June 2010

NIH News in Health

National Institutes of Health · Department of Health and Human Services · newsinhealth.nih.gov

Fun Summer Days

Eating Better, Getting Active

School's out. Things are slow at work. And the warmer weather brings lots of new opportunities to improve your health: plenty of fresh, local produce and more choices for outside activities. Here's how to make the most of the summer months.

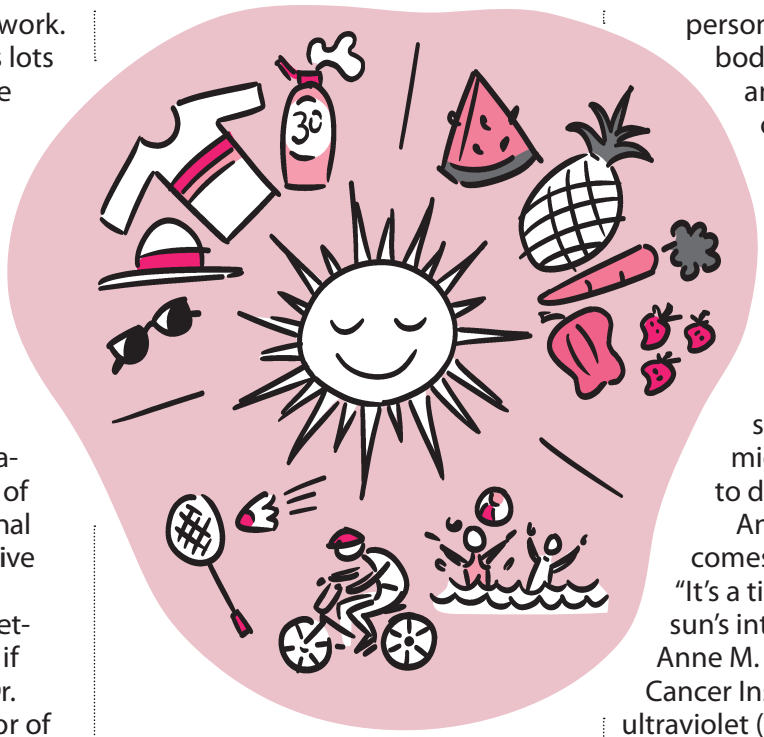
"When the weather is nice, there are more opportunities for getting outdoors and having fun with your family and incorporating exercise into day-to-day life," says Dr. Susan Yanovski, co-director of the Office of Obesity Research at NIH's National Institute of Diabetes and Digestive and Kidney Diseases.

"Summer is a great time for getting out and increasing activity, if done in a safe fashion," agrees Dr. Marie A. Bernard, deputy director of NIH's National Institute on Aging.

There are almost endless choices. Take evening walks around the neighborhood. Sign the kids up for sports programs at the local community or recreation center. Go swimming together. Ride your bike or take a hike through a park. Plan a family softball or soccer game.

Just make sure to exercise a little caution. Heat is the biggest danger in the summer months. Being hot for too long can cause many illnesses, some of which can be deadly. Older people are at particularly high risk for **hyperthermia** because the body's ability to respond to summer heat can become less efficient with advancing years.

Look out for the warning signs of hyperthermia, which include headache, nausea, dizziness, muscle spasms and fatigue. If you suspect someone is suffering from hyperthermia, get the person out of the sun and into a cool place. Offer fluids, preferably water. Urge the person to lie down and rest in the coolest place possible. Encourage them to shower, bathe or sponge off with cool water.



Heat stroke is an especially dangerous form of hyperthermia. It can be life threatening, so you need to get medical help right away. A person with heat stroke has a body temperature above 104° and symptoms such as confusion, combativeness, bizarre behavior, faintness, staggering, strong rapid pulse, dry flushed skin, lack of sweating or coma.

To avoid hyperthermia, don't try to exercise or do a lot of strenuous activities in the midday heat. And make sure to drink plenty of liquids.

Another potential danger comes from the summer sun. "It's a time of the year when the sun's intensity is greatest," says Anne M. Hartman of NIH's National Cancer Institute (NCI). Exposure to ultraviolet (UV) radiation—invisible rays that are part of the energy that comes from the sun and artificial sources like sun lamps and tanning beds—is strongly associated with **skin cancer**.

"Over 1 million new cases of skin cancer are diagnosed in the U.S. each year, outnumbering at least the top 5 body system cancers combined and possibly all other cancers combined," Hartman says. "Both UVB rays, which penetrate the skin, and UVA rays, which penetrate more

continued on page 2

Definitions

Hyperthermia
The general term for heat-related illnesses.

Skin Cancer
A disease in which irregular (cancer) cells form in the tissues of the skin.

continued from page 1

deeply through the skin's two layers and even a bit beyond, cause various types of skin and eye damage, including skin cancer."

To protect yourself from those UV rays, Dr. Frank Perna of NCI cites the catch phrase "Slip, slop, slap and wrap"—slip on a shirt, slop on sunscreen, slap on a hat and wrap on sunglasses.

Slip on protective clothing. Choose shirts with long sleeves and long pants to protect as much as your body from the sun as possible. Many modern fabrics are light and breathable yet protect your skin from the sun. "A good rule is if you can see through the clothing, UV can pass through it and it will not provide you optimum protection," Perna says. Some clothes are now marked with an "Ultraviolet Protection Factor" or "UPF." UPF measures the amount of UV radiation that can penetrate the fabric. For example, a UPF of 50 means that it allows only 1/50th, or 2%, of UV to pass through it.

Slop on sunscreen. It may help prevent skin cancer, although sunscreen can't replace avoiding the sun during peak hours, staying in the shade and wearing protective clothing. Look for sunscreen with a sun protection factor (SPF) of at least 15. Those with an SPF of 30 or higher will provide the most protection.

Right now, unfortunately, SPF only measures protection from UVB rays. "Since both UVA and UVB cause damage to the skin, you should use a broad spectrum sunscreen, one that contains ingredients to protect against both UVA and UVB," Hartman says. The U.S. Food and Drug Administration has proposed a set of regulations for rating UVA protection. For now, those product labels should at least mention UVA protection.

Slap on a hat. "All hats are not equally protective," Hartman notes. "Choose hats that are broad brimmed all around to shade the ears and neck as well as the face."

And finally, ***wrap on sunglasses.*** The label should say that the lenses block at least 99% of UVA and UVB radiation.

Now that you've got yourself covered, you can get outside and get active.

Don't forget there are also healthy eating opportunities that come with warmer weather. "I think it's easier to eat healthfully during the summer," Yanovski says. "When you're hot, a salad tastes really good. It's easy to grill some chicken and make a salad with some grilled chicken or fish and fresh fruits and vegetables."

There are more locally grown fruits and vegetables. "You can have fun trying what's seasonal and tasty," she says.

Some people find it challenging to eat well during summer picnics and barbeques. "A lot of the side dishes, things like potato salad and cole slaw, can be loaded with fat and calories," Yanovski says. "What you can do is offer to bring a side dish yourself and bring a fresh fruit salad, a side salad or some cut up vegetables with some hummus."

And stay away from the food table so you're not tempted to eat things you'd rather avoid, she says.

Something else to think about in the heat is keeping foods cool to avoid food poisoning. Microbes can grow quickly in food that's left out for too long.

With some planning, you can enjoy the opportunities that summer brings and avoid the health risks. ■

Web Links

For more about summer safety, see our links online:

http://newsinhealth.nih.gov/issue/Jun2010/Feature1

Wise Choices
Healthy Summer Habits

- Beat the sun and heat with an early morning or evening activity.
- Wear protective clothing, such as hats with broad brims all around, long-sleeve shirts and long pants or skirts, to block out the sun's harmful rays.
- Use sunscreen that blocks both UVA and UVB with a sun protection factor (SPF) of at least 15, preferably 30, and reapply frequently.
- Use sunglasses that block both UVA and UVB.
- Try to stay in the shade when outdoors during peak sunlight.
- Go to an air-conditioned gym, do water workouts or use a fitness video at home.
- Drink plenty of water before, during and after exercise.
- Take advantage of seasonal fruits and vegetables at your local farmers market, or grow your own.
- Boost the flavor and nutrition of your meals with garden-fresh herbs.

NIH News in Health (ISSN 1556-3898)

National Institutes of Health
Office of Communications
& Public Liaison
Building 31, Room 5B64
Bethesda, MD 20892-2094
nihnewsinhealth@od.nih.gov
Tel: 301-435-7489 Fax: 301-496-0019

Editor Harrison Wein, Ph.D.
Assistant Editor Vicki Contie

Contributors Vicki Contie, Alan Defibaugh (illustrations), Bryan Ewsichek (design) and Harrison Wein

newsinhealth.nih.gov

Too Young for Hot Flashes?

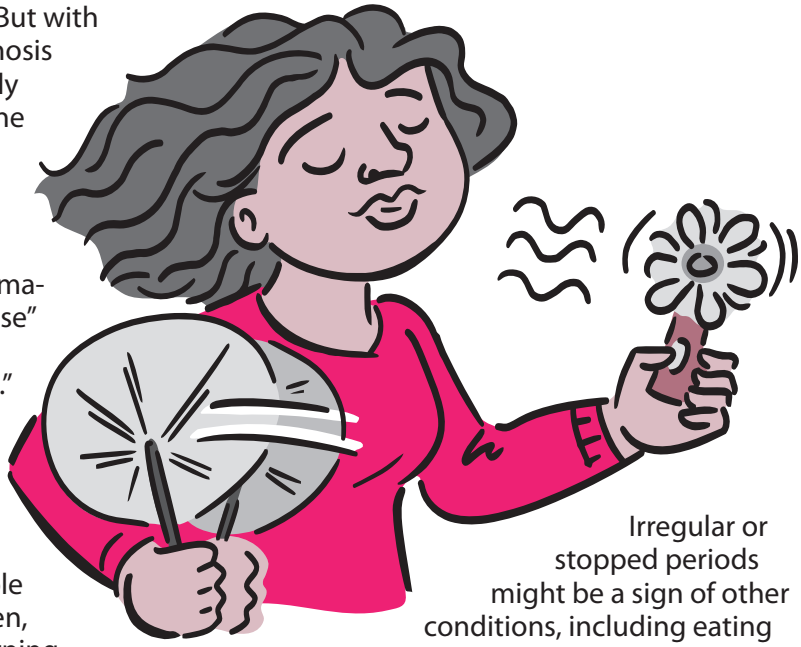
When Menopause-Like Symptoms Come Too Soon

Hot flashes, night sweats, loss of regular menstrual periods and sleep problems. These familiar symptoms of menopause appear in most women around age 50. But if they arise before age 40—which happens for about 1 in 100 women—it's a sign that something's wrong. Early symptoms like these could be a sign of a little-understood condition called primary ovarian insufficiency (POI).

Most women with POI are **infertile**. They're also at risk for bone fractures and heart disease. And many aren't aware they have POI.

"Symptoms of POI can be missed because young women may not realize they're having symptoms similar to menopause. They may not think hot flashes are worth mentioning to a doctor," says Dr. Lawrence M. Nelson, a researcher and physician at NIH. "Some teens and young women think of the menstrual cycle as a nuisance, and they don't mind missing periods. They don't take it seriously, and that's a mistake." Missing or irregular periods are a major sign of POI.

When young women have POI, their ovaries don't work normally. They stop regularly releasing eggs and cut back production of estrogen and other reproductive **hormones**. These same things happen when older women go through menopause, which is why the symptoms are similar. As with menopause, POI symptoms can often be relieved by hormone replacement therapy, usually an estrogen patch. And as with menopause, POI puts women at risk for bone loss. But with a proper diagnosis of POI and early treatment, bone health can be protected.



POI was previously known as "premature menopause" or "premature ovarian failure." But research has since shown that ovarian function is unpredictable in these women, sometimes turning on and off, which is why many physicians now prefer the term primary ovarian insufficiency.

Many aspects of POI remain mysterious—including its cause. Only 10% of cases can be traced to either to a genetic condition or to autoimmunity—a disorder in which the immune system attacks the body's own tissues.

Nelson's research has shown that the unexpected loss of fertility often leads to grief and symptoms of anxiety and depression in women with POI. But a recent study from his lab suggests that most young women and teens with POI still have immature eggs in their ovaries. The finding raises the possibility that future treatments might be developed to restore fertility to some affected women. Even without treatment, up to 1 in 10 women with POI may unexpectedly become pregnant after their condition is diagnosed.

Irregular or stopped periods might be a sign of other conditions, including eating disorders or too much exercise. A simple blood test for elevated levels of a molecule called follicle stimulating hormone (FSH) can help to confirm a diagnosis of POI.

"Having regular menstrual periods is a sign that the ovaries are working properly," says Nelson. "If that isn't happening, it's important for girls and young women to talk to their health care provider and find out why."

Nelson is now looking for 18- to 42-year-old women with POI to enroll in clinical studies at NIH. For more information, visit http://poi.nichd.nih.gov. ■

Definitions

Infertile
Unable to get pregnant.

Hormones
Molecules sent through the bloodstream to signal another part of the body to react a certain way.

Web Links

For more about POI, see our links online:
http://newsinhealth.nih.gov/issue/Jun2010/Feature2

Wise Choices
Symptoms of POI

See a health care provider if you're a woman under age 40 and you experience these symptoms:

- Absent or irregular periods
- Hot flashes or night sweats
- Irritability or poor concentration
- Decreased sex drive
- Painful sex, drying of the vagina
- Infertility

Health Capsules

For links to more information, see these stories online:
http://newsinhealth.nih.gov/issue/Jun2010/Capsule1

Patient's Genome Reveals Medical Risks

By evaluating the entire **genome** of a 40-year-old man, scientists estimated his risk for dozens of diseases. They also determined his likely response to several common drugs. The study shows how whole-genome sequencing might someday be used in the clinic.

Scientists today can figure out the sequence of all 3 billion "letters" in the human genome much more quickly and at a lower cost than ever before. If the genome shows an increased risk for certain conditions, patients could take steps to reduce their risk. They might eat a healthier diet, exercise more or take certain medications.

Researchers found that the man's genome contained gene variants linked to several diseases that affect some of his family members. These disorders included **cardiovascular** disease and early sudden death. The scientists also uncovered gene variants linked to conditions not known to be in his family, such as thyroid disease.

Some variants even predicted the man's likely responses to certain heart medications. That information might be especially helpful since he's at risk for cardiovascular disorders.

"This work provides a glimpse of how genomics can play a role in personalizing the medical care of individual patients," says Dr. Jeremy Berg, director of NIH's National Institute of General Medical Sciences.

Although the study is promising, many scientific and ethical issues will need to be addressed before whole-genome analysis becomes widespread. ■

Definitions

Cardiovascular
The system of heart and vessels that circulates blood through the body.

Genome
The full set of all your genes.

Learn About Chronic Kidney Disease

Millions of Americans have chronic kidney disease, but many don't realize they have it. That's because early kidney disease has no symptoms. You might feel just fine until your kidneys have almost stopped working.

The main job of the kidneys is to filter extra water and wastes out of your blood and to make urine. The kidneys also help control blood pressure and make hormones that your body needs to stay healthy.

Chronic kidney disease arises when the small blood vessels in the kidneys become damaged, usually because of diabetes or high blood pressure. If the disease progresses, the kidneys may no longer be able to function well enough to maintain health.

The earlier you know you have kidney disease, the better. The right treatment can help prevent further kidney damage and slow down kidney disease. With early detection, you can start taking medications sooner and take other steps to keep your kidneys healthy longer.

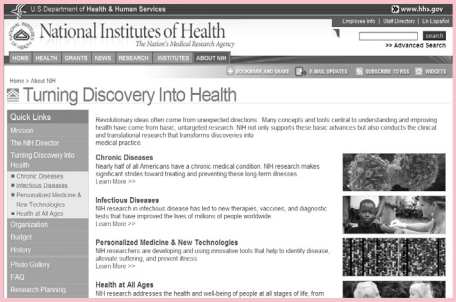
You're at increased risk for chronic kidney disease if you have diabetes, high blood pressure, heart disease or a family history of kidney failure. If one of these describes you, don't wait for symptoms. Ask your doctor about getting checked. Simple blood and urine tests are the only way to know if you have kidney disease.

You can learn more about chronic kidney disease, including how to talk to your family and your doctor about the condition, at www.nkdep.nih.gov/patients. The information is available in Spanish at www.nkdep.nih.gov/espanol. ■

Featured Web Site
Turning Discovery Into Health

www.nih.gov/about/discovery

Did you know that Americans today live longer and healthier than ever before? NIH research helped to make these improvements possible. This easy-to-ready website shows how innovative science can help protect us against infectious diseases and long-term illnesses throughout our lives.



How to get NIH News in Health

Read it online.
Visit **newsinhealth.nih.gov**

Subscribe

Get it by email.
Click the "Subscribe" button on our home page to sign up for email updates when new issues are posted online.

Get it in print.
Contact us (see page 2) to get print copies free of charge by mail for display in offices, libraries or clinics within the U.S. You can also download PDF versions suitable for printing at our web site.