

THE WAITING ROOM

THIS WAY IN

Pregnancy-Inspired MS Treatment

The sex hormone estriol, released during pregnancy by the placenta, could be a powerful new treatment for multiple sclerosis. Doctors have known for years that women often experience a sharp drop in the disease's symptoms during the course of pregnancy, and a large trial is now getting underway to test estriol as a therapy for relapsing-remitting MS in women. People with relapsing-remitting MS have flare-ups that impair neurological function, followed by a partial or complete recovery period that is free of disease progression.

"By giving women 8 mg of estriol we are recreating the effect of pregnancy on MS," says **Rhonda Voskuhl, M.D.**, director of UCLA's Multiple Sclerosis Program and the lead researcher on the trial. "Of course, there is a lot going on in a woman's body during pregnancy, and estriol might work synergistically with some of those changes. But in our pilot study four years ago, we gave 8 mg of estriol to 10 non-pregnant women and found an 80 percent drop in inflammatory lesions in the brain. The

women also showed substantial cognitive improvements. The results were pretty remarkable."

Multiple sclerosis is an autoimmune disease of the central nervous system that attacks the tissue surrounding the brain's nerve fibers. This tissue, called myelin, can be compared to the insulation wrapped around an electrical wire. When the myelin is damaged, the nerve's ability to send signals to and from the brain is disrupted, resulting in problems with balance, memory, vision, and other functions.

Currently, anti-inflammatory drugs are used to lessen the symptoms and slow the progression of MS. But they must be given by injection—daily, weekly, or monthly, depending on the drug—and are expensive, costing between \$12,000 and \$24,000 a year.

"The beauty of estriol is that it can be given as a pill, not a shot," Dr. Voskuhl says, "and it has a very good safety record behind it. Hundreds of thousands of women have taken it in Europe and Asia for relief of hot flashes. Unlike estradiol—



PREGNANT WOMAN: VEER; VOSKUHL: UCLA MULTIPLE SCLEROSIS PROGRAM

another form of estrogen—estriol does not cause breast cancer. It can cause endometrial cancer, but that risk is very low if you take progesterone with it, which is how we are using it.” The fact that the estriol pill already exists, Dr. Voskuhl says, should also dramatically reduce the cost of MS treatment.

Produced by the placenta, estriol is virtually undetectable until pregnancy, when it progressively increases in the blood. Scientists think that its role is to suppress a woman’s immune system so that the fetus will not be seen by the body as a “foreign invader.”

This special hormone might even provide a one-two punch against MS, both reducing the ability of immune cells to attack the brain and making the brain more resistant to damage if any immune cells do make it through. “If it does have neuroprotective benefits as well as anti-inflammatory effects,” Dr. Voskuhl says, “then it could be useful in treating other neurological diseases, such as Alzheimer’s.”

Seven institutions from around the country will be involved in the two-year

study. The investigators plan to recruit 150 women with relapsing-remitting MS who have not previously been treated or who have had less than three months of anti-inflammatory therapy. Participants will be given either estriol along with glatiramer (Copaxone), an MS drug currently in use, or a placebo with glatiramer. “That way, no one will receive less than the standard of care,” Dr. Voskuhl says. The team will then measure relapse rates over the course of the trial.

“We’re testing estriol as an adjunct therapy, which is the first step,” Dr. Voskuhl says. “If we show that estriol is useful as an add-on, then we could test it as a treatment on its own.”

“One of the really exciting things about the study is that it was developed by researchers without a tie to the pharmaceutical industry and recommended for funding by the National Institutes of Health and the National MS Society, which is a non-profit. I think that speaks to the strength of the science.”

For more information about the trial, contact the UCLA Multiple Sclerosis program at 310-825-7313.

“Giving women estriol recreates the effect of being pregnant on MS.”

RHONDA VOSKUHL, M.D.



BY THE NUMBERS

Multiple Sclerosis

Multiple sclerosis is a chronic and unpredictable neurological disease. It is thought to be an autoimmune disorder, which causes the immune system to attack healthy tissue. MS symptoms result when such an attack affects myelin, the protective insulation surrounding nerve fibers of the brain and spinal cord.

400,000:

The approximate—and, according to some patient advocacy groups, vastly underestimated—number of Americans living with multiple sclerosis. The Centers for Disease Control and Prevention do not require U.S. physicians to report new cases, and because symptoms can be completely invisible, the numbers can only be estimated.

85:

Percentage of people with relapsing-remitting MS, in which they experience episodes of attacks followed by partial or complete recovery periods.

1 in 750:

The average American’s chance of developing MS.

1 in 3:

The chance of an identical twin of someone with MS developing the disease.

2 to 1:

The ratio of women to men with MS.

75:

Percentage of those with MS who report feeling extreme fatigue, a common symptom and a major reason for unemployment among people with it.

2/3:

Portion of people with MS who will not become paralyzed and will remain able to walk.

Source: National Multiple Sclerosis Society. Call 1-800-FIGHT-MS (1-800-344-4867) or go to nationalmssociety.org for more information.

THE WAITING ROOM



OUR KIND OF GUY

Swimming for Alzheimer's

Some people mail checks in for the causes they care about. But **Martin Strel**, 52, shows his altruism by doing what he does best: marathon swimming.

On Feb. 1, the Slovenian native began the latest of his many nautical adventures, this time, to raise awareness for Alzheimer's disease by swimming the Amazon River. Strel took the plunge from Atalaya, Peru, and if he finishes, he will have covered 3,375 miles by the time he reaches the Atlantic Ocean at Belém, Brazil. His goal is to complete the journey on April 11.

Among the many challenges he'll face during these 70 days are flash floods, scorching sun, rare tropical diseases, hostile villagers, and deadly animals such as crocodiles, piranhas, and snakes. The Amazon Virtual Medical Team, made up of specialists from all over the world, is monitoring Strel's health during the journey—from cyberspace. Strel's other

goal in swimming the Amazon is to promote "telemedicine" as a way to bring much-needed medical care to remote areas through the use of phone, Internet, and satellite technologies.

The medical team will also conduct research in areas along the Amazon in Brazil and Peru to determine the prevalence and incidence of Alzheimer's disease among indigenous people. In doing so, these scientists are addressing a striking imbalance in health care: Less than 10 percent of all population-based dementia research is directed toward the 66 percent or more of all people with dementia who live in developing countries.

Strel set Guinness World Records for swimming the length of the Danube River in Slovenia in 2000, the Mississippi in 2002, and the Yangtze River in China in 2004.

Will he or won't he make it? Track Strel's progress on amazonswim.com.
—Stephanie Cajigal

QUICK TIPS

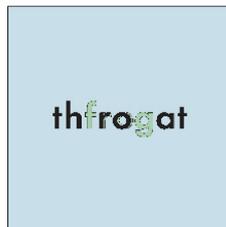
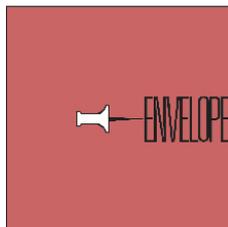
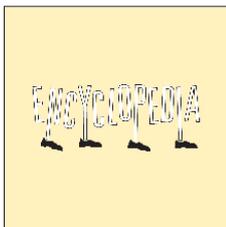
Migraine Prevention

Daylight savings time came early this year, forcing us all to rise sooner—and tempting us to stay out later to enjoy the extra sunlight. But don't change your sleep schedule too much, says Suzanne Simons, executive director of the National Headache Foundation. Any change to your regular sleep-wake cycle can trigger **migraines**. For a migraine-free spring, try the following:

- ☑ **STICK TO THE SAME SLEEP SCHEDULE.** Even getting too much sleep can trigger migraines.
- ☑ **DON'T DELAY OR SKIP MEALS.** A drop in blood sugar can trigger a migraine, so keep healthy snacks handy throughout the day.
- ☑ **GET MOVING.** Simply adding a daily 20-minute walk to your routine can reduce migraines.
- ☑ **LIMIT STRESS.** Even watching a funny movie can make a difference.
- ☑ **DON'T OVERUSE OTC PAIN MEDICATIONS.** If non-prescription drugs aren't mitigating your pain, see a doctor.
- ☑ **KEEP A FOOD DIARY.** Write down what you eat and when you get headaches to identify dietary triggers.
- ☑ **For more information, see the National Headache Foundation's web site at headaches.org.**

NEUROBICS

Can you figure out the common expression represented by each picture?



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SEE ANSWERS ON P. 15



PRESCRIPTION-STRENGTH NEWS

Nicotine Cravings Vanish

Imagine giving up your two-pack-a-day habit in an instant. That's exactly what happens to many cigarette smokers who suffer injuries to a prune-sized section of the brain called the **insula**, a recent study in the journal *Science* reported. Scientists are now looking for ways to safely disrupt the insula's circuits, relieving nicotine addicts of the urge to light up for long enough to quit.

The insula deciphers bodily states such as cold or hunger, and then generates emotions—like the desire to curl up in a blanket or eat pastrami on rye—in response.

No more than 5 percent of smokers are able to permanently quit on their own, according to Jed Rose, director of the Center for Nicotine and Smoking Cessation Research at Duke University, and 400,000 Americans die of smoking-related illnesses each year.

Don't wait for insula research to bear fruit. Smoking cessation programs can be helpful. A good one should:

- ▶ Have at least four to seven sessions and provide both self-help materials and counseling.
- ▶ Have sessions that last at least 20 to 30 minutes.
- ▶ Last at least two weeks past your quit date. The program is most useful after you have quit.
- ▶ Be affordable. Most state health departments can recommend a program in your area, and some health insurance companies will cover the cost.

READING ROOM

The Synesthetic Savant

Daniel Tammet was born on a blue day—a Wednesday, to be exact. Tammet knows this because in his mind, Wednesdays are always blue. The 27-year-old Englishman perceives numbers as having shapes, colors, textures, even personalities: “The number 11 is friendly and 5 is loud,” he says, “whereas 4 is shy and quiet—it’s my favorite number, perhaps because it reminds me of myself.”

Scientists call this visual and emotional experience of numbers or words “synesthesia,” a rare neurological condition that results in an intermingling of the senses. Synesthetes can do things like “hear” colors and “taste” words.

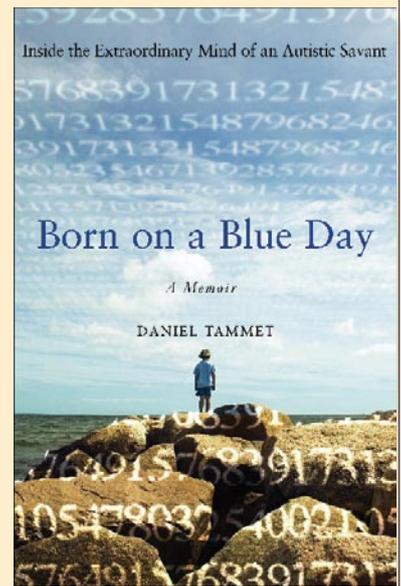
Tammet also has Asperger’s syndrome, a mild and high-functioning form of autism, and savant syndrome, which allows him to perform massive mathematical computations in his head in the time it takes most of us to remember what we ate for dinner on Thursday. In *Born on a Blue Day: Inside the Extraordinary Mind of an Autistic Savant* (Free Press, 2007), Tammet describes what it’s like to possess these remarkable mental gifts and to cope with the burdens they bring. His autism, for example, makes him sensitive to crowds and noise, and he has difficulty socializing, thinking abstractly, and empathizing.

In spite of these obstacles, Tammet tells his story in clear, moving prose. He recounts a childhood marked by solitude, followed by his gradual self-awareness and increasing ability to interact with others (including savant Kim Peek, the inspiration for Dustin Hoffman’s character in *Rain Man*). The book closes with an account of Tammet falling in love.

Tammet’s candid musings on his inner life are as thorough as his need for order. We learn that he eats exactly 45 grams of porridge for breakfast every day. In recalling travel experiences, he includes detailed packing lists and shares his anxiety, his need for mental preparation, and the reassurance he receives from friends.

His gradual successes with developing and sustaining relationships—Tammet actually uses numbers to help him understand others’ emotions and empathize—are hallmarks of this book. “Everyone is said to have a perfect moment once in a while, an experience of peace and connection. . . in that hour he would be closer to the mystery of what it is to be human. It would be like having a glimpse of heaven.”

In this inspirational coming-of-age tale, Tammet’s growth parallels the path of self-discovery that we all face. *Born on a Blue Day* highlights one of the nicer ironies of life, that our individual differences can be the very things that help us connect with other people.—*Elizabeth Stump*



NEUROBIC ANSWERS FROM P. 10: WALKING ENCYCLOPEDIA; PUSH THE ENVELOPE; FROG IN THE THROAT; IN A PICKLE; CRYING SHAME. GO TO MINDWAREONLINE.COM FOR MORE WORD WINKS.