

## YEAR IN REVIEW 2007

# Top 2007 health breakthroughs for women

By Curt Pesmen

## Health

**(Health.com)** -- Let's face it. We live in a time when a "Your Friends Make You Fat" story gets headlined and blogged 24-7 (no matter that it was just one study in a doctors' journal), while the recent discovery of two (two!) genes linked to multiple sclerosis (MS) rates nary a peep.

That doesn't make us shallow (or even overweight), it just means we have to look a little harder for the latest medi-news that truly matters to women. And that's what we've done here: From acne advances to new ways to fight pain, these 19 breakthroughs will help you -- no matter how much your friends weigh -- live a longer, more healthful life.

### 1. Obesity: Fat blockers that work

You've heard about the dangers of abdominal fat and that stress might contribute to the formation of that spare tire. Now there's news that obesity caused by life stress may actually be controllable. Researchers at Georgetown University, under the guidance of Zofia Zukowska, Ph.D., professor and chairwoman of the school's department of physiology and biophysics, injected overfed lab mice with neuropeptide Y (NPY), which stimulated fat growth, and an NPY blocker, which reduced the pro-obesity effects of stress when combined with fat- and sugar-rich foods. The blocker worked. Now they're looking at how to turn off both new fat cells and new blood vessel formation to shrink fatty tissue and treat obesity. We wish they'd hurry up.

### 2. Acne: Vacuum away those zits

There's good news for the 25 percent of acne-afflicted folks who don't respond to traditional Rx acids or peels and microdermabrasion techniques. The U.S. Food and Drug Administration (FDA) recently cleared the new PPx (Photo-pneumatic) Pore-Cleansing System for treating stubborn acne. Originally, PPx was reviewed and OK'd as a hair-removal system. But in recent research at Johns Hopkins University in Baltimore, the treatment showed overwhelming success in reducing signs of acne breakouts. PPx is a two-step process. First, facial pores are gently vacuumed to remove excess oil that blocks pores, then a broadband light (laser) is used to dissolve away any remaining impurities in the skin. Between 70 and 85 percent of those tested responded well to PPx, says Dale Isaacson, M.D., dermatologist and assistant clinical professor at George Washington University. Caveats: As many as five or six \$300 sessions, plus follow-ups, may be required for best effects; and the technique may not work as well on darker skin tones.

### 3. Menstruation: No more periods, period

This spring the first, low-dose, take-every-day birth control pill went on the market in the United States. Although the reception was mixed, there's no doubt it's a medical breakthrough. Not only is Lybrel more than 98 percent effective (in line with other three-month or 21-days-on-7-days-off pills), but over time it effectively stops menstruation. That's welcome news for women with painful or debilitating periods, or those who compete in high-level athletics or are planning a wedding (though some women experience breakthrough bleeding). Could putting your period on hold be dangerous? Long-term testing hasn't been done, but most docs aren't worried. What we like best? The growing number of contraception choices.

### 4. Exercise: Work out -- a little

Don't have time for the recommended hour-a-day workout? That's OK. A good 10 sweaty minutes a day may be enough to help you live longer, says a study published this year in the Journal of the American Medical Association. The research, by Timothy Church, Ph.D., of Louisiana State University, and his colleagues started innocently enough: Sports scientists wanted to learn how many workouts per week it would take to possibly extend the life span of an average, unhealthy woman in her 50s. They got a surprise when, among obese and inactive female subjects studied, a mere 10 minutes of moderate workouts per day (including walking briskly or riding an exercise bike) led to a marked improvement in fitness and decrease in waist size -- and, thus, reduced risks of early death. If 10 sweaty minutes is good, 30 to 60 are still probably better. But on those days you can only "take 10," consider it far better than nothing.

### 5. Cervical cancer: Equal-opportunity vaccine

Gardasil -- a new cervical-cancer vaccine for women -- was big news last year. And rightly so. It's an effective way to control sexually transmitted warts, plus the two strains of human papilloma virus (HPV) that are related to the great majority of cervical and anal cancers. Mark L. Welton, M.D., a professor

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and chief of colorectal surgery at Stanford University wants to spread that good news by offering the vaccine to men, too. "If we really want to control the virus that causes genital warts," he says, "we should also be vaccinating the boys." Not only does a gender-neutral vaccine for sexually transmitted diseases protect men (which, in turn, protects women), but it takes the burden of STD prevention off of women alone.

### 6. Fertility: Freezing eggs for the future

In Israel this summer, a 5-year-old became mother material without asking for the notoriety. In short, because of her childhood-kidney-cancer diagnosis (in addition to associated fears that chemotherapy would rob her of her future fertility), doctors removed some of the little girl's immature eggs -- and cultured them experimentally over two days. Amazingly, they swiftly resembled the eggs of a 20-year-old woman. The eggs were then frozen in hopes of preserving the patient's fertility and providing a possible path to motherhood, should she recover and remain cancer-free. These findings, which made news this summer at a meeting of the European Society of Human Reproduction and Embryology, hold out hope for thousands of childhood- and teenage-cancer patients each year who are told they'll lose their fertility while undergoing chemotherapy or radiation treatments. It's unknown how long a human egg can be safely frozen, and the process isn't foolproof, but the method is producing viable pregnancies.

### 7. Obesity: A new way to fight fat?

Your mother always told you to watch the company you keep. But a much-publicized study done by Harvard and the University of California, San Diego, gives Mom's sage advice a medical twist with its suggestion that your chances of being obese are higher if you have overweight friends. The study followed the medical histories of 12,000-plus subjects -- and their friends and social networks -- over 32 years. Obesity spread among friends (even more than among family) over months and years, as "connected" people adjusted their body images in line with those of their peers, researchers say. In fact, if a subject's friend became obese, the first subject and/or friend interviewed had a 57 percent greater chance of becoming obese herself; when siblings (who have common genes) were compared, the stat was just 40 percent. A big-time medical breakthrough? Maybe not. But it's a big reminder that lifestyle has major health repercussions. What wasn't studied but should be: What happens when one friend starts running marathons?

### 8. Emergency care: No-kiss CPR

A heart stops with no doc nearby about 490,000 times each year in the United States. Now there are two ways to go about restarting it, emergency-style. There's standard CPR (cardiopulmonary resuscitation), which is still recommended by the American Heart Association and American Red Cross. And there's CCR -- cardiocerebral resuscitation -- which ditches the mouth-to-mouth breathing and focuses on continued, rapid chest compressions, with a target goal of 100 heel-of-hand-to-sternum presses within one minute. With early study results showing 9 percent of subjects surviving with CCR versus just 3 percent following older procedures (a success-rate increase of 300 percent), the CCR-style procedure, developed at the University of Arizona Sarver Heart Center, bodes well for heart attack victims of the future.

### 9. Breast health: More reasons to go low-fat

After breast cancer, you may be what you eat; you might "go green," especially if you had the estrogen- and progesterone-receptor-negative type. Results from the Women's Intervention Nutrition Study (a clinical trial, conducted this year, of more than 2,400 early-stage breast-cancer survivors) shows that a low-fat diet (a strict 15 percent of total calories) may reduce odds of a recurrence. In any case, sticking to low-fat, lean protein and loading up on vitamin-rich fruits and veggies can't hurt.

### 10. Digestive health: A camera in a pill

For the millions who postpone colonoscopy screening due to embarrassment or expected discomfort, it may be time to take a chill pill. Or, more properly, a camera pill. Now, PillCam, the same minicam-in-a-capsule technology that's been used for esophagus and small intestine screening since 2003 has been adapted for use in the large intestine. Prior to PillCam testing, you prep the colon with laxatives the night before. Then you visit a doc's office to swallow the pill and start the exam. As the day and PillCam move on, thousands of images of your insides are beamed wirelessly to and stored in an external monitor for later review. The colon PillCam can't replace a standard colonoscopy; if it finds trouble, you'll still need a follow-up colonoscopy. But the pill-camera may well serve as a less-stressful way for countless patients to have extensive baseline colon exams -- without having invasive equipment introduced into their backsides. Speaking of which, when it's all over, the \$450 device exits painlessly and is flushed away.

### 11. Urinary incontinence: Stop the leak

Thanks to surgical and nonsurgical advances, this has been a big year for a big female problem: stress urinary incontinence (SUI), which afflicts up to 15 million women in the United States. In May, results from the largest-ever federally funded study of SUI surgery provided women with new information about surgical options. The study found that one of the two leading techniques -- the fascial-sling method -- was 25 percent more effective at stopping leakage completely than the Burch colposuspension procedure. Then came the announcement of a nonsurgical alternative, Renessa, which can be performed on an outpatient basis or in some OB-GYN offices. Here's how it works: Radio frequency heat waves are delivered via a urethral probe to affected areas of the urethra and adjoining muscles that have atrophied with age or as a result of childbirth or disease; the heat toughens tissue, making it stronger and better able to control urine flow, researchers report.

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### 12. Diabetes: Saying goodbye to needles

Insulin delivery has made great strides, going from needles to pens to patches to nose sprays -- and now to gel. In March, Phosphagenics, an Australian medical firm, announced it's moving ahead with a next-phase study of a transdermal (i.e., absorbed through the skin) insulin gel, which is said to be effective (so far) in getting necessary amounts of the drug into the bloodstreams of diabetic patients -- and delivering it safely. There have long been problems with needles and injectors, especially among younger and older patients, and associated fears often hurt compliance. The Aussie firm's ultimate goal: to provide millions of diabetics who currently use needles or pen-jab devices with a patient-friendly alternative. In the meantime, they're making certain their experimental gel provides a proper insulin dose and stable blood-glucose levels.

### 13. Breast cancer: Melting away metastases

It's not often that breast-cancer doctors take cues from docs who treat prostate cancer in men. But urologists have been using seed implants to treat prostate tumors for some 15 years -- a method that's now being tried on advanced breast cancer. In an intriguing and ongoing study, Affaan Bangash, D.O., a resident at Northwestern University, and Riad Salem, M.D., an associate professor of radiology, oncology, and surgery there, have tested a new form of radioactive seed implants containing microspheres of radiation capable of killing breast-cancer tumors that had spread to the liver, but with fewer side effects than other treatments. In short, the experimental seeds, or brachytherapy, led to positive tumor response on PET [positron-emission tomography] scans in 63 percent of patients in the study, the research says. And while the study is far from complete, it offers a future option for breast-cancer patients who haven't responded as hoped, even after multiple chemotherapies.

### 14. Pain: Block it and stop it

Acute pain, like a sprained ankle or twisted knee, is something doctors -- and patients -- understand and treat pretty well. Chronic pain, as in arthritis, lower-back, or other long-term bone-and-joint problems? Not so much. That's because, after a while, bodies adjust to and refuse to "listen to" standard pain-relieving drugs like ibuprofen, naproxen, or even more serious opioids. And it's now thought that the brain and spinal cord become rewired after serious injury, so more than just the site of injury is affected. This is a big issue for the one in five Americans afflicted with chronic pain. But pain specialists have high hopes for two new high-tech, patient-controlled solutions: a pain-patch, called IONSYS, that delivers fentanyl (an analgesic) upon the push of a button; and a portable, iPod-like nerve-blocking "anesthetic pump" that's being studied on U.S. soldiers, both in the field in Iraq and at home at Walter Reed Army Medical Center in Washington, D.C. The theory: If you can block and stop the rewiring of severe pain signals (along the spinal cord and brain) early on, it may indeed result in less-severe pain for months, perhaps years, to come.

### 15. HIV and AIDS: Protecting immunity

HIV and AIDS may have faded from public consciousness in the United States since the late 1990s, but patients were thrilled to see the approval of a new AIDS treatment. In August, the Food and Drug Administration (FDA) OK'd the use of maraviroc (sold under the brand name Selzentry), a drug that blocks a cell receptor (called CCR5) the HIV virus uses to enter and infect white blood cells. In a sense, the drug blocks, or slows, an HIV patient's immunity breakdown. Drugs for HIV and AIDS haven't worked this way before, although in 2003 the FDA did approve another type of blocker -- an injectable, infusion inhibitor -- that fights a slightly later stage of HIV infection. Selzentry, manufactured by Pfizer, is currently available by prescription; testing for side effects will be ongoing.

### 16. Osteoporosis: Building bones

Osteoporosis warnings have multiplied as the baby boom generation has aged. Luckily, so have the treatments: from daily calcium supplements to once-a-week pills such as Fosamax and Evista, from the Alora patch to once-a-month Boniva. And now, Reclast -- the first once-a-year medical method of osteoporosis treatment -- has received FDA approval. The Reclast twist? This 15-minute infusion, given in a clinic or doctor's office, provides a full year of protection without worries about compliance (forgetting to take a pill has always been a problem). Sounds great, but be sure to ask about side effects, says William Fuller, M.D., chairman of obstetrics and gynecology at Presbyterian-St. Luke's Hospital in Denver. "There have been gastrointestinal side effects from osteoporosis drugs like Fosamax. Now that you have something that stays a whole year in your system, you want to ensure that there will be no side effects."

### 17. Rosacea: No more blushing

About 14 million Americans ages 30 to 60, mostly women, suffer from the long-term redness of the cheeks, nose, and chin called rosacea. The disease fires up tender skin, making it feel hot and angry -- and sometimes the blood vessels become permanently dilated. Until now, doctors could warn patients against the reddening tendencies of spicy foods and alcohol and provide some temporary fixes. But they couldn't really explain the causes of the condition or offer hope for a cure. That may be changing thanks to a team of researchers, led by University of California, San Diego, researcher and dermatologist Richard Gallo, M.D., Ph.D. They've found that overproduction of two interactive inflammatory proteins results in excessive levels of a third protein that causes rosacea symptoms, "a trifecta of unfortunate factors in people with rosacea," Gallo says. His discovery may lead to better treatment and an eventual cure.

**Top 2007 health breakthroughs for women****18. Brain health: A shocking advance**

If you've ever read or seen "One Flew Over the Cuckoo's Nest," it's hard to believe that electric-shock therapy could be a legitimate, compassionate treatment for certain brain disorders. But it is. Nobody's prescribing electroconvulsive therapy for garden-variety depression, but deep-brain stimulation (DBS) -- sometimes called electroshock lite -- is being studied as a possible new means to control severe depression or even post-traumatic stress disorders after military service or a past history of abuse. Neurosurgeons implant and wire a tiny pacemaker, with leads to the areas of the brain believed to be hyperactive, or emotionally disturbed. Then pulses of electric current serve as episodic treatment.

**19. Multiple sclerosis: New genetic clues**

For the first time in more than 30 years, researchers from the International Multiple Sclerosis (MS) Genetics Consortium have discovered genetic clues to why certain people -- usually women between ages 20 and 40 -- develop MS, a severe autoimmune disease in which the body attacks its own nerve cells over time. The new genes, labeled IL-2 and IL-7, are associated with interleukin (IL), a substance that helps direct T cells to fight cellular invaders. For many of the estimated 400,000 MS patients in the United States, early clues to diagnosis (a stumble here, fatigue and a finger or foot weakness there) often go unnoticed. As a result, treatment is often delayed, and the disease is misdiagnosed. And while these two genes (IL-2 and IL-7) hardly tell the whole story of associated nerve degeneration (followed by possible loss of sight, memory, and brain power), they at the least "give us a working hypothesis for what may be causing MS," says David Hafler, M.D., a professor of neurology at Harvard Medical School's Center for Neurological Diseases. They also hold out hope for better treatment: Once researchers find and understand such genes, better drugs to tame incurable MS are far more likely to be found.