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NIH MedlinePlus®

WINTER 2010

the magazine

Plus, in this issue!

- **Treating
Diverticulitis**
- **Protecting
Yourself from
Shingles**
- **Progress
Against
Prostate
Cancer**
- **Preventing
Suicide in
Young Adults**
- **Relieving the
Pain of TMJ**
- **The Real
Benefits of
Personalized
Medicine**

“Keep the Beat”

Healthy Blood Pressure
Helps Prevent Heart Disease

*Model Heidi Klum joins The Heart Truth
Campaign for women's heart health.*

Prevent Heart Disease Now!

You can lower your risk.

Saying “Yes!” to Careers in Health Care

Recently, the Friends of NLM was delighted to co-sponsor the fourth annual “Yes, I Can Be a Healthcare Professional” conference at Frederick Douglass Academy in Harlem. More than 2,300 students and parents from socioeconomically disadvantaged communities throughout the entire New York City metropolitan area convened for the daylong session. It featured practical skills workshops, discussion groups, and exhibits from local educational institutions, health professional societies, community health services, and health information providers, including the National Library of Medicine (NLM).

If you’ll pardon the expression, the enthusiasm among the attendees—current and future healthcare professionals—was infectious!

It was especially exciting to mix with some of the students from six public and charter high schools in Harlem and the South Bronx enrolled in the Science and Health Career Exploration Program. The program was created by Mentoring in Medicine, Inc., funded by the NLM and co-sponsored by the Friends. This new effort entails 40 sessions of biology instruction (covering 12 organ systems of the body) taught by visiting health professionals and mentors over a two-year period. The six schools are characterized by dynamic administrators and faculty recognized for their teaching excellence, and for graduation rates far exceeding the norm.

In our view, there couldn’t be a better proving ground for new approaches that stimulate and sustain student interest in healthcare careers. We are proud to be helping young people say “Yes” to careers in health care.

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



Photo: NLM

Donald West King, M.D.
FNLN Chairman

Let Us Hear From You!

We want your feedback on the magazine, ideas for future issues, as well as questions and suggestions. E-mail your letters to Managing Editor Selby Bateman (selby.bateman@vitality.com) or send mail to Editor, *NIH MedlinePlus* Magazine, P.O. Box 18427, Greensboro, NC 27419-8427. We will feature some of your letters in upcoming issues.

Personalized Health Care in the Digital Age

What advances lie just around the corner for you and your family? Look for the latest developments in the Spring issue of *NIH MedlinePlus* magazine, which will feature the results of an April conference, The e-Patient: Digital and Genomic Technologies for Personalized Health Care.

The nation’s top health researchers, computer experts, and scientists will share the newest advances in cancer research, telemedicine, and more.

National Library of Medicine
& Friends of the National Library of Medicine
The e-Patient: Digital and Genomic Technologies for
Personalized Health Care

April 6-7, 2010

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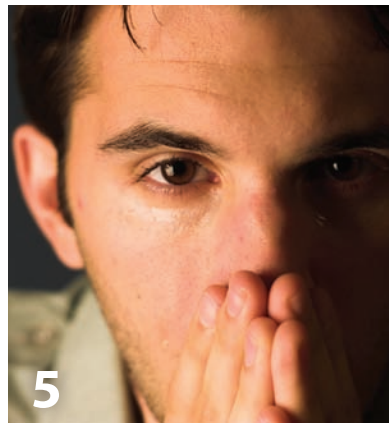


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NIH MedlinePlus, the Magazine is published by
Vitality Communications
407 Norwalk St.
Greensboro, NC 27407
(336) 547-8970

William G. Moore, President
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Articles in this publication are written by professional
journalists. All scientific and medical information is
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5 Research is under way to reduce
suicides among young adults.

8 “Keep the Beat.” Healthy
Blood Pressure and Your Heart

14 Treating the Jaw Pain
That Is Called TMJ

16 Protecting Yourself From
Shingles: The VZV Vaccine

19 Dealing with the Pain
of Diverticulitis



25 Dr. Virginia Apgar created the test
used for evaluating all newborns.

IFC From the FNLM Chairman:
Donald West King, M.D.

2 From the Director:
Francis S. Collins, M.D., Ph.D.

4 My Family Health Portrait:
A Tool for Family History

5 Preventing Suicides



8 Cheryl Fells controls her blood
pressure with exercise and diet.

22 Progress Against
Prostate Cancer

25 Then & Now: Birth of the
Apgar Score for Babies

27 Health Lines:
Medical Research News

29 Info to Know

Photos: (top of page) iStock;
(center) Christopher Klose;
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From NIH Director Dr. Francis S. Collins

The Future of Personalized Medicine

Dr. Francis S. Collins, M.D., Ph.D., Director of the National Institutes of Health, recently spoke with *NIH MedlinePlus* magazine coordinator Christopher Klose about the importance of personalized medicine, and what it means to families and the individual.

One of your top five priorities for NIH is to advance personalized medicine. What does this mean for the average American?

Personalized medicine means taking better care of ourselves, beginning with learning as much as possible about your family's medical history.

What is a family medical history?

It is knowing the medical challenges faced by your parents, your brothers and sisters, your grandparents. It is a snapshot into a person's own potential risks, based on inherited components of diseases.

How is it useful?

When we look at the strongest risk factors for cancer, heart disease, or diabetes, for example, family history is right at the top of the list for all of those. Yet, this information is rarely taken as seriously as it should be. It is very important to systematically collect your family medical history.

Collecting a family history sounds complicated.

Fortunately, it isn't. The Surgeon General, working with the National Human Genome Research Institute here at NIH, has put together a very user friendly tool that enables you to record your own family's medical history in a secure database. It is called My Family Health Portrait. It is available both on the Internet (see www.familyhistory.hhs.gov) and in print.

How does it work?

The computer asks a set of simple questions about your closest family members. For example, about your siblings, their ages, and what diseases or conditions they may have, such as cancer or high blood pressure. Once you've entered the information, you can print it out in a standard form, called a "pedigree." Doctors use them to evaluate their patients.

Does this mean interviewing my relatives first?

Yes. The people closest to you matter most. So, if you know about your grandparents, your parents, and your siblings, you have collected a lot of the important information your healthcare professional needs to help make predictions about your own health.

"Personalized medicine is empowering."

— NIH Director Dr. Francis Collins

In this age of genomic medicine, wouldn't it be simpler and quicker to have my DNA analyzed?

DNA testing can help in specific situations, and it's even possible to have a rough screening for risks of common diseases from a sample of saliva—but, family medical history is generally the place to start. It provides a pretty good sampling of your genome without actually having to do any lab work. It will point to, perhaps, some areas for special attention. People should definitely collect their family histories and discuss them with their healthcare providers to see if there is any reason to go forward with specific DNA testing; for instance, someone who has a very strong family history of colon cancer.

Would you recommend DNA analysis for everyone?

I would strongly recommend it for someone with a family history of early onset colon cancer, for example, or for women in families



Photo: NIH

4 NIH Sources to Help You Help Yourself

1. Smoking: By far the most important step to reduce your risk of cancer, heart disease, and emphysema is to quit smoking. Smoking is addictive, and quitting is hard. But help is available! Start at <http://www.cancer.gov/cancertopics/smoking> and follow the many helpful ideas there (including free personal counseling from the National Cancer Institute) that have helped millions kick the habit.

2. Breast cancer: To assess your own risk on the basis of family history, age, history of breast abnormalities, age at first menstrual period, and first delivery (if any), go to <http://cancer.gov/cancertopics/factsheet/estimating-breast-cancer-risk>. If your risk is substantially higher than one in eight, talk with your doctor. For more information, see <http://www.cancer.gov/cancertopics/factsheet/Risk/BRCA>.

3. Colorectal cancer: Early diagnosis provides the best opportunity for cure. Currently it is recommended that, starting at age 50, everyone undergo regular colonoscopy. The National Cancer Institute has an online tool that allows individuals to assess their risks, based on family history, diet, amount of exercise, and use of tobacco. See <http://www.cancer.gov/colorectalcancerrisk>.

4. Cancer risk: If you have a family history of cancer, or any indications of heightened personal risk based on previous genetic testing or early warning signs, consult with your physician to be sure you are taking advantage of all possible methods for surveillance and early detection. Stay current with the latest developments in cancer prevention and genetics at <http://www.cancer.gov/cancertopics/prevention-genetics-causes>.

with an unusual number of individuals with breast and ovarian cancer. Those kinds of special circumstances, which are not all that rare, can be really nailed down by specific DNA testing. If you are in a family with many other individuals affected by cancer, finding out that information can be life saving, even though it presents some challenging options for intervention.

Are you saying that part of the new personalized medicine is to take individual responsibility, despite the potential consequences?

Yes. Personalized medicine is empowering because your personal genetic and other predictive information allows you to take action that is specific for you—rather than the “one size fits all” approach. For example, maybe I don’t want to know I’m at increased risk for macular degeneration, a common cause of blindness in elderly individuals—unless. Unless there’s something I can do about it. In that case, tell me now!

You not only cracked the human genome, you’ve had your DNA analyzed. What was the upshot?

I found out I’m at increased risk for diabetes, even though there’s no family history of it. My first-degree relatives are remarkably

skinny, so perhaps they’ve managed to control their risks by being lean. I was looking a lot less lean when I got my DNA results and realized I should have been paying attention to my weight, diet, and exercise. It motivated me to say, “Okay, Collins, maybe it’s time to take some action.”

Have you done anything about your weight?

I’ve been exercising, including one hour of weight training three times a week, and a little bit of cardio. I’ve modified my diet to skip those muffins and honey buns that used to be my downfall. I’ve lost 23 pounds and weigh 180 for the first time since college. It feels pretty good.

My Family Health Portrait

A tool from the Surgeon General

My Family Health Portrait is an Internet-based tool that makes it easy to create your family's health history. It is simple to fill out. It is private. It is valuable health information that you can share with family members, for their benefit, and with your healthcare practitioner, for your better health.

My Family Health History is available at:
<https://familyhistory.hhs.gov/fhh-web/home.action>

Using My Family Health Portrait, you can:

- Record your family's health history
- Print out and share the history with your family and your healthcare provider
- Save and regularly update your family health history for future use



Why is it important to know my family medical history?

Your family medical history is a record of health information about you and three generations of close relatives. Family history can be an important risk factor for problems like heart disease, stroke, diabetes, and cancer. A risk factor is anything that increases your chance of getting a disease. The reason a family history can help predict risk is that families share their genes, as well as other factors that affect health, like environment, lifestyles, and habits. A family medical history allows you to take steps to reduce your risk.

To Find Out More

MedlinePlus: Family History
www.nlm.nih.gov/medlineplus/familyhistory.html


Family Health History
www.cdc.gov/genomics/famhistory/index.htm

Preventing Suicides in the Military

Research by the U.S. Army and the National Institute of Mental Health aims to reduce suicides among America's military and military veterans.

FASTFACTS

- America's war veterans are at high risk of suicide. The suicide rate among our active military now surpasses that of the general population. Military suicides have risen to record levels for four straight years.
- Rising rates can be linked to a number of factors, including multiple redeployments, combat injuries, extreme stress on marriage and family relationships, and reluctance of service members to seek treatment.
- There were 160 reported active-duty Army suicides during 2009, up from 140 suicides in 2008.
- For 2009, there were 78 confirmed suicides among Army Reserve soldiers not on active duty, up from 57 such deaths in 2008.
- Suicide is the 11th leading cause of death among all Americans.



“The suicide rate among soldiers began to rise significantly in 2002, and reached record levels by 2007,” says Thomas R. Insel, M.D., director of the National Institute of Mental Health (NIMH) director. “The Army has been very proactive in addressing the crisis but, sadly, the suicide rate continues to rise.”

In addition to the Army's attempts to reduce the suicide rate and address mental health issues, Dr. Insel notes that in 2008 the Army and the NIMH initiated the Study to Assess Risk and Resilience of Service Members (Army STARRS) to better understand the phenomenon. It is the largest study of its kind ever undertaken.

In addition to suicide, this study is targeting depression, anxiety disorders, and post-traumatic stress disorder (PTSD). Unlike typical research studies, which can take years, Dr. Insel says that data from Army STARRS will be reported at regular intervals throughout the five-year study period. The information will be used to tailor interventions so that the suicide rate drops and soldiers get the help they need as quickly as possible.

“No question. 2009 was a painful year for the Army

Who's at Risk?

Men are four times more likely than women to die from suicide. However, three times more women than men attempt suicide. In addition, suicide rates are highest among young people and those over age 65.

Primary risk factors for suicide include:

- **Prior suicide attempt**
- **Family history of mental disorders**
- **Alcohol or other substance abuse**
- **Family history of suicide**
- **Family violence, including physical and/or sexual abuse**
- **Firearms in the home (the method used in more than half of all suicides)**

Warning Signs

If someone talks about suicide, you should take it seriously. Urge them to get help from their doctor or the emergency room, or call 911 or the National Suicide Prevention Lifeline at 1-800-273-TALK (800-273-8255).

For members of the military and veterans, the U.S. Department of Veterans Affairs lists the primary warning signs as:

- **Thinking about hurting or killing yourself**
- **Looking for ways to kill yourself**
- **Talking about death, dying, or suicide**
- **Self-destructive behavior, such as drug abuse**

Family members and friends of members of the military or veterans who notice any of the following additional warning signs should help the individual seek help:

- **Expressing feelings of hopelessness, like there's no way out**
- **Anxiety, agitation, sleeplessness, mood swings**
- **Feeling that there is no reason to live**
- **Rage or anger**
- **Engaging in risky activities without thinking**
- **Increasing alcohol or drug abuse**
- **Withdrawing from family and friends**



Photo: iStock

when it came to suicides,” says Col. Christopher Philbrick, deputy director of the Army Suicide Prevention Task Force. “We took wide-ranging measures to confront the problem, from service-wide prevention and teaching programs to the Army STARRS initiative with the National Institute of Mental Health.”

In 2010, the Army plans to update its suicide prevention training and improve procedures to ensure that soldiers and their families receive the support they need when undergoing key transitions, such as moving to another duty station or separating from the Army.

“This will give us the data we need to better adjust and expand our programs so that we save more lives,” adds Philbrick.

To Find Out More

Members of the military, veterans, and their families should contact any of the following military support resources if warning signs of suicide are present:

- **Military OneSource Crisis Intervention Line**
1-800-342-9647
- **The Defense Center of Excellence (DCoE)**
1-866-966-1020
- **Suicide Prevention Lifeline – 1-800-273-TALK (8255)**
- **Army G-1, Army Well Being Liaison Office**
1-800-833-6622
- **Wounded Soldier and Family Hotline**
1-800-984-8523

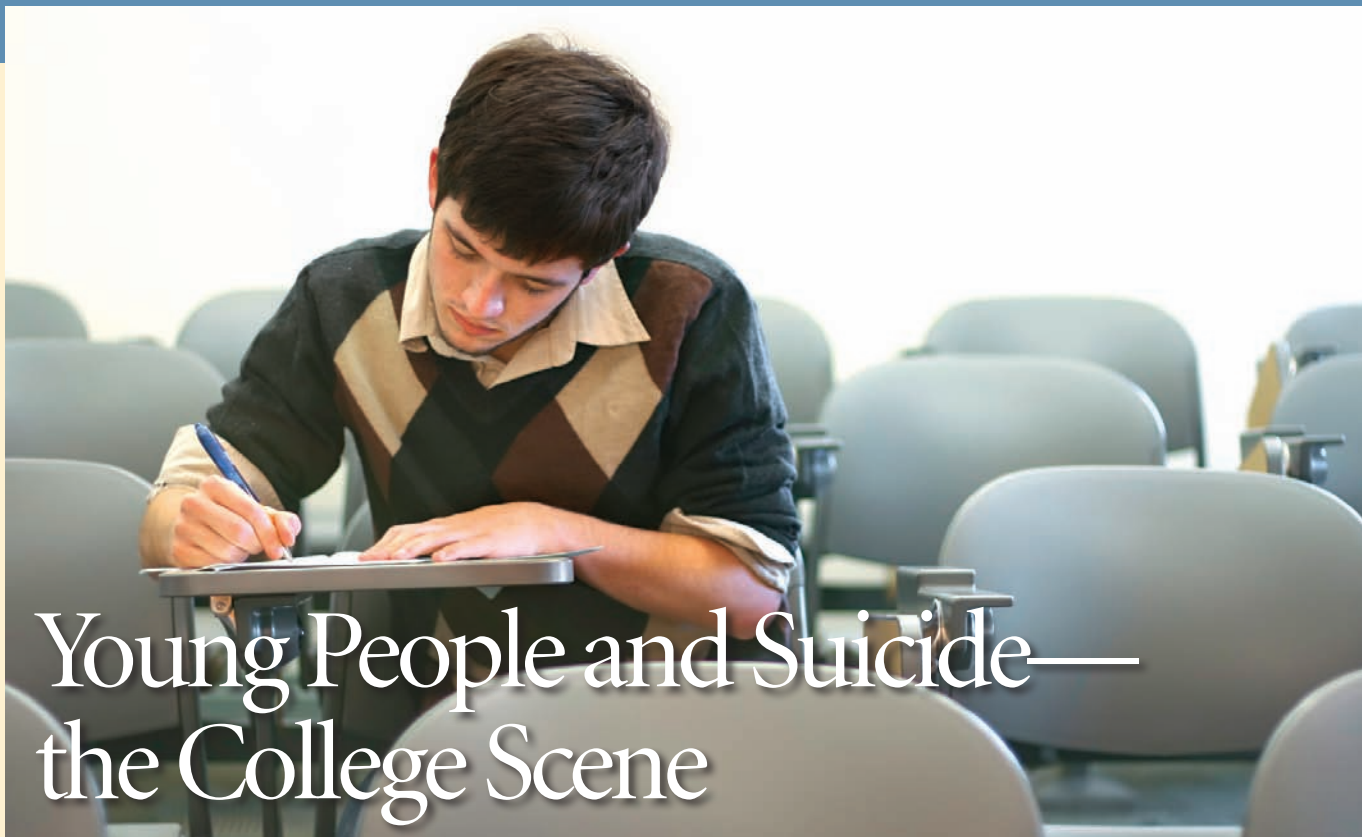


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Young People and Suicide— the College Scene

College students share many of the risk factors and warning signs for suicide seen among the general population. Some facts about today's college students are worrisome:

- 30 percent of college freshmen surveyed on mental health issues feel overwhelmed a great deal of the time; 38 percent of all college women feel the same way.
- A leading national suicide-prevention organization estimates that one in 10 college students has considered suicide.

Until recently, most colleges took the approach that student mental health challenges and inappropriate behaviors were best handled by parents, health centers, and the students themselves.

All that is changing rapidly, says Jane L. Pearson, Ph.D., Associate Director for Preventive Interventions at the National Institute of Mental Health (NIMH). Colleges are working with researchers, students, and parents to build support and outreach programs.

"We now recognize that college students are not privileged kids at low risk for mental health problems," she says. "That is one reason why NIMH has been funding research on preventing suicide, depression, and other disorders among college students." Dr. Pearson also chairs the NIMH Suicide Research Consortium, made up of several different NIH and partner organizations.

Stress among college students stems from a variety of related areas:

- Academic demands
- Alcohol and drug abuse
- Financial responsibilities
- Pre-existing mood disorders (bipolar, obsessive-compulsive, depression, etc.)
- New social relationships
- Physical health problems
- Sexual identity and behavior issues
- Life-after-graduation anxieties

To Find Out More

For more about preventing suicide among college students, the following resources should be of help:

- **MedlinePlus:** www.medlineplus.gov
(Type "suicide" in the Search box)
- **National Institute on Mental Health (NIMH):**
www.nimh.nih.gov
- **University of Michigan's Depression Center (research funded, in part, by NIMH):**
www.depressioncenter.org
- **The Jed Foundation: (a leading organization working to reduce emotional distress and prevent suicide among college students)**
www.jedfoundation.org

“Keep the Beat”

Healthy Blood Pressure Helps Prevent Heart Disease

FASTFACTS

Your blood pressure rises and falls during the day. But when it stays elevated over time, it's called high blood pressure. High blood pressure is dangerous because it makes the heart work too hard. The high force of the blood flow can harm arteries and organs such as the heart, kidneys, brain, and eyes. High blood pressure often has no warning signs or symptoms. Once it occurs, it usually lasts a lifetime. If uncontrolled, it can lead to heart and kidney disease, stroke, and blindness.

High blood pressure affects more than 65 million—or 1 in 3—American adults. About 28 percent of American adults ages 18 and older, or about 59 million people, have prehypertension, a condition that also increases the chance of heart disease and stroke. High blood pressure is especially common among African Americans, who tend to develop it at an earlier age and more often than whites. It is also common among older Americans—individuals with normal blood pressure at age 55 have a 90 percent lifetime risk for developing high blood pressure.



5 Tips for Healthy Blood Pressure

1. Maintain a healthy weight.
2. Be moderately physically active on most days of the week.
3. Follow a healthy eating plan, which includes foods low in sodium.
4. If you drink alcoholic beverages, do so in moderation.
5. If you have high blood pressure and your healthcare provider prescribes medication, take it as directed.

- “Blood pressure” is the force of blood pushing against the walls of the arteries as the heart pumps out blood. If this pressure rises and stays high over time, it can damage the body in many ways.
- High blood pressure (HBP) is a serious condition that can lead to coronary heart disease, heart failure, stroke, kidney failure, and other health problems.
- About 1 in 3 adults in the United States has HBP. The condition can damage the heart, blood vessels, kidneys, and other parts of your body.
- Heart disease is the No. 1 killer of women. Although heart disease deaths in women generally have gone down, the death rate in young women (ages 35-44) is more than three times greater than for women ages 25-34. This suggests that women are not taking advantage of a critical time in their lives—their late 20s and early 30s—to take action to reduce their risk.
- The good news is that heart disease is preventable. By leading a healthy lifestyle, Americans can lower their risk of heart disease by as much as 82 percent.



Photos: The Heart Truth

(Inset above) Heidi Klum and Liza Minnelli backstage at the Red Dress Collection Fashion Show.

Women and Heart Disease

“The Heart Truth Campaign” Urges Women To Take Good Blood Pressure Seriously

February is American Heart Month, and the National Heart, Lung, and Blood Institute’s (NHLBI) landmark heart health awareness campaign for women—The Heart Truth—continues to help increase awareness that heart disease is the No.1 killer of women.

Heart disease deaths in women have gone down in each of the seven years since 1999—from 373,575 in 1999 to 315,674 deaths in 2006, according to NHLBI. This decrease of more than 15 percent is a consecutive yearly decline that has not occurred before.

NHLBI experts analyzed data for 2006, the most recent year for which data are available. The analysis shows that women are living longer and healthier lives, and dying of heart disease at much later ages than in the past.

However, data on increasing rates of overweight and obesity, important risk factors for heart disease in younger women, indicate there could be a greater prevalence of heart disease in later years.

“Having even one risk factor can double a woman’s chance of developing heart disease,” says NHLBI Acting Director Susan Shurin, M.D. “You can protect yourself and your family if you don’t smoke, eat a heart-healthy diet low in saturated fat and high in fruits and vegetables, maintain a healthy weight, and are physically active. Know and control your risks—talk to your doctor about your blood pressure and cholesterol.”

A new survey, conducted in March 2009, shows that 69 percent of women are aware that heart disease is their No.1 killer, a slight increase from 2008. However, even with awareness on the rise, many women do not take this message seriously or personally. One-third of women still underestimate their own personal risk of getting heart disease, and too many—one in four women—still die from heart disease.

“One-third of women still underestimate their own personal risk of getting heart disease.”

(Top) Each year since 2002, The Heart Truth campaign has featured the Red Dress Collection Fashion Show during American Heart Month to help bring attention to women’s heart health. The red dress is the national symbol for women and heart disease awareness. The event brings leading celebrities together in fashions created by America’s top designers for women’s heart health. Celebrity participants in last year’s Red Dress Collection Fashion Show included Amanda Beard, Brittany Snow, Daisy Fuentes, Hilary Duff, Jane Kaczmarek, Jennie Garth, Katie Couric, Kristi Yamaguchi, Laila Ali, Lynda Carter, Nastia Liukin, Natasha Henstridge, Nia Long, Patricia Arquette, Samantha Harris, Susan Lucci, Tori Spelling, Valerie Bertinelli, and Vivica A. Fox.

Blood Pressure Numbers: What They Mean

Blood pressure numbers include systolic (sis-TOL-ik) and diastolic (di-a-STOL-ik) pressures. Systolic blood pressure is the pressure when the heart beats while pumping blood. Diastolic blood pressure is the pressure when the heart is at rest between beats.

You will most often see blood pressure numbers written with the systolic number above or before the diastolic, such as 120/80 mmHg. (The mmHg is millimeters of mercury—the units used to measure blood pressure.)

The table below shows normal numbers for adults. It also shows which numbers put you at greater risk for health problems. Blood pressure tends to go up and down, even in people who have normal blood pressure. If your numbers stay above normal most of the time, you're at risk.

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

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?

Healthy Blood Pressure “It’s worth the effort!”

By Christopher Klose

“I never thought I had a problem,” recalls Cheryl Fells, 53, who was diagnosed with high blood pressure (hypertension) during a routine physical exam in 2003. As is the case for so many millions of Americans, there was no warning sign. “How long had I been walking around with it?” she wonders.

A cardiologist put her on two medications to lower her pressure, and she began to monitor her progress. “I took a hard look at my lifestyle, especially my diet and exercise, she says.” She cut out potato chips—“Sodium is huge!”—began to eat less fried foods, drink more water, and cook at home to control the amount of salt in her diet.



Photo: Christopher Klose

Cheryl Fells controls her high blood pressure through regular exercise and healthy eating.

Cheryl Fells’ Turkey Chili

Serves 4

Ingredients:

- 1 pound of lean ground turkey
- 1 can of diced tomatoes (16 oz)
- 1 can of tomato sauce (16 oz)
- 1 can of red kidney beans (16 oz)
– rinse and drain
- 1 red bell pepper, diced
- 1 green bell pepper, diced
- 1 medium onion, diced
- 1 clove garlic, minced
- 1/2 to 1 tsp cayenne pepper



Photo: iStock

- 1 tsp. cumin
- 1 tsp. chili powder
- 1 tsp. oregano
- Pepper to taste

Preparation:

1. Brown turkey in olive oil in a large pot, drain excess liquid.
2. Add onion, green and red peppers – stir until tender
3. Add kidney beans, diced tomatoes and tomato sauce
4. Mix in the garlic and spices. Bring to a boil.
5. Lower heat and cook for 15-20 minutes
6. Remove from heat and serve

Note: This recipe may also be served over brown rice.

Eventually, her blood pressure returned to normal. With her doctor’s agreement, she ceased taking her medications in 2006 and began relying solely on diet and exercise to maintain her pressure within normal range. Fortunately, it has worked.

“Knowing that high blood pressure can lead to diabetes and other serious complications scared me,” she admits. “Managing it takes planning, but when you see your numbers, it’s worth the effort.”

Fells, who directs the Grants Information Office of the National Institutes of Health, in Bethesda, Md., exercises up to 90 minutes at least four times a week. This includes 30 minutes of cardiovascular work on a treadmill, 15 minutes of stationary biking, 15 minutes on the elliptical machine, and 20 to 30 minutes of free-weight lifting.

As for diet, she eats fresh, whole foods—“nothing packaged!”—especially green, leafy vegetables, high-fiber fruits (pears, apples, grapes, blueberries), and chicken, turkey, lean ground pork, lamb and veal, and fish. And she reads food labels very closely to understand what she’s eating.

“You can enjoy a good, healthy life as long as you have the information you need to make better decisions,” she says.

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 Cup 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://hp2010.nhlbihin.net/yourguide/>.

Quiz: Does Your Blood Pressure Pass the Test?

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.

Source: NIH SeniorHealth.gov

To Find Out More

- **MedlinePlus:** www.medlineplus.gov; type "blood pressure" in the Search box for links to information. Then, for previous articles on blood pressure from this magazine, click on "NIH MedlinePlus" on the left side of the screen.
- **NHLBI's Your Guide to Lowering High Blood Pressure:** www.nhlbi.nih.gov/
- **The DASH Diet Eating Guide:** www.nhlbi.nih.gov/hbp/



Photo: StockByte

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.

Roller-coaster Ride to Relief From TMJ



Trish Romefelt, here with son Michael, can smile today. But for the past two decades, TMJ has made her life a roller coaster of constant pain.

Photo: Patricia Romefelt

FASTFACTS

TMJ Disorders

- Temporomandibular joint and muscle disorders (TMJ) are a group of conditions that cause pain and dysfunction in the jaw joint and muscles controlling jaw movement.
- Over 10 million Americans are estimated to have TMJ.
- TMJ appears to be more common in women than men.
- Most TMJ pain goes away by itself.

Since the late 1980s, Patricia (“Trish”) Romefelt, of Catonsville, Md., has been on a roller coaster ride, seeking relief from temporomandibular joint (TMJ) disorder, which causes pain and, sometimes, dysfunction in the jaw joint and muscles of the neck, head, and face.

She has endured:

- excruciating pain in her jaw;
- intense nerve pain on the left side of her neck, face, and head;
- recurrent, severe migraine headaches;
- an inability to smile or eat properly on the left side of her face (forcing her to go on a soft diet);
- insomnia; and, to top things off,
- pulsatile tinnitus, a condition in which she constantly heard her own pulse, awake and asleep, as a deep booming sound.

“People don’t understand what you’re going through because you look normal. But you’re not,” says the 56-year old registered nurse. “TMJ is very complex, so you have to take a multi-disciplinary approach. Look for a medical facility that can offer physicians, dentists, pain management specialists, and physical therapists familiar with TMJ. Also, look for psychologists expert in pain management, surgeons specializing in TMJ, and other TMJ experts.”

According to Romefelt, the more chronic TMJ becomes, the harder it is to treat. She went from taking the pain killer Motrin, at the beginning of her problems, through four years of mouth splints (day and night), heat therapy, and craniofacial massage, physical therapy, prescription medications, stress relief, and biofeedback relaxation techniques, to, finally, in February 2009, arthroscopic explorative jaw surgery.

The operation revealed that, perhaps due to a long-past injury, there was minimal cartilage in Romefelt’s left jaw, and bone-on-bone rubbing was the source of her inflammation and pain. Her surgeon injected a combination of steroids and lubricants to ease the pain and grease her jaw. She was on the road to relief.

Last November, a second exploratory arthroscopy showed improvement in the cartilage and less inflammation. In the future, she will receive injections of the lubricant, as necessary, and may need to continue injections to block—and eventually end—the nerve pain that radiates out from near the jaw to her neck and head.

Romefelt is a realist, however. Because her TMJ became chronic, she understands it will be difficult to make it all go away. “It’s a day-by-day battle for normalcy. But thanks to my team of TMJ specialists, I can hold the phone to my left ear now!” she happily reports.

Treating TMJ Less Is Often Best

What is TMJ?

Temporomandibular joint and muscle disorders, commonly called TMJ, are a group of painful conditions affecting the muscles controlling jaw movement. Injury plays a role in some TMJ problems, but for many people, symptoms start without obvious reason. Fortunately, for most, TMJ pain does not signal a serious problem. Discomfort is occasional, temporary,

and goes away with little or no treatment. However, for others, TMJ pain can be chronic and debilitating. Little scientific evidence exists to show which treatments are effective. Scientists sponsored by the National Institute of Dental and Craniofacial Research (NIDCR) are investigating the causes of and potential treatments for TMJ.

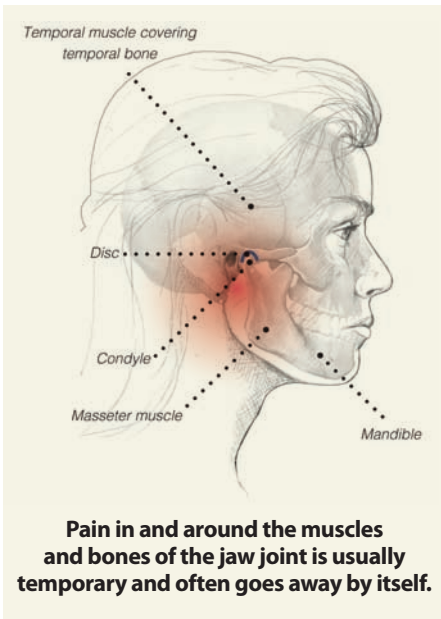


Illustration: NIDCR

What Can I Do?

Until there is scientific evidence for making sound treatment decisions, NIDCR suggests people:

- Eat soft foods, use ice packs, and avoid wide yawning, gum chewing, and other extreme jaw movements. Short-term use of over-the-counter or prescription pain medicines may also provide relief.
- Avoid treatments resulting in permanent changes in the bite or jaw, including crown and bridge work to balance the bite, orthodontics to change the bite, grinding down teeth to bring the bite into balance, and repositioning splints.
- Avoid surgery, where possible, and if considering surgery, get medical opinions to fully understand the potential risks.

Finding the Right Care

Because there is no certified dental or medical specialty for TMJ disorders, finding the right care can be difficult. Look for healthcare providers who understand disorders of the muscles, bones, and joints and are trained in treating pain conditions. Hospital and university pain clinics are often good sources of advice.

Symptoms

- Pain, particularly in the chewing muscles and/or jaw joint
- Radiating pain in the face, jaw, or neck
- Jaw muscle stiffness
- Limited movement or locking of the jaw
- Painful clicking, popping, or grating in the jaw joint when opening or closing the mouth;
- A change in the way the upper and lower teeth fit together

Diagnosis

- There is no standard test for diagnosing TMJ. Currently, healthcare providers note the patient's symptoms, take a detailed medical and dental history, and examine problem areas, including the head, neck, face, and jaw. Imaging studies may also be recommended.
- Facial pain can indicate many other conditions, such as sinus or ear infections, various types of headaches, and facial-nerve pain. Ruling out these problems first helps to identify TMJ disorders.

Treatment

- Experts strongly recommend using the most conservative, reversible of treatments. These do not invade the tissues of the face, jaw, or joint, or involve surgery. Also, they do not cause permanent changes in the structure or position of the jaw or teeth. Even when TMJ disorders persist, most patients still do not need aggressive treatment.
- Short-term use of over-the-counter pain medicines or non-steroidal anti-inflammatory drugs, such as ibuprofen, may provide temporary relief. When necessary, stronger pain or anti-inflammatories, muscle relaxants, or anti-depressants may be prescribed.
- Stabilization splints or plastic bite guards that fit over the upper or lower teeth are the most widely used treatment for TMJ. Studies of their effectiveness at relieving pain are inconclusive. Splints should be used only for a short time and not cause permanent changes in the bite. If splints cause or increase pain, stop using them and see your healthcare provider.

To Find Out More

- **MedlinePlus:** www.medlineplus.gov; type TMJ in the Search box.
- **National Institute of Dental and Craniofacial Research:** www.nidcr.nih.gov; type TMJ Disorders in the Search box.
- **The TMJ Association:** <http://tmj.org>

Protecting Yourself From Shingles

“I wouldn’t wish shingles on my worst enemy!” That’s frequently the reaction of those who experience the pain of this common virus. Here’s what you need to know to help prevent or treat the disease.

Shingles is a painful skin rash caused by the varicella zoster virus (VZV). VZV is the same virus that causes chickenpox. After a person recovers from chickenpox, the virus stays in the body. Usually the virus does not cause any problems; however, the virus can reappear years later, causing shingles.

What does shingles look like?

Shingles usually begins as a rash on one side of the face or body. The rash starts as blisters that scab after three to five days. The rash usually clears within two to four weeks.

Before the rash develops, there is often pain, itching, or tingling in the area where the rash will develop. Other symptoms of shingles can include fever, headache, chills, and upset stomach.

Are there any long-term effects from shingles?

Very rarely, shingles can lead to pneumonia, hearing problems, blindness, brain inflammation (encephalitis), or death. For about one person in five, severe pain can continue even after the rash clears up. As people get older, they are more likely to develop this pain, and it is more likely to be severe.

How common is shingles in the United States?

In the United States, there are an estimated one million cases of shingles each year.

FASTFACTS

- Shingles is a painful, tingling skin rash caused by the same virus that causes chickenpox.
- About 25 percent of all healthy adults will get shingles during their lifetimes, usually after age 40.
- For people who have had chickenpox, shingles is not contagious. However, if you have never had chickenpox, contact with someone who has shingles could give you chickenpox. The fluid from their open blisters is infectious. Your healthcare provider may suggest giving you the chickenpox vaccine if you are exposed to someone with shingles.
- The incidence increases with age, so that shingles is 10 times more likely to occur in adults over 60 than in children under 10.
- People with weakened immune systems—from disease or use of medications that suppress the immune system—are at special risk of developing shingles.
- Thanks to research funded by the NIH, there is now there is a vaccine called VZV (Zostavax) that can help prevent shingles in people 60 and older.
- There are antiviral drugs that can help to lower the severity of shingles and shorten the length of time you have shingles.

Preventing and Treating

To Prevent Shingles— VZV Vaccine

The VZV (Zostavax) vaccine can help prevent shingles in people 60 and older.

To Treat Shingles— Antiviral Drugs

If you have shingles, there are antiviral drugs your healthcare provider can give you to help reduce the severity and shorten the time you have it. They include acyclovir (Zovirax), valacyclovir (Valtrex), and famciclovir (Famvir).



This type of rash is common in an outbreak of shingles.

Who gets shingles?

Anyone who has recovered from chickenpox may develop shingles, including children. But the risk increases as people age. It is most common in those 50 and older. The risk of getting shingles increases as a person gets older. People who have medical conditions that keep the immune system from working properly, like cancer, leukemia, lymphoma, and human immunodeficiency

“Shingles usually begins as a rash on one side of the face or body. The rash starts as blisters that scab after three to five days.”

virus (HIV), or people who receive drugs that suppress the immune system, such as steroids and drugs given after organ transplantation, are also at greater risk.

How often can a person get shingles?

Most commonly, a person has only one episode of shingles in his or her lifetime. Although rare, a second or even third case of shingles can occur.

Can shingles be spread to others?

A person with shingles can spread the disease through direct contact with the rash when the rash is in the blister phase. Once

the rash has developed crusts, the person is no longer contagious. A person cannot give the infection to others before blisters appear or with postherpetic neuralgia (pain after the rash is gone). The virus is not spread through sneezing, coughing, or casual contact.

The virus that causes shingles, VZV, can be spread from a person with active shingles to a person who has never had chickenpox through direct contact with the rash. The person exposed would develop chickenpox, not shingles.

What can be done to prevent the spread of shingles?

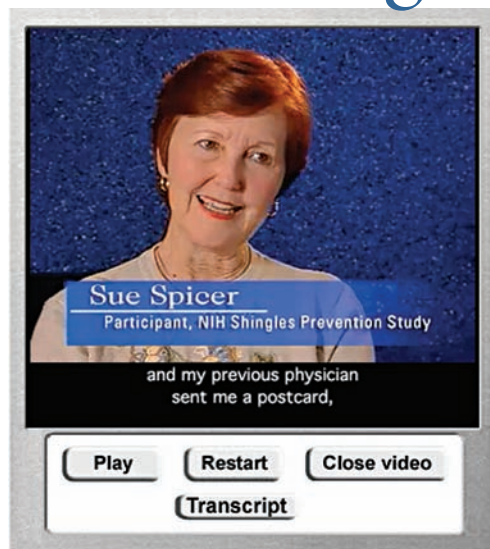
The risk of spreading shingles is low if the rash is covered. People should keep their rashes covered, avoid touching and scratching, and wash their hands frequently to avoid spreading it.

Is there a treatment for shingles?

Several medicines, acyclovir (Zovirax), valacyclovir (Valtrex), and famciclovir (Famvir), are available to treat shingles. You should start medication as soon as possible after the rash appears. That will help shorten how long the illness lasts and how severe the illness is. Pain medicine may also help with pain caused by shingles. Call your health professional as soon as possible to discuss treatment options.

“My Experience with Shingles.”

Maryland resident Sue Spicer knows firsthand about the pain and distressing symptoms of shingles. When she first showed symptoms of shingles, she and her husband happened to be taking part in an NIH-sponsored research program that later helped find a vaccine to prevent the disease. In a video interview made for the public and available on MedlinePlus.gov, Spicer tells about her bout with shingles and the antiviral drug that eased her symptoms when she developed the disease.



In an NIH SeniorHealth video, Sue Spicer talked about her bout with shingles, and why she took part in an NIH clinical trial that helped develop the shingles vaccine to protect others from getting it. To view it in its entirety, visit <http://nihseniorhealth.gov/shingles/toc.html>.

It was about two hours later. And then I started taking it on a regular hourly basis.

How long after you started taking the medicine did your symptoms go away completely?

A couple of days were all. I was quite amazed. By symptoms, I'm referring to pain. The rash stayed. It didn't get any worse, but it stayed and went through, I guess, a shingles cycle. It was little eruptions, and they oozed, and then they dried, and then they went away.

You can view this video and other shingles information at <http://nihseniorhealth.gov/shingles/toc.html>

Could you first describe your early symptoms?

The first symptom I had was pain in my right leg, and it sort of started in my upper leg and it went in both directions. It went down, and it went up. I had been very active the day before and decided, "Oh, I bet I've pulled something." So, I called my doctor, and she said, "We better look into it." The next morning I had a rash on the instep of my foot, and with the shingles study you are supposed to call them immediately if you have a rash. So, I called them and they made an appointment for me to come in to see the rash.

And when they saw the rash what did they do?

While I was there, they found another spot of rash that I did not know about on my upper buttocks. They decided they would do a scraping, and it was shingles.

How soon after the first symptoms did you get treatment?

The pain started on a Wednesday. I called them on Thursday, and I came to the NIH on Friday. The question was whether I was going to be able to drive because of the pain in my leg and whether it would be safe to do. I did drive in, and they then gave me some antiviral pills, and I was much more comfortable driving home than I was driving to the NIH office.

Did the medicine help immediately?

Immediately. I took a pill, and they waited to see if I was going to have any allergic reaction. I didn't, and then I took another pill.

What would you say to someone who might think they have shingles?

Immediately consult your doctor so that you can start treating it. You need to have today's treatment, today's medicines, to take care of it immediately. It should not be something that is lingering and affects your lifestyle.

NIH-Sponsored Research Helps Find a Shingles Vaccine

The Shingles Prevention Study was a collaboration between the Department of Veterans' Affairs, the National Institute of Allergy and Infectious Diseases, and the Merck Pharmaceutical Company. This nationwide study lasted five years and vaccinated some 38,000 people 60 and older. The study led to a vaccine, named Zostavax, that is safe and effective in providing protection against shingles and associated chronic pain.

To Find Out More

- **MedlinePlus:** www.medlineplus.gov (Type "shingles" in the Search box.)
- **NIH SeniorHealth:** <http://nihseniorhealth.gov/> (Click on the "S" button and then on "Shingles.")
- **National Institute of Neurological Disorders and Stroke (NINDS):** www.ninds.nih.gov/disorders/shingles/



Sharon Ellison—here with husband Don—has made a full recovery from diverticulitis, following surgery.

“...so painful, I couldn’t walk across the room.”

— Sharon Ellison, Facilitator, Educational Resources for Learning Disabled Youth
Washington, DC

FASTFACTS

- Diverticulosis occurs when small pouches (called diverticula) bulge outward through weak spots in the colon, or large intestine. Most people with diverticulosis never suffer any discomfort or symptoms.
- Diverticulitis occurs when the pouches become inflamed, causing pain and tenderness in the lower left side of the abdomen.
- Diverticulitis can lead to bleeding; infections; small tears, called perforations; or blockages in the colon. These complications always require treatment to prevent them from causing serious illness.
- Severe cases of diverticulitis with acute pain and complications typically require a hospital stay. When complications do not respond to medication, surgery may be necessary.
- For most people with diverticulosis, eating a high-fiber diet is the only treatment needed.

Dealing with Diverticulitis

My problems with diverticulitis began in 1990. I wasn’t digesting foods properly. I would feel bloated and have abdominal pain. Some days, I would have those symptoms and diarrhea, nausea, and other intestinal trouble.

For the next five years, I tried to control the attacks by cutting out many things from my diet. I would even avoid high-fiber foods like whole grains, fruits, and vegetables. My favorites! Finally, in 1995, I had an attack that was so painful I could not walk across the room. I ended up in the emergency room at Georgetown University Hospital, on antibiotics to stop the pain. Shortly after, my doctor diagnosed diverticulitis and recommended I have surgery.

I was operated on at Georgetown. The surgeon removed the diseased section of my colon, then joined the healthy ends together.

Today, depending on someone’s condition, laparoscopy probably would be used instead of traditional surgery. That

wasn’t an option for me. Although I was in the hospital for five days, the nurses had me walking the halls within hours of my surgery. Walking really does speed recovery—it gets your system moving again! That, plus good pain management, assured my recovery was excellent.

I gradually began to eat high-fiber foods again, although I avoided nuts and seeds for quite awhile. But, if I chew them thoroughly, they are not a problem now. I am not on a restricted diet and enjoy having an apple and a salad every day.

I would encourage others who have diverticulitis to carefully weigh all the treatment options and keep well informed.

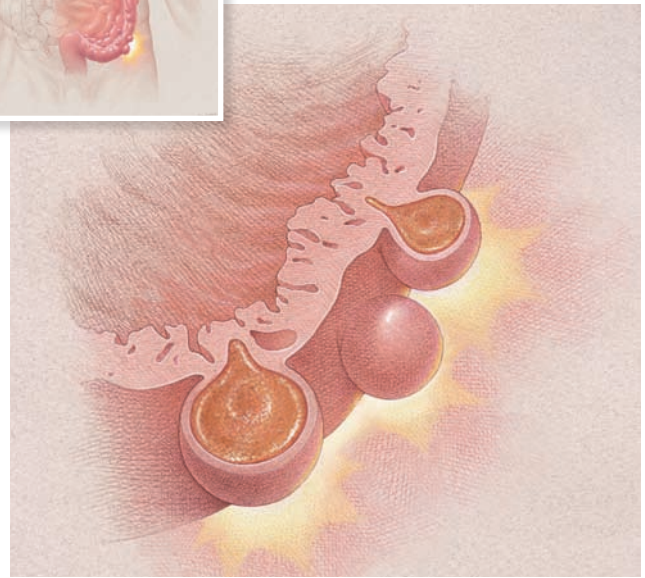
Understanding Diverticulosis and Diverticulitis

Many people have small pouches in the lining of the colon (the large intestine) that bulge outward through weak spots. A single pouch is called a diverticulum; multiple ones, diverticula. When you have diverticula, it is called diverticulosis.

When the pouches become inflamed, the condition is called diverticulitis. Ten to 25 percent of people with diverticulosis get diverticulitis. As many as one American in 10 over the age of 40 has diverticulosis; about half of all people over 60.



(Below) The small pouches that can form on the lining of the colon (left) are called diverticula. When they are inflamed, the condition is called diverticulitis.



Illustrations: Krames

Symptoms

Diverticulosis: Most people with diverticulosis do not have any discomfort or symptoms. However, some people may experience crampy pain or discomfort in the lower abdomen, bloating, and constipation. Irritable bowel syndrome, stomach ulcers, and other conditions cause similar symptoms, so they do not always mean a person has diverticulosis.

Diverticulitis: Diverticulitis most commonly causes abdominal pain and tenderness on the lower left side of the abdomen. Usually, the pain is sudden and severe, but it can also be mild and worsen over several days. Its intensity can change. A person may experience cramping, nausea, vomiting, fever, chills, or a change in bowel habits. Diverticulitis can lead to bleeding; infections; small tears, called perforations; or blockages in the colon. These complications always require treatment to prevent them from causing serious illness.

Causes

The leading but unproven theory is that a low-fiber diet causes diverticular disease. The disease was first noticed in the United States in the early 1900s, around the time processed foods became part of the American diet, greatly reducing fiber intake.

Fiber is the part of fruits, vegetables, and grains that the body cannot digest. Some fiber, called soluble fiber, dissolves easily in water. It takes on a soft, jelly-like texture in the intestines. You get soluble fiber from oats, barley, and fruits such as oranges and apples. Insoluble fiber passes almost unchanged through the intestines. Sources of insoluble fiber include whole wheat flour, nuts, beans, and vegetables such as carrots. Both kinds of fiber help prevent constipation by making stools soft and easy to pass.

Constipation—or hard stool—may cause people to strain during bowel movements. This may increase pressure in the colon, causing the colon lining to bulge out through weak spots in the colon wall. These bulges are diverticula.

Diagnosis

Your healthcare provider can test for diverticular disease many ways. Because most people do not have symptoms, diverticulosis is often found through tests ordered for another problem. For example, diverticulosis is often found during a colonoscopy to screen for cancer, or polyps, or to evaluate complaints of pain or rectal bleeding.

- **Medical history.** Your health professional will ask about your health and symptoms. You will be asked about your bowel habits, diet, and medications you take.
- **Blood test.** This test can help detect infections.
- **Stool sample.** This test may show bleeding in the digestive tract.
- **Digital rectal exam.** Your healthcare provider will insert a gloved finger into your rectum to check for pain, bleeding, or a blockage.
- **Imaging tests,** including CT scan, X-ray, abdominal ultrasound, or barium enema. These tests use a variety of machines and techniques to create pictures of the structures and activities inside your body.
- **Colonoscopy.** Your healthcare provider will insert a small tube through your anus. A tiny video camera is in the tube and will show if there are any pouches.

“Eat fresh vegetables, fruit, and whole grain products.”

— Susan Cassel, Retired Librarian
New York Public Library



Photo: Naomi Miller

Susan Cassel decided not to wait for an emergency before getting treated for diverticulitis.

My problems with diverticulitis started on election night in 2000. I had a mild but constant pain in the lower left of my abdomen. When I went to the doctor a few days later, he ordered a CT scan. It showed that I had diverticulitis. He advised me to eat more fiber and take psyllium. I also took antibiotics. The pain went away, but I had another attack a few months later. At that time, the doctor’s advice was to have elective surgery to remove the section of the colon that was causing the problems. I decided to do that, rather than face possible emergency surgery, which could have complications.

Although this was major surgery, thanks to good pain management at the hospital, I had little or none following the procedure. In order to heal more quickly, I walked the hospital corridors as much as I could. This also helped to pass nearly the week I spent at the hospital.

My recovery from surgery went well, and I have not had a recurrence of the pain or the diverticulitis. I once again eat fresh vegetables and fruit and whole grain products.

My two episodes of diverticulitis were not very severe, but my doctor had mentioned that they might persist and possibly worsen. I am glad that I chose elective surgery, so that I had no complications and no more recurrences. For a while after the surgery, I avoided eating certain foods, such as nuts and berries with seeds. Eventually, I found that I could eat these foods without any problem.

To Find Out More

- **MedlinePlus:** www.medlineplus.gov (Type “diverticulitis” in the Search box.)
- **National Digestive Diseases Clearinghouse:** <http://digestive.niddk.nih.gov/> (Click on “Digestive Diseases.”)

Treatment

Diverticulitis care focuses on clearing up the inflammation and infection, resting the colon, and preventing or minimizing complications.

Depending on the severity of symptoms, your health professional may recommend bed rest, oral antibiotics, a pain reliever, and a liquid diet. If symptoms ease after a few days, your healthcare provider will recommend gradually increasing the amount of high-fiber foods in the diet.

Severe cases of diverticulitis, with acute pain and complications, will likely require a hospital stay. Most cases of severe diverticulitis are treated with intravenous antibiotics and a few days without food or drink to help the colon rest. In some cases, surgery may be necessary.

NIH Research to Results

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the National Cancer Institute (NCI) sponsor research programs to investigate diverticulosis and diverticulitis.

Investigation continues in several areas, including

- **a possible link between diverticular disease and inflammatory bowel disease**
- **management of recurrent diverticular disease**
- **use of probiotics (“good bacteria” in the form of dietary supplements or foods) in the prevention and treatment of diverticular disease**
- **indications for surgery for uncomplicated diverticulitis**

Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research. For information about current studies, visit www.ClinicalTrials.gov.

Progress Against Prostate Cancer

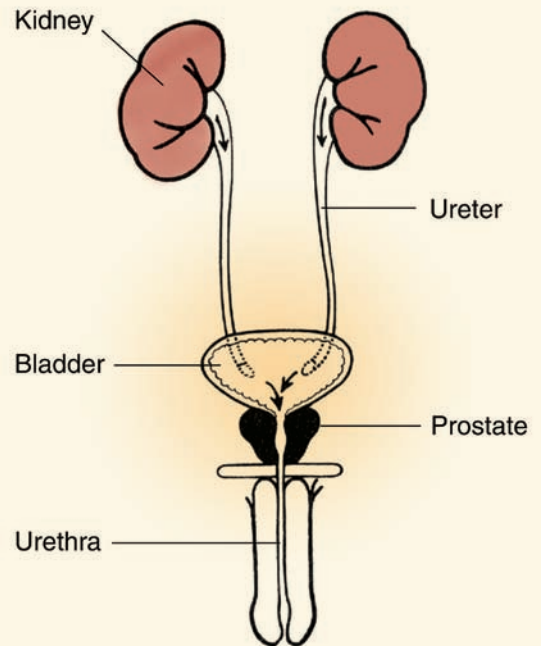


Illustration: NIDDK

FASTFACTS

What Is the Prostate?

The prostate is a walnut-sized gland that only men have. It is part of the reproductive system that makes the fluid that carries sperm. As you can see in the picture (upper right), the prostate is located just below the bladder. The urethra (the tube carrying urine from the bladder to outside the body) runs through the center of the prostate. As men age, the prostate tends to increase in size. This can narrow the urethra, decreasing urine flow.

Prostate cancer is made up of cells the body does not need, forming a mass of tissue called a tumor. Cancer cells sometimes spread to other parts of the body, multiply, and cause death.

African American men are about 60 percent likelier to develop prostate cancer than white men. However, age is the greatest risk factor for prostate cancer, with nearly 92 percent of those diagnosed being 45 or older.

What Is PSA?

Prostate specific antigen, or PSA, is a substance produced by the prostate and released into the blood. PSA levels are often high in men with prostate cancer. However, PSA can also be high with other prostate conditions.

There is a simple blood test to measure for PSA levels. Typically, the higher the PSA level, the more likely there is a prostate problem. But age and race can affect PSA levels. And some prostates produce more PSA than others. PSA levels can also be affected by certain medical procedures, an enlarged prostate, or a prostate infection.

Since there are many contributing factors, your healthcare provider is the best person to test and interpret your PSA level.

- Prostate cancer occurs when malignant (cancer-forming) cells grow in the tissue of the prostate gland—a part of the male reproductive system that sits below the bladder and in front of the rectum. A healthy prostate is about the size of a walnut. As men age, their prostate grows in size.
- Growths in the prostate can be benign or malignant. Benign growths are not cancerous, but they can make urinating difficult. They are common, do not spread, and can be removed. A malignant tumor in the prostate can be life threatening and invade other tissue and organs. It can be removed but sometimes returns.
- Prostate cancer is the second most common type of cancer among men in the United States. One out of six American men will be diagnosed with prostate cancer during their lifetimes.
- The National Cancer Institute estimates 192,280 men will be diagnosed with prostate cancer for 2009.

Symptoms

Prostate cancer has no symptoms in its early stages. They develop after the cancer has traveled outside of the prostate. Tell your healthcare provider if you have any of the following problems:

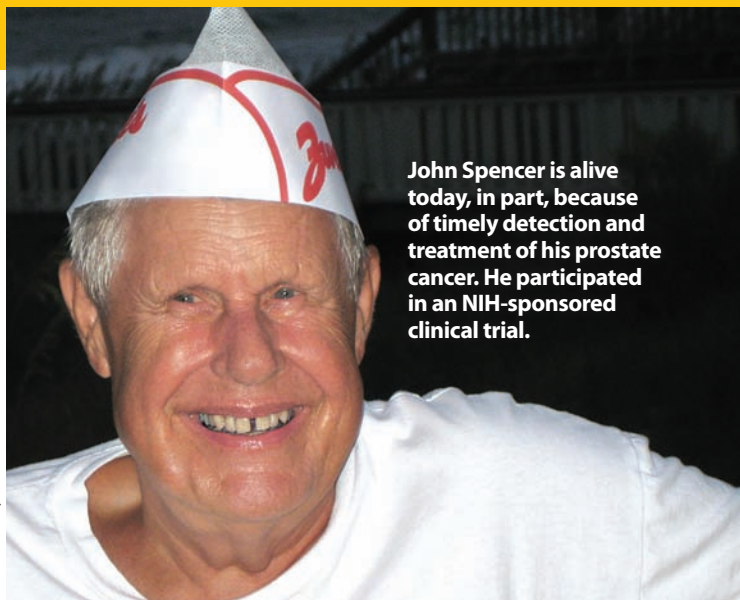
- **Frequent or urgent need to pass urine**
- **Waking up many times during the night to urinate.**
- **Difficulty starting or stopping the urine stream**
- **Not being able to urinate**
- **Weak urine flow**
- **Pain or a burning sensation during urination**
- **Blood in your urine or semen**
- **Pain in your lower back, hips, or upper thighs**
- **Difficulty having an erection**
- **Pain with ejaculation**

Diagnosis

Your healthcare provider can check for prostate cancer even if you don't have any symptoms. He or she will ask about your personal and family medical history, and perform a physical exam. In addition, the following tests will help to reveal anything abnormal, and help suggest the next steps to take:

- **Digital rectal exam (DRE)**—The prostate is checked for growths or enlargement.
- **Prostate-specific antigen (PSA) test**—A simple blood test to measure the amount of PSA, which is a marker for tumors.
- **Biopsy**—Tissue samples are extracted from the prostate with a long needle by a specialist. They are tested for abnormal or cancerous cells. This is the only way to confirm a diagnosis of prostate cancer.

Photo: Dr. Wesley Fowler



John Spencer is alive today, in part, because of timely detection and treatment of his prostate cancer. He participated in an NIH-sponsored clinical trial.

Prostate Cancer Research Trial Helps John Spencer Treat His Cancer

“My father-in-law, John Spencer, is the ‘poster child’ for our prostate cancer program here at the University of North Carolina,” says Dr. Wesley Fowler, a professor in UNC’s School of Medicine. Spencer was one of 46 men who participated in a clinical research trial to determine the value of a combination of chemotherapy drugs to treat advanced prostate cancer. Funded by the National Cancer Institute, the trial led to treatment advances for some types of prostate cancer.

Spencer started with a test to establish the level of prostate-specific antigen (PSA) in his blood.

When did you learn you had prostate cancer?

I was diagnosed in 1996 when, because of my age, my doctor recommended testing for my PSA. Normal was somewhere between 0 and 4. Mine was 2,500.

How did you become involved in a clinical trial?

After the cancer was discovered, I began hormone treatment, but that failed. I’m lucky enough to have a daughter and son-in-law here at UNC. My son-in-law learned that a clinical trial had just started for people like me, whose hormone treatment for prostate cancer had failed. I was a logical candidate, so my wife and I moved to Chapel Hill in 1998.

How did it turn out?

It worked very well. I received a cocktail of chemotherapy, steroids, and other medications. After three rounds, my PSA level was almost undetectable.

To find out more about clinical trials and how you or a loved one can participate, visit ClinicalTrials.gov. There is more information on clinical trials on page 24 of this issue.

How to Get Involved with Clinical Trials

John Spencer (see page 23) participated in an NIH-sponsored research trial that successfully treated his prostate cancer—and aided in development of more effective prostate cancer drugs.

What Is a Clinical Trial?

Clinical trials are research studies that test how well new medical approaches work in people. Their goal is to find better ways to prevent, screen for, diagnose, or treat a disease. Clinical cancer trial participants have an opportunity to contribute to the advance of knowledge, and progress against cancer, while receiving up-to-date expert care.

Who Sponsors Clinical Trials?

The National Cancer Institute (NCI) and other agencies of the National Institutes of Health (NIH), the Department of Defense, and the Department of Veterans Affairs, both sponsor and conduct clinical trials. Numerous organizations, physicians, medical institutions, foundations, volunteer groups, and pharmaceutical companies also undertake clinical trials.

How Can I Find Out More About Specific Clinical Trials?

ClinicalTrials.gov (www.clinicaltrials.gov) is a registry of federal and private clinical trials conducted in the United States and worldwide. It lists the trial's purpose, who may participate, locations, and detailed contact information.

NIH Research to Results

Immune Responses: Researchers at the National Cancer Institute (NCI) recently discovered that prostate tumors in mice can cause the cells of the immune system, known as CD8+ T cells, to change their normal function. Instead of preventing the growth of tumors, they suppress the body's usual immune responses. This finding has important implications for designing new immune-based cancer therapies.

Radiation Therapy: In a 20-year study, Mayo Clinic researchers found that radiation treatment is not only effective in destroying recurrent cancer in many patients, but it has few serious side effects.

Treatment

Prostate cancer treatment depends on how serious the cancer is and how quickly it grows. There are four standard treatments:

- “Watchful waiting” is when a healthcare provider closely monitors a patient’s cancer but does not treat it until symptoms appear or worsen.
- Radiation therapy uses powerful x-rays to kill cancer cells or keep them from growing.
- Hormone therapy blocks or eliminates male sex hormones to slow a prostate tumor’s growth.
- Surgery is often recommended for prostate cancer patients in good health.

Questions for Your Healthcare Provider

- Which prostate screening tests are reliable? Should I be screened?
- What other prostate problems can cause the same symptoms?
- What type of prostate cancer do I have?
- Which treatment option is best for me?
- What are the chances the cancer will return?
- What, if any, medications do I need to take? What are their side effects?
- How long is the recovery period for prostate surgery?
- What are the side effects of surgery, and how can we minimize them?

To Find Out More

For more information on prostate cancer, visit:

- MedlinePlus www.nlm.nih.gov/medlineplus/prostatecancer.html
- NCI’s Prostate Cancer Home Page www.cancer.gov/cancertopics/types/prostate

Dr. Virginia Apgar examining a newborn baby, 1950s.

If you were born after 1953, the first test you received evaluated your physical condition and gave you an Apgar score. The score is named for Dr. Virginia Apgar (1909-1974), a pioneering obstetrical anesthesiologist.

Born in Westfield, New Jersey, Virginia Apgar attended Mount Holyoke College in Massachusetts and studied medicine at the College of Physicians and Surgeons of Columbia University in New York in the 1930s. By 1946, anesthesia was becoming an

Photo: Elizabeth Wilcox, Archives & Special Collections, Columbia University Health Sciences Library

Dr. Virginia Apgar: Keeping Score at Baby's First Cry

Then & Now: Research Pays Off for All Americans

acknowledged medical specialty. In 1949, when anesthesia research became an academic department, she was appointed the first woman full professor at the College of Physicians and Surgeons.

She began studying the effects of anesthesia given to a mother during labor on her newborn baby. The Apgar score was the result. It was the first

Photo: Mount Holyoke College Archives & Special Collections



Dr. Apgar's advice to mothers is summarized in the slogan, "Be Good to Your Baby before It is Born." c. 1968

standardized method for evaluating the newborn's transition to life outside the womb. "Five points—heart rate, respiratory effort, muscle tone, reflex response, and color—are observed and given 0, 1, or 2 points. The points are then totaled to arrive at the baby's score." The score was presented in 1952 at a scientific meeting, and first published in 1953. The rapid, simple method reduced infant mortality and laid the foundations of neonatology, the specialty devoted to newborn care.

"Every baby born in America benefits from Dr. Apgar's pioneering work to identify quickly which newborns need emergency care or have a serious birth defect," says Alan R. Fleischman, M.D., medical director of the March of Dimes Foundation.

Dr. Apgar devoted herself to the prevention of birth defects through public education and fundraising for research. She became the director of the division of congenital defects at the National Foundation for Infantile Paralysis (now the March of Dimes) and received many honors and awards for her work.

"Every baby born in America benefits from Dr. Apgar's pioneering work to identify quickly which newborns need emergency care or have a serious birth defect."

— Alan R. Fleischman, M.D., medical director of the March of Dimes Foundation

To Find Out More

Learn more about Dr. Apgar through the Profiles in Science program of the National Library of Medicine and through the NLM exhibit *Changing the Face of Medicine*, which honors the lives and achievements of women in medicine.

- **NLM Profiles in Science**
<http://profiles.nlm.nih.gov/CP/>
- **Changing the Face of Medicine**
http://www.nlm.nih.gov/changingthefaceofmedicine/physicians/biography_12.html



The Pain Before the Fall

The aches and pains of getting older may be more serious than previously thought. A new study of nearly 750 people over 70 suggests chronic pain may increase an older person's risk of falling. Over a period of 18 months, participants recorded their falls. Those who had pain in two or more joints, severe pain, or pain that hampered daily activities were more likely to have a fall than people without pain. Researchers say another trial is needed to see if better pain control could reduce the risk of falling. The National Institute on Aging funded the study.

Parent Training Plus Medication Helps Children with Autism

Children with autism and related disorders may experience irritability, tantrums, aggression, and self-injury that can severely disrupt and strain families, teachers, and caregivers. Now, a new study finds that combining parent training with the medication risperidone (Risperdal) works better than medication alone at limiting disruption. In the training, parents were taught how to help their children develop social skills and how to manage their children's severely disruptive behavior. "This study shows promise of a more effective treatment protocol that could improve life for children with autism and their families," says Thomas R. Insel, M.D., director of the National Institute of Mental Health, which funded the study.

H1N1 Flu Update

The U.S. Centers for Disease Control and Prevention (CDC) reports that H1N1 (officially, the 2009 H1N1) flu shots are widely available across the U.S. The CDC is urging everyone to get vaccinated because of the possibility of a third flu wave this winter. At www.flu.gov, you can enter your ZIP code in the Flu Vaccine Locator to learn where to get vaccinated. Flu activity was relatively low across the U.S. at the start of February, according to CDC, with most flu continuing to be caused by H1N1. Flu activity, caused by either H1N1 or seasonal flu viruses, is expected to continue for several more months. As of January 31, 2010, more than 209 countries and overseas territories or communities worldwide have reported laboratory-confirmed cases of pandemic H1N1 flu, including at least 15,174 deaths. The World Health Organization (WHO) has recommended that the 2010/2011 seasonal flu vaccine include the H1N1 vaccine.

Sugary Colas and Pregnancy Don't Mix

For the first time, researchers have found that women who drink a lot of sugary colas before getting pregnant have a greater chance of developing diabetes, called gestational diabetes, during pregnancy. Women who drank five or more sugary colas a week were 22 percent more likely to develop the condition than those who drank less than one serving a month. Left untreated, gestational diabetes can cause complications during pregnancy. It also raises the risk of the mother and the baby developing type 2 diabetes later in life. The Eunice Kennedy Shriver National Institute on Child Health and Human Development supported the work.



Photo: Flu.gov

President Obama has received his H1N1 vaccination. Health officials urge all Americans to get vaccinated.

ResearchMatch to Advance New Treatments

Convenient, user-friendly, secure, and free of charge, ResearchMatch is the latest Web site for people interested in participating in medical research studies that may be right for them. Billed as the nation's first disease-neutral, volunteer recruitment registry, ResearchMatch has been developed under the Clinical and Translational Science Awards program (CTSA), a nationwide affiliation of medical research institutions led by the National Center for Research Resources (NCRR), part of the NIH. ResearchMatch connects anyone interested and residing in the U.S. with thousands of approved researchers investigating a wide range of diseases. Says NCRR Director Barbara Alving, M.D., "By facilitating direct communication between potential participants and researchers, ResearchMatch provides greater opportunity for the public to help advance new treatments." For more information go to www.ResearchMatch.org.

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

- **Center for Information Technology (CIT)**
www.cit.nih.gov (301) 594-6248
- **Center for Scientific Review (CSR)**
www.csr.nih.gov (301) 435-1115
- **Fogarty International Center (FIC)**
www.fic.nih.gov
- **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 Research on Women's Health (ORWH)**
http://orwh.od.nih.gov (301) 402-1770

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