

## UWCCC lab discovery may save lives and livers

Oncology researcher Peggy Farnham, Ph.D., freely admits that much of what goes on in the world of basic cancer research is seldom understood by outsiders.

“Most of what we do is in language that no one else understands,” says Farnham, a professor of oncology with the UW Comprehensive Cancer Center’s McArdle Laboratory for Cancer Research. “This discovery is different.”

The discovery Farnham refers to, which occurred in her laboratory just a few months ago, could ultimately save people from one of the deadliest cancers in existence—liver cancer. Led by one of Farnham’s graduate students from the Cellular and Molecular Biology Program, Carrie Graveel, this research project isolated two genes that Farnham and Graveel hope could lead to a simple test indicating the presence of liver cancer long before patients currently begin noticing symptoms.

“Liver cancer is a horrible disease because it is usually not detected until it is too late,” Farnham says. “The liver is very good at compensating if you have a tumor, so you typically feel fine until it is quite advanced. Only five to six percent of those who are diagnosed with this disease survive.”

Moreover, as Graveel points out, experts predict a growing number of liver

cancer cases in the coming years due in part to the rising number of people infected with hepatitis C, which weakens the liver and makes it more susceptible to tumor growth.

Sensing that liver cancer may well be “a cancer of the future” in the United States, Graveel—along with fellow graduate student Luis Acevedo and research specialist Sarah Harkins-Perry—launched her search for genes in mice liver tumors that might predispose humans to liver cancer, a disease that will kill more than 14,000 people in the U.S. this year.

“Because the perfect marker for liver cancer does not currently exist, our goal was to find one,” Graveel says. “We needed to identify a gene that was abundant in mice liver tumors with all of the right characteristics, and then see if this yielded a method for earlier detection for patients in the clinic.”

At the start of her project, Graveel found two previously unidentified genes that were upregulated, or abundantly present in mice liver tumors.

The first gene, named CRG-L1, was found only in liver tumors, a potential link unique to liver cancer.

The second, named CRG-L2, is detected in liver, colon and perhaps other cancers. Two qualities of this gene make it potentially very promising:

- it may be secreted, making it viable for detection in a blood sample; and
- it is normally expressed in the testes. Because immune therapy can never cross into the testes, this type of cancer could theoretically be treated without affecting normal tissues in the body.

Although Graveel identified the genes three years ago, only recently did she discover their potential as an earlier marker of liver cancer.

“We find a lot of genes that are up-regulated,” Graveel says. “That does not mean they had a role in causing the tumor. By seeing these genes expressed only 20 or 30 weeks after treating the mice with a chemical that causes the tumor, we realized the possibility for earlier signs of cancer.”

This past April, Farnham and Graveel presented their findings to the American Association of Cancer Research annual meeting in San Francisco. In August, Graveel completes her Ph.D. at the UW,

leaving the liver cancer project for the next graduate student.

“Many students are anxious to complete their graduate studies and move on to other research topics,” Graveel says. “Peggy knows it’s time for me to move on, but it is hard to leave this project.”

Farnham, while taking great pride in Graveel’s accomplishments, looks forward to the project’s next chapter.

“We’ll find a new graduate student who will try to figure out the function of the gene. We’re also hoping to get some human liver cancer patient serum in the next few months and see if the genes Carrie identified are in their blood.”

Despite the excitement of her discovery, Graveel cautions the public not to get too optimistic too soon.

“This took three years of basic research and it could be another five to 10 before we know if it is useful as a early detection test,” Graveel said. “Still, it is nice to leave here knowing that this project will be in good hands.”

—Michael Felber,  
UW Health Marketing and Public Affairs



Oncology professor Peggy Farnham (right) of the UWCCC’s McArdle Laboratory for Cancer Research and graduate student Carrie Graveel show an image of a liver tumor which contains increased amounts of mRNA from the gene CRG-L2, identified by Graveel. This discovery could lead to earlier detection of liver cancer. Graveel receives her Ph.D. from the UW in August 2002 and then will begin a new position as a postdoctoral research fellow.

## Should I participate in a cancer clinical trial?

Cancer affects us all—whether we have it, care about someone who does, or worry about getting it in the future.

Typically, patients undergoing cancer treatment may learn about the opportunity to participate in clinical trials, which are research studies that help physicians find ways to improve health and cancer care. Each study tries to answer scientific questions and find better ways to prevent, diagnose or treat cancer. These studies are the final step in the process of developing new drugs and other means to fight cancer.

In the past, cancer clinical trials were sometimes seen as the last resort for people who had no other treatment choices. Today, many people with cancer, even those whose cancers have not spread, get their first treatment while on a clinical trial. All cancer patients can benefit from learning about all their treatment options, which may include participating in clinical trials.

As more people participate in clinical trials, cancer researchers can more rapidly answer the critical questions that will lead to better treatment and prevention options. Doctors will never know the true effectiveness of a cancer treatment, or a way to prevent cancer, unless they are able to involve more people in clinical trials.

### Types of clinical trials

- **Treatment trials** test new treatments. New cancer drugs or drug combinations, new approaches to surgery or radiation therapy, or new methods such as gene therapy are used in treatment trials.

People in these trials do not receive a placebo for their treatment.

- **Prevention trials** test new approaches, such as medicines, vitamins, minerals, or other supplements that doctors believe may lower the risk of a certain type of cancer. These trials look for the best way to prevent cancer in people who have never had cancer or to prevent cancer from coming back in people who have already had cancer.
- **Screening trials** test the best way to find cancer, especially in its early stages.
- **Quality of Life trials** explore ways to improve comfort and quality of life for cancer patients.

### Importance of clinical trials

Advances in cancer care are the result of clinical trials. Among them are:

- the breast-saving technique of lumpectomy and radiation therapy, that was proven as effective as radical mastectomy in the treatment of breast cancer;
- development of new chemotherapy approaches resulting in a 44 percent decrease in the death rate from colon cancer; and
- a combination of chemotherapy and radiation that has proven to be the most effective treatment for advanced cervical cancer.

Enormous improvements in treating childhood cancers have come about as the direct result of clinical trials. In 2000, nearly 80 percent of children with cancer were alive five years after diagnosis, compared with only 55 percent in the mid-1970's.



More than 700 patients a year take advantage of UWCCC clinical trials designed to discover even better ways to treat cancer. Jeff Marschall, who was treated for acute lymphoblastic leukemia, receives follow-up care from Eileen Smith, MD (center) and Janelle McMannes, RN, MSN. Following his leukemia diagnosis, Mr. Marschall received a bone marrow transplant at the UWCCC while enrolled in a clinical trial.

### Clinical trials at the UWCCC

The UW Comprehensive Cancer Center typically has 200 to 250 clinical trials available for patient participation.

Please contact Cancer Connect, the UWCCC's patient and physician resource at (800) 622-8922 for more information on clinical trials. A complete listing of clinical trials at the Cancer Center, along with key questions to ask your physician, also appear on our website: [www.cancer.wisc.edu](http://www.cancer.wisc.edu).

### For more information about clinical trials outside the UWCCC

Contact Cancer Information Service at (800) 422-6237 (1-800-4-CANCER).



**James A. Stewart, MD, FACP**  
Professor,  
Department  
of Medicine,

is Chair of the Clinical Trials Monitoring committee, which provides safety oversight for UW Comprehensive Cancer Center trials. He is Program Director of the UW Medical Oncology Fellowship training program and has a clinical practice directed at breast cancer patients.

## Remembering Dr. Paul Carbone



Paul P. Carbone, MD

Paul P. Carbone, MD, former director of the University of Wisconsin Comprehensive Cancer Center, died February 22, 2002 at the age of 70. Dr. Carbone had been in Singapore since December 2001, where he had been asked by The National University of Singapore to assist in the development of a comprehensive cancer program.

Born May 2, 1931 in White Plains, N.Y., Paul Carbone received his medical degree from Albany Medical College in 1956 and served at the National Cancer Institute as Associate Director of Medical Oncology from 1960 until 1976.

He came to the University of Wisconsin-Madison in 1976, where he served as head of Clinical Oncology at the University of Wisconsin Medical School. He served as Chair of the Department of Human Oncology from 1977 until 1987 and as the second Director of the University of Wisconsin Comprehensive Cancer Center from 1978 until 1997. Since his retirement, Dr. Carbone had served as Emeritus Director of the UWCCC and as Associate Dean for the UW Medical School's HealthStar campaign to raise funds

for the new UW Medical School Health Sciences Learning Center and Interdisciplinary Research Complex.

He achieved national recognition for his work in the treatment and cure of Hodgkin's disease, development of new chemotherapy drugs, and adjuvant treatment of breast cancer. Dr. Carbone was chairman of the Eastern Cooperative Oncology Group for 20 years and served as president of the two most prestigious cancer research societies in this country—the American Society of Clinical Oncology and the American Association for Cancer Research.

Under Dr. Carbone's leadership, the UW Comprehensive Cancer Center played an integral role in cancer outreach and educational activities throughout Wisconsin, including the state's tumor registry and several tobacco intervention initiatives.

Paul is survived by his wife of 47 years, the former Mary Iamurri, seven children who range in ages from 35 to 46, and 16 grandchildren.

*New Breast Center and Cancer Clinics nearing completion*

# Professional care with a personal touch



Cancer patients receiving care at the Cancer Center at UW Hospital and Clinics can look forward to receiving an even higher level of care as a result of three building projects that are nearing completion. They are:

- a brand new comprehensive Breast Center,
- an expansion of the outpatient cancer clinics, and
- a complete remodeling of the inpatient Oncology, Hematology and BMT Unit.

“These three projects truly represent a quantum leap in what we can offer our patients,” says Teresa Smith, Director of Oncology for UW Hospital and Clinics. “We expect that patients and families will greatly appreciate both the enhanced care coordination and aesthetic improvements to our cancer care facilities.”

The expanded Cancer Clinics, set to open on August 5, will warmly welcome patients and loved ones who are dealing with all aspects of cancer in a comfortable, caring environment. Once the

expanded oncology clinics have opened, remodeling begins for expansion of the chemotherapy treatment area. The newly remodeled oncology inpatient unit will open in early September.

Later this fall, patients will witness the grand opening of the UW Comprehensive Breast Center, which will provide a single, highly coordinated location for women seeking screening mammography as well as a complete diagnostic work-up of a breast problem. The Breast Center is committed to the prevention, early detection, diagnosis and treatment of breast disease through compassionate, coordinated care.

As part of the UW Comprehensive Cancer Center, the Breast Center will stand at the forefront of breast cancer research and treatment.

#### **A full range of services**

The Breast Center will offer a full range of care to women seeking information about breast health. Our physicians and staff will provide every patient with extraordinary clinical care in a personalized and supportive environment.

The Breast Center will offer a number of “under one roof” services including:

- Mammography (Screening and Diagnostic)
- Stereotactic breast biopsy
- Fine needle aspiration
- Image guided biopsy
- Breast ultrasound
- Multidisciplinary consultation and second opinion service
- Genetics-risk assessment and counseling
- Clinical research
- Patient Resource Room
- Volunteer services
- CareWear Store

#### **Professional care with a personal touch**

The Breast Center will have a multidisciplinary team approach to diagnosing and treating patients. Team members include breast radiologists, surgeons, medical and radiation oncologists, pathologists, nurses, mammography technologists, medical and clinical assistants.

Our multidisciplinary approach has several important advantages for the patient:

- When a breast problem is identified, a variety of specialists will be available to plan for the patient’s care and a breast care coordinator will be available to guide patients through their own individualized care.
- Exchange of knowledge and opinions among team members ensures the best possible treatment plan is developed for each patient.
- The patient has access to a full array of clinical services and treatments.
- The patient’s care is coordinated as she makes transitions among medical specialties and different phases of treatment.

#### **For more information**

For information about the UW Comprehensive Breast Center, please contact Sue Selker, RN, Breast Center Manager, (608) 261-0965.

## MARK YOUR CALENDARS

### **Fall Cancer Conference**

Friday, October 11, 2002  
Monona Terrace, One John Nolen Drive, Madison

The UW Comprehensive Cancer Center will host a fall cancer conference designed for health care professionals. For more information, please contact Craig Robida at (608) 263-4982.

### **New Lung Cancer Support Group**

A new lung cancer support group for patients and family members has been formed at the Cancer Center-UW Hospital and Clinics. The group meets the second and fourth Wednesdays of each month from 10 a.m. until noon. For more information, contact Neil O’Connor at (608) 263-8521 or [nj.oconnor@hosp.wisc.edu](mailto:nj.oconnor@hosp.wisc.edu).

For other upcoming events and news, please visit our website, [www.cancer.wisc.edu](http://www.cancer.wisc.edu).

## Dr. John Niederhuber resigns as director of Cancer Center

John E. Niederhuber, MD, has announced his resignation as director of the University of Wisconsin Comprehensive Cancer Center (UWCCC), effective October 31, 2002.

Dr. Niederhuber was named director of the UWCCC in 1997 to succeed Paul P. Carbone, MD, who served as director from 1978-1997. Among Dr. Niederhuber’s major accomplishments was the merger of the UW Comprehensive Cancer Center with the McArdle Laboratory for Cancer Research.

“This has been a difficult decision,” Dr. Niederhuber said. “However, I believe that I have accomplished what I was brought here to do and the time has come for me to explore other options in my field.”

Dr. Niederhuber assumed the UWCCC directorship on July 1, 1997 with a joint appointment as professor of Surgery and Oncology. Before coming to Madison, he was chairman of the department of surgery at Stanford University. He also worked in cancer research at



*John E. Niederhuber, MD*

The Johns Hopkins University and the University of Michigan.

A national search will be initiated in the fall at which time an acting director will be named.

- **Advances is published semiannually by the University of Wisconsin Comprehensive Cancer Center (UWCCC), a National Cancer Institute-designated comprehensive cancer center.**
- **For patient services at the UWCCC, please contact Cancer Connect, (800) 622-8922 or (608) 262-5223 or e-mail uwccc@uwccc.wisc.edu.**
- **To learn more about the UWCCC, please visit our website: [www.cancer.wisc.edu](http://www.cancer.wisc.edu)**

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**Craig Robida**

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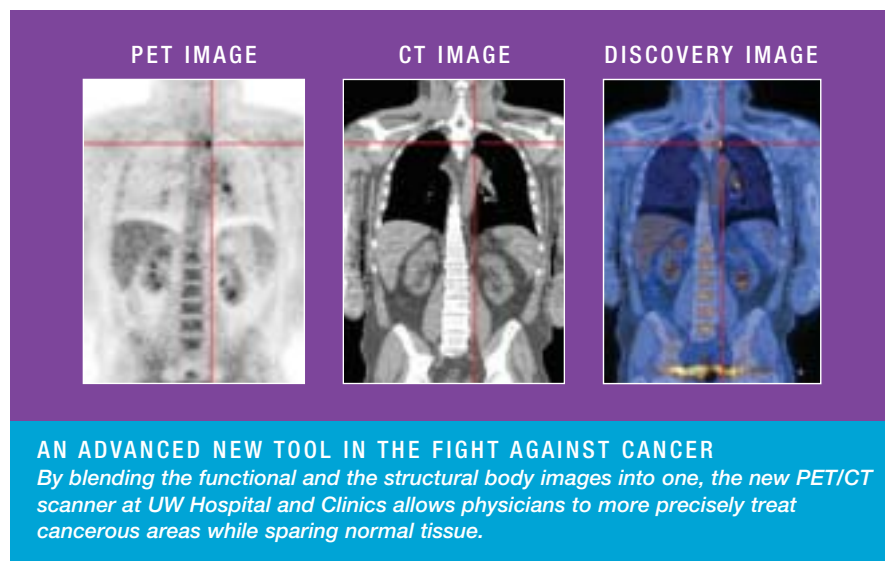
## New PET/CT scanner offers better treatment options

Offering cutting-edge cancer treatment options not available at many other cancer centers, the UW Comprehensive Cancer Center attracts more than 12,000 patients each year to its clinical facilities at UW Hospital.

One such innovative device, recently installed, will help ensure that many cancer patients who require radiotherapy receive even better treatment than has been previously possible.

Known as the GE Discovery LS imaging scanner, this machine helps physicians target the tumor by fusing two previously distinct pieces of information—the PET scan and the CT scan—into one image.

“PET scans help pinpoint cancer cells by showing us changes in cellular function,



**AN ADVANCED NEW TOOL IN THE FIGHT AGAINST CANCER**  
By blending the functional and the structural body images into one, the new PET/CT scanner at UW Hospital and Clinics allows physicians to more precisely treat cancerous areas while sparing normal tissue.

such as the rate at which cells use nutrients,” says Minesh Mehta, MD, head of Radiotherapy. “CT scans, by contrast, provide the best view of the body’s anatomical structure. Instead of looking at the two scans side by side, as

has been customary in our field, this device allows us for the first time to see the two scans fused into a single image. For patients who require both scans, we can more precisely treat their tumor—

and only tumor—as we customize each patient’s cancer care plan.”

Mehta says UW Hospital’s acquisition of the GE Discovery LS, which is manufactured by GE Medical Systems in Waukesha, Wisconsin, symbolizes an approach to cancer treatment that is never satisfied with the status quo.

“The PET/CT imaging scanner is one of several cutting-edge technologies available to us in caring for our patients,” Mehta says. “It is truly a very exciting time for those of us who spend our time researching and providing cancer treatments. Ultimately, this means better quality of life and more people cured of their cancer.”

## “Share the Care”

MAKES LIFE EASIER FOR CANCER PATIENTS



Friends of Michelle Moen (right), a breast cancer survivor from Fitchburg, Wisconsin, have formed a Share the Care group to help her with many tasks, from meal preparation and transportation to offering social and emotional support. Claire Culbertson, UWCCC Share the Care Project Coordinator (left) is pictured with Michelle.

The UW Comprehensive Cancer Center (UWCCC) is currently introducing health professionals and clergy around the state of Wisconsin to a unique concept in caring for individuals who are seriously ill and need caregiver support.

Based on the book, *Share the Care—How to Organize a Group to Care for Someone Who is Seriously Ill*, by Cappy Capossela and Sheila Warnock, the Share the Care model provides a road map for creating a caregiver team of friends, relatives, neighbors or co-workers to help individuals and families meet the daily challenges of illness.

From coping with hospitals and doctors to performing ongoing household chores such as cooking or house cleaning, the Share the Care approach ensures that the person who is ill has the support he or she needs and that no caregiver has to shoulder this difficult task alone.

Share the Care groups may start —at the request of the individual, clergy, doctor, nurse or social worker.

The UWCCC can describe everything necessary to start the process, including the forms used to assess the strengths of the group, individual availability, and degree of involvement. Once the group is in place, leadership rotates—allowing the ill person to outline their needs for the week to the present leader. The needs are broadcast to the group, and they respond according to availability. In this way the ill person’s needs are met while being shared among a large group of people.

**For More Information**

The UWCCC has begun introducing the Share the Care model to individuals in Green Bay, Wausau and Marshfield and is presently forming Share the Care groups for women with breast cancer.

Share the Care is supported, in part, by grants from the American Cancer Society, Midwest Division, and the Madison Affiliate of the Susan G. Komen Breast Cancer Foundation.

For more information about Share the Care, please contact Claire Culbertson at (608) 265-9322.

Updates in

# Clinical Trials

***Clinical trials are UWCCC's key to progress in the battle against cancer***



Every 25 seconds a man, woman, or child in the United States is diagnosed with cancer. For those who are eligible, a cancer clinical trial offers either the best available treatment or the opportunity to receive a new, potentially more effective therapy.

The UW Comprehensive Cancer Center (UWCCC) typically has 200 to 250 clinical trials available for participation. Some current clinical trials include:

## ***Breast Cancer***

UWCCC researchers are looking for breast cancer survivors who currently experience lymphedema (arm swelling) to participate in a clinical trial, which will test Horse Chestnut Seed Extract (HCSE). As many as one in three breast cancer patients suffer this type of swelling.

HCSE has been successfully used in Europe for many years for the treatment of lymphedema of the leg and varicose veins. This study will determine whether HCSE has the same effect on the arms of breast cancer survivors. The UWCCC is looking for 76 breast cancer survivors to participate in this study.

## ***Gastrointestinal Cancer***

The UWCCC is looking for patients with hepatocellular or biliary carcinoma to be involved in a Phase II clinical trial. Hepatocellular carcinoma is the most common primary cancer of the liver, accounting for almost half a million deaths annually nationwide. Biliary tract cancer is the second most common primary hepatobiliary cancer, after hepatocellular cancer.

This study's purpose is to learn more about the effectiveness and side effects of the investigational drug, OSI-774. Another study objective is to test the drug's effect in the body using blood and tissue samples that will be collected and analyzed. About 78 people will take part in this study nationally and 20 people locally. Participants will take OSI-774 in pill form by mouth once each day for 28 days (one treatment cycle is 28 days or 4 weeks).

## ***Ovarian Cancer***

It is estimated that 23,300 women will be diagnosed with ovarian cancer and 13,900 women will die as a consequence of this disease in the U.S. during 2002. Long-term survival rates remain disappointing and the need for more effective treatments is critical.

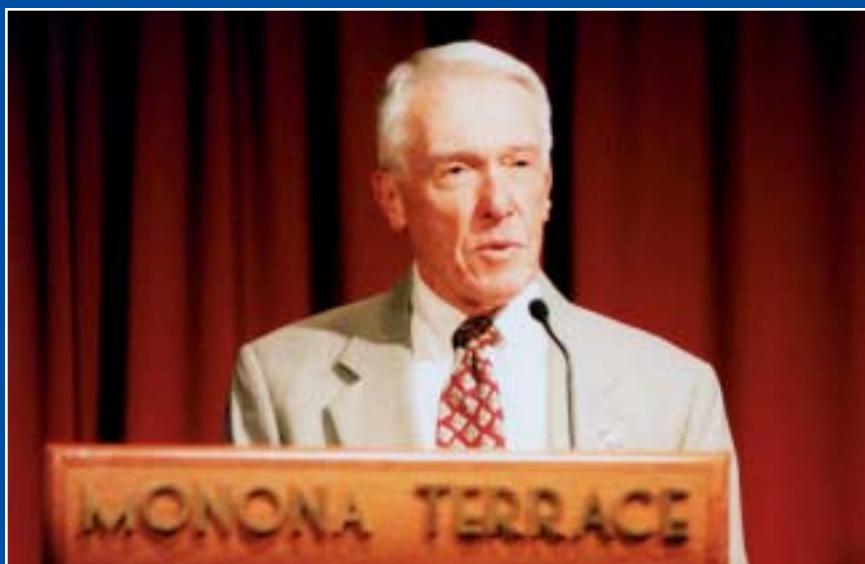
The Gynecologic Oncology Group, a national association of gynecologic, radiation and medical oncologists dedicated to research in the area of gynecologic cancers has developed a new research study to evaluate new combinations of, and new schedules for administration of chemotherapy drugs for newly diagnosed ovarian cancer.

To participate in this clinical trial, women must have Stage III or IV newly diagnosed ovarian cancer. It is hoped that one or more of the treatments being studied will prove more effective than the standard treatment of carboplatin and paclitaxel, and increase survival rates.

For more information about clinical trials at the UW Comprehensive Cancer Center, contact Cancer Connect, (800) 622-8922 or (608) 262-5223 in the Madison area.

A complete listing of clinical trials at the UWCCC is also available on our website, [www.cancer.wisc.edu](http://www.cancer.wisc.edu)

# Making a Difference



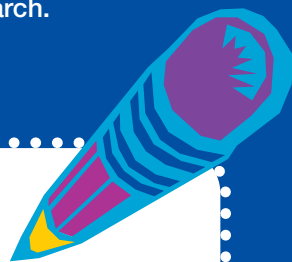
Marv Levy, former NFL coach and prostate cancer survivor, spoke to more than 350 individuals about "Beating Cancer—On and Off the Field" during the UW Comprehensive Cancer Center's *Cancer Hope, Cancer Health Week*, held in May.



The Badger Jim Beam Club has supported Pediatric Hematology/Oncology research and the Immunology Biotherapy research program of the UW Comprehensive Cancer Center since 1985. The Jim Beam Club is an organization whose members are devoted to collecting Jim Beam bottles and specialty items.

Jackie Hank, a Cancer Center member (left), recently accepted a \$5,827.63 contribution from Barb Kiefer and Cecil Gillingham, members of the Badger Jim Beam Club. Their contribution was given in honor of Harris Berg, past president of the Badger club. Harris was an avid supporter of pediatric cancer research.

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