



# PENN Medicine

SUMMER 2009

## THE TRANSFORMATION OF TRANSFUSION MEDICINE

Remembering Bernie Johnson  
In the Year of Darwin: How Did  
Humans Survive — and Evolve?  
A Master of Endoscopy



Thompson

### A “Dream Team” Is Ready to Tackle Pancreatic Cancer

Craig B. Thompson, M.D. '77, the professor of medicine who serves as director of Penn's Abramson Cancer Center, has been selected to lead what the sponsoring organization is calling a research “Dream Team.” Daniel D. Von Hoff, M.D., senior investigator and physician-in-chief at the Translational Genomics Research Institute in Arizona, is the other leader. Principals on the team are drawn from Johns Hopkins University School of Medicine, Princeton University, and the Salk Institute for Biological Studies. With \$18 million in funding from Stand Up to Cancer, Thompson's team is poised to lead the nation's most innovative research project on pancreatic cancer. In particular, the researchers hope to learn more about what metabolic nutrients pancreatic tumors rely on to grow; the goal is that, with that knowledge, scientists will be able to develop new therapies designed to cut off those nutrients. Pancreatic cancer is the fourth-leading cause of cancer deaths in the United States; more than 90 percent of patients die within the first year of diagnosis.

Stand Up to Cancer is a charitable initiative of the Entertainment Industry Foundation. In May, Stand Up to Cancer awarded the first round of three-year grants to five multi-disciplinary and multi-institutional teams. Most of the funding was raised in connection with a telecast the initiative sponsored on September 5, 2008, aired simultaneously on ABC, CBS, and NBC. In all, the foundation awarded \$73.6 million among the five research teams.

According to Sherry Lansing, chair of the board of the Entertainment Industry Foundation, “Stand Up to Cancer grew from two simple constructs: scientists need more money for research and easier ways to work together; and the entertainment industry has unique resources that can be called upon to help make every American aware that each and every one of us has a role to play in advancing cancer research.” Lansing is a former CEO of Paramount Pictures.

Recent studies have demonstrated that most cancer cells acquire mutations that cause them to become addicted to a continual supply of nutrients to produce the energy they need to survive and proliferate. In most cancers, this nutrient is glucose. Pancreatic cancer presents a unique challenge because it is addicted not to glucose but to another molecule, glutamine. When cancer feeds or metabolizes excess amounts of glutamine, it can lead to extreme weight loss by robbing other cells of this important nutrient, a condition from which many pancreatic cancer patients suffer. Cancers that use excess glutamine are often resistant to standard forms of chemotherapy, another characteristic of pancreatic cancer. The goal of Thompson's research team is to understand the “fuel supply” of pancreatic cancer, which would help scientists develop more individualized treatments with fewer side effects.

### Acknowledging Excellence

The Hospital of the University of Pennsylvania has continued its rise in the annual ranking of hospitals by *U.S. News & World Report* (August 2009). Again this year, HUP earned a spot on the magazine's “Honor Roll,” reserved for the hospitals that receive high rankings in at least six of the 16 specialty categories. HUP is ranked 8th, up from 10th last year and 12th in 2007. More than 4,800 hospitals were evaluated, and only 21 made the “Honor Roll.”

In all, HUP is ranked in the top 50 in 15 specialties, improving its position in nine and holding its position in one. The specialties ranked in the top 10 are: Digestive Disorders; Ear, Nose, and Throat; Diabetes & Endocrine Disorders; Heart; and Respiratory Disorders. In the top 20 are: Geriatrics; Gynecology; Kidney Disease; Urology; Psychiatry; and Rheumatology.

Pennsylvania Hospital, one of Penn Medicine's three hospitals, was ranked in the top 50 in two specialties, in Neurology & Neurosurgery and in Orthopaedics.

Since 1990, *U.S. News & World Report* has provided a ranking of hospitals' quality of care on a nationwide basis. The magazine evaluates hospitals on mortality rates, technology, staffing of nurses, and factors related to the individual specialties, as well as reputation among a group of randomly selected board-certified physicians

### Grant to Study Esophageal Cancer Is Renewed

The National Cancer Institute has renewed a Program Project at Penn, granting investigators at the School of Medicine \$7.5 million over the next five years to support research on new ways to treat esophageal cancer.

“This new award builds upon the multi-disciplinary effort conducted by

an outstanding team of investigators at Penn and other institutions,” says Anil K. Rustgi, M.D., the T. Grier Miller Professor of Medicine and Genetics and chief of the Gastroenterology Division. As Rustgi, the overall principal investigator on the grant, points out, “There has been significant progress in this cancer that historically has been very difficult to diagnose and treat.”

Continued research on esophageal cancer is critical for prolonging patient survival, especially because this type of cancer becomes prevalent in its later stages and patients often have a poor prognosis and a reduced response to traditional chemoradiation therapy. This research will build upon the investigators’ previous findings, which made substantial progress in deciphering the molecular and cellular biology that underlies esophageal cancer. In addition, their findings are expected to have broad applications to other related cancers in the lung, head and neck areas, and skin.

One project will focus on the biological roles of oncogenes (EGFR, c-Met) and tumor suppressor genes (p53, p120catenin) in esophageal carcinogenesis, as well as the mechanisms by which tumor cells invade healthy tissue (Rustgi). Other projects will deal with how blood vessels and fibroblasts interact to allow tumors to invade (Meenhard Herlyn, D.V.M., Sc.D., a professor of dermatology at the Wistar Institute and an investigator in Penn’s Institute for Translational Medicine and Therapeutics), and how the protein cyclin D1 is regulated in the nucleus and in the cytoplasm (J. Alan Diehl, Ph.D., associate professor of cancer biology and director of cancer cell biology at Penn’s Abramson Family Cancer Research Institute). The projects are unified further by core facilities at Penn, and collaborators come from the Dana Farber Cancer Institute/Broad Institute in Boston and Massachusetts General Hospital.

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## How Do Heart Muscle Cells Develop?

Researchers at the School of Medicine will receive \$2 million over the next four years from the American Heart Association and the Jon Holden DeHaan Foundation to study how the regeneration of heart muscle cells can help improve outcomes for cardiac patients. This award establishes an American Heart Association-Jon Holden DeHaan Foundation Cardiac Myogenesis Research Center at Penn, led by Jonathan Epstein, M.D., chair of the Department of Cell and Developmental Biology. The sponsors also funded two centers at other institutions.

In particular, the researchers aim to determine how these cells develop and to better

understand their inner molecular workings. Their hope is that findings from this research will lead to new ways to treat heart attacks, congenital heart disease, and heart failure.

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## The Penn Heart and Vascular Center Opens

The construction of the Ruth and Raymond Perelman Center for Advanced Medicine has provided the opportunity to consolidate several cardiovascular practices and streamline the experiences of outpatients. The Penn Heart and Vascular Center opened recently on the second floor of the Perelman Center’s East Pavilion.

Combining heart and vascular practices from throughout Penn’s Health System, this multi-disciplinary model



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## Celebrating a Class’s Achievements

The 151 members of the Class of 2009 received their diplomas and recited the Hippocratic Oath for the first time as doctors on May 18, at Philadelphia’s Kimmel Center. This year’s Graduation Speaker was Christine K. Cassel, M.D., president and CEO of the American Board of Inter-

nal Medicine and the ABIM Foundation. She is a leading expert in geriatric medicine, medical ethics, and quality of care. In the photo, Daniel del Portal, M.D., who delivered remarks on behalf of the Class of 2009, receives congratulations from Arthur H. Rubenstein, M.B.,B.Ch., dean of the School of Medicine and executive vice president of the University of Pennsylvania for the Health System.