



# PHILADELPHIA

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## INTERNATIONAL MEDICINE

### PHILADELPHIA INTERNATIONAL MEDICINE® NEWS BUREAU

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September 12, 2008

#### **For immediate release:**

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*Editors note: Research, new techniques and improved facilities by Philadelphia International Medicine hospitals and physicians may lead to new ways to treat some of our most challenging diseases. Below are just some examples from our hospitals.*

#### **Penn Study Finds Way to Prevent Protein Clumping Characteristic of Parkinson's Disease**

Philadelphia — Researchers at the University of Pennsylvania School of Medicine have identified a protein from a most unlikely source — baker's yeast — that might protect against Parkinson's disease.

More than a million Americans suffer from Parkinson's disease, and no treatments are available that fundamentally alter the course of the condition. By introducing the yeast protein Hsp104 into animal models of Parkinson's disease, researchers prevented protein clumping that leads to nerve cell death characteristic of the disorder.

"Yeast express a protein called Hsp104, which is able to reverse protein aggregation," says James Shorter, PhD, assistant professor of biochemistry and biophysics. "However, for reasons that are unclear, Hsp104 is not found in mammals. We wondered if introducing Hsp104 into mammals could help with diseases connected with protein aggregation." These findings will be published in the September 2008 issue of *"The Journal of Clinical Investigation"* and appeared online August 14, 2008.

Clinicians do not fully understand the process and cause of Parkinson's disease. However, researchers believe that a protein called alpha-synuclein misfolds and clumps in many forms of the disease, and that this process is intimately tied to the selective death of dopamine-producing neurons that results in Parkinson's disease.

In this study, researchers found that Hsp104 could partially reverse alpha-synuclein aggregation in test-tube experiments. Remarkably, rats expressing Hsp104 showed lower levels of alpha-synuclein aggregation and alpha-synuclein-induced toxicity of neurons. This result is significant because the rat model

used recreates the selective loss of dopamine-producing nerve cells in the region of the brain affected in Parkinson's disease, say the investigators.

"This study represents an important preliminary step," says Dr. Shorter. "One thing we'd like to do next is to treat an animal model which already has considerable quantities of alpha-synuclein aggregates to see if Hsp104 can actually reverse the process in the rat brain."

Co-authors in addition to Dr. Shorter are Christophe Lo Bianco of the Wallenberg Neurosciences Center in Lund, Sweden and the Brain Mind Institute in Lausanne, Switzerland; Etienne Regulier, Hilal Lasheul, and Patrick Aebischer, also of the Brain Mind Institute; Takeshi Iwatsubo at the University of Tokyo; and Susan Lindquist of the Whitehead Institute for Biomedical Research, Cambridge, MA.

### **Jefferson Professor Receives Award for Lifetime of Innovative Research in Nuclear Medicine**

Mathew Thakur, PhD, professor of radiology and radiation oncology/nuclear medicine at Jefferson Medical College of Thomas Jefferson University, has been awarded the 2008 Cassen Prize in recognition of his outstanding contributions to the science and practice of Nuclear Medicine.

The award, given by the Society of Nuclear Medicine's Education and Research Foundation, was recently presented to Dr. Thakur at the Society's annual meeting in New Orleans, where he presented the Cassen Lecture on "Genomic Biomarkers for Molecular Imaging: Predicting the Future."

At Jefferson, Dr. Thakur is also the director of laboratories of Radiopharmaceutical Research Molecular Imaging, Nuclear Medicine Research, and is a member of the Kimmel Cancer Center. "I am extremely honored to receive this award named after a pioneer in Nuclear Medicine," said Dr. Thakur. "In science, nothing is more gratifying and encouraging than recognition by peers," said Dr. Thakur, while accepting the award.

The Cassen Award is named in honor of the late physicist Benedict Cassen, whose invention, the rectilinear scanner, allowed the early applications of nuclear medicine in imaging patients. The awarding of this prize, which has come to be known as the "Nobel Prize" of Nuclear Medicine, recognizes outstanding achievements in the field that promotes the development and growth of nuclear medicine.

Dr. Thakur's career spans more than 35 years, including prestigious accomplishments such as the development of several widely-used radiopharmaceuticals (radioactive compounds administered for purposes of diagnosis or therapy) that have improved diagnostic accuracy and ultimately improved patient care. Dr. Thakur became interested in nuclear medicine and radiopharmaceuticals while an undergraduate at Bombay University, and then as a graduate student at the University of London in the late 1960s, where he received his master of science degree in analytical chemistry, and his doctor of philosophy degree in radiochemistry. Over the years, Dr. Thakur and his colleagues have developed methods to produce and separate medically useful radionuclides and many radioactive compounds. Among the better known are Krypton-81m, which has

significant value as an agent used in nuclear medicine for lung ventilation studies. The agent was available commercially in the United States and is still being used in Europe. He also developed Indium-111-Bleomycin, an agent that has proven very useful for detecting and treating specific cancerous tumors, of the head and neck.

Dr. Thakur's contributions have been recognized by his peers previously for which he received the Society of Nuclear Medicine's Georg de Hevesy Award (2000), the V. Sarabhai Award (1995) and Paul Aebersold Award (1992); as well as the American Chemical Society's Maurice S. Chamberland Award (1980). Known nationally and internationally, he is a widely-published researcher with more than 300 published articles, 36 book chapters and four books to his name and several patents to his name. His studies have appeared in such noted scientific journals as Journal of Nuclear Medicine, Radiology and Lancet, among many others.

### **Temple University Hospital Opens New Hand Treatment Center**

The new Temple Hand Center has opened under the auspices of the Department of Orthopaedic Surgery. The Center provides comprehensive care for disorders of the hand, wrist, elbow and arm and serves adults, adolescents, children and newborns.

The Center consists of three hand surgeons: Dr. Joseph Thoder, Dr. Asif Ilyas, and Dr. Albert Weiss, who all specialize in complicated procedures and see international patients. In addition, the team includes physical therapists and athletic trainers, all specializing in the diagnosis, treatment and rehabilitation of the upper extremity.

"The Temple Hand Center is focused on providing comprehensive care with the latest therapeutic and surgical techniques for the upper extremity," says Dr. Ilyas, the Center's director. Specialty services include microsurgery, peripheral nerve surgery and complex reconstructive procedures.

Commonly treated conditions include: Carpal Tunnel Syndrome; Nerve Injuries; Trigger Fingers; Tendon Injuries; Cysts/Ganglions/Tumors; Fractures and Complex Trauma; Dupuytren's; Contractures; Brachial Plexus Injuries; Newborn and Congenital Anomalies, and Infections.

The Temple Hand Center will be anchored at the Temple University Hospital campus and will eventually move into a new dedicated location within the Boyer Pavilion by the Spring, 2009.

**Philadelphia International Medicine** is an organization that provides medical and patient support services to international patients. It also provides continuing medical education and health care training and education to international physicians, administrators and other practitioners. As the international department of several Philadelphia-area hospitals, international patients gain access to physicians and hospitals rated among the best in the world through one telephone call to PIM. You can reach PIM by calling 1-215-563-4733; fax, 1-215-563-2777; or e-mail, [physicians@philadelphiamedicine.com](mailto:physicians@philadelphiamedicine.com). You can find out more about

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