



Partners

The Newsletter for Friends of Holden Comprehensive Cancer Center • 2005, Issue 2

Holden Comprehensive Cancer Center at The University of Iowa is bustling with activity. By accommodating many of the highly advanced needs of our researchers and physicians—either through constructing new facilities, supporting novel ideas and programs, or other means—we're staying focused on our mission to decrease the burden and suffering caused by cancer. This forward movement symbolizes our advancement on the disease.

Read on to learn more about our current expansion projects and other happenings. This issue of Partners is your guide to our 2005 Openings.

Radiation therapy center up and running

When middle school principal Ron Hoffman was diagnosed with cancer in his left tonsil, he sought treatment at University of Iowa Hospitals and Clinics based on the excellent reputation of its Department of Otolaryngology—Head and Neck Surgery, which consistently ranks near the top of *U.S. News & World Report's* annual hospital specialty rankings. He quickly learned that excellence extends into every corner of the facility.

His treatment was managed by Holden Comprehensive Cancer Center's Multidisciplinary Tumor Board, including specialists from otolaryngology, medical oncology, radiation oncology, radiology, nuclear medicine, pathology, and hospital dentistry. The board recommended radiation



A lobby area and treatment room at the new Center of Excellence in Image-Guided Radiation Therapy

combined with chemotherapy, with the radiation to be given by a sophisticated treatment called intensity modulated radiation therapy (IMRT).

“Some describe the IMRT process as ‘painting a picture,’” said radiation oncologist Min Yao, M.D., Ph.D. “By modulating [or varying]

the radiation intensity, different radiation doses can be ‘painted’ to different areas—higher doses to tumors, and less to healthy tissues. This increases tumor control, reduces side effects, and helps patients maintain a high quality of life.”

That was the case for the 57-year-

old Hoffman, who has been cancer-free for nearly three years since undergoing seven weeks of IMRT. “It doesn’t seem that different from before,” he said. “My mouth is a little dry, but doctors have been very surprised by the amount of saliva I still have. That’s fully attributed to the IMRT—Dr. Yao is great at ‘pointing the gun.’”

“Our IMRT results have been among the best in the country,” Yao said. “With standard radiation, patients with this type of cancer have a 50 to 60 percent survival rate nationally. Our results have been 80 to 90 percent, so far.” And with the Department of Radiation Oncology having recently moved into the newly constructed Center of Excellence in Image-Guided Radiation Therapy, Yao said, “We’re going to be even better.”

Open at last

After a two-and-a-half year construction process, the Center is now open. The state-of-the-art facility houses the world’s most advanced radiation therapy options for the treatment of patients with cancer and some benign lesions.

The building, located on the west side of the Pomerantz Family Pavilion at UI Hospitals and Clinics (across from Kinnick Stadium), will include a range of clinical facilities, but the Department of Radiation Oncology and its Center are the first occupants. The Center encompasses approximately 40,000 square feet of the 218,000-square-foot structure.

The Center features machines that lock on cancer sites and deliver quick, high doses of radiation that have minimal contact with patients’ healthy tissue. The precision targeting—treatment can be delivered to within 0.7 millimeters rather than the traditional five to 15 millimeters—is facilitated by sophisticated computer imaging equipment that creates three-dimensional representations of the patient.

“Patients will find these methods more convenient and will tolerate them better, too,” said John Buatti, M.D., professor and head of the Department of Radiation Oncology. “This will be a major step forward in our efforts to prevent cancer deaths and curb the suffering of our cancer patients.”

Prescription for radiation

As with Hoffman’s case, when a cancer patient comes to the Department of Radiation Oncology, they meet with a multidisciplinary team of experts to determine the best treatment path. The department creates computer images of the patient’s tumor. This process, called simulation, may include merging positron-emission tomography (PET), computerized tomography (CT), and magnetic resonance imaging (MRI) scans.

The imaging information is sent to physicists and dosimetrists (staff who perform calculations to ensure



John Buatti, M.D., speaks during the grand opening celebration on June 17, 2005

the tumors receive the prescribed radiation dose), who create a computerized, virtual model of the patient. This model tests various angles of approach, radiation beam sizes, and radiation levels to plot a highly accurate radiation delivery map. Treatment planning can be completed the same day or take up to a week, depending on the type of treatment, complexity, and location of the tumor.

When the patient is ready for treatment, the computer model of his or her tumor is sent to one of four on-site Siemens treatment machines, which deliver the radiation. Certified radiation therapists carry out the treatments.

An infrared positioning system links the patient to the ideal treatment plan in real-time. Using images this way establishes a concept called “stereotactic guidance” to improve accuracy. Treatment machines rotate around the patient and automatically shape a radiation beam in sync with the ideal plan. The machines routinely deliver two to seven—and can even deliver hundreds—of radiation beams to the cancer site.

Patients generally receive radiation for six to seven weeks, five days a week. Treatments do not occur on weekends. Normal tissue, while spared as much as possible, needs time to repair; tumor tissue is not as effective in repairing itself.

The new facility also includes:

- The Cancer Information Service, offering patients and families access to personal computers; the Internet; videos; and literature about the disease, clinical trials, and oncology support services.
- Larger patient exam areas, enabling experts from different departments to consult with patients.
- Family reception areas, providing a comfortable “home-like” atmosphere.
- Pediatric play areas, featuring bright, warm colors and including a television, VCR, games, and toys.
- Convenient access to worry-free parking through Guest Services.

More facts

- The building's excavation was 68 feet deep, approximately 10,700 truckloads of dirt.
- 18,375 cubic yards of concrete had been poured as of late April, with 1,726 tons of concrete reinforcement.
- The treatment area is extensively shielded by thick walls of concrete and is underground to ensure maximum protection from radiation. The treatment

- rooms have 706,000 pounds of lead shielding; walls range from 18 inches to seven feet thick.
- The high dose rate (HDR) therapy room has 213,000 pounds of protective lead shielding.
- The building is capable of supporting four more levels; its design provides space for upcoming technologies.

And I quote: Progress comes in expected, unexpected forms



George Weiner, M.D.

"I am a great believer in luck, and I find the harder I work, the more I have of it."

—Thomas Jefferson

We are on the verge of a new opening in our ability to treat cancer. As in so many areas of life, this opening comes from a combination of good planning, hard work, dedication, and being ready to take advantage

of unexpected turns. For example...

"When we do the best that we can, we never know what miracle is wrought in our life or in the life of another."

—Helen Keller

We recently were privileged to open the door of our new image-guided radiation therapy center, highlighted in this issue. This center is able to bring cutting-edge advances in radiation therapy to fruition because of years of hard work and persistence from individuals working as a team, with excellence and service to others as their primary goal. Contributors included physicists and biologists, physicians and nurses, and architects and administrators. Over the years, many of these dedicated individuals did not "see" for sure where their work would lead, but knew that, by doing their best, good things would come.

"Chance favors the prepared mind."

—Louis Pasteur

Five years ago, Holden Comprehensive Cancer Center became one of only 39 comprehensive cancer centers designated by the National Cancer Institute. We have all worked hard since then to assure we continue to perform world-class research and use the results of that research to improve our ability to prevent and treat cancer. During this time, we have made excellent progress in some of our ongoing research programs. In addition, keeping an open mind to areas of new advances has led to two new research programs (tumor imaging and cancer genetics/computational biology) and two developing research programs (cancer prevention and cancer and aging) that will provide exciting openings and opportunities in cancer research in the years ahead. Our minds remain open to future advances that may come from fields extending from structural biology to alternative medicine.

"The future ain't what it used to be."

—Yogi Berra

We at Holden Comprehensive Cancer Center are working to assure Yogi was right. It will take both careful planning and keeping an open mind so we can respond to unexpected openings, to achieve a future without pain and suffering from cancer.

A handwritten signature in cursive script that reads "George Weiner".

George Weiner, M.D.
Director, Holden Comprehensive
Cancer Center

Cancer Center's NCI designation renewed

Holden Comprehensive Cancer Center recently was notified that its cancer center status through the National Cancer Institute (NCI) has been awarded a five-year renewal. In 2000, Holden became the only NCI-designated comprehensive cancer center in the state of Iowa. The renewal again places it in the top tier of cancer centers across the nation.

With the renewal, the NCI increased its financial support to Holden by 50 percent to more than \$2.2 million per year, or a total of \$11.6 million.

"The increase in funding over our current grant is significant, but it is equally as important that our center was viewed as being 'excellent' by researchers from cancer centers across the country who reviewed our activities," said George Weiner, M.D., director of Holden Comprehensive Cancer Center and C.E. Block Professor of Cancer Research. "This review included evaluation of cancer research related to cancer prevention, early detection and treatment taking place in research laboratories across the University, and clinical research within UI Hospitals and Clinics and various communities across the state by our members.

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New Hayden Fry Center fundraising campaign kicks off



Timothy Ratliff, Ph.D.; George Weiner, M.D.; J. Hayden Fry; Richard Williams, M.D.; and David Lubaroff, Ph.D.

The beaches were enticing and spring break was in the air, but leaders from Holden Comprehensive Cancer Center and The University of Iowa Foundation gathered March 16 in Naples, Florida, for a different purpose. The town—home to an enthusiastic contingent of retired or relocated Hawkeye fans—was the setting for an event kicking off a \$10 million campaign to fund the J. Hayden Fry Center for Prostate Cancer Research.

Like thousands of men in Iowa and across the country, legendary coach Hayden Fry's life has been touched by prostate cancer. After being diagnosed with the disease, he turned to University of Iowa Hospitals and Clinics because it afforded him the best chance for a cure.

"The researchers and physicians at Holden Comprehensive Cancer Center are among the best in the world," said Fry, who retired in 1998 as the winningest coach in UI football history. His treatments were successful, and he envisions even better therapies in the future for all men with prostate cancer.

"I'm convinced that we are on the verge of enormous breakthroughs in understanding, treating, and even curing prostate cancer," he said. "With continued support, I am equally convinced that many of those breakthroughs are going to happen at UI Hospitals and Clinics."

"Continued support" was a recurring theme at the Florida kickoff event.

Susan Holden McCurry, a Holden Comprehensive Cancer Center Advocacy Board member, graciously offered her home for the occasion. The event was also underwritten in part by the generosity of John and Ellen Buchanan, Matt and Kyla Rodgers, and John and Mary Pappajohn.

As part of the event, Colleen Chapleau auctioned her jersey from the Tour of Hope, a bike ride across the nation with Tour de France champion Lance Armstrong to raise awareness about the importance of cancer research and clinical trials. Cancer survivor Arlene Holden, one of several bidders, bid aggressively on the Armstrong-autographed jersey, but not because she had an empty display case in her home to fill:

"Arlene was the highest bidder, but after getting the jersey, she returned it to me to be auctioned again at another cancer benefit," said Chapleau, associate director of the Iowa Marrow Donor Program and the Adult Blood and Marrow Transplant Program at UI Hospitals and Clinics. "I'm deciding between two worthwhile programs that both benefit cancer patients."

The campaign got an excellent jumpstart, but much remains to be done. To learn more about the J. Hayden Fry Center for Prostate Cancer Research and tour the facility, please contact Carol Jefferson at 800-648-6973 or e-mail carol-jefferson@uiowa.edu.

Holden Comprehensive Cancer Center

200 Hawkins Drive
Iowa City, Iowa 52242-1002
Cancer Information Service: 800-237-1225
www.uihealthcare.com/cancer

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Please contact the UI Foundation to report a change of address or request removal from the mailing list.

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NCI designation continued

“We are delighted that the NCI agreed that our center has earned its continued membership in this group of elite cancer centers,” Weiner said.

Holden Comprehensive Cancer Center specialists annually care for more than 44,700 outpatients and 5,600 inpatients in the John and Mary Pappajohn Clinical Cancer Center. The latest NCI designation will provide enhanced opportunities to influence the standards of cancer prevention and treatment on a regional, national, and international level.

Established under the National Cancer Act of 1937, the NCI—a component of the National Institutes of Health, one of eight agencies that compose the Public Health Service in the U.S. Department of Health and Human Services—is the federal government’s principal agency for cancer research and training.

The Cancer Centers Program of the NCI supports major academic and research institutions throughout the United States to sustain broad based, coordinated, interdisciplinary programs in cancer research. These institutions are characterized by scientific excellence and the integration of diverse research approaches to understanding and treating cancer.

For more information on the NCI and the Cancer Centers Program, visit www.nci.nih.gov/.

Help us make the future brighter

Government support and patient fees do not fully fund Holden Comprehensive Cancer Center’s missions. We must rely on private contributions to help purchase life-saving equipment, fund pioneering scientific research, support medical education programs, and much more. To learn how your contribution can give hope to those touched by cancer, contact Carol Jefferson, senior director of development, at:

The University of Iowa Foundation
Levitt Center for
University Advancement
P.O. Box 4550
Iowa City, Iowa 52244-4550

Phone:
319-335-3305 or 800-648-6973
E-mail:
carol-jefferson@uiowa.edu
Web:
www.uifoundation.org/cancer