

PENN PSYCHIATRY PERSPECTIVE

Perelman School of Medicine at the University of Pennsylvania | Department of Psychiatry

Ideas, Suggestions, and News!

We welcome your news and announcements about your activities for stories in *Penn Psychiatry Perspective*, the eNewsletter of the University of Pennsylvania Department of Psychiatry. Our goal is to offer useful and interesting news to readers and highlight our many outstanding faculty, programs, and services. Please submit your recommendations to psychweb@mail.med.upenn.edu.

Dwight L. Evans, MD
Ruth Meltzer Professor and Chair

Departmental Goings-On

Task Force: Doctors Should Screen All Adults for Depression



Michael E. Thase, MD wrote the accompanying editorial in the January 26, 2016 issue of the *Journal of the American Medical Association (JAMA)* commenting on the recommendations of the U.S. Preventive Services Task Force (USPSTF) in support of screening of all adults for depression at their primary health visits.

In opening his editorial, Dr. Thase emphasized the significance of screening for major depressive disorder: "Although major depressive disorder (MDD) is one of the world's great public health problems, the morbidity and increased mortality associated with this common illness can be attenuated by the large number of effective treatments that are now widely available. It is therefore important to ensure that efficient methods for population screening are in place and directly linked to health care systems so depressed patients receive appropriate treatment."

Dr. Thase addressed several issues related to the USPSTF report, including the use of appropriate screening scales, optimal screening frequency, evidence documenting successful MDD treatment in primary care settings, and the probability of effective treatment based on illness severity. He also referenced current methods to monitor and mitigate patient nonadherence or treatment failure, noting that "web-based monitoring of symptoms early in the course of therapy may enable physicians and other mental health professionals to intervene more rapidly and reduce the chances of treatment failure."

In a February 1, 2016 WHYY (Philadelphia) *Newsworks* article, Dr. Thase addressed the specific recommendation of the Task Force that women be screened for depression both during and after their pregnancy, the first time the group has made this suggestion. He explained, "Depression can increase the risk of miscarriage; it can interfere with the mother's ability to connect with the newborn. It really is an illness that impacts not just the person suffering, but also a young developing person almost entirely dependent on their mother."

The Task Force recommendations were widely covered in the print and electronic media, including *USA Today*, *TIME*, *HealthDay* (via the *Philadelphia Inquirer*), *Washington Post*, *Los Angeles Times*, CNN (via FOX69), and WHYY (Philadelphia) *Newsworks*.

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Dr. Thase is Professor of Psychiatry and Director of the Mood and Anxiety Disorders Treatment and Research Program in the Department of Psychiatry at Penn.

View the US Preventive Services Task Force Recommendation Statement in the January 26, 2016 *JAMA* issue at – <http://jama.jamanetwork.com/article.aspx?articleid=2484345>

View Dr. Thase's accompanying editorial in the January 26, 2016 *JAMA* issue at – <http://jama.jamanetwork.com/article.aspx?articleid=2484316>

View the February 1, 2016 WHYY (Philadelphia) *Newsworks* article at - <http://www.newsworks.org/index.php/health-science/item/90423-expert-panel-recommends-depression-screening-for-pregnant-and-postpartum-women>

Drug That Curbs Heavy Drinking is More Effective in Patients with Specific Genotype – A “Precision Medicine” Approach May Be Needed For Topiramate



Henry R. Kranzler, MD was the senior author of a new risk-benefit analysis showing that topiramate is both highly effective at helping heavy drinkers reduce their drinking and causes fewer side effects in drinkers who carry a specific genotype for the gene *GRIK1*. The findings appeared online on February 16, 2016 in the *Journal of Clinical Psychiatry*.

This important finding continues Dr. Kranzler's pioneering focus on *GRIK1*, which encodes a certain neurotransmitter receptor subunit on brain cells, known as kainate receptors. In 2009, Dr. Kranzler led a team that demonstrated that people with a C allele (one of the four kinds of nucleotide bases) in the DNA sequence in the *GRIK1* gene were significantly more likely to be alcohol dependent. Then, in a landmark 2014 trial, Dr. Kranzler and colleagues found evidence that topiramate's effectiveness was largely limited to people who had two copies of the C allele in that location in *GRIK1* (one copy inherited from each parent).

“In our new study, we've gone a step further with those data and mapped the incidence of side effects in individuals with two copies of the C allele and those with one or no copies of that allele,” Dr. Kranzler said in a February 19, 2016 Penn Medicine news release. He noted that complaints from patients about “adverse events” - such as numbness/tingling in the extremities, change in taste, loss of appetite and weight, and difficulty concentrating, and with memory - have been common among those taking the drug, especially early in treatment.

The research team utilized an effectiveness measure known as Number Needed to Treat (NNT), which indicates how many patients need to be treated, on average, for one patient to have a successful outcome that would not occur with placebo treatment. The study's most striking finding came when the analysis was restricted to the 122 patients of European ancestry, in whom the *GRIK1* C allele is relatively common. Among the 51 patients who had two copies of the C allele of *GRIK1*, topiramate's NNT was 2.28 - signifying strong efficacy - whereas in the remaining 71 patients, who had only one copy of the C allele or two copies of the A allele, the NNT was 180, indicating virtually no efficacy.

When adjusted for adverse events, the NNT for the “CC-genotype” group remained essentially the same. “The drug appears to be very effective in heavy drinkers with this genotype, even when we factor in the risk for adverse events,” Dr. Kranzler explained. In contrast, the NNT in the non-CC group went from bad to worse - it was 322 when taking into account moderate or more severe adverse events.

If these results are replicated in studies of other groups of heavy drinkers, Dr. Kranzler said, clinicians will be able to use a personalized or precision medicine approach - using topiramate only in patients with the CC genotype, because they may be the only ones likely to benefit. A test that detects this genotype from blood samples has already become commercially available.

Dr. Kranzler is Professor of Psychiatry and Director of the Center for Studies of Addiction in the Department of Psychiatry at Penn. Other authors included lead author Richard Feinn, PhD at Quinnipiac University and **Brenda Curtis, PhD** in the Department of Psychiatry at Penn.

View the February 19, 2016 Penn Medicine news release at - http://www.uphs.upenn.edu/news/News_Releases/2016/02/kranzler/

News and Announcements

In the News

Penn Department of Psychiatry faculty are highly acclaimed experts in their chosen fields, often contacted by local, national, and international media outlets for their knowledge about topics of immediate interest. In this section, we provide just a brief sample of the many recent interactions that our faculty have with the press. (For a more complete listing, please visit - <http://www.med.upenn.edu/psych/news.html>.)

How Technology Could Identify and Stop Fraud and Enhance Lie Detection in the Future



Daniel D. Langleben, MD was quoted in a March 2016 story in *The Atlantic* about how new technology could play a role in preventing fraud and enhancing lie detection in the future. The article presented observations from leading fraud researchers, neuroscientists, psychiatrists, and computer scientists on how technology can be put to work to fight fraud however it occurs - in person, online, or over the phone.

The interview with Dr. Langleben focused on how modern technology can be used to detect lying. One approach for enhanced lie detection involves watching what goes on inside the brain. Using brain imaging techniques, Dr. Langleben studies the ways in which neural activity can signify lying. He initially hypothesized that suppressing the truth requires additional cognitive operations that can be detected by fMRI.

Now, he also looks for so-called concealed information, which indicates that people know something they shouldn't - does your brain scan show that you recognize a fraud victim, for instance, after you said you don't know him? Traces of such knowledge on a fMRI scan could serve as an indirect evidence of deception. In a forthcoming paper, Dr. Langleben and his team report that the fMRI-based method outperformed traditional polygraphy by at least 14 percent.

"There's one caveat to all of this," Dr. Langleben said. "What's really important is how you ask the question." He pointed out that a flawed questioning technique can't be helped by a sophisticated scanner.

Dr. Langleben is Associate Professor of Psychiatry in the Department of Psychiatry at Penn.

View the March 2016 article in *The Atlantic* at - <http://www.theatlantic.com/magazine/archive/2016/03/the-future-of-fraud-busting/426867/>

NASA Research Prepares Astronauts for Mars Mission



Mathias Basner, MD, PhD is the recipient of one of eleven NASA grants awarded to ten institutions to investigate astronaut health and performance on future space missions. The institutions will share about \$5.7 million in funding over the next two or three years. The studies will add to what officials already know about the mental and physical health of astronauts, as reported in a February 14, 2016 article in *The Baltimore Sun*.

Dr. Basner's project will study workers in a remote marine research station in Antarctica. It will look at what measures are necessary to counter the inevitable stress, fatigue, and conflict experienced in space. Workers there will do a combination of exercises, while being immersed in a virtual reality environment during their stays of up to 14 months. "We believe this measure will counter some of the negative effects we see in isolated, confined, and extreme environments," Dr. Basner told the newspaper.

Dr. Basner is Associate Professor of Sleep and Chronobiology in Psychiatry in the Department of Psychiatry at Penn.

View the February 14, 2016 article in *The Baltimore Sun* at - <http://touch.baltimoresun.com/#section/-1/article/p2p-85903675/>

Awards and Honors

Regional, National, and International Honors

Dr. Dinges Receives NSBRI Pioneer Award



David F. Dinges, PhD received the National Space Biomedical Research Institute (NSBRI) Pioneer Award at a banquet dinner held on February 10, 2016 at the 2016 NASA Human Research Program Investigators' Workshop on "Frontiers in Human Space Exploration Research" at Galveston Island, Texas. The NSBRI Pioneer Award "recognizes individuals whose efforts and accomplishments have blazed new trails on behalf of the Institute, its partnership with NASA and the space biomedical community at large." The award was established in 2009. Distinguished recipients include former U.S. Senator Kay Bailey Hutchison from Texas.

Dr. Dinges has a long association with the NSBRI and NASA, the National Aeronautics and Space Administration. He has been awarded peer-reviewed grant funding from NSBRI (via NASA NCC9-58) since NSBRI's inception in 1997, and has also received research funding directly from NASA during this period. In 2007, NASA awarded him the Distinguished Public Service Medal, "the highest honor NASA awards to a non-Government employee." This honor is granted to individuals whose accomplishments contributed substantially to the NASA mission. Dr. Dinges is also the recipient of many other honors in the spaceflight research field, including the Raymond F. Longacre Award for Outstanding Accomplishment in the Psychological and Psychiatric Aspects of Aerospace Medicine from the Aerospace Medical Association and election to the International Academy of Astronautics.

Dr. Dinges' most recent research for NASA includes: 1) neurobehavioral studies of two dozen astronauts throughout their six-month missions on the International Space Station; 2) ground-based studies of sleep medications for personalized medicine in space; and 3) coordination of the development and validation of a battery of "Behavioral Core Measures" for use in spaceflight and exploration missions.

Dr. Dinges is Professor of Psychology in Psychiatry and Director of the Unit for Experimental Psychiatry and Chief of the Division of Sleep and Chronobiology in the Department of Psychiatry at Penn.

For more information about Dr. Dinges and the NSBRI Pioneer Award, view the February 25, 2016 Penn Medicine news release at - http://www.uphs.upenn.edu/news/News_Releases/2016/02/dinges/

Dr. Wadden Honored by The Obesity Society



From l. to r. - Adam Gilden Tsai, MD;
Thomas A. Wadden, PhD;
Penny Gordon-Larsen, PhD (President, The Obesity Society)

Thomas A. Wadden, PhD was honored at the 2015 Annual Meeting of The Obesity Society as the inaugural recipient of the Thomas A. Wadden Award for Distinguished Mentorship. The meeting was held in November 2015 in Los Angeles. The award will be presented annually to a mid-career or senior scientist for distinguished mentoring of the Society's new investigators. Recipients will receive a plaque and a prize of \$1,000. The award was created with a generous endowment from multiple contributors, comprised primarily of Dr. Wadden's former mentees, led by Adam Gilden Tsai, MD (former member of Penn's Department of Psychiatry) and **Gary D. Foster, PhD** (Adjunct Professor of Psychology in Psychiatry)

Dr. Wadden is the Albert J. Stunkard Professor of Psychology in Psychiatry and Director of the Center for Weight and Eating Disorders in the Department of Psychiatry at Penn. He served as President of The Obesity Society in 2005-06 and as an Associate Editor of the Society's journal, *Obesity*, from 2008-12. Dr. Wadden's excellence in mentoring was recognized in 2007, when the Penn

School of Medicine presented him with the Arthur K. Asbury Outstanding Faculty Mentor Award.

Awards and Honors

Clinical Recognition

Dr. Ascher Recognized for Clinical Acumen



Michael S. Ascher, MD has been announced as the National Winner of the 2015 Doctors' Choice awards in the Psychiatry category. This honor is determined by the vote of peer physicians. A doctor is selected as a city winner in a particular year based on the most quality reviews from other peer doctors. From these city winners, a national winner is selected from each category.

Dr. Ascher is known for his holistic approach to treatment. He has successfully worked with patients with depression, anxiety, substance use disorders, etc. He is also sought by many to assist with issues related to work and life transitions, stress management, work-life balance, and other issues central to the creative process. He has a private practice in Bala Cynwyd and in Center City, Philadelphia.

Dr. Ascher is Clinical Assistant Professor of Psychiatry in the Department of Psychiatry at Penn.

Upcoming Events

Department of Psychiatry Grand Rounds

Department of Psychiatry Grand Rounds are held on the designated dates in the designated locations. Please note any changes in time. The next lectures are listed below. For more information about Grand Rounds and the 2015-16 schedule, please visit - <http://www.med.upenn.edu/psych/rounds.html>

March 24, 2016

Autism Research

Speaker: Matthew State, MD, PhD

Professor and Chair

Department of Psychiatry

University of California at San Francisco School of Medicine

Location: BRB II/III Auditorium

Time: 12:00PM

April 7, 2016

Bioethics/Clinical Trials

Speaker: Hussein K. Manji, MD, FRCPC

Global Therapeutic Area Head, Neuroscience

Janssen Research & Development, LLC

Location: Arthur Rubenstein Auditorium (SCTR)

Time: 12:30PM

April 21, 2016

Bioethics/Clinical Trials

Speaker: Dominic A. Sisti, PhD

Assistant Professor

Department of Medical Ethics and Health Policy

University of Pennsylvania Perelman School of Medicine

Location: Arthur Rubenstein Auditorium (SCTR)

Time: 12:30PM