centerpoint

Yale Cancer Center's community newsletter fall 2009

Yale CANCER CENTER
A Comprehensive Cancer Center Designated by the National Cancer Institute

Having survived a diagnosis of melanoma twice, Paul Buchanan focuses on the important things in life. He makes sure to spend more time with his wife, Sue, and their two children, Kerry and Kyle.

Battling Melanoma A Second Time Around

Paul Buchanan was just 35 years old when he was diagnosed with melanoma. After having a mole on the back of his leg biopsied, he learned that it was cancerous and that it had spread to the lymph nodes in his groin. The mole and lymph nodes were removed and after four and a half years on a clinical trial in New York, Paul was in remission. He remained in remission for ten years before noticing a lump beginning to grow on his right thigh; the same leg where the melanoma had been before.

When Paul met with Dr. Mario Sznol, Associate Professor of Medical Oncology at Yale Cancer Center and Co-Director of the Melanoma Program, the disease had spread so quickly that he could barely talk. Paul had lost 50 pounds within two weeks and had to shuffle his feet to walk. He was diagnosed with advanced stage melanoma for the second time, and this time it had spread to his bone marrow.

"I didn't know it then, but Dr. Sznol later told me that my condition was so bad that my only two options were treatment with interleukin-2 or hospice care. I had to gain more strength to even be able to survive the treatments with interleukin-2. Five days later I received my first dose," Paul explained. "The entire staff at Yale Cancer Center was wonderful and provided support to my family and me during this time."

Interleukin-2 is a type of signaling molecule that is instrumental in the body's natural response to microbial infection. Treatment with interleukin-2 activates a certain kind of cell in the body, a lymphocyte, which then attacks the tumor specifically. Interleukin-2 can be a difficult treatment for many patients to tolerate, as the increase of interleukin-2 in the body can cause severe flu-like symptoms.

After his first diagnosis, Paul was told that if the melanoma were ever to recur, it would attack his body and there would be no chance for survival. He lived with that knowledge in the back of his mind, and when the second diagnosis came, he had resigned himself to the outcome he thought was continued on page 2 ›

Researchers Enlist microRNAs to Combat Lung and Other Cancers

Imagine you could order a cancerous tumor to stop growing. Imagine a simple test could predict your risk for hard-to-detect cancers and get you into lifesaving treatment early. Yale Cancer Center members are conducting research that shows the promise of microRNAs to do both. Biologist Frank Slack, PhD and radiation oncologist Joanne Weidhaas, MD, PhD are leaders in this growing field. Slack's work has shown microRNAs can suppress lung cancer in laboratory animals. Together they've found a mutation in a microRNA binding site that signals risk for a particularly dangerous form of lung cancer. They are working to translate these groundbreaking discoveries in the lab into new clinical treatments.

When Slack, an Associate Professor of Molecular, Cellular & Developmental Biology, discovered the microRNA let-7, he wasn't thinking about medical implications. He was simply trying to better understand the basic biology underlying development. When let-7 was missing in the roundworms Slack studied, the cell division typical of the embryonic stage never stopped and eventually killed the worms. The implications for cancer were clear. "During development is really when the cell cycle is working overtime," he explained. "We're essentially a mini-tumor as an early embryo."

Meanwhile Joanne Weidhaas, an Associate Professor of Therapeutic Radiology, was continued on page 6 ››

Gifts that Change Lives

Everyone is touched by cancer in some way and there are many opportunities at Yale Cancer Center to help patients and families who will face a diagnosis of cancer. Each gift touches a life by funding innovative research, new treatments, and important patient services. Donors may never know the people that benefit from their philanthropy, but their generosity has a profound impact on the lives of so many. Without the support provided by people wishing to make a difference, cancer research and care would not be nearly as advanced as it is today. Your gift enables us to continue to make critical advances tomorrow.

Many donors choose to make a gift each year to Yale Cancer Center to honor friends and loved ones who have faced cancer. We encourage you to consider this as part of your philanthropy, possibly at a birthday, anniversary, or other important time.

Please use the enclosed envelope to make a gift to Yale Cancer Center. Remember, no gift is too small and each gift makes a difference.

If you have any questions, please call 203-436-8527.

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Yale Cancer Center's quarterly newsletter is written to inform the public and the Center's friends, volunteers, donors, and staff on current items of interest at Yale Cancer Center. All inquiries should be addressed to Renee Gaudette, Director of Public Affairs and Marketing, 157 Church Street, New Haven, CT 06510-2100. Yale Cancer Center complies with the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

Battling Melanoma continued from page 1

inevitable. He quickly became very sick and was admitted to Yale-New Haven Hospital. When his 6-year-old daughter and 3-year-old son came to visit, he resolved to fight. "I took one look at my two young children and realized that dying wasn't an option. I was going to focus all the strength I had left to battle this disease so that I could be there for them and watch them grow," Paul said.

Paul continued to receive treatment with interleukin-2 on and off for five months and was in bed from September to November. At some points he became so weak that he was only able to receive half of a treatment session. He couldn't hug his children unless they climbed into his bed. His mother, a retired nurse, and his brother came to live with the Buchanan family for three months while Paul was receiving his treatment and recovering.

Eventually Paul began to feel better and started to regain his strength. When Dr. Sznol saw him for his next appointment he commented on how much he had improved, and Paul was beginning to feel better himself; he was able to do things that were impossible only five months earlier.

At that point, they had to decide whether or not to keep administering interleukin-2. After five months, Paul did not want to endure another dose. His care team tested his bone marrow and amazingly he showed no trace of the cancer. Despite the harsh side effects, interleukin-2 had worked and Paul was once again cancer-free.

Four years later he remains in remission. Paul still enjoys going to the beach and golfing, but he is sure to cover up and to protect his children from the sun as well. "Melanoma is not a 'today' disease. You don't go out in the sun and then an hour later you are diagnosed with melanoma. You need to protect yourself and your family as early as possible in order to protect their future," Paul said. "Through this experience I have learned that melanoma can hit you at any age."

Paul attends a regular melanoma support group at Yale Cancer Center and says that it is a great way to tell his story, and hear other people's experiences as well. Dr. Sznol continues to share Paul's story of survival with other patients in order to give them hope and as an affirmation to them that melanoma can be overcome.

It was the support of family and friends that Paul said was the true miracle of his experience.

"I can't express how thankful I am to my family, friends, and neighbors for all the help and support they gave me during this time. They shopped for our family, did yard work, and numerous other things. The small things like a phone call or a visit were also always appreciated," Paul said. The Buchanan family was new to the neighborhood when Paul was diagnosed, but everyone came together to lend them a hand.

"My wife tells me that I haven't changed at all through this experience, and she has been there with me from the beginning. I feel that I have changed somewhat internally. As it is for most of us, work has always taken up more of my time than it should. I now try my best to schedule my travel time around my children's events and take time out to play with them. I also do my best to not let the small stuff in life get to me. I have already faced the worst thing imaginable and come through to the other side," Paul said.

I can't express how thankful I am to my family, friends, and neighbors for all the help and support they gave me during this time. They shopped for our family, did yard work, and numerous other things. The small things like a phone call or a visit were also always appreciated.

-Paul Buchanan

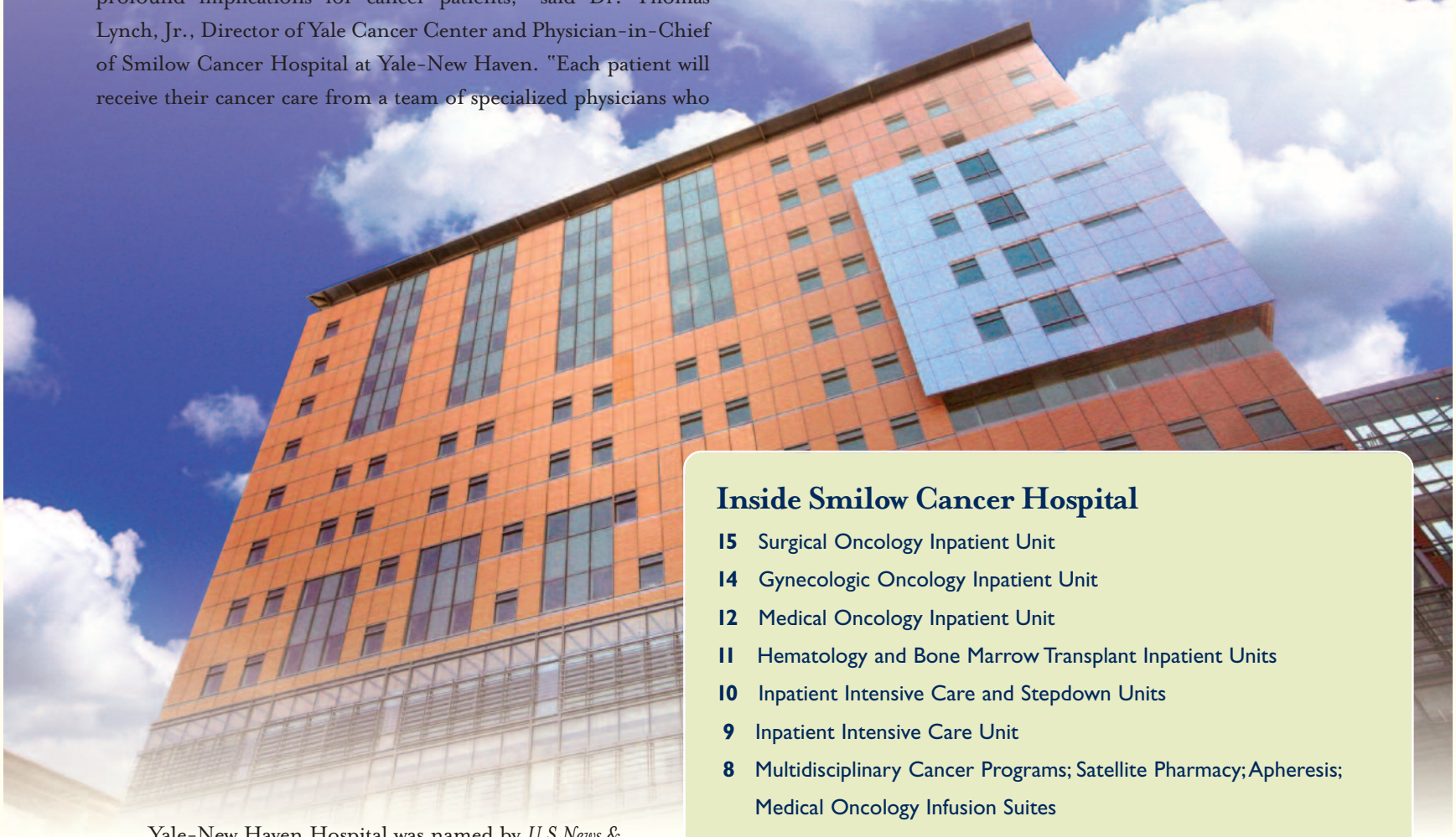
Opening the Doors to Smilow Cancer Hospital

After several years of planning and construction, the new Smilow Cancer Hospital at Yale-New Haven will open its doors to the first patients from radiation oncology on Monday, October 26th. The new facility will combine all of the inpatient and outpatient cancer services at Yale into one building when it is fully complete in April 2010, and it is expected to become the most comprehensive cancer care facility in New England.

"The opportunity for expanded patient services and improved multidisciplinary team care in Smilow Cancer Hospital will have profound implications for cancer patients," said Dr. Thomas Lynch, Jr., Director of Yale Cancer Center and Physician-in-Chief of Smilow Cancer Hospital at Yale-New Haven. "Each patient will receive their cancer care from a team of specialized physicians who are experienced in treating their particular type of cancer. The new facility will make these interactions seamless for our patients."

Patient Information

As always, if you have any questions regarding your appointment schedule or location, please contact your physician's office directly or call (866) YALECANCER or (203) 785-4191 and ask our patient coordinators for assistance.



Yale-New Haven Hospital was named by *U.S.News & World Report* as one of the top hospitals in the United States for 2009. YNHH is ranked 17th in the United States according to *U.S.News*'s annual "America's Best Hospitals." 12 of Yale-New Haven's medical specialties were ranked among the very best in the nation, including cancer care, which was ranked number 21 in the country.

Facts about Smilow Cancer Hospital

- 14 stories and 497,000 square feet
- 168 inpatient beds
- Cost: $467 million
- 12 multidisciplinary cancer programs
- Includes 12 operating rooms, radiology services, infusion suites, and a specialized women's center
- Features a healing garden for patients and families on the 7th floor
- Links to Yale-New Haven Hospital, Yale-New Haven Children's Hospital, and the Air Rights Garage

Inside Smilow Cancer Hospital

15 Surgical Oncology Inpatient Unit
14 Gynecologic Oncology Inpatient Unit
12 Medical Oncology Inpatient Unit
11 Hematology and Bone Marrow Transplant Inpatient Units
10 Inpatient Intensive Care and Stepdown Units
9 Inpatient Intensive Care Unit
8 Multidisciplinary Cancer Programs; Satellite Pharmacy; Apheresis; Medical Oncology Infusion Suites
7 Multidisciplinary Cancer Programs; Pediatric Oncology Clinic and Infusion Suites; Stem Cell Outpatient Unit; Healing Garden
6 Mechanical Equipment
5 Mechanical Equipment
4 Multidisciplinary Cancer Programs; Clinical Laboratories; Ambulatory Procedures Unit; Reflection Room
3 Operating Rooms; Prep/Recovery Bays; Pathology
2 Diagnostic Radiology
1 Breast Center; Gynecologic Oncology Center; Family Resource Center; Boutique; Complementary Medicine Suite
LL Radiation Oncology

12 Cancer Programs

Brain Tumor
Breast Cancer
Endocrine Cancers
Gastrointestinal Cancers
Gynecologic Cancer
Head and Neck Cancers
Hematology
Melanoma
Pediatric Oncology
Prostate and Urologic Cancers
Sarcomas
Thoracic Oncology

Yale CANCER CENTER *answers*

A Weekly Radio Program on WNPR – Connecticut Public Radio

Sunday Evenings at 6:00 PM

October 11, 2009
Lynn Wilson, MD, MPH
Understanding Radiation Therapy

October 18, 2009
Gary Kupfer, MD
Children with Cancer

October 25, 2009
Hari Deshpande, MD and
Clarence Sasaki, MD
Treatment Strategies for Head and Neck Cancers

November 1, 2009
Thomas Lynch, Jr., MD
Lung Cancer Awareness Month

November 8, 2009
Vincent DeVita, Jr., MD
Perspective on the War on Cancer

November 15, 2009
Judy Jones, LPC
Cutaneous Lymphoma Foundation

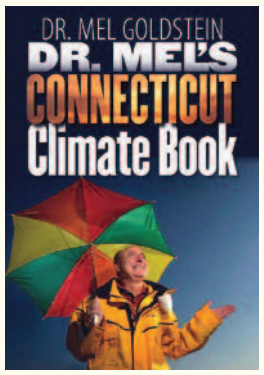
November 22, 2009
Sukru Emre, MD and
Mario Strazzabosco, MD
The Management of Liver Cancer

Proceeds from *Dr. Mel's Connecticut Climate Book* to Benefit Yale Cancer Center

Cancer survivor Dr. Mel Goldstein, meteorologist for WTNH News Channel 8, recently completed his second book, *Dr. Mel's Connecticut Climate Book*, which chronicles Connecticut's weather history over the past three centuries. Dr. Mel has generously designated proceeds from the book to support the Dr. Mel Goldstein Multiple Myeloma Research Fund at Yale Cancer Center.

Dr. Mel was diagnosed with multiple myeloma 13 years ago. When he was diagnosed the median survival for the disease was 33 months. Over the past decade, Dr. Mel has continuously supported research into new treatments for multiple myeloma and became an advocate and role model for many patients. The Dr. Mel Goldstein Multiple Myeloma Research Fund is dedicated to funding research on multiple myeloma and establishing new treatment options for the incurable blood disease.

As a well-known meteorologist in the state, Dr. Mel has become a trusted figure not only for reporting the weather, but also for giving hope to all patients and families battling multiple myeloma, as well as other chronic disorders. With the proceeds from his book going to benefit Yale Cancer Center, it will open up the opportunity for further research to be done, and contribute to a better understanding of this disease.



Dr. Mel's Connecticut Climate Book, published by Wesleyan University Press, explains how the weather in the state of Connecticut changes from season to season. Blizzards, cold snaps, thunderstorms, tornadoes, floods, and hurricanes are included among many topics and stories discussed about Connecticut's weather. Dr. Mel also reviews Connecticut's most famous historical storms and includes photographs, charts, and weather patterns.

To learn more about the book or to purchase a copy, visit http://www.upne.com/0-8195-6839-2.html

event calendar

October 14, 2009
Understanding Cancer
Lecture Series
Breast Cancer: Nutrition and Exercise
Melinda Irwin, PhD and
Maura Harrigan, RD
Sponsored by Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven
6:00 PM; YNHH EP Cafeteria
(888) 700-6543

November 10, 2009
Understanding Cancer
Lecture Series
The Cost of Cancer
Kathy Walsh, Principal Examiner, Connecticut Insurance Department
Sponsored by The Wellness Community, Yale Cancer Center, and Smilow Cancer Hospital at Yale-New Haven
6:00 PM; YNHH EP Cafeteria
(888) 700-6543

November 10, 2009
Shoreline Medical Center
Lecture Series
Why Do Non-Smokers Get Lung Cancer?
Daniel Boffa, MD
6:30 PM; Shoreline Medical Center
111 Goose Lane, Guilford
(888) 700-6543

November 18, 2009
"Join the Conversation"
Author Series
Strength in What Remains
Tracy Kidder
Co-presented by WSHU and Yale Cancer Center
7:00 PM; Harkness Auditorium
(800) 777-9748

December 2, 2009
Patient and Family Holiday Party
Sponsored by Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven
5:30 – 7:30 PM; Harkness Lounge
(888) 700-6543

January 13, 2010
Understanding Cancer
Lecture Series
An Update on Gynelogical Cancers
Peter Schwartz, MD
Sponsored by Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven
6:00 PM; YNHH EP Cafeteria
(888) 700-6543

CT Challenge Supports Cancer Survivorship

Cyclists at this year's Connecticut Challenge were welcomed by another gorgeous day to ride through the beautiful, hilly terrain of Fairfield County. 480 cyclists rode 12, 25, 50, or 100 miles in honor of cancer survivors on Saturday, July 25th. Each year the excitement and anticipation fills Greenfield Hill as the riders gather and prepare for their journey together; this year's ride was no exception. The lap of honor commenced the day's events at 8 AM with 31 survivors riding around the congregational church green while the church bells rang.

Working together, 498 riders and 165 volunteers made the fifth annual CT Challenge a tremendous success. Each year funds raised from the CT Challenge are allocated to support two survivorship programs at Yale. The Connecticut Challenge Survivorship Clinic opened in 2006 and provides screening for long-term consequences resulting from cancer treatment and information to help survivors minimize or avoid future health concerns. Funds raised through the annual junior ride also support the HEROS Clinic, a dedicated resource for survivors of pediatric cancer through Yale Pediatrics.

"We are extremely grateful for the support from the Connecticut Challenge, which benefits countless cancer survivors who use the services available to them at Yale Cancer Center and funds important research into the long-term consequences of cancer treatment. This knowledge will help to improve the health of cancer survivors everywhere," Dr. Thomas Lynch, Jr., Director of Yale Cancer Center, said.

The Connecticut Challenge Survivorship Clinic is the first dedicated, multidisciplinary resource for cancer survivors in Connecticut to provide patients and their families with vital information on cancer prevention, wellness, supportive services, and the latest health research and developments. For more information, or to schedule an appointment for a consultation, please call (203) 785-CARE.

For more information on the Connecticut Challenge or to find out how to participate in next year's ride, please go to ctchallenge.org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1 Cancer survivors prepare for the ceremonial lap around the green.
2 Volunteers check in riders
3 Yale Pediatrics Team
4 Yale Development Team
5 CT Challenge founders, John Ragland and Jeff Keith
6 A local child finishes the junior ride for the HEROS Clinic.


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6

ALL PHOTOS THIS PAGE MATTHEW S. BURDICK/PETER BAKER STUDIOS

Kevin Vest Hired as Deputy Director for Clinical Affairs and Administration

TERRY DAGRADI

Yale Cancer Center Director, Thomas J. Lynch, Jr., MD, recently named Kevin Vest, PT, MBA, FACHE Deputy Director for Clinical Affairs and Administration. Mr. Vest joins Yale Cancer Center from Massachusetts General Hospital Cancer Center (MGHCC) where he served as Administrative Director for Hematology/Oncology and Finance.

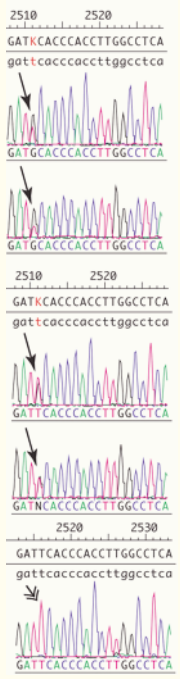
"As Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven continue to expand, Kevin's experience with oncology service line development will be integral to our success in the coming years," Lynch said. "Most importantly, Kevin began his career as a clinical physical therapist and he brings a deep understanding of patient and family centered care to the Cancer Center."

In his role as Deputy Director for Clinical Affairs and Administration, Mr. Vest will oversee the management of the clinical operations, finance and administration, research management, clinical trials management, marketing, and strategic planning for Yale Cancer Center.

Mr. Vest holds an MBA in healthcare administration from Boston University and a BS in Physical Therapy from the University of Vermont. While at MGHCC, he also lectured at Boston University in their Doctorate of Physical Therapy Program. Mr. Vest began his career in patient care as a physical therapist at the University of Virginia Health Sciences Center.

▸▸ **microRNAs** continued from page 1

interested in discovering ways to make cancer cells more sensitive to radiation and in finding out why some cells resisted radiation treatment. She chose to be a radiation oncologist because it combined patient care with the opportunity to do basic research. The roles complement each other. "I learn something from every patient," she says.



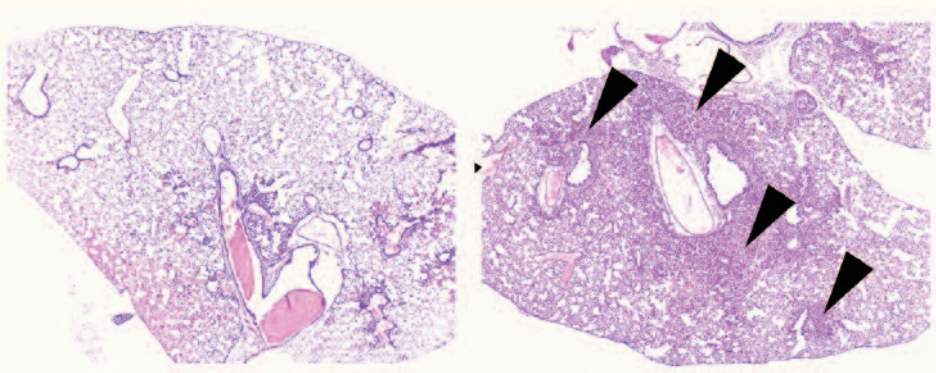
The image above shows the sequence of a lung cancer SNP.

Their collaboration began through the roundworm known as Caenorhabditis elegans, or C. elegans. The organism is a lab favorite because it's easy to work with and shares 60 percent of its genes with humans. At Yale, there's a weekly meeting for scientists using C. elegans to compare notes. Slack presented his let-7 work to the group. He found that let-7 regulates ras genes, which play a role in about one quarter of human cancers. Weidhaas was studying ras's role in radiation resistance. So they began working together to see if let-7 and other microRNAs could help patients benefit more from radiation.

Targeting microRNAs could be a particularly efficient way to combat cancer. They regulate multiple genes, so they could control a broad spectrum of oncogenes, the genes that cause cancer when activated. Easily made in a test tube, customized microRNAs could be made by labs for patients whose natural microRNAs are not doing their job of suppressing oncogenes. As science moves toward personalized medicine, treatments tailored to the particular genetics of an individual cancer, microRNAs could provide keys to customizing treatment plans.

Weidhaas and Slack caution that a "eureka" moment in the lab does not signal immediate changes in clinical therapy. Slack notes that most molecular therapies do not make it into the clinical stage. But he adds that microRNAs have the advantage of being natural molecules, decreasing the likelihood that the body would reject them.

The pair have written widely on the role of microRNAs in lung cancer and have completed yet-to-be-published work that shows their importance in other cancers. The lung cancer risk finding was especially important because the disease is so often caught late when treatment options are limited. The pair formed a company to develop a simple blood test that could screen for the form of lung cancer that occurs when genes have trouble binding with let-7. Weidhaas was particularly interested in lung cancer, having lost an aunt to the disease. "We try our best and give it the most, but it's still a very deadly cancer," she reflected. Through research, she can create new possibilities to one day offer her patients. "I just feel really blessed," she said, "really lucky to have that opportunity."



The panel on the left shows the results of giving let-7 to mice with lung cancer, compared to the control on the right.

microRNAs

RNA stands for ribonucleic acid. RNA used to be thought of as DNA's messenger, essentially carrying the blueprints for making proteins. That's a decent snapshot of what many RNAs do, but not all types of RNA are strictly genetic delivery services. In 1993, scientists identified the first microRNA. As the name implies, a microRNA is a much shorter sequence than RNAs discovered earlier. But what they lack in size they make up for in power. This microRNA was a foreman, not a messenger. It played a key role in putting genes to work – and telling them when to stop working – in building a developing organism. Other microRNA were subsequently discovered that perform similar jobs.

These little foremen offer fascinating possibilities in cancer research. The kind of rapid cell division that goes on in the embryonic stage is similar to what happens in a cancerous growth. Could scientists enlist microRNA to fulfill the same role in cancer that they do in embryonic development? Could microRNA tell those rapidly dividing cells that it's quitting time?