



Clinical Update March 2008

Hardwired for Addiction?

In search of the biological underpinnings of alcohol addiction, the headline-generating research of Professor Steven Youngtob PhD clearly links prenatal exposure with a later preference for alcohol.

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Amy Friedman MD: New Transplant Director

Formerly on the faculty of Yale University, Dr. Amy Friedman brings specialized expertise in live-donor kidney transplantation, laparoscopic kidney donation and pancreas transplantation.

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As Heard On HealthLink On Air

SUNY Upstate's weekly Sunday radio program also offers hundreds of archived interviews with medical experts.

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SUNY UPSTATE MEDICAL UNIVERSITY
& University Hospital Syracuse, New York

Clarifying the Consequences: Prenatal Alcohol Exposure

Upstate's Dr. Steven Youngentob Explores Biological Underpinnings of Alcohol Abuse

New insights into alcohol addiction were recently reported around the globe – and generated by bench research at SUNY Upstate Medical University. The research, into prenatal alcohol exposure, was conducted by Steven Youngentob PhD, professor and vice chair of neuroscience and physiology.

Two of Dr. Youngentob's studies found that in-utero alcohol exposure led to a strong preference for the taste and odor of alcohol in rat pups.

"The studies contribute a critical biological piece to the complex puzzle of why teens with a family history of drinking may drink more," according to the American Psychological Association, which published Dr. Youngentob's research in the December 2007 Issue of *Behavioral Neuroscience*.

The studies, funded by the National Institute of Alcohol Abuse and Alcoholism, captured the interest of such publications as *US News & World Report* and the *London Telegraph*.

Maternal Link

"Human epidemiological studies suggest that perhaps the best predictor of adolescent alcohol abuse is prior fetal exposure or mothers who drank alcohol during pregnancy," says Dr. Youngentob. "Before you can treat any disease, you have to understand the biology. I am interested in the biological underpinnings of alcohol intake and abuse – the factors that drive that initial and continued behavior. So we mimicked the human condition in an animal model."

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Steven Youngentob, PhD

To study the impact of in-utero alcohol exposure, Dr. Youngentob and his research team fed alcohol to the pregnant rats, then tested their rat pups as infants and as adults. Infant animals who had been exposed to alcohol prenatally drank significantly more alcohol and preferred the smell of alcohol.

Hardwired

“It’s purely neuroadaptive,” explains Dr. Youngentob. “Animals learn to like the smell of what their mothers eat during pregnancy. It could be alcohol odor, or it could be the odor of apple. The adaptation is the same.”

The study also found that, in the absence of further exposure, the alcohol preference disappeared by adulthood.

“The effect appears to persist to adolescence,” notes Dr. Youngentob, “Somewhere between adolescence and adulthood, without further exposure, the response goes away.”

Double Hit

Dr. Youngentob’s more recent research explores the question, ‘Does a second exposure during adolescence yield persistence of the fetal effects into adulthood?’

“If so,” he says, “this would fit very well into the human epidemiology.”

To date, his unpublished data shows that a second alcohol exposure, during adolescence, leads to a heightened preference which then persists into adulthood.

Dr. Youngentob stresses that his findings comprise “just one factor in a constellation of factors that influence alcohol abuse at adolescence.”

Russian Roulette

“Nevertheless,” he states, “There is no time in pregnancy when it is safe to drink. All human and animal studies to date suggest that drinking during pregnancy is like playing Russian roulette. There can be profound consequences, including the potential for serious neurodevelopmental problems such as Fetal Alcohol Syndrome.’

Dr. Youngentob also cautions against exposing children to alcohol, especially when those children have had fetal exposure to alcohol.

Collaborative

Dr. Youngentob’s research falls under the umbrella of the Developmental Exposure Alcohol Research Center, a collaboration between SUNY Upstate and Binghamton University. “Our goal,” he says, “is to define the factors that contribute to the perpetuating cycle of abuse, from fetal exposure to adult abuse and back again.”

A renewed investment in the State University of New York – especially in its research agenda – is the recent and urgent recommendation of the New York State Commission on Higher Education. Dr. Youngentob’s powerful findings illustrate the potential impact of SUNY research.



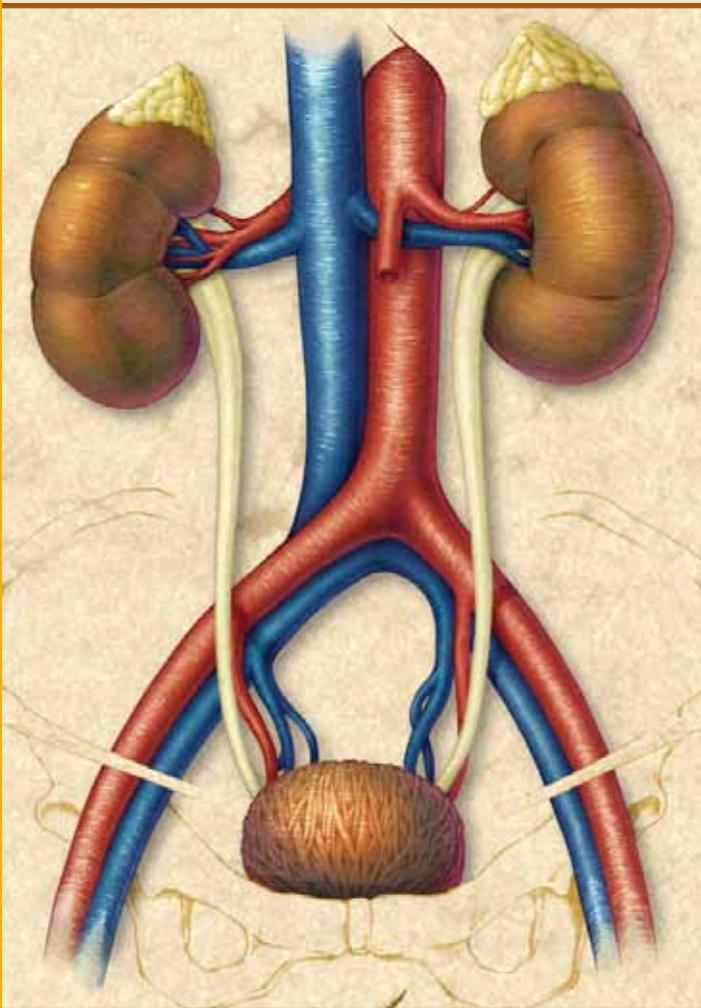
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SUNY UPSTATE MEDICAL UNIVERSITY
& University Hospital Syracuse, New York

Dr. Amy Friedman Named Transplant Director

Formerly on Faculty of Yale University



Amy L. Friedman MD has been named director of SUNY Upstate Medical University's Division of Transplantation. Dr. Friedman also serves as a professor of surgery in the College of Medicine.

As a surgeon, Dr. Friedman specializes in live-donor kidney transplantation, laparoscopic kidney donation and pancreas transplantation. At University Hospital, she works with a multidisciplinary transplant team to perform kidney and pancreas transplants.

Prior to her SUNY Upstate appointment, Dr. Friedman was an associate professor at the Yale University School of Medicine, where she joined the faculty in 1994. She also served on the faculty at the University of Pennsylvania and SUNY Health Science Center in Brooklyn.

Dr. Friedman completed two fellowships: a surgical research fellowship at the SUNY Health Science Center in Brooklyn and a transplant fellowship at the Hospital of the University of Pennsylvania.

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Desperate for Donors

She earned a bachelor's degree from Princeton University and medical degree from the SUNY Health Science Center at Brooklyn, where she also completed her internship and residency in general surgery.

Dr. Friedman has served as principal investigator for numerous drug trials and led a \$1.5 million NIH-funded study which used the internet to educate kidney transplants recipients on drug regimens. The most recent of her many publications appeared last year, in the *Archives of Surgery* and in *Transplantation*.

She is editor-in-chief of the *Journal of Patient Safety and Adherence* and serves as an article reviewer for *Archives of Surgery*, *American Journal of Transplantation*, *Transplantation* and the *American Journal of Kidney Diseases*.

Dr. Friedman's work has been recognized by numerous organizations, including the American Association of Kidney Patients and the American Transplant Congress. From the U.S. Department of Commerce, she received the Malcolm Baldrige National Quality Award.

With more than 100,000 people in line for organ transplantation – and 17 people on waiting lists dying every day – Dr. Amy Friedman is a tireless advocate for organ donation. “After death, there is no reason NOT to donate your organs,” she says.

“When we harvest organs, we do not disfigure in any way. We do nothing to prevent your family from planning open-casket services.

“And organs will not help you after death,” stresses Dr. Friedman. “But they literally, absolutely prolong lives.”

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As Heard On HealthLink On Air

Now approaching its second anniversary, SUNY Upstate's weekly radio broadcast, HealthLink on Air, has developed an extraordinary community resource: hundreds of archived interviews with Upstate's leading medical specialists, research scientists, students, health educators, health advocates and more.

If you can't tune in at 9 a.m. Sundays on 570 AM WSYR, you can access the entire archive of individual interviews at: healthlinkonair.org

At right is a sampling of sound bytes from recent interviews.



The Graying of Rural Physicians?

“ Here in Central New York, we are facing a collision of health-care realities. We have physician shortages in many parts of this huge geographic area (one-third of New York State). The majority of our rural physicians are approaching retirement, while the vast majority of our young physicians prefer to practice in more urban settings.

At the same time, we have an impending demographic reality, where our older population – soon to include the Baby Boomers – is larger, lives longer and needs more complex care.

At SUNY Upstate, we are embracing this challenge. We have a strong program in rural medicine, and we have committed a quarter-million dollars to doubling our RMED program.

As an institution, this is our obligation – to meet the health care needs of our region. ”

David Smith MD
President
SUNY Upstate

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Autism Recedes As Fever Rise?

“Autism continues to be a black box that we don't really understand. For years, parents have been telling us that fever can prompt temporary but dramatic improvements in their children with autism. I recently heard from a parent that her son, who has never spoken, spoke in complete sentences for a brief period following a fever.

Now we have a published study that supports these stories. This is very hopeful information – it shows that the child's abilities are there, but they are being masked or blocked by autism.

This study is based on parent report. Next, we have to design a study where researchers can directly observe this phenomenon. Then we have to develop a therapy to unlock these powers. ”

*Gregory Liptak MD
Professor
Neurodevelopmental Pediatrics
SUNY Upstate*



Beware the Perils to Sleeping Babies

“Since 1992, when we started placing babies on their backs to sleep, we've seen a dramatic decline in Sudden Infant Death Syndrome (SIDS). But in the past five years, Onondaga County has had 20 infant deaths, and 75 percent were related to unsafe sleeping practices, such as babies sleeping in the same bed with parents or siblings.

Now we need to spread the word: babies should sleep, alone, in cribs, with firm mattresses, no blankets, no bumpers, no toys. Infants under six months simply do not have the muscle strength to shift themselves when something obstructs their breathing. ”

*Donna Bacchi MD, MPH
Director
MPH Program
SUNY Upstate*

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