

NIH MedlinePlus

Fall 2011

Trusted Health Information
from the National
Institutes of Health



the magazine

**Plus, in
this issue!**

- **Controlling
High Blood
Pressure**

Young adults at risk

- **Managing
Asthma**

Turning discovery
into health

- **Millions
Untreated**

Get tested
for peripheral
artery disease

Actress

Debra Winger

*"Everyone is touched
by addiction..."*

Speaking out for

Drug Abuse Education



Photo: NLM

Donald West King, M.D.
FNLM Chairman

2011 Awards Gala

Celebrating Leadership in Health
and Medicine & 175th Anniversary
of the National Library of Medicine

Thursday, November 3, 2011

6:30 – 9:30 PM

Great Hall, Jefferson Building

Library of Congress

Washington, DC



Photo: Library of Congress

It is an honor and pleasure each year for the Friends to hold an Awards Gala to celebrate the advancements made in public health, medicine, and health communications, along with the individuals and organizations who are dedicated to this cause. The 2011 Annual Awards Gala on November 3 will bring together representatives from the public, professional, and business sectors in health care to show their support for the Library—this year celebrating its 175th anniversary.

For their achievements and support of the advancement of health, five recipients will be honored:

- **Distinguished Medical Informatics Award** Larry Ellison, Founder and CEO, Oracle
- **Paul G. Rogers Health Communications Award** Mehmet Oz, MD, and Michael Roizen, MD, co-authors, *YOU: The Owner's Manual*
- **Distinguished Medical Science Award** Purnell W. Choppin, MD, President Emeritus, Howard Hughes Medical Institute
- **Michael E. DeBaKey Library Services Outreach Award** Ann Duesing, Outreach Librarian, Claude Moore Health Sciences Library, UVA

We hope that you will join us for this gala evening! For more information on the honorees and to find out how to attend, visit www.fnlm.org.

Sincerely,
Donald West King, M.D., Chairman
Friends of the National Library of Medicine

For more information
on how to attend, visit
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202-679-9930.

Let Us Hear From You!

We want your feedback on the magazine and ideas for future issues, as well as questions and suggestions.

Please email your letters to Managing Editor Selby Bateman (sbateman@kramestaywell.com) or send mail to Editor, *NIH MedlinePlus* magazine, P.O. Box 18427, Greensboro, NC 27419-8427. We look forward to hearing from you.

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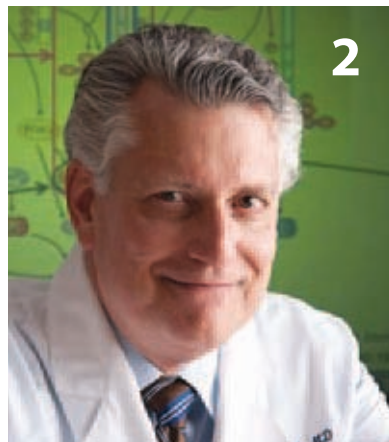
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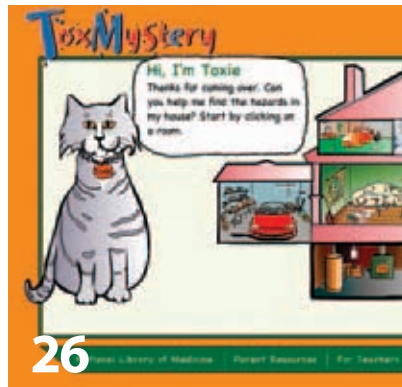
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The National Institutes of Health (NIH)—the Nation's Medical Research Agency—includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical, and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

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NIH Research:

“The public wants diseases cured...”



Dr. Dean Metcalfe is Chief of the Laboratory of Allergic Diseases at the National Institute of Allergy and Infectious Diseases (NIAID), Chief of the Mast Cell Biology Section, and Associate Director of the Allergy and Immunology Training Program. A specialist in the biology of mast cells, which cause allergic reactions, he spoke recently with *NIH MedlinePlus* magazine’s Christopher Klose about the challenges and rewards of medical research.

What kind of research do you do and why is it important?

Dr. Metcalfe: As clinical researchers, we choose specific diseases and conditions to study and manage, such as severe asthma, allergies, or a specific research focus; in my case, mast cells, which cause allergic reactions. We look at the mechanisms of disease; how asthma develops, for example. It is a slow and painstaking process.

But by understanding more and more, we can learn how to discover new approaches to therapy, to treating people more effectively. Clinical research is multifaceted, with everyone

working together to make patients feel better. That’s always the goal, the most important aspect of what we do.

How big is your research team?

Dr. Metcalfe: We have approximately 55 people, including principal investigators—the independent scientists responsible for specific studies—staff scientists and staff clinicians, fellows in training, research nurses, and technical and administrative support staff. In addition to basic research, we initiate and maintain a dozen or more clinical studies on specific diseases relating to allergy at any one time in the NIH Clinical Center; and we supervise allergy and immunology training for selected

pediatric and internal medicine physicians who are specializing in allergic and immunologic diseases.

Give me an example of what you're talking about.

Dr. Metcalfe: We'll work with people who have severe, life-threatening allergic reactions to foods or bee stings, for example. These reactions are called anaphylaxis, and people who have it typically carry injectable epinephrine to protect themselves if they eat the wrong food or they're stung. We'll bring them in to study their disease with a focus on mast cells.

Mast cells make up approximately 1 percent of the body's tissues and are believed to play defense against infectious organisms. But when they go wrong, you get allergic reactions. Our goal is to understand why and find out how to better manage, if not cure, the problem.

How much progress has there been?

Dr. Metcalfe: A great deal in my lifetime. I suffered from severe asthma as a child in the 1950s. There were very few medicines to control the symptoms. I would get terribly short of breath and the doctor would have to come to the house and give me a shot to get through the night. Back then, the advice was not to exercise, too. Fortunately, that didn't make sense to my parents or me, so I did. I have great sympathy for how hard it is for parents to deal with their children's conditions.

Today, there are many treatments to control asthma symptoms, from steroids to patient-specific action plans, including recommending exercise. Very few people end up in the hospital.

Did your asthma influence your becoming a doctor?

Dr. Metcalfe: Yes. I was impressed with doctors helping me and thought, "I can do this." I was 10 when I told my parents I was going to be a doctor. But my doctor said, "You can't. You have severe asthma." I didn't believe him.

What are you working on now?

Dr. Metcalfe: In one asthma study, we are looking at the muscle cells in the body's airways so that we can devise medicines to make them work properly. And, recently, as part of our allergy training program, we found that a little-used technique for measuring lung function, called impulse oscillometry, could be easier and safer to use in young children than current techniques.

Are there any boundaries to your research?

Dr. Metcalfe: Yes. We have to show that some aspect of a disease or condition, such as the functioning of airway muscle cells or mast cells, must be studied. NIH occupies a

unique position in U.S. and world science. Through the Clinical Center, we have ready access to our patients. This leads to faster analysis and opens new paths to improved patient care.

Also, all our research findings are transmitted worldwide. So this means that someone suffering from asthma in India, for example, could benefit almost immediately from the advances we make here. We spend a great deal of time on the phone and the computer answering questions from other doctors, patients and researchers around the world. We have an obligation to get the best science out.

If we advance in a vacuum, no one benefits.

“Today, there are many treatments to control asthma symptoms, from steroids to patient-specific action plans.”

What are the challenges of research?

Dr. Metcalfe: You have to keep up with the technology, certainly. Also, we must remain open to new ideas and incorporate them into our work. For example, the mapping of the human genome has opened up new avenues for exploring and understanding diseases, such as in my area of mast cells. Lastly, researchers must feel we're making a difference in human suffering.

What are the benefits?

Dr. Metcalfe: We feel very privileged to be at NIH. It's a rare place that affords this kind of complex, long-term research funded by the American taxpayer. The public wants diseases cured. It is our privilege as researchers to be able to help make a difference, to ease suffering and pain.

In closing, what are your top tips for helping people manage their asthma or other condition?

Dr. Metcalfe: First, learn as much as possible about your disease from reliable sources and by working with your doctors—being very careful about Internet sources. Second, take charge and be active in caring for yourself: take your medicines, don't smoke, eat a healthy diet, and exercise regularly. Last, speak out in support of medical research, especially that which helps you.

Turning Discovery Into Health— Asthma



Photo: iStock

Revolutionary ideas often come from unexpected directions. Many concepts and tools central to understanding and improving health have come from basic, untargeted research. NIH not only supports these basic advances but also conducts the clinical and translational research that transforms discoveries into medical practice in four areas: chronic diseases, infectious diseases, personalized medicine and new technologies, and health at all ages.

FASTFACTS

- Asthma is a chronic (long-term) lung disease that inflames and narrows the airways. The exact cause is unknown. There is no cure.
- Asthma most often starts during childhood. Of the 24.6 million Americans affected, nearly seven million are children.
- Asthma causes wheezing, chest tightness, shortness of breath, and coughing at night or early morning.
- Sometimes symptoms are mild and go away on their own or after minimal treatment. When symptoms get more intense and/or more symptoms occur, you're having an asthma attack.
- It's important to treat asthma symptoms when you first notice them. This helps prevent them from worsening and causing severe attacks that may require emergency care, and can be fatal.
- Asthma is diagnosed based on your medical history, a physical exam, and test results. Diagnosis is difficult in children under five.
- You must actively manage your asthma, get ongoing care, and watch for signs it is worsening.
- Exercise is an asthma trigger, but do not avoid it. Physical activity is important for health. Discuss with your doctor medicines that can help you stay active.
- Most people who have asthma are able to manage the disease. They have few, if any, symptoms and can live normal, active lives.

Asthma and Your Airways

(Top row) Location of the lungs and airways in the body. (Second row) At left, cross-section of a normal airway. Middle and right images show a cross-section of an airway during asthma symptoms and attack.

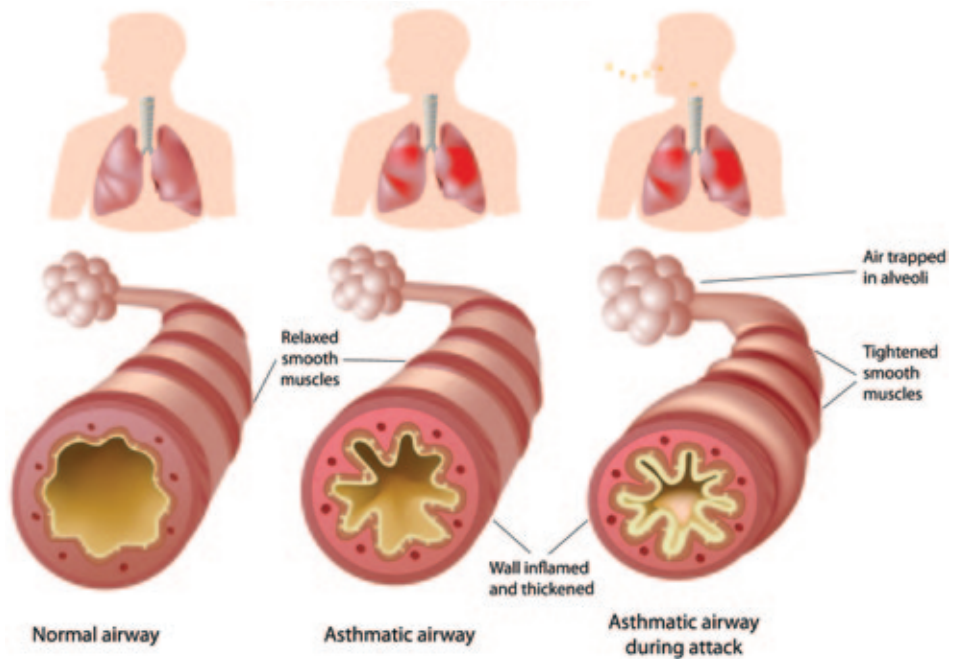


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Chronic Diseases: Asthma and You

Chronic medical conditions—including cardiovascular disease, cancer, diabetes, and depression—cause more than half of all deaths worldwide. These long-term diseases affect people of all ages, both rich and poor, in every ethnic group. Many chronic diseases have genetic components, which raise disease risk in certain people or populations. The environment can also contribute to risk, and so can lifestyle choices, including your diet, physical activity, and whether or not you smoke.

What Is Asthma?

Asthma is a lung disease that inflames and narrows the airways, causing wheezing, chest tightness, shortness of breath, and coughing at night or early morning. It starts mostly in childhood but affects all age groups. Some 24.6 million Americans have asthma, seven million of them children. Asthma is a chronic—long-term—disease.

Overview

Airways are tubes that carry air into and out of your lungs. People with asthma have inflamed airways. They are

swollen, very sensitive, and tend to react strongly to some inhaled substances.

When airways react, surrounding muscles tighten, airways narrow, and less air flows into the lungs. Swelling can worsen, making airways even narrower. There may be more mucus than normal, causing further narrowing.

This chain reaction can cause asthma symptoms each time airways inflame.

Sometimes, symptoms are mild and go away on their own or after treatment with medicine. Other times, they may get worse. If you have more symptoms or they get worse, you're having an asthma attack, or flareup.

It's important to treat symptoms when they first appear to prevent them from getting worse and causing severe attacks. Severe attacks require emergency care and can be fatal.

Outlook

Asthma can't be cured, but it can be controlled. With today's knowledge and treatments, most asthmatics (people who have asthma) can manage the disease. They have few, if any, symptoms, live normal, active lives and sleep through the night.

For successful, ongoing treatment, manage your asthma actively. Build strong partnerships with your doctor and other healthcare providers.

What Causes Asthma?

Asthma's cause is unknown. Some genetic and environmental factors may interact to cause asthma, most often early in life, including:

- An inherited tendency to develop allergies
- Parents with asthma
- Environmental exposures—to allergens, tobacco smoke, or respiratory viral infections—during pregnancy, infancy, or early childhood.

Researchers continue to explore what causes asthma.

Who Is at Risk?

Asthma affects people of all ages, but most often starts during childhood. There are more than 24.6 million Americans with asthma, seven million of them children.

Young children who frequently wheeze when they have respiratory infections and who have other risk factors—parents with asthma, eczema (an allergic skin condition), allergies—are at highest risk of asthma continuing beyond six years of age.

More boys have asthma than girls. In adults, more women than men have asthma. The role of gender and sex hormones is unclear. Most people who have asthma have allergies. Some people develop “occupational asthma” from contact with chemicals or dusts in the workplace.

Triggers

Many things can set off or worsen symptoms. Triggers may include:

- Allergens from dust mites, animal fur, cockroaches, mold, and pollen from trees, grasses, and flowers
- Cigarette smoke, air pollution, chemicals or dust in the workplace, and sprays (such as hairspray)
- Aspirin or other nonsteroidal anti-inflammatory drugs and some blood pressure medicines called beta blockers
- Sulfites in foods and drinks
- Colds and other viral upper respiratory infections
- Physical activity, including exercise

Asthma can be harder to manage due to rhinitis, sinus infections, reflux disease, psychological stress, and sleep apnea. These need to be included as part of an overall asthma care plan.

Asthma is different for each person. Some triggers listed above may not affect you. Others that do may not be on the list. Talk with your doctor about what seems to make your asthma worse, and how you can reduce your exposure to them.

Signs and Symptoms

Common signs and symptoms of asthma include:

- Coughing at night or early in the morning, making it hard to sleep.
- Wheezing.
- Chest tightness, like something squeezing your chest.
- Shortness of breath, feeling out of breath, or being unable to expel air from your lungs.

Not everyone with asthma has these symptoms. Nor does having them always mean asthma. To diagnose asthma for certain requires a lung function test, a medical history (including type and frequency of symptoms), and a physical exam.

Asthma symptoms vary in frequency and severity. Sometimes they may just annoy you. Other times they might limit your daily routine. Severe symptoms can be fatal, so it's important to treat symptoms when you first notice them, so they don't become severe. With proper treatment, most people can expect to have few symptoms, if any, day or night.

Diagnosis

Asthma is diagnosed based on your medical and family histories, a physical exam, and test results. You may need to see an asthma specialist if you:

- need special tests to help diagnose asthma
- have had a life-threatening asthma attack
- need more than one kind or higher doses of a medicine to control, or have problems controlling your asthma
- are considering getting allergy treatments

Medical and Family Histories

Your doctor may ask about your family history of asthma and allergies, and whether, how often, and when you have asthma symptoms. Be sure to say whether your symptoms happen only during certain times and in certain places, or if they get worse at night.

Your doctor also may ask what triggers or worsens your symptoms, and about related health conditions that can interfere with asthma management, such as a rhinitis, sinus infections, reflux disease, psychological stress, and sleep apnea.

Asthma treatment for certain groups of people—such as children, pregnant women, or those for whom exercise brings on asthma symptoms—will need to be adjusted to meet their special needs.

Physical Exam

Your doctor will listen to your breathing and examine your chest, nose, and skin for signs of asthma or allergies, including wheezing, rhinitis, or swollen nasal passages, and allergic skin conditions (such as eczema). You can still have asthma even if you don't exhibit these signs when you are examined.

Diagnostic Tests

Lung Function Test

Your doctor will check your lungs, including how fast you can blow air out. You may be given medicine, then tested again to see whether the results have improved. If the initial results are below normal and improve with the medicine, and if your medical history shows a pattern of asthma symptoms, you are likely to be diagnosed with asthma.

Other Tests

Other tests to diagnose asthma include:

- Allergy testing.
- Measuring sensitivity of airways. This test repeatedly measures lung function during physical activity or after receiving increasing doses of cold air or breathing in a special chemical.
- Comparing your symptoms with those of conditions similar to asthma's, such as reflux disease, vocal cord dysfunction, or sleep apnea.
- A chest X-ray or EKG (electrocardiogram) to help find out whether a foreign object or other disease may be causing your symptoms.

Diagnosing Children

Most children develop asthma before they are five, but it can be hard to diagnose. Sometimes, asthma symptoms occur with other conditions. Also, many young children who wheeze when they get colds or respiratory infections don't develop asthma.

A child may wheeze because he or she has small airways that become even narrower during colds or respiratory infections. The airways grow as the child grows older, so wheezing stops. A young



Photo: iStock

child who has frequent wheezing with colds or respiratory infections is more likely to develop asthma if:

- One or both parents have asthma
- The child has signs of allergies, including the allergic skin condition eczema
- The child wheezes even when he or she doesn't have a cold or other infection

The most certain way to diagnose asthma is with a lung function test, medical history, and physical exam. However, it's hard to do lung function tests in children younger than five. Doctors must rely on medical histories, signs and symptoms, and physical exams. A four to six-week trial of asthma medicines to see how well a child responds also may be used.

Treatment and Control

Since asthma can't be cured, the goal is to:

- Prevent chronic, troublesome coughing, shortness of breath, and other symptoms
- Reduce the need for quick-relief medicines
- Help maintain good lung function
- Maintain normal activity and sleep through the night
- Prevent attacks resulting in emergency room visits or hospital stays

Everyone, including younger children who are able, should actively manage their asthma care.

This involves:

- Following a written asthma action plan that you develop with your doctor
- Taking medicines correctly
- Avoiding asthma triggers (except physical activity; you can take medication to allow full participation in physical activities)
- Recognizing and acting promptly to symptoms and signs of worsening asthma
- Seeking medical care for asthma attacks when it is needed
- Getting regular “asthma checkups” (about every six months if your asthma is in good control; more frequently if it is not)
- Treating other conditions that can interfere with asthma management



Photo: iStock

Medicines

Asthma is treated with long-term control and quick-relief medicines. The former help reduce airway inflammation and prevent asthma symptoms; the latter relieve asthma symptoms that flare up. The initial treatment for long-term management of asthma depends on the severity of the asthma. Long-term follow-up treatment depends on how well the asthma is controlled.

Control can vary over time and with changes in home, school, or work environments, which alter exposure to asthma triggers. Medicines may need to be increased if asthma doesn't stay under control. If it does, they may be decreased. The goal is to maintain the best control possible with the least amount of medicine necessary.

Asthma treatment for certain groups of people—such as children, pregnant women, or those for whom exercise brings on asthma symptoms—will need to be adjusted to meet their special needs.

NIH-Sponsored Research

- **Asthma in the Inner City:** Recognizing that asthma severity in inner-city children is disproportionately high, the National Institute of Allergy and Infectious Diseases (NIAID) and the National Institute of Environmental Health Sciences (NIEHS) has sponsored research to reduce the public health burden that asthma presents in inner-city populations. Beginning in 1991, NIAID has supported three consecutive inner-city asthma research programs, which have been successful in reducing asthma severity in children. The latest study—the Inner-city Asthma Consortium (ICAC)—consists of two phases: Phase I from 2002-2009 and Phase II from 2009-2014. There are 11 research sites nationally involved in ICAC. In one of two clinical trials, the results of the study clearly demonstrated that asthma, even in inner-city populations, can be well-controlled using current asthma treatment guidelines.
- **Mold and Childhood Asthma:** Infants who live in “moldy” homes are three times more likely to develop asthma by age 7—an age that children can be accurately diagnosed with the condition, according to a recent study funded, in part, by the National Institute of Environmental Health Sciences (NIEHS). “Early life exposure to mold seems to play a critical role in childhood asthma development,” says Tiina Reponen, Ph.D., lead study author and University of Cincinnati (UC) professor of environmental health. “Genetic factors are also important to consider in asthma risk, since infants whose parents have an allergy or asthma are at the greatest risk of developing asthma.” UC and Cincinnati Children's Hospital Medical Center researchers analyzed seven years of comprehensive data for 176 children to evaluate the effects of mold exposure in early life. The children were part of the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS), a long-term population-based study that included more than 700 children from the Greater Cincinnati area.
- **An African American Asthma Gene:** Genetics researchers have identified a gene that is linked specifically and only to individuals of African descent who have asthma. The gene variant was identified in a large genome-wide association study (GWAS) carried out by a consortium of nine research organizations that also identified other genes that were common across multiple ethnic groups. The consortium was formed, in part, due to the difficulty of finding asthma risk factors without large amounts of pooled data. The study was funded by the National Heart, Lung, and Blood Institute.

Jackie Joyner-Kersey: Living with Asthma



Olympic triple Gold Medalist Jackie Joyner-Kersey became the world's top woman athlete in the heptathlon and long-jump competitions, despite severe asthma.

While she was a top student-athlete at UCLA in the early 1980s, Jackie Joyner-Kersey was diagnosed with asthma. But she hid that fact from her coaches, afraid they would make her stop running.

"I was always told as a young girl that if you had asthma there was no way you could run, jump, or do the things I was doing athletically. So, I just knew

it was impossible for me to have it. It took me a while to accept that I was asthmatic. It took me a while to even start taking my medication properly, to do the things that the doctor was asking me to do. I just didn't want to believe that I was an asthmatic.

"But once I stopped living in denial, I got my asthma under control, and I realized that it is a disease that can be controlled. But there were things I had to do to get it under control."

In 1984, Joyner-Kersey won the Olympic Silver Medal in the 7-event Heptathlon. In 1986, she was the first American woman to set a world record in a multi-event competition. In 1987, she was voted the Associated Press Athlete of the Year. In 1988, she won two Olympic Gold Medals. And in 1992, she won Olympic Gold and Bronze medals. *Sports Illustrated* voted Joyner-Kersey "The Greatest Female Athlete of the 20th Century."

"The most important thing is to be able to run, jump, and get up in the morning and see my family and do different things," she says. "And to do that, I have to take my medicines regularly. This disease can be controlled."

Since her days as an athlete, Joyner-Kersey has accomplished much as a philanthropist and tireless advocate for children's education and health issues (including asthma), among other areas of interest. She was also featured in the National Library of Medicine's Breath of Life exhibition on the history of asthma.

Clinical Trials

The National Heart, Lung, and Blood Institute (NHLBI) supports studies that explore:

- How new technologies can improve asthma care
- How certain medicines and other therapies can help treat asthma and improve quality of life
- What factors cause asthma to develop

For more information about clinical trials related to asthma, talk with your doctor. You also can visit the following Web sites to learn more about clinical research and to search for clinical trials:

- clinicalresearch.nih.gov
- www.clinicaltrials.gov
- www.nhlbi.nih.gov/studies/index.htm
- www.researchmatch.org

For more information about clinical trials for children, visit the NHLBI's Children and Clinical Studies Web page.

To Find Out More

- **MedlinePlus Asthma Overview**
www.nlm.nih.gov/medlineplus/asthma.html
- **MedlinePlus Asthma Tutorial**
www.nlm.nih.gov/medlineplus/tutorials/asthma/htm/index.htm
- **National Asthma Control Initiative**
www.nhlbi.nih.gov/health/prof/lung/asthma/naci/
- **Centers for Disease Control and Prevention**
www.cdc.gov/VitalSigns/Asthma/

More Young Adults At Risk For High Blood Pressure

Study shows 19 percent of young adults have high blood pressure. NIH-funded analysis indicates higher risk for young adults than previously believed.

With more than 65 million Americans suffering from the effects of high blood pressure (HBP), it is critical to understand the basics in order to be able to better control the disease. This is even more urgent, since recent research shows that young adults have HBP in increasing numbers.

The new study—which took blood pressure readings of more than 14,000 men and women between 24 and 32 years of age—revealed a higher percentage of high blood pressure readings than results from a previous major study, according to Steven Hirschfeld, Associate Director for Clinical Research for the NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). The previous study (NHANES) reported high blood pressure in 4 percent of adults 20 to 39 years of age.

“Investigations into the reasons underlying the reported differences between the [two studies] will no doubt yield additional insight into the measurement of high blood pressure in the young adult populations,” he says.

The study authors wrote that they were unable to pinpoint any reasons for the differences. In addition, they said that many young people are unaware that they have HBP.



Photo: iStock

FASTFACTS

- Nearly one in three adults—more than 65 million Americans—suffers from high blood pressure, also called hypertension.
- A growing number of young adults are now at risk for the disease.
- High blood pressure leads to more than half of all heart attacks, strokes, and heart failure cases in the United States. It also increases the risk of kidney failure, blindness, and other serious health consequences.
- High blood pressure is a silent killer, often with no obvious or visible symptoms.
- For African Americans, the disease tends to begin at an earlier age and be more severe than among whites, Asians, and Hispanics.

What Is High Blood Pressure?

Simply put, blood pressure is the force exerted by blood on the walls of the arteries and veins as it courses through the body. Like the ocean tide, it is normal for blood pressure to rise and fall throughout the day. Blood pressure is lowest when you are sleeping and rises when you awaken. But when the pressure stays elevated over time, it causes the heart to pump harder and work overtime, possibly leading to various, serious health problems, ranging from hardening of the arteries, stroke, and brain hemorrhage to kidney malfunction and blindness.

Blood pressure is recorded as two numbers, the systolic (pressure during a heartbeat) over the diastolic (pressure between heartbeats). For example, a measurement of 120/80 millimeters of mercury (mmHg) is expressed as “120 over 80.” Normal blood pressure is less than 120/80. People with pressures between 120/80 and 139/89 are considered to have pre-hypertension and are likely to develop high blood pressure without preventative measures.

Today, clinical guidelines recommend that physicians work with patients to keep their blood pressures below 140/90 mmHg, and even lower for people with diabetes or kidney ailments. In all cases, patients are encouraged to lose excess weight, exercise regularly, not smoke, limit intake of alcoholic beverages, and follow heart-healthy eating plans, including cutting back on salt and other forms of sodium.

Assessing Your Risk

While many Americans develop high blood pressure as they get older, it is not a hallmark of healthy aging. This is especially critical for African Americans, in whom the disease tends to begin at an earlier age and be more severe. In addition to being at increased risk, they also experience higher rates of death from stroke and kidney disease than does the general population.

While an individual's blood pressure may be normal now, 90 percent of Americans over 50 years of age have a lifetime risk of high blood pressure, Americans should take action before being diagnosed with high blood pressure.

An Ounce of Prevention

Because blood pressure rises as body weight increases (and obesity is a known risk factor for developing high cholesterol and diabetes, which in turn can lead to heart disease), a loss of as little as 10 pounds can help to lower blood pressure.

Two recent studies confirm the blood pressure benefits of maintaining a healthy diet. First is the Dietary Approaches to Stop Hypertension (DASH) clinical study, which tested the effects of food nutrients on blood pressure. It emphasizes consumption of fruits, vegetables, and lowfat dairy foods, whole grains, poultry, fish, and nuts, and stresses reduction of fats, red meats, sweets, and sugared beverages.

Categories for Blood Pressure Levels in Adults

(in mmHg, or millimeters of mercury)

Category	Systolic (top number)		Diastolic (bottom number)
Normal	Less than 120	And	Less than 80
Prehypertension	120–139	Or	80–89
High blood pressure			
Stage 1	140–159	Or	90–99
Stage 2	160 or higher	Or	100 or higher

The ranges in the table apply to most adults (aged 18 and older) who don't have short-term serious illnesses.

All levels above 120/80 mmHg raise your risk, and the risk grows as blood pressure levels rise. “Prehypertension” means you're likely to end up with HBP, unless you take steps to prevent it.

—National Heart, Lung, and Blood Institute

Second is the DASH-sodium study, which demonstrates the importance of lowering sodium (salt) intake. Most Americans consume far more than the current, daily recommendation of 2,400 milligrams (mg) of sodium—about a teaspoon of table salt—or less. This includes all salt and sodium consumed, not just at the table, but also in cooking. For those with high blood pressure, consuming even less may be advisable, since the DASH-sodium study revealed that diets containing no more than 1,500 mg of sodium per day had still greater pressure-lowering effects.

Regular physical activity is another good step toward controlling or even preventing high blood pressure. Start with 30 minutes of moderate-level activity, such as brisk walking, bicycling or gardening on most—preferably all—days of the week. The activity even may be divided into three, 10-minute periods each. For added benefit, these moderate half-hours may be increased or supplanted by regular, vigorous exercise. Of course, prior to upping the activity level, people should check with their physicians, especially if they have had heart trouble or a previous heart attack, a family history of heart disease at an early age, or other serious health problems.

Another healthy move is to limit alcohol intake. Excess alcohol can raise blood pressure as well as damage the liver, heart, and brain. Drinks should be kept to a maximum of one per day for women, and two for men. (One drink equals 12 ounces of beer or five ounces of wine.)

Finally, quit smoking. Among other things, smoking damages blood vessel walls and speeds hardening of the arteries. Ceasing smoking reduces the risk of heart attack in just one year.

Taking Control

High blood pressure is a silent killer, often with no obvious or visible symptoms. The only way to find out if you have hypertension is through testing by your physician, who will make the diagnosis on the basis of two or more readings taken on different visits.

Keep the Beat Recipes

To help busy people and families shop for, prepare, and serve healthy meals, the National Heart, Lung, and Blood Institute (NHLBI) of NIH created and published *Keep the Beat Recipes: Deliciously Healthy Dinners*. The new cookbook features 75 simple and delicious recipes influenced by Asian, Latino, Mediterranean, and American cuisine that are good for your heart and taste great, too.

Chicken and Mushroom Fricassee

Serves 4

Ingredients:

1 Tbsp olive oil

1 Carton (10 oz) white button mushrooms, rinsed and quartered

1 Cup leeks, split into quarters, then sliced into small squares and rinsed well

1 Cup potatoes, peeled and diced

1 Cup celery, rinsed and diced

1 Cup pearl onions, raw or frozen

3 Cups low-sodium chicken broth

1 lb skinless chicken legs or thighs (4 whole legs, split, or 8 thighs)

2 Tbsp each fresh herbs (such as parsley and chives), rinsed, dried, and minced (or 2 tsp dried)



Photo: Keep the Beat Recipes

1 Tbsp lemon juice

1 Tbsp cornstarch

2 Tbsp fat-free sour cream

½ tsp salt

¼ tsp ground black pepper

Instructions:

1. Preheat oven to 350° F.
2. Heat olive oil in a medium-sized, heavy-bottom roasting or braising pan (a large sauté pan with a metal handle will work as well).
3. Add mushrooms to pan, and cook until golden brown, about 3–5 minutes. Add leeks, potatoes, celery, and pearl onions, and continue to cook until the vegetables become soft, about 3–5 additional minutes.
4. Add chicken broth to the pan, and bring to a boil. Add chicken legs to the pan, cover, and place in the heated oven for about 20 minutes or until the chicken legs are tender when pierced with a fork (to a minimum internal temperature of 165° F).
5. When chicken legs are tender, remove legs from the pan, return the pan to the stovetop, and bring the liquid to a boil. Add herbs and lemon juice.
6. In a bowl, mix the cornstarch with the sour cream, and add to the pan. Bring back to a boil and then remove from the heat.
7. Season with salt and pepper, and pour 1 cup of vegetables and sauce over chicken.

Nutrition Information Per Serving: Calories 242, Total Fat 9 g, Saturated Fat 2 g, Cholesterol 42 mg, Sodium 430 mg, Fiber 3 g, Protein 20 g, Carbohydrates 24 g, Potassium 807 mg

* Recipe taken from *Keep the Beat Recipes: Deliciously Healthy Dinners*, from the National Heart, Lung, and Blood Institute

To Improve Blood Pressure, Try the DASH Diet

If you're one of the 65 million American adults—one in three—with high blood pressure, you have probably heard the advice, "watch your diet, and cut back on salt." But how? Figuring out what to eat and how much is not always simple.

Sometimes getting started on a heart-healthy eating plan can be the hardest part. The National Heart, Lung, and Blood Institute (NHLBI) has developed "Your Guide to Lowering Your Blood Pressure with DASH" to provide step-by-step advice on lowering and controlling high blood pressure by following the DASH eating plan. DASH, which stands for Dietary Approaches to Stop Hypertension, follows heart-healthy guidelines to limit salt or sodium, saturated fat, trans fat, and cholesterol, and focuses on increasing intake of fruits, vegetables, and fat-free or low-fat milk products. It is also rich in whole grain products, fish, poultry, and nuts.

The guide provides practical advice and suggestions for beginning with small changes, such as:

- If you eat only one or two servings of vegetables per day, try adding one serving at lunch and another at dinner.
- Gradually switch to fat-free or low-fat milk and reduce servings of soda or other sweetened beverages.
- Choose whole grain foods, such as whole wheat bread or whole grain cereals to get added nutrients, such as minerals and fiber.
- When shopping, read the Nutrition Facts label on foods to find sodium content, and choose items lowest in salt or sodium.
- Start with a simple 15-minute walk during your favorite time of day and slowly build up.
- Don't worry about a slip. Start again, and be sure to celebrate successes.

The DASH guide is available for ordering through the NHLBI Information Center, 301-592-8573 or 240-629-3255 (TTY) or online at <http://email.nhlbihin.net/product2.asp?sku=06-4082>.

Name: Mary Ellen Gannon
Age: 72
Blood Pressure: 170/90 mmHg



Photo: NHLBI

Why are you concerned about high blood pressure?

"I found out that I had high blood pressure when I was 57. Now I have problems with keeping my systolic pressure—the pressure when my heart beats—under control."

What are some steps you will take to lower your high blood pressure?

"My doctor said physical activity will help me lose weight and keep my blood pressure under control. Recently, a little gardening has been my only exercise, and I want to get moving!"

How will you achieve your blood pressure goals?

"I've just talked my friend Ruth into signing up for a water aerobics class for seniors at the YMCA."

What's your toughest challenge?

"I know that sometimes it's not easy to stick to an exercise schedule. I also have to buy a new bathing suit. Oh my!"

Quotable quote: "It's never too late to take better care of yourself!"

Name: Ron Tucker
Age: 42
Blood Pressure: 150/96 mmHg



Photo: NHLBI

What are some steps you will take to lower your high blood pressure?

"For one thing, my doctor says I've got to cut down on the sodium in my diet, so my goal is to really watch what I eat."

How will you achieve your blood pressure goals?

"No more grabbing a burger and fries at a fast food joint for lunch, starting now. My wife Monica already volunteered to fix some new recipes — if I help."

What's your toughest challenge?

"I'm always on the run at lunchtime, and I've got to figure out some good options besides fast food."

Quotable quote: "You're looking at a guy who's getting back in control!"

For more real-life stories about high blood pressure, visit www.nhlbi.nih.gov/hbp/real/real.htm

Treatment: Types of Blood Pressure Medications

Here's a rundown on the main types of drugs and how they work. Often, two or more drugs work better than one.

- **Diuretics:** Diuretics are sometimes called "water pills" because they work in the kidney and flush excess water and sodium from the body.
- **Beta-blockers:** Beta-blockers reduce nerve impulses to the heart and blood vessels. This makes the heart beat slower and with less force. Blood pressure drops and the heart works less hard.
- **ACE inhibitors:** Angiotensin converting enzyme (ACE) inhibitors prevent the formation of a hormone called angiotensin II, which normally causes blood vessels to narrow. The ACE inhibitors cause the vessels to relax and blood pressure goes down.
- **Angiotensin antagonists:** Angiotensin antagonists shield blood vessels from angiotensin II. As a result, the vessels become wider and blood pressure goes down.
- **Calcium channel blockers (CCBs):** CCBs keep calcium from entering the muscle cells of the heart and blood vessels. This causes the blood vessels to relax and pressure goes down.
- **Alpha-blockers:** Alpha-blockers reduce nerve impulses to blood vessels, which allows blood to pass more easily, causing blood pressure to go down.
- **Alpha-beta-blockers:** Alpha-beta-blockers work the same way as alpha-blockers but also slow the heartbeat, as beta-blockers do. As a result, less blood is pumped through the vessels and blood pressure drops.
- **Nervous system inhibitors:** Nervous system inhibitors relax blood vessels by controlling nerve impulses. This causes the blood vessels to become wider and blood pressure to go down.
- **Vasodilators:** Vasodilators directly open blood vessels by relaxing the muscle in the vessel walls, causing the blood pressure to go down.

Questions to Ask Your Health Professional

- Is my blood pressure under good control?
- How often should I have my blood pressure checked?
- What is a healthy weight for me?
- Is it safe for me to start doing regular physical activity?
- Can any of my medications affect my blood pressure?

Blood Pressure Quiz



Photo: Shutterstock

- 1. Blood pressure changes throughout the day. It...**
 - A. is highest while you sleep.**
 - B. rises when you awaken.**
 - C. is lower when you take a bath.**
- 2. Blood pressure is measured in an upper number and lower number. These are called...**
 - A. systolic and diastolic.**
 - B. numerator and denominator.**
 - C. a ratio.**
- 3. A blood pressure reading below 120/80 is considered...**
 - A. pre-hypertension.**
 - B. normal.**
 - C. too low.**
- 4. If not treated, high blood pressure can lead to...**
 - A. stroke.**
 - B. kidney failure.**
 - C. heart attack and heart failure.**
 - D. all of the above.**
- 5. Anyone can develop high blood pressure, but your chances of getting it are greater if you...**
 - A. are overweight or obese.**
 - B. are underweight.**
 - C. are under the age of 45.**
- 6. Many people get high blood pressure...**
 - A. from others who have it.**
 - B. as they age.**
 - C. when they lose weight.**
- 7. In the U.S., high blood pressure occurs more often in...**
 - A. people under 30 years of age.**
 - B. athletes.**
 - C. African Americans.**

ANSWERS

1. B is the correct answer. Your blood pressure is lowest when you are sleeping and rises when you awaken.
2. A is the correct answer. Blood pressure is always given as two numbers, the systolic and diastolic pressures. Both are important. Usually they are written one above or before the other—for example, 120/80 mmHg. The top, or first, number is the systolic and the bottom, or second number, is the diastolic. If your blood pressure is 120/80, you say that it is “120 over 80.”
3. B is the correct answer. A blood pressure reading below 120/80 is considered normal. In general, lower is better. However, very low blood pressures can sometimes be a cause for concern and should be checked out by a doctor.
4. D is the correct answer. If left untreated, high blood pressure can lead to stroke, kidney failure, heart attack, and heart failure.
5. A is the correct answer. Anyone can develop high blood pressure. But your chances of getting high blood pressure are higher if you are overweight or obese.
6. B is the correct answer. About 72 million American adults—nearly 1 in 3—have high blood pressure. Many people get high blood pressure as they get older. In fact, over half of all Americans age 60 and older have high blood pressure.
7. C is the correct answer. In the U.S., high blood pressure occurs more often in African Americans. Compared to other groups, blacks tend to get high blood pressure earlier in life and usually have more severe high blood pressure. They also have a higher death rate from stroke, heart disease, and kidney failure.

Seniors and Chronic Pain



Photo: iStock

Chronic pain is a growing problem among older Americans. Understanding the causes of this pain, the special medical needs of the elderly, and the role of pain self-management can help seniors reduce or eliminate this condition.

As the U.S. evolves into a nation with an older population, greater attention is being paid to healthcare problems more common among the elderly. Research has shown that 50 percent of older adults who live on their own and 75-85 percent of the elderly in care facilities suffer from chronic pain. Yet, pain among older adults is largely undertreated, with serious health consequences, such as depression, anxiety, decreased mobility, social isolation, poor sleep, and related health risks.

There are natural changes that occur with aging that affect pain—sleep patterns change, muscles and joints gradually become more rigid, and energy decreases. Frequently, older people don't report their pain, because they don't know that it can be treated or they believe it will lead to expensive tests or more medications. And there can be conditions, such as vision or hearing loss or dementia that can limit communication about pain.

To help overcome these barriers, treatment of chronic pain may involve a team of different pain management specialists—including a physician, nurse practitioner, physician assistant, pharmacist, and others who specialize in pain management.

"It takes a team to take care of a patient," says Ann M. Berger, M.D., chief of the NIH Clinical Center's Pain and Palliative Care Service. The service brings together people from a variety of disciplines to help patients manage their symptoms and relieve their physical, emotional, and spiritual suffering.

"We're the quality-of-life team; that's how I introduce ourselves to our patients," says Dr. Berger. "This is the first truly integrative approach to pain management."

Since pain, especially chronic, long-term pain, is prevalent across so many different diseases and conditions, the NIH also created a Pain Consortium to help study all aspects of pain prevention and treatment. This interdisciplinary Consortium is composed of 18 different Institutes and Centers and helps coordinate planning for key research opportunities in every aspect of pain.

Treating pain in older adults requires special care because nutritional problems or multiple medical problems—diabetes, heart disease, arthritis—are common. Helping seniors self-manage their pain is an important part of reducing or eliminating that pain.

Questions to Ask Your Healthcare Provider

Communication with your caregiver or care team is the best way to help you manage or end your chronic pain.

- What is causing my pain? What can I do about it?
- What is the name of the pain medicine I will be taking?
- How long will it take for the medicine to work?
- What side effects should I expect?
- If I forget to take the pain medicine, what should I do?
- When should I take the pain medicine—on a regular schedule? Before, with, or after meals? At bedtime?
- Are there any dangers to taking this pain medicine I should know about?
- Will this pain medicine cause problems with any other prescription drugs or over-the-counter medicines I am taking?

To Find Out More

- **NLM MedlinePlus Magazine, Spring 2011:**

Special Section on Managing Chronic Pain. To download a printable PDF of that issue, visit http://fnlm.org/Program_MLP/MLP_Previous_Issues-1.html

or

www.nlm.nih.gov/medlineplus/magazine/issues/pastissues.html

- **MedlinePlus:**

Visit www.medlineplus.gov and enter "pain" in the Search box.

- **Clinical Trials:** To get information on taking part in clinical research about chronic pain, visit www.clinicaltrials.gov.

- **NIH Clinical Center:** For more about clinical trials at the NIH Clinical Center, go to <http://clinicalcenter.nih.gov>. Or call 1-866-999-1112 (TTY 1-866-411-1010).



Preventing Drug Abuse and Addiction

Actress Debra Winger:
“Everyone is touched by addiction.”



Actress Debra Winger (left) and Dr. Nora Volkow, Director of the National Institute on Drug Abuse (NIDA), discuss the actress's participation in the NIDA-sponsored Addiction Performance Project. The educational project seeks to help healthcare providers understand and better treat patients who have addictions or are in danger of developing them.

Drug addiction is a chronic, often relapsing brain disease that causes compulsive drug seeking and use, despite harmful consequences to the addicted individual and to those around him or her. Although the initial decision to take drugs is voluntary for most people, the brain changes that occur over time challenge a person's self control and ability to resist intense impulses urging them to take drugs.

Many people do not understand why or how other people become addicted to drugs. It can be wrongfully assumed that drug abusers lack moral principles or willpower, and that they could stop using drugs simply by choosing to change their behavior. In reality, drug addiction is a complex disease, and quitting takes more than good intentions. In fact, because drugs change the brain in ways that foster compulsive drug abuse, quitting is difficult, even for those who are ready to do so.

Recent scientific advances, including those supported by the National Institute on Drug Abuse (NIDA), have enlightened our view of drug abuse and addiction, which is now recognized as a chronic relapsing brain disease expressed in the form of compulsive behaviors. This understanding has improved our ability to both prevent and treat addiction.

“We now know that addiction is a disease that affects both brain and behavior,” says NIDA Director Nora D. Volkow, M.D. “We have identified many of the biological and environmental factors and are beginning to search for the genetic variations that contribute to the development and progression of the disease.”

With nearly one in 11 Americans over the age of 12 classified with substance abuse or dependence, addiction takes an emotional, psychological, and social toll on the country. The economic costs of substance abuse and addiction alone are estimated to exceed half a trillion dollars annually in the United States due to health care expenditures, lost productivity, and crime.



Photo: NIDA

Scientific research has revolutionized our understanding of drug abuse and addiction

Long acknowledged as one of Hollywood's finest actresses, three-time Academy Award nominee Debra Winger recently appeared at the National Institutes of Health in a dramatic reading of Act III of *Long Day's Journey into Night*, Eugene O'Neill's gripping 1941 play of family alcohol and drug addiction. It was part of the Addiction Performance Project, developed by the National Institute on Drug Abuse (NIDA) to help healthcare providers remove the stigma associated with addiction and promote a healthy dialogue that fosters compassion, cooperation, and understanding for patients living with the disease of addiction.

Why are you participating in the Addiction Performance Program?

Ms. Winger: I was in high school in the late '60s and early '70s. Everybody came in contact with somebody whose recreational use turned into something else. And we didn't know what that was, really. But you knew that some people were different.

I never intended to be an actress. In fact, I was a sociology major and wanted to go into criminal rehabilitation counseling. And one of the most interesting questions of that for me was, "How did they get there?" I learned that 80 percent of the guys on death row were without their mother's presence as kids. You start to understand how drugs and alcohol just ... it's almost like not even a question because it's part of the picture.

Drug and alcohol use has become part of the fabric of American life. My connection is partly from my family experience and a little bit from the world at large. Everyone is touched by addiction in one way or another.

How do you mean?

Ms. Winger: Because we assume addiction is woven into our everyday tapestry, we address it as a medical problem. But it is more than that. I had a fellowship at Harvard with Dr. Robert

Coles, a world-renowned child psychiatrist, who created a wonderful course called "The Literature of Social Reflection" for undergrads just going into pre-med and areas of psychiatric care. He gave them literature, most times written by doctors, for example, William Carlos Williams. The purpose was to absorb the emotion, of someone dying; for example, Ivan Ilyich, in Tolstoy's famous *The Death of Ivan Ilyich*.

You mean using the power of drama to get the emotion?

Ms. Winger: Yes. Let's talk about what's going on around him and the family. Basically, this is what we're trying to do here, bring humanism back into medicine.

Who is your audience?

Ms. Winger: The Addiction Performance Project is for healthcare professionals and scientists, who often are not given the training to help with the things that happen to a person after the medical problem is diagnosed.

What is the message to them?

Ms. Winger: My goddaughter suffered from cystic fibrosis, which is a chronic disease. She spent a lot of time at the hospital, and I spent a lot of time with her. And I watched residents, interns, and then doctors; they can't take it in all the way because

they would be trashed inside of five years. But when someone's in your office, include yourself in the conversation. It's going to help you bring yourself to the room.

The message is, listen carefully. There are two people in the room, you and the patient, so listen carefully. The healthcare professional must be ready for the full picture: what family life is like, the level of education, money issues; everything needs to be considered.

And what should patients hear?

Ms. Winger: Get ready. Be ready for your appointment. The patient has the responsibility to bring his or her one-in-the-morning fears to the 3 p.m. appointment. Often when we go to



Debra Winger, second from right, takes part in a recent Addiction Performance Project held at the National Institutes of Health. With her are other actors who worked together to dramatize a scene that revealed to the audience of primary care doctors the human face of addiction.

the doctor, we've had this and that happen. Our body doesn't hurt so much, and maybe we have already taken an aspirin. But don't think that just because you feel okay right now you are. We have a tendency to discount what we were feeling as "just nerves"—and then ask for sleeping pills.

How do you feel about your role in the Addiction Performance Project?

Ms. Winger: It's an ongoing process of staying awake in my chosen profession, staying awake as a human being. I'm a mother, and although my parents are gone and I'm no longer a daughter, I'm a member of a family in all its different aspects. So I'm just trying to stay busy and involved.

NIDA Raises the Curtain on Addiction

Why the "Addiction Performance Project"?

In 2010, 23.1 million people needed treatment for a drug or alcohol problem, and only 2.6 million, or 11.2 percent, received it, according to the National Institute on Drug Abuse (NIDA). Research suggests that primary care providers could significantly reduce drug use, before it escalates to abuse or addiction. However, many express concern that they do not have the experience or tools to identify drug use in their patients.

That is a primary reason that NIDA is working with actors and actresses to bring to physicians educational performances that help reduce the stigma associated with drug or alcohol addiction. (See accompanying Debra Winger interview.) The Addiction Performance Project includes a dramatic reading of Act III of Eugene O'Neill's *Long Day's Journey into Night*, which portrays a family's struggle with addiction. The reading is followed by a dialogue among the participants, aimed at fostering compassion, cooperation, and understanding for patients living with this disease.

"Primary care providers can play such a vital role in screening for drug abuse," says NIDA Director Nora D. Volkow, M.D. "Yet, for many providers, discussing drug abuse with their patients is beyond their comfort zone. In portraying a family devastated by this disease, the Addiction Performance Project humanizes addiction, which we hope will reduce the stigma around it and encourage physicians to confront potential drug abuse with their patients."

Performances of the innovative project for physicians continue at selected locations through 2011 and into 2012.

For more information on the Addiction Performance Project, or to register for a performance, visit: www.drugabuse.gov/nidamed/APP.

The Pioneering Legacy of Betty Ford

Former First Lady Betty Ford may have died on July 8 of this year at the age of 93, but her legacy will live on forever. As a pioneering public spokesperson about addiction disease and about breast cancer, she helped the American public understand that we need to talk to one another about these topics—not hide from them.

In her own life, she spoke openly of her 1974 mastectomy for breast cancer and raised awareness of how the condition affected so many women. In 1978—after her husband, President Gerald Ford was defeated for election—her family convinced her to enter treatment for abuse of prescription pain pills and alcohol for her arthritis and back pain. When she emerged from recovery, she wrote openly about the entire experience in her autobiography, *The Times of My Life*. She also promoted the need for access to care and recovery for everyone.

In 1982, she co-founded the non-profit Betty Ford Center (www.bettyfordcenter.org) for treatment of alcohol and drug addiction, located next to the Eisenhower Medical Center in Rancho Mirage, California. The facility offers help and hope to individuals and their family members affected by alcoholism and/or addiction to other drugs. To date, the Center has offered its services to more than 97,000 men, women, and their families.

During the former First Lady's funeral on July 12, 2011, several people whom Betty Ford had previously selected gave moving eulogies about how she had made an impact in so many areas of life.

Among those offering eulogies was Geoffrey Mason, a former patient at the Center who later became a member of the Center's board of directors. Included in his moving comments that day are these reflections about her impact on those with addictions:

"The more confidence we were able to build within ourselves, and the more we watched—and listened—to your regular talks of reassurance and support, the more we began to understand what this thing called recovery was all about.

"And as the years have gone by, and the world has changed more than any of us ever would have believed, the wisdom and support we take—every day—from the [group meeting] rooms has guided us the right way.

"And you were the one who introduced us all to this, Betty. You were the one who helped us understand."



Photo: AP

“Mrs. Ford was a courageous pioneer, a groundbreaking First Lady, and a forceful advocate for anyone suffering from addiction or breast cancer. America fought her struggles with her and learned alongside her. She was brave, outspoken, and kind. As a journalist, I had the opportunity to interview her several times and she was just fascinating. She was a wonderful woman who stood up for any human being struggling in the shadows of their personal pain. One of my highlights as First Lady of California was to honor her with a Minerva Award in 2005. My heart goes out to her entire family. Her daughter Susan is a dear friend of mine and continues to carry on Mrs. Ford’s work in such a powerful way.”

— Former California First Lady Maria Shriver

NIHSeniorHealth Videos Offer Real-Life Stories About Addiction Struggles—and Much More



Photo: NIH
And I couldn't wait until the Thursday paper, *The Washington Post*,

"Problem Drinking in Older Adults"

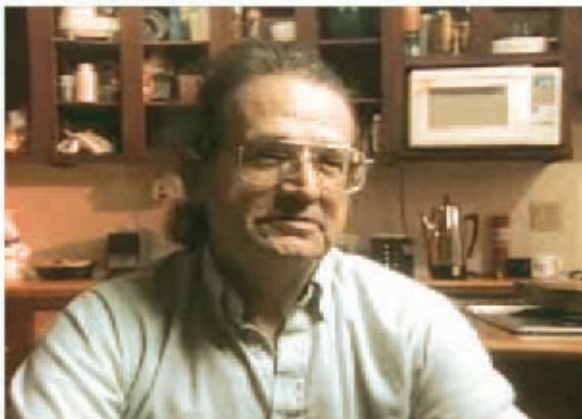


Photo: NIH
I'm 63 years old and I've smoked for 50 years, at least.

Smoking & Lung Cancer: "Overcoming Addiction"

Many of the health topics at NIHSeniorHealth.gov, a service of the National Library of Medicine and the National Institute on Aging, feature free, short videos for the public that complement the information in the topic. That is the case for alcohol abuse and addiction, as well as overcoming smoking addiction (under the "Lung Cancer" list of videos). These health videos offer up-to-date medical information, tips for healthy living, and inspiring stories of older adults who are coping with diseases or conditions of aging.

For an index to all the videos, go to <http://nihseniorhealth.gov/videolist.html>

To Find Out More

- **www.drugabuse.gov**
The Web site for the National Institute on Drug Abuse (NIDA) contains information on all facets of drug abuse, as a part of NIDA's mission to lead the nation in bringing the power of science to bear on drug abuse and addiction.
- **www.niaaa.nih.gov**
The Web site for the National Institute on Alcohol Abuse and Alcoholism contains research, resources, and related materials on the institute's work in the fight against alcohol abuse and alcoholism.
- **www.hbo.com/addiction/**
This HBO Addiction interactive companion Web site allows visitors to customize information for their specific needs, with a special emphasis on treatment options. The site features original content by the nation's leading experts in the science of addiction and addiction treatment, all 14 films in chaptered form, and comprehensive informational tips and resources.

Prescription Drug Abuse: A Fast-Growing Problem

In 2009, approximately 7 million persons were current users of prescription pain relievers, stimulants, and antidepressants but not for valid medical reasons (2.8 percent of the U.S. population). This class of drugs is broadly described as those targeting the central nervous system, including drugs used to treat psychiatric disorders.

Prescription drug abuse is the intentional use of a medication without a prescription; in a way other than as prescribed; or for the experience or feeling it causes. It is not a new problem, but one that deserves renewed attention. For although prescription drugs can be powerful allies, they also pose serious health risks related to their abuse.

The medications most commonly abused are:

- Pain relievers - 5.1 million
- Tranquilizers - 2.2 million
- Stimulants - 1.0 million
- Sedatives - 0.4 million

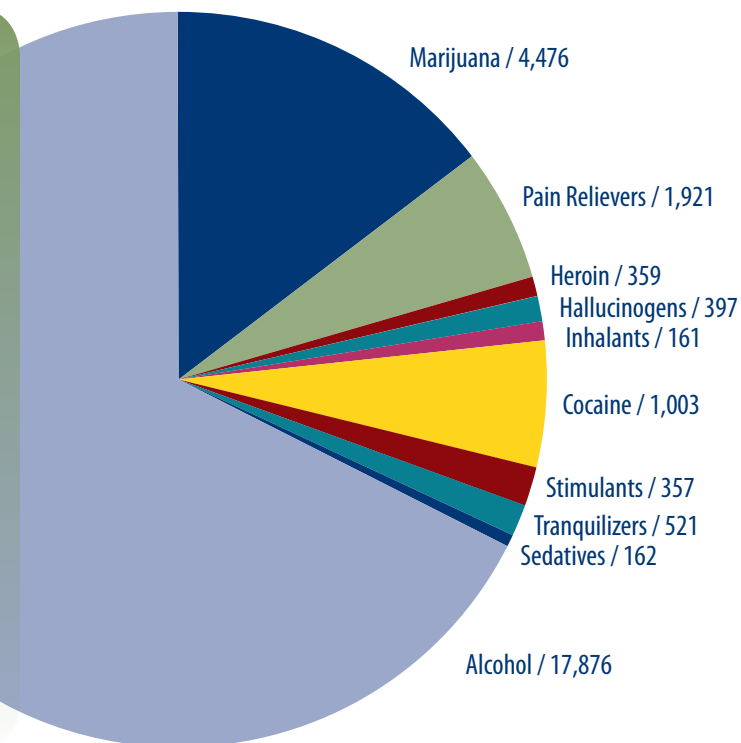
Among adolescents, prescription and over-the-counter medications account for most of the frequently abused drugs by high school seniors (excluding tobacco and alcohol).

Nearly 1 in 12 high school seniors reported nonmedical use of Vicodin; 1 in 20 reported abuse of OxyContin.

When asked how prescription pain relievers were obtained for nonmedical use, 59 percent of 12th graders said they were given to them by a friend or relative. The number obtaining them over the Internet was negligible.

Among those who abuse prescription drugs, high rates of other risky behaviors, including abuse of other drugs and alcohol, have also been reported.

Number (in Thousands) of Americans Age 12 and Older Dependent on or Abusing Alcohol and Illicit Drugs



Source: Substance Abuse and Mental Health Services Administration, 2005 National Survey on Drug Use and Health

Questions to Ask Your Healthcare Provider

- What is the best way for me to tell if I'm addicted to alcohol and/or drugs?
- What approach do you suggest I take for my addiction or substance abuse?
- Do I need to see a mental health specialist?
- How can I find out if my insurance will cover the costs of my addiction treatment?
- Can I be treated while still working and caring for my family, or will I have to go into a recovery facility?
- Are there additional or alternative ways to treat this problem?
- What Web sites should I visit to find out more about addiction?

Millions Untreated for Peripheral Artery Disease

New research shows many untreated older adults have serious heart disease risks.

Peripheral artery disease (P.A.D.) is a condition that causes the buildup of a fatty material called plaque (pronounced *plak*) on the inside walls of the arteries that carry blood from the heart to the head, internal organs, and limbs. One in every 20 Americans over the age of 50 has P.A.D.

In June of this year, research funded in part by the National Heart, Lung, and Blood Institute, revealed that fewer than a third of those with P.A.D. took one or more medications to control it—high blood pressure medicine, cholesterol-lowering drugs, or aspirin.

The buildup of plaque on the artery walls is called atherosclerosis, or hardening of the arteries. This buildup causes the arteries to narrow or become blocked, which can reduce or block blood flow. P.A.D. most commonly affects blood flow to the legs. P.A.D. is a warning sign that other arteries, including those in the heart and brain, may also be blocked—increasing the risk of a heart attack or stroke.

“We think of it as a manifestation of a whole-body problem,” says the study’s lead author, Dr. Reena L. Pande, a cardiologist and associate professor at Harvard Medical School.

Blocked blood flow can cause pain and numbness. It also can increase chances of skin ulceration. If severe enough, blocked blood flow can cause tissue death (gangrene). As a result, P.A.D. is the leading cause of leg amputation.

Both men and women can develop the disease. P.A.D. can impair physical health and diminish the ability to walk.

The good news is that you can lower your risk for P.A.D. Taking steps to learn about P.A.D., including asking your healthcare provider to check your risk, can help save your life.

Signs of P.A.D.

At least half the people with P.A.D. don’t exhibit any symptoms.

Those who do may have pain when walking, climbing stairs, or exercising. This pain may be relieved by resting. During exercise, your muscles need more blood flow to get more oxygen to the muscles. If there is a blockage in the blood vessels, the muscles

Risk Factors for P.A.D.

Some conditions and habits raise your chance of developing P.A.D. Your risk increases if you:

- **Are over the age of 50.**
- **Smoke or used to smoke.** Those who smoke or have a history of smoking have up to four times greater risk of developing P.A.D.
- **Have diabetes.** One in every three people over the age of 50 with diabetes is likely to have P.A.D.
- **Have high blood pressure.** Also called hypertension, high blood pressure raises the risk of developing plaque in the arteries.
- **Have high blood cholesterol.** Excess cholesterol and fat in your blood contribute to the formation of plaque in the arteries, reducing or blocking blood flow to your heart, brain, or limbs.
- **Have a personal history of vascular disease, heart attack, or stroke.** If you have heart disease, you have a one in three chance of also having P.A.D.
- **Are African American.** African Americans are more than twice as likely to have P.A.D. as their white counterparts.

— NHLBI

won’t get enough oxygen. Exercising will not make P.A.D. worse and studies show that a regular exercise program can improve symptoms. When you rest, the muscles require less blood flow and the pain goes away.

Other Signs of P.A.D. include:

- Pain, aching, and heaviness in the muscles
- Cramping in the legs, thighs, and calves
- A weak or absent pulse in the legs or feet
- Sores or wounds on toes, feet, or legs that heal slowly, poorly, or not at all
- Color changes in skin, paleness, or blueness
- Lower temperature in one leg compared to the other leg
- Poor nail growth and decreased hair growth on toes and legs

Treating P.A.D.

Treatment for P.A.D. is designed to reduce a patient's symptoms, prevent complications, and improve quality of life. It may include lifestyle changes, medicines, or surgery.

Lifestyle Changes

P.A.D. treatment often includes making long-lasting lifestyle changes. If you have P.A.D., or are aiming to lower your risk, your healthcare provider may prescribe one or more of the following:

- **Quit smoking.** Don't smoke, and if you do, quit. Consult with your healthcare provider to develop an effective cessation plan and stick to it.
- **Lower your numbers.** Work with your healthcare provider to correct any high blood pressure, cholesterol, and blood glucose levels.
- **Follow a healthy eating plan.** Choose foods that are low in saturated fat, trans fat, and cholesterol. Be sure to include whole grains, vegetables, and fruits.
- **Get moving.** Make a commitment to be more physically active. Aim for 30 minutes of moderate-intensity activity on most, preferably all, days of the week.
- **Aim for a healthy weight.** If you are overweight or obese, work with your healthcare provider to develop a supervised weight loss plan.

Medicines

In addition to lifestyle changes, your health care provider may prescribe one or more medications. These medications are used to:

- Lower high blood pressure and cholesterol levels and treat diabetes;
- Prevent the formation of blood clots that could cause a heart attack or stroke; and
- Help reduce leg pain while walking or climbing stairs.

Surgeries or Special Procedures

If the blood flow in one of your limbs is completely or almost completely blocked, you may benefit from having a procedure or surgery in addition to medications and lifestyle changes. Procedures such as angioplasty and bypass graft surgery will not

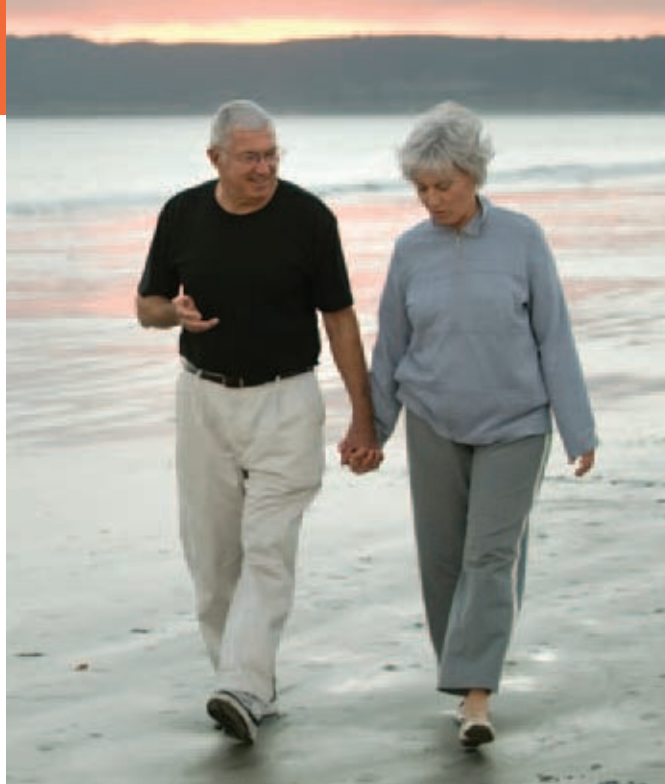


Photo: iStock

As part of lifestyle changes, people with P.A.D. should aim for at least 30 minutes of moderate-intensity activity on most days of the week.

cure P.A.D., but they can improve the blood circulation to your legs and your ability to walk.

Clinical Trials for P.A.D.

The National Heart, Lung, and Blood Institute (NHLBI) is currently recruiting for several clinical trials, including ones on reducing P.A.D. risk factors, improving limb function for people with P.A.D., and catheter-based treatments of arterial disease, among others. For more information, visit www.nhlbi.nih.gov. Search for P.A.D. and clinical trials.

P.A.D. Glossary

- **Ankle-brachial index (ABI)**
A simple test that can be used to diagnose P.A.D. The ABI compares blood pressure in the ankle with blood pressure in the arm to see how well blood is flowing.
- **Atherosclerosis**
The buildup of plaque on the artery walls, also referred to as hardening of the arteries.
- **Critical limb ischemia (CLI)**
When blood flow is completely or mostly blocked to one or both legs in the advanced stages of P.A.D.
- **Intermittent claudication**
Cramping pain and weakness in the legs and especially the calves on walking that disappears after rest and is usually associated with inadequate blood supply to the muscles.

Other Causes of Leg Pain

Leg pain can come from a variety of causes. Your healthcare professional has specific ways to discover if the cause is P.A.D. Other non-P.A.D. common causes of leg pain may include:

- **A muscle cramp** (also called a charley horse), frequently caused by the following:
 - Dehydration or low amounts of potassium, sodium, calcium, or magnesium in the blood
 - Medications, such as diuretics, which can cause you to lose too much fluid or minerals
 - Muscle fatigue or strain from overuse, too much exercise, or holding a muscle in the same position for a long time
- **Injuries** caused by:
 - A torn or overstretched muscle (strain)
 - Hairline crack in the bone (stress fracture)
 - Inflamed tendon (tendinitis)
 - Shin splints—pain in the front of your leg related to overuse or repetitive pounding
- **Deep vein thrombosis (DVT)**, which occurs when a blood clot (thrombus) forms in the large, deep veins of the leg. This clot can interfere with blood flow. In some circumstances, a part of the clot may break off and travel through the bloodstream (embolize). The dislodged blood clot (embolus) can travel to the lungs, brain, or other organs, causing severe damage.
- **Infection** of the bone (osteomyelitis) or skin and soft tissue (cellulitis)
- **Inflammation** of the leg joints by arthritis or gout
- **Nerve damage**—common in diabetics, smokers, and alcoholics (symptoms include numbness, tingling, or a sensation of pins-and-needles)
- **Varicose veins**—swollen and twisted veins that are visible just under the surface of the skin
- **Spinal stenosis**—narrowing in the spine, causing pressure on the nerves and spine, with resulting numbness and pain
- **Lumbar disease**
- **Osteoarthritis**



Photo: iStock

Questions to Ask Your Healthcare Provider

1. Does my medical history raise my risk for P.A.D.?
2. Do I need to do anything about my blood glucose, blood pressure, or cholesterol?
3. Which screening tests or exams are right for me?
4. If I have P.A.D., what steps should I take to treat it?
5. What steps can I take to reduce my risk for heart attack and stroke?
6. What can I do to quit smoking?

To Find Out More

For more information about P.A.D. and to download free education materials, visit:

- MedlinePlus: www.nlm.nih.gov/medlineplus/peripheralarterialdisease.html
- Stay in Circulation: Take Steps to Learn About P.A.D., www.aboutpad.org
- NHLBI Diseases and Conditions Index: www.nhlbi.nih.gov/health/dci/Diseases/pad/pad_what.html
- P.A.D. Coalition: www.padcoalition.org



Your P.A.D. Checklist

Together, you and your healthcare professional can form a plan to keep your cholesterol within limits and reduce your risk of peripheral artery disease (P.A.D.). That can start by making sure you “know your numbers” related to cholesterol, blood glucose, and blood pressure. Your healthcare professional will help with that and can use the ankle-brachial index (ABI) test to assist, as well.

TOTAL CHOLESTEROL

Desirable: less than 200 mg/dL
Borderline High: 200 – 239 mg/dL
High: 240 mg/dL and above

TOTAL CHOLESTEROL

Date

HDL CHOLESTEROL

HDL cholesterol less than 40 mg/dL is a major risk factor for cardiovascular disease.

HDL CHOLESTEROL

Date

LDL CHOLESTEROL

Optimal: less than 100 mg/dL
Near Optimal: 100 – 129 mg/dL
Borderline High: 130 – 159 mg/dL
High: 160 – 189 mg/dL
Very High: 190 mg/dL and above

LDL CHOLESTEROL

Date

BLOOD GLUCOSE (fasting)

Normal: 99 mg/dL and below
Prediabetes: 100 – 125 mg/dL
Diabetes: 126 mg/dL and above

BLOOD GLUCOSE

Date

BLOOD PRESSURE

Normal: less than 120/80 mmHg
Prehypertension: 120/80 to 139/89 mmHg
Hypertension: 140/90 mmHg or higher

BLOOD PRESSURE

Date

ANKLE-BRACHIAL INDEX (ABI)

A test that compares the blood pressure readings in your ankles and arms to help determine whether you have P.A.D.

Normal: 1.0 – 1.3
Possible P.A.D.: 0.91 – .99 or greater than 1.3
P.A.D.: 0.90 or less

ABI

Date

CLIP AND SAVE



Source: NHLBI

Taking the Pulse of Environmental Health

NLM's Specialized Information Services Division (SIS)

The environment includes the outdoors, our homes, our workplaces, and our schools. We are learning that environmental factors play a critical role in our health and well being. While many factors help prevent disease, an environment free from hazardous substances and conditions goes a long way toward promoting good health.



Photo: iStock



Photo: NIH

Toxic Chemicals—What are they? What do they do?

The National Library of Medicine (NLM) has provided professionals and the public with environmental health information since 1967 through its Toxicology and Environmental Health Information Program in the Division of Specialized Information Services (SIS). NLM's environmental health databases provide information on the nature of toxic chemicals and help people understand their potential for harm. The databases are part of the TOXNET (Toxicology Data

TOXNET's peer-reviewed Hazardous Substances Data Bank, for example, offers extensive overviews of hazardous substances, including humans, animals, and the environment of concern. Other databases provide information on environmental health hazards (including chemicals), household products (including pesticides, auto products, and home appliances), chemicals that interfere with the endocrine system, and those found in occupational settings. For those wishing to delve more deeply, SIS offers TOXLINE. TOXLINE is a database of over 4 million references, most with abstracts. For consumers, SIS produces several interactive programs. In ToxMystery, Toxie the Cat teaches children and 1 year olds about hazardous substances in the home. ToxTown allows a user to learn about toxic hazards in different geographic regions. People can explore cities, towns, farms, and border areas. ToxTown is

available in both English and Spanish. The Household Products Database helps you find out what's under your kitchen sink, in your garage, in your bathroom, and on the shelves in your laundry room. Users learn more about what's in these products, about potential health effects, and about safety and handling.

Toxic Chemicals—Where are they released?

A unique resource for consumers is TOXMAP, a Geographic Information System (GIS) database that uses the Environmental Protection Agency's Toxics Release Inventory (TRI), another TOXNET database. TRI lists quantities of toxic chemicals released in the air, water, and soil annually throughout the United States. TOXMAP allows users to create maps showing the locations of these releases. They can be further overlaid with the locations of Superfund chemical contaminant sites, cancer incidence, population, and other demographics, such as income level. TOXMAP has been widely used as a teaching tool in high schools and universities to study the connection between environmental exposures and human health.

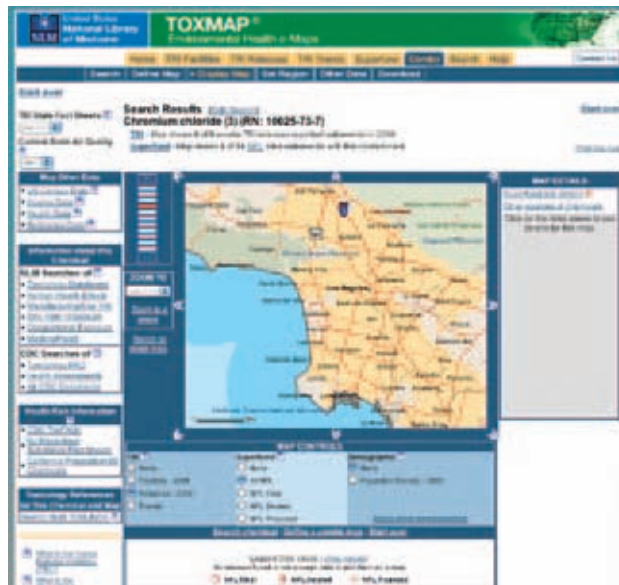


Photo: NIH

Reaching the Public, Young People, Minorities

SIS also supports programs for young people, their parents, and teachers. Getting youth involved in environmental health issues may be the best way to produce well-informed and concerned adults. SIS's K-12 Web-based tools cover a range of topics and present reviewed data, or link to trustworthy sites from the government and elsewhere.

Toxic industries and waste sites are disproportionately located in minority communities. The Environmental Health Information Partnership, spearheaded by SIS, is a joint venture between NLM and an array of colleges and other institutions serving African American, Hispanic, and Tribal populations. These institutions and their local communities are offered training and guidance in information technology, health information, and science careers, with environmental health and toxicology among the focus areas. The Environmental Health Student Portal, designed for middle school students, includes experiments, projects, and lesson plans.

When Disaster Strikes

Hurricane Katrina in Louisiana, the earthquake in Haiti, the Fukushima nuclear crisis in Japan—environmental disasters can strike with little warning. SIS's Disaster Information Management Research Center focuses on providing rapid information support for emergency preparedness, response, and recovery. Its broad mandate to assist in disasters of all kinds has found an appreciative user base among emergency responders confronted with chemical and radiation exposures.

Social Media

Facebook, Twitter, and other social media are making deep inroads into the ways we communicate and learn. SIS is exploring these tools as new means of sharing environmental health information to users of its services. See www.Twitter.com/NLM_SIS.

To Find Out More

- Environmental Health Information:
<http://sis.nlm.nih.gov/enviro.html>
- Household Products Database:
<http://hpd.nlm.nih.gov/>
- ToxTown:
<http://toxtown.nlm.nih.gov/>
- ToxMystery:
<http://toxymystery.nlm.nih.gov/>



Photo: iStock

Coffee May Reduce Risk of Prostate Cancer

Men who regularly drink coffee are less likely to develop prostate cancer. That's according to a new, large-scale study that found:

- Men who had six or more cups a day had a 60 percent lower risk of lethal prostate cancer, and an 18 percent lower risk of developing any form of prostate cancer, compared to those who didn't drink coffee.
- Even drinking one to three cups a day had a 30 percent lower risk of lethal prostate cancer.
- The risk reduction was seen with both regular and decaffeinated coffee.

The research team focused on coffee because it contains compounds that may influence prostate cancer. The researchers caution it's too soon to recommend that men start drinking more coffee to avoid prostate cancer—future studies will be needed to confirm these results. The research was supported by NIH's National Cancer Institute.

This Is Not the Year to Miss Your Flu Shot

The U.S. Food and Drug Administration (FDA) has approved the flu vaccine for the upcoming 2011-12 flu season. It protects against seasonal flu and H1N1, as did last year's vaccine. But the Centers for Disease Control and Prevention (CDC) cautions that it is not OK to skip getting your annual flu shot this year.

"All people aged 6 months and older should be vaccinated," says Dr. Carolyn Bridges, a CDC associate director for adult immunization.

Flu virus protection lessens over the course of a year, so "even people who got a flu vaccine last year should get one again to make sure they are optimally protected," she says.

The Centers for Disease Control and Prevention (CDC) says that, on average, 36,000 people in the United States die from the flu each year and more than 200,000 others end up in the hospital. To find out more, visit www.flu.gov, the U.S. government's comprehensive flu information Web site.

Secondhand Smoke Impacts the Brain

Secondhand smoke has a direct and measurable effect on the brain—similar to what's happening in the brain of the person doing the smoking. The effect is enough to make a smoker crave a cigarette. That's the conclusion of a study that used high-tech brain imaging to observe what happened to smokers and nonsmokers after they were exposed to secondhand smoke while in a car. "These results show that even limited secondhand smoke exposure delivers enough nicotine to the brain to alter its function," says Nora D. Volkow, M.D., director of NIH's National Institute on Drug Abuse, which helped fund the study.

Sickle Cell Treatment Safe for Very Young Children

A drug used to treat adults with sickle cell disease appears safe for very young patients—children 8-to-19 months. Researchers found the drug hydroxyurea reduced pain and improved key blood measurements in the children studied. "There are strong reasons for healthcare professionals to consider starting children who have sickle cell disease as early as possible on hydroxyurea," says Susan B. Shurin, M.D., acting director of NIH's National Heart, Lung, and Blood Institute, which funded the study. Sickle cell disease is an inherited blood disorder. It is most prevalent in people of African, Hispanic, Mediterranean, and Middle Eastern descent.

The Talk Older Americans Should Have With Their Provider

A recent study found more than 50 percent of Americans over the age of 50 have used complementary and alternative medicines, such as herbal products and dietary supplements. Unfortunately, only a third of all respondents and a little over half of complementary and alternative medicine users said they have ever discussed these approaches with their healthcare provider. It's important for healthcare providers to know everything patients are taking because some natural products can interact with conventional treatments. The survey was a joint effort between NIH's National Center for Complementary and Alternative Medicine and AARP. Read the report or learn more at: nccam.nih.gov/news/camstats/2010/.

Info to Know

NIH Quickfinder

For more information or to contact any of the following NIH institutes, centers, and offices directly, please call or go online as noted below:

Institutes

- **National Library of Medicine (NLM)**
www.nlm.nih.gov
1-888-FIND-NLM (1-888-346-3656)
- **National Cancer Institute (NCI)** www.cancer.gov
1-800-4-CANCER (1-800-422-6237)
- **National Eye Institute (NEI)** www.nei.nih.gov
(301) 496-5248
- **National Heart, Lung, and Blood Institute (NHLBI)**
www.nhlbi.nih.gov (301) 592-8573
- **National Human Genome Research Institute (NHGRI)** www.genome.gov (301) 402-0911
- **National Institute on Aging (NIA)** www.nia.nih.gov
Aging information 1-800-222-2225
Alzheimer's information 1-800-438-4380
- **National Institute on Alcohol Abuse and Alcoholism (NIAAA)** www.niaaa.nih.gov
(301) 443-3860
- **National Institute of Allergy and Infectious Diseases (NIAID)** www.niaid.nih.gov
(301) 496-5717
- **National Institute of Arthritis and Musculoskeletal and Skin Diseases** www.niams.nih.gov
1-877-22NIAMS (1-877-226-4267)
- **National Institute of Biomedical Imaging and Bioengineering (NIBIB)** www.nibib.nih.gov
(301) 451-6772
- **Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)**
www.nichd.nih.gov 1-800-370-2943
- **National Institute on Deafness and Other Communication Disorders (NIDCD)**
www.nidcd.nih.gov 1-800-241-1044 (voice)
1-800-241-1055 (TTY)
- **National Institute of Dental and Craniofacial Research (NIDCR)** www.nidcr.nih.gov
(301) 480-4098
- **National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)** www.niddk.nih.gov
Diabetes 1-800-860-8747
Digestive disorders 1-800-891-5389
Overweight and obesity 1-877-946-4627
Kidney and urologic diseases 1-800-891-5390
- **National Institute on Drug Abuse (NIDA)**
www.nida.nih.gov (301) 443-1124
- **National Institute of Environmental Health Sciences (NIEHS)** www.niehs.nih.gov
(919) 541-3345
- **National Institute of General Medical Sciences (NIGMS)** www.nigms.nih.gov
(301) 496-7301
- **National Institute of Mental Health (NIMH)**
www.nimh.nih.gov 1-866-615-6464
- **National Institute of Neurological Disorders and Stroke (NINDS)** www.ninds.nih.gov
1-800-352-9424
- **National Institute of Nursing Research (NINR)**
www.ninr.nih.gov (301) 496-0207

Centers & Offices

- **Fogarty International Center (FIC)**
www.fic.nih.gov (301) 402-8614
 - **National Center for Complementary and Alternative Medicine (NCCAM)**
www.nccam.nih.gov 1-888-644-6226
 - **National Center on Minority Health and Health Disparities (NCMHD)** www.ncmhd.nih.gov
(301) 402-1366
 - **National Center for Research Resources (NCRR)**
www.ncrr.nih.gov (301) 435-0888
 - **NIH Clinical Center (CC)**
www.cc.nih.gov (301) 496-2563
 - **Office of AIDS Research (OAR)**
http://www.oar.nih.gov (301) 496-0357
 - **Office of Behavioral and Social Sciences Research (OBSSR)**
http://obssr.od.nih.gov (301) 402-1146
 - **Office of Rare Diseases Research (ORDR)**
http://rarediseases.info.nih.gov
Genetic and Rare Disease Information Center
1-888-205-2311
 - **Office of Research on Women's Health (ORWH)**
http://orwh.od.nih.gov (301) 402-1770
- Marin P. Allen, Ph.D.**, Office of Communications and Public Liaison, NIH
- Joyce Backus**, National Library of Medicine (ex-officio)
- Christine Bruske**, National Institute of Environmental Health Sciences
- Vicky Cahan**, National Institute on Aging
- Kym Collins-Lee**, National Eye Institute
- Kathleen Cravedi**, National Library of Medicine (ex-officio)
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- Carol Krause**, National Institute on Drug Abuse
- Jo-Ann Kriebel**, National Institute of Alcohol Abuse and Alcoholism
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- Larry Thompson**, National Human Genome Research Institute
- Anne Thurn, Ph.D.**, Office of Dietary Supplements

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