberg credits the Hedberg family foundation with driving the brain tumor program.

For Ohlfest, creating effective therapies for people with brain tumors can't happen soon enough. In graduate school he dedicated himself to fighting brain cancer, realizing that a lack of drugs—and research—was costing people's lives. One of those was his grandmother, who died from ovarian cancer that metastasized to her brain.

"Brain tumors come back with extreme fury," Ohlfest says. "Our work is never enough—not until this is cured."



Christopher Moertel, M.D., and John Ohlfest, Ph.D., are investigating a new therapy designed to destroy brain tumor cells.

Photo courtesy of Children's Cancer Research Fund

By the numbers: Return on investment

\$200,000

Amount granted to University of Minnesota scientists John Ohlfest, Ph.D., and William Elmquist, Ph.D., by Children's Cancer Research Fund to explore why new drugs targeting malignant brain tumors were failing

Their research on more effective ways to deliver drug therapy led to new competitive peer-reviewed funding:

\$1.59 million

In grants from the National Institutes of Health and National Cancer Institute

\$200,000

From the University's Academic Health Center

\$50,000

From a Masonic Cancer Center Brainstorm Grant

A partnership for pediatric cancer research

Children's Cancer Research Fund (CCRF) has teamed up with the Minnesota Medical Foundation (MMF) to help fund research to find a cure for pediatric cancers and other childhood diseases faster.

CCRF and MMF—which raises money for health-related research, education, and care at the University of Minnesota—have worked together publicly and privately for nearly 30 years to combat pediatric cancer. In that time, CCRF has raised nearly \$60 million exclusively for the University's leading-edge pediatric cancer research and education efforts, helping investigators develop new ideas and improve treatments for children who have cancer and rare genetic diseases.

To learn how you can make a gift to pediatric cancer research, contact Joslyn Bieber at 612-626-6430 or j.bieber@mmf.umn.edu.




Children's Cancer
Research Fund®

MCC researcher plays key role in major lung cancer screening trial

The National Lung Screening Trial (NLST) made headlines across the world last November by showing that a screening program cut lung cancer deaths by 20 percent in a high-risk population. The University of Minnesota provided the largest number of participants—about 6,600—in the national study, which included 54,000 current or former heavy smokers aged 55 to 74.

Participants received either standard chest X-rays or low-dose helical computed tomography (CT) scans annually for three years.

Helical CT, also called spiral CT, uses X-rays to obtain a multiple-image scan of the chest and can detect smaller tumors than standard chest X-rays can.

Led by principal investigator Timothy Church, Ph.D., a Masonic Cancer Center member, the researchers followed both groups for five more years to see whether the

screening detected lung cancer early enough to reduce mortality. They documented 20 percent fewer lung cancer deaths among participants screened with the CT scans compared with those screened with X-rays.

"This is a landmark finding," says Church, a professor in the School of Public Health. "Our participants should be proud of the enormous contribution they have made to the well-being of their fellow humans and to proving another tool in the fight against lung cancer, the biggest cancer killer in the United States and the world."

A more complete analysis will be prepared for publication later this year. In the meantime, the National Cancer Institute, which sponsored the NLST, cautions the public not to extrapolate the results to the general population. In people at lower risk of lung cancer than the trial participants, the potential harms from radiation exposure could outweigh the benefits of screening.



MCC members receive \$26 million to lead national blood and bone marrow cancer research

Jeffrey Miller, M.D. (above), and Philip McGlave, M.D., earned program project grants totaling \$26 million from the National Cancer Institute.

Two of the Masonic Cancer Center's leading blood and bone marrow cancer researchers—Philip McGlave, M.D., and Jeffrey Miller, M.D.—received five-year program project research grants totaling almost \$26 million from the National Cancer Institute (NCI). The physician-scientists will use the grants to lead research teams focused on increasing the availability, safety, and effectiveness of hematopoietic stem cell transplants and cell therapy. Their work is improving treatment and survival of people diagnosed with leukemia, lymphoma, multiple myeloma, and other blood and bone marrow disorders.

McGlave, deputy director of the Masonic Cancer Center and director of the University of Minnesota Medical School's Division of Hematology, Oncology, and Transplantation, received more than \$12.6 million in renewed funding. It builds on 15 years of prior NCI funding and will allow his team to continue their work on stem cell transplant

and cell-based treatments for the next five years. Working with McGlave are Bruce Blazar, M.D., John Wagner, M.D., and Miller.

Miller is associate director of the Masonic Cancer Center's Experimental Therapeutics Initiative. His award of more than \$13.3 million will fund years 6–10 of his team's efforts to characterize natural killer cells to reduce leukemia patients' relapse rates after transplantation.

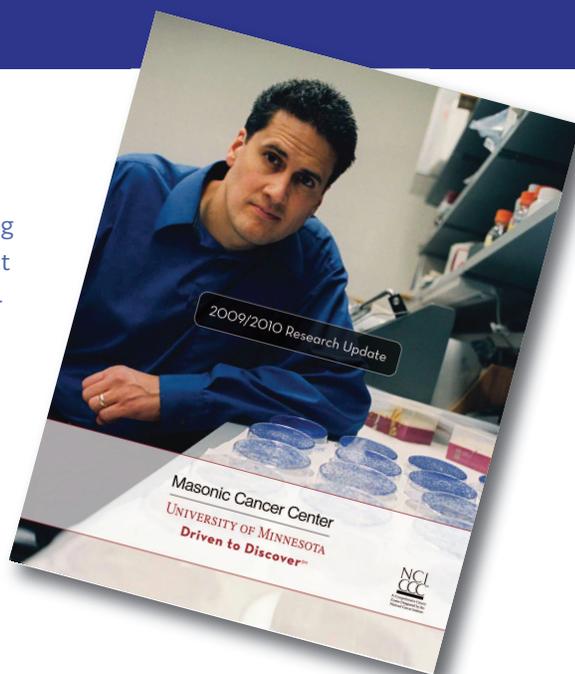
"These grants have allowed us to move our studies of umbilical cord blood and natural killer cells into the clinic to treat children and adults with a variety of otherwise lethal hematopoietic malignancies," McGlave says.

Since performing the world's first successful bone marrow transplant for lymphoma in 1968, Masonic Cancer Center researchers have continued to improve the techniques of and survival rates after blood and marrow transplantation.

Learn more about MCC research

Creating breathing lungs in the laboratory. Discovering 32 new genes linked to cancers. Securing major grants to fund new breakthroughs. Read about these and other Masonic Cancer Center accomplishments in the *2009/2010 Research Update*. The report covers a range of diverse research that serves a common purpose: to help reduce the impact of cancer on people's lives.

Download the report at www.cancer.umn.edu or request a copy by calling 612-624-8484, 612-624-2620, or toll-free in Minnesota, Iowa, Wisconsin, and the Dakotas at 1-888-CANCERMN (1-888-226-2376).



Masonic symposia shed light on cancer concerns

Prostate cancer, the most common cancer diagnosed in men after skin cancer, affects about one in six American men. It ranks second only to lung cancer in cancer deaths in men.

Yet screening for and treating this disease remain challenging. Current technology limits doctors' ability to precisely determine an individual's prostate cancer risk and life expectancy once diagnosed with the disease.

Masonic Cancer Center (MCC) scientists explored these complexities at the 2010 Masonic Symposium in November. The forum highlighted progress made at the MCC in areas supported by the Masons of Minnesota.

Attendees asked questions of scientists at the forefront of cancer research, while MCC members heard firsthand the concerns of individuals and families who are dealing with cancer.

Don't miss the next Masonic Symposium on what's new in breast cancer.

9–11 a.m., Saturday, March 12
11501 Masonic Home Drive, Bloomington

Masonic Cancer Center presenters will discuss controversies in breast cancer screening, current trends in breast cancer surgery, and new treatments for breast cancer.

Register at www.cancer.umn.edu
or by calling 612-624-2620.

Upcoming events

Survivorship Series Conference: Thriving after Cancer

Saturday, April 2
McNamara Alumni Center
University of Minnesota,
Minneapolis

This annual conference addresses survivors' questions and long-term health issues. There is no fee, but reservations are required. Call 612-624-2620 or visit www.cancer.umn.edu/survivorshipseries.

Stick It to Cancer Hockey Tournament

Friday–Sunday, April 15–17
National Sports Center, Blaine
This girls' and women's hockey tournament raises money for breast cancer. Contact Jackie Olson at jolson@superrink.org, or call 763-792-7340.

Bridging the Transition to Life after Cancer Treatment

Friday–Saturday, April 29–30
Marriott Minneapolis Airport,
Bloomington

Featured speakers at this conference for health professionals include Patricia Ganz, M.D., and Jon Hallberg, M.D. To register, visit cme.ahc.umn.edu.

Randy Shaver Golf Classic Evening Gala

Sunday, June 5
Golf Tournament
Monday, June 6
Rush Creek Golf Club, Maple Grove
Organized by the Randy Shaver Cancer Research and Community Fund, these fundraisers support Minnesota's cancer community. Visit www.randyshavergolf.com or call 952-473-1780.

Rein in Sarcoma Party in the Park

Monday, July 25
Como Park Visitor Center, St. Paul
This annual event, hosted by the Karen Wyckoff Sarcoma Foundation, benefits the Masonic Cancer Center. For more information, visit www.reininsarcoma.org.

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New center tackles cancer disparities in minorities and immigrants



Anyone can get cancer, but it disproportionately affects racial and ethnic minorities. The newly established Minnesota Community Networks Center for Eliminating Cancer Disparities aims to reduce the cancer burden in underserved communities—especially Minnesota’s growing immigrant and refugee populations.

Masonic Cancer Center researcher Kolawole Okuyemi, M.D., M.P.H., will lead the new center, which is funded by a five-year, \$4.1 million grant from the National Cancer Institute.

Okuyemi, who directs the Medical School’s Program in Health Disparities Research, is among the top five family medicine investigators funded by the National Institutes of Health.

“While overall, Minnesotans enjoy a high quality of life and a stable status of health care, not all Minnesota citizens benefit equally,” he

says. “This award recognizes the expertise of both University researchers and our community partners in addressing health disparities. The grant creates a unique opportunity to use community-based participatory methods to reduce the disproportionate burden of cancer and other health disparities in the region.”

Researchers have long known that Minnesota’s minority populations face barriers to accessing health care, but proven methods to overcome them haven’t been fully identified, which has led to continued disparities. The new center aims to improve awareness of and access to cancer screening in immigrant communities, limit tobacco use in minority youth, and train health professionals on issues related to health disparities.

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