

Creating Futures

University of Colorado *Anschutz Medical Campus*



The Promise of Discovery:

Creating New Hope for Patients and Families

University of Colorado Cancer Center Gastrointestinal Cancer Program





As the only comprehensive cancer center in the region designated by the National Cancer Institute, we are recognized as leaders in providing outstanding cancer care and cancer-related education, and in driving new research.

Physicians from the GI Cancer Multidisciplinary Clinic with an SBRT machine, one of the newest tools available to deliver precision doses of radiation with less toxicity (see p. 11).

Gastrointestinal Cancer

Cancer. A frightening diagnosis that doctors deliver to hundreds of thousands of people in this country each year. Some of the most common and deadly cancers are gastrointestinal, or those found in the digestive tract.

Every year, more than 100,000 Americans die of cancers that attack the esophagus, stomach, colon, pancreas, liver and the other organs of the gastrointestinal system. Pancreatic cancer alone claims 34,000 lives every year.

Though gastrointestinal (GI) cancers are some of the deadliest, they are also among the most preventable.

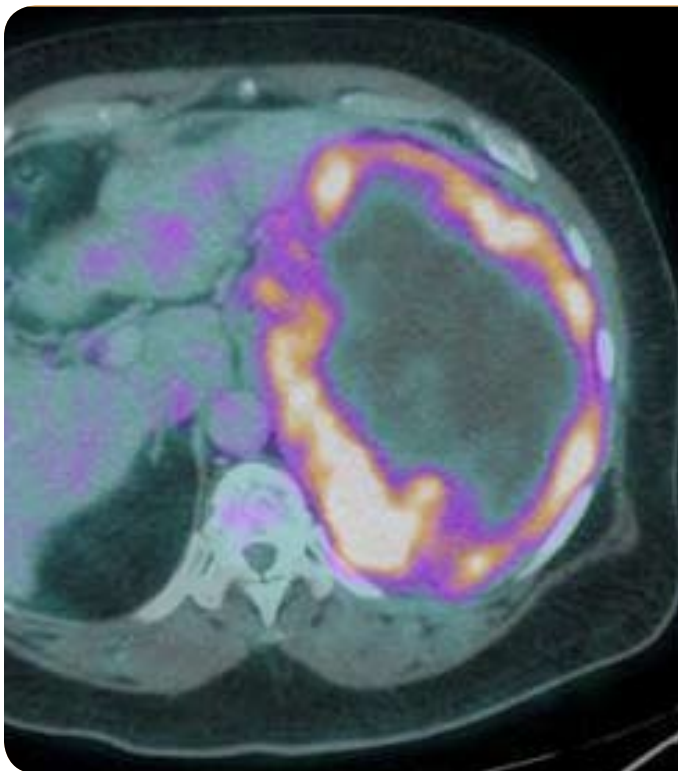
- Colorectal cancer is the second leading cause of cancer-related death in the Western world. However, usually it can be prevented with regular screening and removal of the precancerous polyps during the colonoscopy screening procedure. New cases and deaths due to colorectal cancer have decreased significantly thanks to early detection and intervention.

- Esophageal cancer is closely linked to obesity and is rising at the rate of 2 percent every year as obesity becomes epidemic. Preventive measures, such as endoscopy screening of high-risk patients, are showing promise for reducing the risk of esophageal cancer.

At the University of Colorado Cancer Center, scientists and caregivers of all types are working to save and improve the lives of those who suffer from GI cancers.

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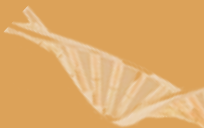
Contributions are essential to the evolution of treatments and cures in GI cancer. With your support, we will continue to invest in innovative research and education that will enable us to offer new hope to individuals and families at risk of some of the most common and deadly cancers.



20 Percent of All Newly Diagnosed Cancers are GI Cancers

Colorectal cancer is the fourth-most common cancer in men and women, with an estimated 105,000 cases of colon cancer and 40,000 cases of rectal cancer diagnosed in the United States in the past year. Adding pancreatic cancer (34,000 cases), stomach cancer (22,000 cases) and other cancers of the digestive system, and the estimated number of new gastrointestinal cancer cases totals more than 250,000 annually.

Sophisticated scans of a GI tumor like the one pictured are used to diagnose cancers as well as provide targeted chemotherapy treatment at the molecular level. The University of Colorado Anschutz Medical Campus will soon launch a Radiochemistry Program and core facility to advance cancer research and treatment.



The Difference **Research** Has Made for Richard Loveman

On Christmas Day of 2005, Richard Loveman's wife noticed that he looked jaundiced. A call to his primary care physician resulted in a simple ultrasound, which revealed a tumor on his pancreas.

"Someone diagnosed with pancreatic cancer is expected to die as soon as you can fill out the paperwork," says Loveman, a Denver architect. The average life expectancy after diagnosis is approximately five months. Loveman immediately underwent surgery and appeared to be cancer-free.

But a year later, he received the news that the cancer had spread to his lungs. Wells Messersmith, MD, newly arrived from Johns Hopkins to become director of the GI Medical Oncology Program at the University of Colorado Cancer Center, delivered the news to Loveman that he had stage IV cancer and immediately got him into a clinical trial.

"I landed on this one drug regimen and have been on it since February 2007," Loveman says. Since then he has had no pain at all, has not even been tired.

"They really did save my life. The past four years have been the best."

Richard Loveman



Richard Loveman in Venice

It is considered somewhat remarkable to have lived this long with pancreatic cancer, and lived well. Loveman says, "Were I diagnosed with pancreatic cancer ten years ago, I most likely would not have survived four years out from diagnosis, but I am still here, working full time and climbing mountains on weekends. Research can make miracles."

Loveman and his wife donate to pancreatic cancer research because they know there are people dedicating their lives to finding a cure for this deadly disease. He notes that by supporting cancer research, donors can make an impact not only on patients, but also on everyone else who comes in contact with those patients.



“By surviving, I matured quite a bit, and I think of giving to others more than I used to.” Loveman serves on the board of a non-profit affordable housing organization and also has volunteered to design a school in Kenya. “By helping me survive, the doctors and the drug companies made it possible for me to help others have a little better life.



Architectural rendering of the school in Kenya that Richard Loveman designed.

“They really did save my life. The past four years have been the best,” Loveman says. “I keep telling Dr. Messersmith I want to make him into an all-star. All he has to do is find a cure.”



*Wells Messersmith, MD
Director of the GI Cancer Program*

Clinical Trials Bring New Hope

All of today's advances in cancer treatment are a direct result of yesterday's clinical trials.

Clinical trials assess emerging therapies that have already succeeded in preliminary tests and are being evaluated for safety and effectiveness in larger numbers of human subjects. For patients who have not responded to traditional treatments, clinical trials offer access to the very latest procedures.

Gail Eckhardt, MD, head of the Division of Medical Oncology, is the principal investigator of Loveman's trial, and the University of Colorado Cancer Center is the only place in the country where the protocol is currently available. Loveman's physician, Wells Messersmith, says, “In the future, given that we continue to see the level of success that we are seeing, we hope to take this regimen to pancreatic cancer patients across the country.”

Leading the Way

At the University of Colorado Cancer Center GI Cancer Program, we are leading the way on some of the biggest breakthroughs in GI cancer that will:

- Further reduce the incidence of colorectal cancer and decrease colorectal cancer deaths with broad-based prevention strategies that target low-income and uninsured people who have less access to essential cancer screening.
- Translate scientific discoveries about pancreatic cancer into effective new treatments.
- Find new ways to prevent and treat liver cancer.
- Slow the incidence of esophageal cancer, among the most rapidly increasing cancers in the United States.

Innovations in personalized medicine, specialized care and prevention will make a real difference to GI cancers patients. The moment is now to ramp up our effort with investments in discovery and application. Please join us in bringing the promise of discovery to life.

Our Reach is Vast: Map of NCI-designated Cancer Centers



■ Comprehensive Cancer Centers (40)

▲ Cancer Centers (23)

The University of Colorado Cancer Center is one of 40 National Cancer Institute-designated comprehensive cancer centers in the country. As the only comprehensive cancer center in the Rocky Mountain region, we play an essential role for thousands of individuals with cancer and their families each year.



We are National Experts

“Our physicians are national leaders in GI cancer care, working with our country’s top organizations to ensure that all Americans have access to cutting-edge treatment when they need it most. Our national stature also ensures that our regional community has world-class clinical care, right here, in their own backyard.”

M. Roy Wilson, MD

Chancellor, University of Colorado Denver



Now is the Time.

The University of Colorado Cancer Center is the Place.

We are Uniquely Qualified

The University of Colorado Cancer Center has the only research-based gastrointestinal cancer program in an eight-state region.

We are the Rocky Mountain region's only National Cancer Institute-designated comprehensive cancer center, one of just 40 in the entire country.

Our faculty members are national leaders in basic science, drug development and cancer prevention and control. They influence science and practice not only in Colorado, but also on the national and international scenes. And our program is home to more cancer surgical specialists than any other in the region.



Three medical oncology fellows (far left) discuss a patient's case with Radiation Oncologist Tracey Scheffer, MD, and Surgeon Martin McCarter, MD, during their bi-weekly multidisciplinary conference.

Liver Transplant at the Anschutz Medical Campus

Liver transplantation is essential to the treatment of many GI cancers, and we have made history in this realm. The first liver transplant in the world was performed at our hospital in 1963 by renowned surgeon Thomas Starzl, MD. We created a formal Liver Transplant Program in 1988 under the direction of Igal Kam, MD. Throughout the years, we have made significant technological advancements that greatly increase the probability of a normal life after transplant surgery.

- United Network Organ Sharing (UNOS) data shows our Liver Transplant Program has one of the lowest one-year mortality rates among centers performing 60 or more liver transplants per year.
- Our overall patient survival rate three years after transplantation is 85 percent, compared with a 70 percent survival rate nationwide.
- Our team has performed more than 1,400 liver transplants in adults and children between 1988 and 2008.
- Since 1996, our team has performed more than 130 living-donor liver transplants.



Our Interdisciplinary Approach Leads to **Extraordinary Care**

Making Patients the Center of Care

Patients have better outcomes thanks to our Multidisciplinary Gastrointestinal Tumor Clinic, which is unique in the region. Clinic patients receive care from a collaborative team of medical oncologists, radiation oncologists, surgical oncologists, interventional radiologists, gastroenterologists and interventional endoscopists who regularly work together to help ensure those patients are receiving the best and most innovative care.

“The most important thing about the collaboration in our multidisciplinary clinic is that patients can meet with our team of nationally respected experts all in one visit to get the information and help they need for making decisions about the best treatment,” says David Raben, MD, professor, Radiation Oncology.

We Have World-Class Resources

The Anschutz Medical Campus offers unmatched resources for the fight against GI cancer at one of the newest major medical facilities in the world. And it's the largest research, patient care and education center in the Rockies. With state-of-the-art laboratories and five affiliated hospitals, the campus provides the infrastructure and patient population to achieve innovation in every aspect of biomedical science—from basic research to clinical trials, from drug development to commercialization—all in one place.

“At every point along a patient’s treatment, the GI family touches them. That is the unifying thing that I see.”

Tracy King
Clinical Trial Coordinator

Bench-to-Bedside Innovation Advances the Battle against GI Cancer

The University of Colorado Cancer Center GI Cancer Program is ideally positioned to make even greater progress against these common cancers.

Many members of the GI oncology team work in the laboratories as well as the clinic. Their scientific insights inform their approach to cancer treatments, and their clinic experiences enhance their investigations into the biological processes of cancer.

Increased resources will help us augment activities that:

- accelerate laboratory research to understand the mechanisms of GI cancers
- apply laboratory findings to the creation of new treatments
- test new treatments in clinical trials with patients who have no other options
- move new therapies to market



Colin Weekes, MD, discusses treatment options with concerned patient Frank Del Pizzo.

With Investments From Generous Donors, We Will:

Increase the Use of Targeted, Personalized Medicine

S. Gail Eckhardt, MD, is professor and Head of the Division of Medical Oncology at the University of Colorado Denver, where she holds the Stapp/Harlow Endowed Chair for Cancer Research. For the past 17 years, Dr. Eckhardt has worked to develop novel agents and combinations of agents to treat colorectal cancer.

Recently, however, her focus has shifted to individualizing cancer treatment through therapy that is tailored to the genetic profile of the tumor. In Dr. Eckhardt's opinion, the most effective treatments will require the integration of targeted drugs and individualized approaches.

Her team is currently working with five targeted drugs and developing genetic profiles that can predict clinical benefit for those with colorectal cancer. The next step will be to select patients for treatment with one of those drugs, based upon their tumor's profile. The hope is that these treatments will lead to long-term disease control (and improved survival) in colorectal cancer patients with metastatic disease.

Future treatments for advanced colorectal cancer may become analogous to the way diabetes, high blood pressure or heart disease is treated—diseases that are not cured but are controlled with drug therapy. Ultimately, these personalized, targeted therapies may be combined with other novel agents, chemotherapy, radiation therapy or surgery, to enhance a patient's chance for a cure.

"The GI Malignancies Program at the CU Cancer Center is leading the way to advance cancer treatment to the next level," Eckhardt says. "Donors can be a part of it."



*S. Gail Eckhardt, MD
Head of the Division of Medical Oncology*

Decrease Incidence of GI Cancers through Lifestyle Research and Education

GI cancers are particularly related to lifestyle factors such as smoking, nutrition, weight and exercise. The University of Colorado Cancer Center is a national leader in studying these relationships. Better understanding about prevention and control, together with better information and education about the impact of lifestyle choices, can dramatically decrease the incidence and improve the outcomes of GI cancers.

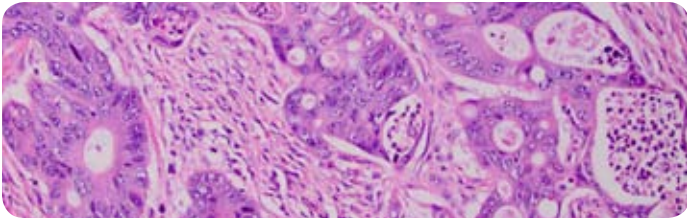


With the goal of preventing GI cancer in the first place, Steve Alvarado, right, discusses his family history of cancer with Dennis Ahnen, MD, director of the Hereditary Colorectal Cancer Program.

Apply New Understandings of Genetics to Prevent GI Cancers in Entire Families

The Hereditary Colorectal Cancer Program is led by Dennis Ahnen, MD, a national leader in cancer prevention and control. Dr. Ahnen and a team of counselors conduct screenings, consultations and genetic testing where indicated for high-risk individuals and families. The widely respected genetic counseling program is the second oldest in the country.

"Knowledge is very powerful in this setting," Dr. Ahnen says. "For families with GI cancers, there is almost always something we can do to address concerns and decrease cancer risk."



Microscopic image of colon cancer cells.

The information collected also furthers productive research into the complex interplay of genetics and behavior in the development of GI cancer, research that has led to clinical advances in colorectal cancer prevention. The University of Colorado Cancer Center has the region's only GI cancer counseling program, keeping us at the forefront in diagnosis and treatment.

Find New Strategies for Early Intervention

As we learn more about the molecular pathways that define how GI cancers develop, we are increasingly able to head off disease before it begins. We are established leaders in treating and eradicating hepatitis, which often leads to liver cancer.

Pioneer Novel, Minimally Invasive Treatments

Our team of experts in esophageal cancer is among the first in this country to adopt a procedure developed in Japan to treat precancerous tumors caused by obesity-related gastroesophageal reflux. Norio Fukami, MD, uses an endoscope to remove the tumors without major surgery. "If you have the proper selection in patients, 98 percent are cured," says Fukami. This technique can also be applied to gastric and colon cancers.



Norio Fukami, MD, shows images of the precancerous tumors he removes in order to prevent esophageal cancer.

Increase Precision with Radiation Oncology

Radiation is an essential component of most cancer treatments. Brian Kavanagh, MD, and Tracey Scheffer, MD, of the University of Colorado Cancer Centers' Radiation Oncology Group, led the development of Stereotactic Body Radiation Therapy (SBRT), a new treatment that gives patients larger doses of radiation in fewer treatments. The procedure is increasingly used to target tumors in the liver and other organs. One of the Center's two SBRT machines is also capable of Image-Guided Radiation, enabling precise, three-dimensional imaging to target tumors before each treatment. "SBRT can accurately target the tumor and avoid the healthy tissue, making the whole process less toxic than other radiation treatments," says Scheffer. "SBRT is an incredible tool, and we have the most experience of anyone in the Rocky Mountain region."



The GI Cancer Tumor Board brings together oncologists and pathologists to discuss a patient's genetic profile, tumor type and treatment options.

Educate the Next Generation of Innovators

The field of GI oncology is highly specialized. We are producing some of the best specialists in the country. Madeleine Kane, MD, PhD, runs the Paul Calabresi Clinical Scholars Program, which aims to train the next generation of translational cancer researchers. Budding researchers have committees of expert mentors to help them develop their research projects and medical careers.

Whether in gastroenterology, medical oncology, radiation oncology, surgery or any of the basic sciences, we are producing highly qualified specialists with the knowledge and multidisciplinary skills to become tomorrow's leaders in GI cancer research and care.



To learn about the many ways you can make a gift:

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Help Us Seize the Moment

There is tremendous momentum in the fight against GI cancer. We must be bold and ambitious in maximizing this opportunity.

The convergence of expertise and world-class resources at the University of Colorado Cancer Center is extraordinary. Our scientists know more than ever, and every day are adding to their knowledge about diagnosing, treating and preventing GI cancer.

With your investment at this time, at this place, we will change the future.



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All gifts should be payable to the University of Colorado Foundation, specifying the appropriate fund.

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