

Trusted Health Information
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Institutes of Health

NIH MedlinePlus®

Spring 2012

the magazine

Plus!

- **Could the Problem Be Your Thyroid?**

The little gland that controls so much

- **Breaking Bad Habits**

Why it's so hard to change

- **Hope Through Research**

Solving the riddle of multiple sclerosis (MS)



**U.S. Surgeon General
Dr. Regina Benjamin
urges all Americans to
"get up and keep moving!"**

For Baby Boomers On Up

The Go4Life Fitness Campaign

Building Paths to Health Careers



Photo: NLM

Donald West King, M.D.
FNLM Chairman & President

The Friends of the National Library of Medicine (FNLM) is now in its third year of support for an innovative health education program designed for disadvantaged students in third grade through health professional school.

Under the direction of Lynne Holden, M.D., Mentoring in Medicine (MIM) is currently providing course content on advanced biology concepts, organ systems, diseases, and healthcare concepts and health career pathways to high school students enrolled in after school courses.

Tests of the program in six New York City high schools have found very encouraging results. Even students with lower grade point averages (GPAs) were able to master the material. Students in all classes

showed increases in outside activities learning about health care and reported greater confidence in their ability to succeed in a health professional career.

Courses were uniformly rated as highly effective and worthwhile. The program is being expanded in several high schools to include in-class instruction. Selected articles from past issues of *NIH MedlinePlus* magazine will be a part of the course content.

The articles provide an excellent overview of common health conditions that students and their families can relate to. And they offer an easy-to-understand introduction to current research discoveries by NIH physicians and scientists.

We hope that you enjoy and learn from this issue of the magazine. And please consider joining FNLM to support all that the Library does.

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



Photo: Mentoring in Medicine

In December 2011, Mentoring in Medicine hosted a one-day conference attended by more than 1,800 students (pre-high school through college) from the New York City metropolitan area. Special programs and exhibits for students and their parents helped them learn about career opportunities in medicine, nursing, and allied health fields



Photo: Mentoring in Medicine

The Mentoring in Medicine program includes hands-on medical practice, such as this surgical suturing procedure.

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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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Photos: (cover) Office of the U.S. Surgeon General, (top of page) Exercise Is Medicine, (center) Fox Business, (bottom) Christopher Klose



From the Director:

As director of the National Institutes of Health (NIH), Dr. Francis S. Collins has a very busy schedule. But one activity he tries not to miss is his weekly volleyball game with other employees of the NIH. Biking, weight training, and volleyball are all part of his overall strategy to stay active. Exercise and physical activity may help reduce his risk for disease. And he sees regular exercise as a way to maintain health and fitness as he grows older.



Photo: NIH

“Stay Active and Save Your Life!”

What caused you to start exercising regularly?

Like many Americans, I used to eat too much and exercise too little. I couldn't resist a plate of fresh-baked goodies, and had lots of excuses about why there was never time to work out.

I was approaching 60. I realized I'd gained some pounds. I actually did a DNA analysis and found out I was at risk for diabetes, and that's a disease I really don't want to get. It looked like diabetes might be in my future unless I changed my ways.

Where did you turn for help to change your lifestyle?

To determine what actions to take, I turned to science. When many people think of NIH—the nation's biomedical research agency—they picture researchers in high-tech labs exploring new ways to detect and treat disease. NIH does indeed do that. But we also support studies that look at how diet, exercise, and other lifestyle factors may prevent disease and promote wellness.

The strategy that caught my attention came from the NIH-funded Diabetes Prevention Program trial, which found the



Photo: Bill Branson, NIH

NIH Director Dr. Francis Collins stays active with volleyball, bicycling, and other sports. He and his wife, (also in yellow at left) have taken part in the NIH's Bike to Work Day activities. He reduced his weight through exercise and a healthy diet.

To see the volleyball video and others about exercise and physical activity for older adults, visit <http://nihseniorhealth.gov/videolist.html#exercise>.

combination of increased physical activity and modest weight loss is a highly effective way to lower risk of type 2 diabetes.

What practical, everyday steps did you take first?

While I hadn't yet developed signs of pre-diabetes, the principles of diabetes prevention were firmly laid down by this NIH study. So, I decided to adopt that same approach. Out went my honey buns, giant muffins and other sweet treats. In came small, frequent snacks of almonds, yogurt, and other high-protein, nutritious foods.

I also stepped up my physical activity, committing myself to working out three times a week. In the first six months of my new routine, I lost 25 pounds, about 12 percent of my weight. I've kept that off ever since. My percentage of body fat went from 24 percent to 14 percent, and I can chest press 135 pounds.

Has giving up sweets and exercising regularly helped you?

Yes. I feel a lot better. I hope I'm also staving off any kind of medical problems that might be lurking out there by keeping my weight down and my training up.

Also, team sports, like a volleyball game, are great for using every muscle and being in a competitive situation with a bunch of other people in a good-natured way. You're working as a team. And I enjoy the chance to be able to be outside also with a bunch of other people from NIH. I don't get to rub shoulders with all 17,000 people at NIH, so here's one chance to do that.

What would you say are the principal benefits of staying active?

The more you keep active, the more you can keep mobile, the better chance you have of continuing to enjoy good health. Taking charge of your health by choosing the right foods and the right exercise program is among the most important investments you can make in your future.

Any advice for our readers?

We all need to be more active—at any age. That's why NIH has resources like *Go4Life*. America, it's time to change your lifestyle. It just might save your life.

(For more on *Go4Life*, see next page.)

Go4Life®

Fitness for Baby Boomers On Up

Surgeon General Dr. Regina Benjamin urges Americans—including older adults—to “get up and keep moving” with the **Go4Life** fitness campaign.



Photo: National Institute on Aging

“You’re never too old to increase your level of physical activity and exercise. **Go4Life** is based on research demonstrating real health benefits of exercise and physical activity for older people, including those with chronic health conditions. It shows how to exercise safely.” —Richard J. Hodes, M.D., NIA Director

Go4Life is a new national exercise campaign aimed at people over 50. This group includes baby boomers and their parents. The goal is to make physical activity a cornerstone of healthy aging, for a simple reason. Being physically active is vital for maintaining health and independence as we age.

“If we want to become a healthy, fit nation, we need to increase the number of Americans who are healthy at every stage of life,” says U.S. Surgeon General Regina Benjamin, M.D., M.B.A. “We want to shift the focus of our healthcare system from sickness and disease to wellness and prevention.

“**Go4Life** offers older adults the tools and resources they need to get moving and keep moving,” she says.

A colorful new website, www.nia.nih.gov/Go4Life, presents specific exercises, success stories, and free materials. All are aimed at getting older people to make physical activity part of their daily lives.

Many **Go4Life** materials also are available in Spanish at <http://go4life.niapublications.org/resources/spanish#espanol>.

Go4Life is a public-private partnership of more than three dozen government agencies, national organizations, corporations, insurers, healthcare providers, and nonprofits led by the National

Institute on Aging at NIH. The goal is to bring **Go4Life** resources into local communities across the country. (For a complete list of partners, visit <http://go4life.niapublications.org/about/current-partners>.)

The campaign grew out of concern that most older adults are not physically active. About 30 percent of Americans 45 to 64 say they engage in regular physical activity, while only a quarter of those 65 to 74 do. And although people 85 and older can benefit from exercise, only 11 percent report being active.

Go4Life is based on *Exercise & Physical Activity: Your Everyday Guide from the National Institute on Aging*, a book developed over two years by leading experts on aging, exercise, and motivation.

Surgeon General Regina Benjamin: Better Health and Wellness for All Americans

The **Go4Life** Fitness Campaign for baby boomers and other older adults is an important part of Dr. Regina Benjamin's strategy to improve the health of the American public.

As "America's Doctor," Surgeon General Regina Benjamin is on a mission to help Americans achieve and maintain good health at every age.

"**Go4Life** can get those of us over 50 moving, exercising, and reducing not only obesity, but a number of chronic diseases," she says. "And we can set an example for those who are younger.



A **Go4Life** exercise program held recently at Greenspring, an Erickson retirement community in Springfield, Virginia.

Photo: National Institute on Aging

"We can get more than the current 25 percent of people age 65 to 75 to engage in regular physical activity, because the **Go4Life** campaign is a new simple and easy tool that will help us engage in active living," she adds.

From her early days as the founder of a rural health clinic in Alabama to her leadership in the worldwide efforts to improve preventive health care, Dr. Benjamin has always tried to help people help themselves to achieve better health. She knows



Photo: Exercise is Medicine

U.S. Surgeon General Regina Benjamin, and Maryland Secretary of Health John Colmers lead an "Exercise is Medicine" Community Walk through Baltimore's Inner Harbor.

personally the toll that chronic diseases can take. Her father died of diabetes and high blood pressure when she was nine; her mother died from lung cancer; and her brother was lost to HIV.

In addition to her participation in the **Go4Life** campaign, Dr. Benjamin heads the National Prevention and Health Promotion Strategy, a comprehensive plan involving 17 separate federal agencies to help increase the number of Americans who are healthy and fit at every stage of life.

"I am calling on all Americans to join me in a national grassroots effort to reverse the current obesity crisis," she says. "My vision for a healthy and fit nation includes showing people how to choose nutritious foods, add more physical activity to their daily lives, and manage the stress that so often derails their best efforts at developing healthy habits."

Dr. Benjamin is noted for regularly leading community walks, Zumba exercises, and dance. She is actively involved in the First Lady's *Let's Move!* program for children, and helped launch *MyPlate* and the Spanish version, *MiPlato*, to help educate people about nutrition and healthy eating. Her philosophy is that people should enjoy getting fit.

"We want to make being healthy easy and fun. That's the simple message we want to give," she says. "No matter what age you are, no matter what your place in life; whether you're at home or at work, we want you to get active and have fun. We'll be taking the **Go4Life** campaign on the road. I'm going to include it in everything that I am doing.

4 Types of Exercise

ENDURANCE

FLEXIBILITY

STRENGTH

BALANCE

Exercise and physical activity fall into four basic categories—endurance, strength, balance, and flexibility. Most people tend to focus on one activity or type of exercise and think they're doing enough. Each type is different, though. Doing them all will give you more benefits. Mixing it up also helps to reduce boredom and cut your risk of injury.

Though we describe each type separately here, some activities fit into more than one category. For example, many endurance activities also build strength. Strength exercises also help improve balance.

Getting Started

The *Go4Life* Way



Endurance, or aerobic, activities increase your breathing and heart rate. They keep your heart, lungs, and circulatory system healthy and improve your overall fitness. As a result, they delay or prevent many diseases that are common in older adults, such as diabetes and heart disease. Building your endurance makes it easier to carry out many of your everyday activities.

- Brisk walking or jogging
- Yard work (mowing, raking, digging)
- Dancing
- Swimming
- Biking
- Climbing stairs or hills
- Playing tennis
- Playing basketball

ENDURANCE

Sample Endurance Exercise: Walking

How Much, How Often

Build up your endurance gradually. If you haven't been active for a long time, it's important to work your way up over time. Start out with 10 minutes at a time and then gradually build up.

Try to build up to at least 150 minutes (2 1/2 hours) of moderate endurance activity a week. Being active at least three days a week is best. Remember, these are goals. Some people will be able to do more. It's important to set realistic goals based on your own health and abilities. You can manage and track goal progress by using the interactive tools found at <http://go4life.niapublications.org/>.

Progressing

When you're ready to do more, build up the amount of time you spend doing endurance activities first, then build up the difficulty of your activities. For example, gradually increase your time to 30 minutes over several days to weeks by walking longer distances. Then walk more briskly or up steeper hills.

SAFETY TIPS

- Do a little light activity to warm up and cool down before and after your endurance activities.
- Be sure to drink plenty of liquids when doing any activity that makes you sweat.
- Dress in layers when exercising outdoors so you can add or remove clothes if you get cold or hot.
- To prevent injuries, be sure to use safety equipment.
- Walk during the day or in well-lit areas at night, and be aware of your surroundings.

Strength exercises make your muscles stronger. Even small increases in strength can make a big difference in your ability to stay independent and carry out everyday activities, such as climbing stairs and carrying groceries. These exercises also are called “strength training” or “resistance training.”

- **Lifting weights**
- **Using a resistance band**

STRENGTH

Sample Strength Exercise: Front Arm Raise

How Much, How Often

Try to do strength exercises for all of your major muscle groups on two or more days per week for 30-minute sessions each, but don't exercise the same muscle group on any two days in a row.

- Depending on your condition, you might need to start out using 1- or 2-pound weights or no weight at all.
- Use a light weight the first week and then gradually add more weight.
- It should feel somewhere between hard and very hard for you to lift or push the weight. If you can't lift or push a weight 8 times in a row, it's too heavy.
- Take 3 seconds to lift a weight into place, hold for 1 second, and return in 3 seconds.

Exercise Instructions:

This exercise for your shoulders can help you put things up on a shelf or take them down more easily.

Targeted Muscles:

Shoulders

What You Need:

Hand-held weights

Stand with your feet shoulder-width apart.

1. Hold weights straight down at your sides, with palms facing backward.
2. Keeping them straight, breathe out as you raise both arms in front of you to shoulder height.
3. Hold the position for 1 second.
4. Breathe in as you slowly lower arms.
5. Repeat 10-15 times.
6. Rest; then repeat 10-15 more times.

Tip:

As you progress, use a heavier weight and alternate arms until you can lift the weight comfortably with both arms.



SAFETY TIPS

- Talk with your doctor if you are unsure about doing a particular exercise, especially if you've had hip or back surgery.
- Don't hold your breath during strength exercises. Holding your breath while straining can cause changes in blood pressure. Breathe in slowly through your nose and breathe out slowly through your mouth.
- Breathe out as you lift or push, and breathe in as you relax.
- For some exercises, you may want to start alternating arms and work your way up to using both arms at the same time.
- To prevent injury, don't jerk or thrust weights. Use smooth, steady movements.
- Muscle soreness lasting a few days and slight fatigue are normal after muscle-building exercises, at least at first. After doing these exercises for a few weeks, you will probably not be sore after your workout.

Sample Balance Exercise: Stand on One Foot

How Much, How Often

You can do balance exercises almost anytime, anywhere, and as often as you like. Also try lower-body strength exercises because they can help improve your balance. Do the lower-body strength exercises two or more days a week but not on any two days in a row.

Progressing

Challenge yourself as you progress. Start by holding on to a sturdy chair for support. When you are able, try holding on to the chair with only one hand. With time, hold on with only one finger, then with no hands at all. If you are really steady on your feet, try doing the exercise with your eyes closed.

SAFETY TIPS

- Have a sturdy chair or a person nearby to hold on to if you feel unsteady.
- Talk with your doctor if you are unsure about doing a particular balance exercise.

Exercise Instructions:

What You Need:

Sturdy chair

You can do this exercise while waiting for the bus or standing in line at the grocery. For an added challenge, you can modify the exercise to improve your balance.

1. Stand on one foot behind a sturdy chair, holding on for balance.
2. Hold position for up to 10 seconds.
3. Repeat 10-15 times.
4. Repeat 10-15 times with other leg.
5. Repeat 10-15 more times with each leg.

BALANCE

Balance exercises help prevent falls, a common problem in older adults. Many lower-body strength exercises also will improve your balance.

- Standing on one foot
- Heel-to-toe walk
- Tai Chi

Photo: Go4Life



FLEXIBILITY

Flexibility exercises stretch your muscles and can help your body stay limber. Being flexible gives you more freedom of movement for other exercises as well as for your everyday activities.

- **Shoulder and upper arm stretch**
- **Calf stretch**
- **Yoga**

Sample Flexibility Exercise: Shoulder and Upper Arm

How Much, How Often

Do each stretching exercise 3 to 5 times at each session. Slowly and smoothly stretch into the desired position, as far as possible without pain. Hold the stretch for 10 to 30 seconds. Relax, breathe, then repeat, trying to stretch farther.

Progressing

As you become more flexible, try reaching farther in each exercise. But don't go so far that it hurts.

Exercise Instructions:

This exercise to increase flexibility in your shoulders and upper arms will help make it easier to reach for your seatbelt. If you have shoulder problems, talk with your doctor before trying this stretch.

Targeted Muscles:

Shoulders and upper arms

What You Need:

Towel

1. Stand with feet shoulder-width apart.
2. Hold one end of a towel in your right hand.
3. Raise and bend your right arm to drape the towel down your back. Keep your right arm in this position and continue holding on to the towel.
4. Reach behind your lower back and grasp the towel with your left hand.
5. To stretch your right shoulder, pull the towel down with your left hand. Stop when you feel a stretch or slight discomfort in your right shoulder.
6. Repeat at least 3-5 times.
7. Reverse positions, and repeat at least 3-5 times.



SAFETY TIPS

- If you've had hip or back surgery, talk with your doctor before doing lower-back flexibility exercises.
- Always warm up before stretching exercises. Stretching your muscles before they are warmed up can result in injury. If you are doing only stretching exercises, warm up with a few minutes of easy walking first. If you are doing endurance or strength exercises, stretch after, not before.
- Always remember to breathe normally while holding a stretch.
- A mild pulling feeling while you are stretching is normal. If you feel sharp or stabbing pain or joint pain, you're stretching too far. Reduce the stretch so it doesn't hurt.
- Always stretch with a smooth, steady movement. Don't jerk or bounce into the stretch; it may cause injury.
- Avoid "locking" your joints. Straighten your arms and legs when you stretch them, but don't hold them tightly in a straight position. Always keep them slightly bent while stretching.

Success Stories

When it comes to exercise and fitness, there are success stories all around us. For more exercise success stories, visit <http://go4life.niapublications.org/get-started/see-success-stories>.

Meg, age 67, District of Columbia

Activities: Bicycling and Weight Lifting

Photo: National Institute on Aging



When I was 25 years old, I was diagnosed with pre-arthritis in my knees. After living with progressively deteriorating joints for 40 years, in 2009 I had knee replacement. It really changed my life! Prior to surgery, I was in a great deal of pain and had difficulty walking. After surgery, I spent three months in physical therapy, and now I feel much more confident and comfortable moving around in daily life. My husband and I like to go to the gym together to stay active. I ride the stationary bike and lift weights, both of which help me feel better and keep the muscles around my knee in good shape.

Latest Research Finds Regular Exercise Pays Off!

There are specific benefits of exercise for health and aging:

- **Maintaining cardiorespiratory health:** In one study, moderately fit women and men had a 50 percent lower risk of type 2 diabetes, high blood pressure, coronary heart disease, obesity, and some cancers compared with the low-fit group. Highly fit people had even lower risk.
- **Reducing osteoarthritis pain:** In a clinical trial of people 60 and older with knee osteoarthritis, people who participated in an aerobic exercise or resistance exercise program reported less pain and better function than those assigned to a health education program only.
- **Preventing diabetes:** The NIH-sponsored Diabetes Prevention Program, which examines ways to prevent or delay non-insulin-dependent diabetes, found that people over 60 at high risk for diabetes reduced their risk by 71 percent by adopting a moderate exercise routine and a low-fat diet.

NIH Senior Health Videos:

Exercising with the NIH Directors

The leadership of the 27 different institutes and centers at the National Institutes of Health all take part in one or more types of fitness exercise—a key to good health at any age. To view the Directors in action, visit <http://nihseniorhealth.gov/videolist.html#exercise>.



Richard J. Hodes, M.D., Director,
National Institute on Aging—Weightlifting



Marie A. Bernard, M.D., Deputy Director,
National Institute on Aging—Yoga

To Find Out More

Go4Life from the National Institute on Aging

<http://www.nia.nih.gov/Go4Life>

NIH Senior Health website—Exercise videos

<http://nihseniorhealth.gov/videolist.html#exercise>

NIH Senior Health website—Exercise for older adults

<http://nihseniorhealth.gov/exerciseforolderadults/toc.html>

MedlinePlus—Exercise for seniors

<http://www.nlm.nih.gov/medlineplus/exerciseforseniors.html>



Neil Cavuto of Fox News and Fox Business, diagnosed with MS 15 years ago, is able to maintain a busy schedule despite the disease.

Photo: Fox Business Network

Scientists continue to make progress in solving the riddle of **multiple sclerosis (MS)**.

FASTFACTS

- Multiple sclerosis (MS) is a disease that affects your brain (including nerve cells), spinal cord, and optic nerve. It damages the myelin sheath, the material that surrounds and protects your nerve cells. This damage slows down or blocks messages between your brain and your body, leading to the symptoms of MS.
- Symptoms can include visual disturbances, pain, muscle weakness, trouble with coordination and balance, sensations such as numbness or “pins and needles”, and/or thinking and memory problems.
- No one knows what causes MS. It may be an autoimmune disease, which happens when your immune system attacks healthy cells in your body by mistake.
- Multiple sclerosis affects women more than men. It often begins between the ages of 20 and 40. MS can range from fairly mild to debilitating, with some people losing the ability to write, speak, or walk.
- There is no cure for MS, but medicines may slow it down and help control symptoms. Physical and occupational therapy may also help.

Multiple Sclerosis: Hope Through Research

Learning Life's Ultimate Lesson: A Q&A with Neil Cavuto, Fox News/Fox Business

Other than the occasional use of a cane or a raspy voice, no one can tell that television journalist Neil Cavuto was diagnosed with multiple sclerosis (MS) more than 15 years ago. And that was after surviving an advanced case of Hodgkin's lymphoma in the late 1980s. Despite his MS, Cavuto serves as senior vice president, anchor, and managing editor of business news for both Fox Business Network (FBN) and Fox News Channel (FNC). He anchors two daily news shows on two different networks, including the top-rated cable news program in its timeslot. He's also now directing FBN's election coverage. That is a schedule that would challenge the healthiest of journalists, but it doesn't slow down Cavuto.

He has published a bestselling book, *More Than Money: True Stories of People Who Learned Life's Ultimate Lesson*, in which he distills the lessons that dealing with MS have taught him and others. And he volunteers with the National MS Society to help more people understand MS. *NIH MedlinePlus* magazine recently asked Cavuto about how he deals with his MS.

How was your MS first diagnosed and by whom?

I was first diagnosed in August 1997, at the Morristown Neurology Center, or so it was called at the time. But I simply refused to accept that diagnosis. It sounded too incredible, and seeing as I had cancer just years prior, none of it made sense, and all of it seemed a bit overwhelming.

I followed up with second and third and, ultimately, up to sixth and seventh opinions, along the way, getting similar reads from each and all—Johns Hopkins, Columbia Presbyterian, and, finally, my present doctor, Saud Sadiq at the MS Treatment Center in midtown Manhattan.

What treatments have your healthcare providers recommended since your diagnosis?

Since they couldn't quantify exactly what type of MS I had in the beginning, they opted for a weekly regimen of Biogen's Avonex injectable drug. Now and then, as symptoms worsened, I might be hospitalized for steroid injections and such, but by and large that Avonex treatment has been a constant. We've kicked around other, more aggressive, therapies, but I've always been leery about their side effects, and didn't want to be a risk-taker up front with any new treatments.

Do your symptoms come and go, or are they fairly constant?

They do tend to come and go, but more constant reminders of this illness are those very familiar to most MS patients—tingling nerves, particularly in the fingers, hands, and toes and feet. And fatigue is a huge issue. Juggling that and understanding my body's limitations has been my hardest fight. A little less common but just as annoying, if not more so when they pop up, are issues with my throat and larynx. When the nerve passages tend to tighten up, my voice can often sound hoarse. My walking can get compromised, as well, often limping and needing a cane. And on some days, being unable to walk at all. Blessedly, those days are rare. But I can feel them coming on, and I try to just be attuned to my body when they are.

You are able to maintain a full and busy family and work life, despite the MS. How do you do it?

Frankly, I don't know. I don't dwell on the pain or discomfort, and I've gotten used to compensating when one leg goes out, working the best I can with the other leg that's fine, or vice-versa. As with

continued on page 14

Nicole Lemelle Her New Normals

When Nicole Lemelle, 36, was diagnosed with MS in 2000, she discovered what it meant to lose much of what she thought essential to her own identity. She was diagnosed while in nursing school, after bouts of optic neuritis (optic nerve inflammation). But that didn't stop her from getting her degree.



All Personal Story photos: National MS Society

However, when her MS flared in 2009, she was forced to give up nursing. Not only that, she had to return to Louisiana and live with her parents for a year until her husband Tommy could leave Maryland. "It was a big shift," Nicole recalls. "My identity was wrapped up in my job. And I'm married—I was supposed to be with my husband!"

She asks, "Who do you become when the major pieces of yourself are gone? I couldn't drive. I couldn't work."

Nicole had always enjoyed writing, but had been too busy to do it. "I was reunited with writing when my husband and I lived in different states," she says. "It was my outlet for grief."

She began a blog she called "My New Normals." "My new normal was everything MS dictated," she says. She added the "s" on the end because what is normal keeps changing. Writing her blog helped her realize that MS couldn't touch her core: "Who I am internally—it doesn't matter that I can't walk."

While she is physically weaker than a year or two ago, "emotionally I'm stronger, more resilient and tenacious than ever ... If I stop doing what I love, I feel MS is winning. I've learned so many skills, and one is to use humor to get through it."

[Personal stories, courtesy of National MS Society]

Learning Life's Ultimate Lesson: A Q&A with Neil Cavuto, Fox News

continued from page 13

speech issues, I try to relax my voice when I can and parse my words closely and carefully. The same goes with eyesight. When it become blurry or compromised, I make sure I'm ready with a worst-case scenario. Since these vision issues are more pronounced the more tired I am, I deliberately opt for shows without scripts, shows that I can wing or do on the fly. It drives my producers crazy, because they instantly know, "Uh-oh, Cavuto's lost his sight." But they're very accommodative and, like me, kind of roll with the punches. For the most part, should these conditions come on suddenly, I've already made it a point to memorize as much of my script as possible—just to be sure, just to be ready. It's been working for me, working around my limitations and making the most of them.

Also, as cliché as this sounds, a good attitude helps. Since I love what I'm doing, and I'm a news and business news junkie. The adrenaline of covering this stuff more than makes up for the onslaught of the bad medical stuff thrown my way. I'm sufficiently jazzed enough to be sufficiently distracted. But I'd be lying to you if I told you that after five or six hours on the air, anchoring non-stop election or market coverage—as has been the case on more than a few occasions—I tend to just crumble into a heap when it's all over.

You have become a champion for those with MS and for research to find the causes and cures for the disease. How have you motivated yourself?

I'm a big believer in being positive. It sounds trite, but if for no other reason than it saves people the annoyance of hearing you whine, it's all to the better just acting "better." One thing I've discovered with this illness, as with cancer before, is that we all carry some baggage in life—some more than others. But that doesn't mean MS patients' pain is any less real. They just must recognize, as I've told them myself, that they aren't the only ones suffering, that they somehow must find a way to get outside themselves. I always try to pull patients back with this proviso, "take it from a self-absorbed TV anchor, it's not just about you." Get over 'you.' The sooner we get outside ourselves, and outside our own misery, the less we'll be miserable, and the less we'll be a pain to ourselves and others. All to the good. Be good. Think good. Life isn't all bad.

Symptoms

Multiple sclerosis (MS) is an unpredictable disease. MS can range from fairly mild to somewhat disabling to devastating. MS affects from 250,000 to 350,000 people in the United States and 2.5 million worldwide.

Many researchers believe that MS is an autoimmune disease—one in which the body's immune system launches a defensive attack against its own tissues. In the case of MS, it is the myelin that insulates the body's nerves that is attacked. Such attacks may be linked to an unknown environmental trigger, perhaps a virus.

Most people experience their first symptoms of MS between the ages of 20 and 40. The initial symptom of MS is often blurred or double vision, color distortion, or even blindness in one eye. Other symptoms can include tingling, numbness, muscle spasms, and bladder control problems. Many people with MS have muscle weakness in their legs and arms and difficulty with coordination and balance.

These symptoms may be severe enough to affect walking or even standing. In the worst cases, MS can produce partial or complete paralysis. Some may also have pain. Speech problems, tremors, and dizziness are other frequent complaints. Occasionally, people with MS have hearing loss.

About half of all people with MS experience problems with thinking, such as difficulties with concentration, attention, memory, and poor judgment. But such symptoms are usually mild and are often overlooked. Depression is another common feature of MS.

Diagnosis

MS can be difficult to diagnose in some cases, notes Joan Ohayon, R.N., M.S.N., a clinically registered nurse practitioner with the Neuroimmunology Branch of the National Institute of Neurological Disorders and Stroke (NINDS).

"One reason is that there's not one specific diagnostic test that tells you, yes, you have MS, or, no, you don't," says Ohayon. "Fortunately, MRI technology (magnetic resonance imaging) has revolutionized the way we diagnose and manage and treat MS."

While some people with MS have clear cut, textbook cases, other cases are less clear. A physician may diagnose MS in some patients soon after the onset of the illness. In others, however, doctors may not be able to identify the cause of the symptoms, leading to years of uncertainty and multiple diagnoses punctuated by baffling symptoms.

While some patients are mildly affected, in the worst cases MS can leave a person unable to write, speak, or walk. MS is a disease that may wax and wane. The types of MS include:

- relapsing-remitting, the most common type, in which symptoms appear for short periods, then seem to go away
- progressive MS, in which symptoms worsen.
- secondary-progressive, which begins with a relapsing-remitting course and is followed by a later primary-progressive course.

Iris Young Working with MS

If Iris Young had listened to the neurologist who diagnosed her MS in 1988, after eight years of symptoms, she would have "gone home and had a nice life"—and little more. Instead, she says, "I kept looking 'til I found a doctor who said what I wanted to hear; that there's hope and things people with MS can do."



There certainly were. Iris, who's been married 28 years and has a 24-year-old son, has stayed in the work force, running the Jewish Family and Community Services agency in Jacksonville, Florida. When she started there in 1983, there were seven staff members and a budget of \$130,000. Today, the agency has close to 100 employees and a \$6 million budget. Among her accomplishments are helping to redesign foster care and creating programs for seniors in Florida.

This despite the fact that Iris is a functional quadriplegic.

She takes full advantage of assistive technology, using a hands-free head control to drive her wheelchair and operate an on-screen keyboard. She uses an environmental control unit to turn on lights and appliances, open and close blinds and doors, and use the telephone. "Options are much better today than in the '80s," she says.

While Iris manages just fine in the work world, "sometimes folks aren't ready," she says. "They don't always get that many parts of me don't work, but my mind and mouth do."

"Everyone looks at you more in a wheelchair," Iris adds. "They're intimidated by the metal I'm sitting in and around. If I talk or smile first, people are put more at ease. My chair can rise up, so I can get closer to eye level. For me that equalizes the balance of power."

Michael Anthony No Quit in Him



Imagine being an athletic teenager in 1973, then being told by three doctors that you have rapid degenerative juvenile MS, that there is no treatment and no cure, and to get a wheelchair and wait to die—soon.

If you were Michael Anthony, you would have told those doctors that you were going to be the exception. “I did the exact opposite of everything they advised,” Michael says. “I exercised like crazy: worked on my balance, tenacity, and strength. They said, ‘You can’t do that.’ And I said, ‘Well, I’m doing it.’”

He also figured out a way to ski, and then developed a program to teach skiing to people with disabilities. Michael also wrote a training manual for teaching people with various disabilities and a certification program to teach adaptive skiing.

He soon decided he was going to ride a bicycle. “The first time, I went half a mile out and half a mile back, and it took seven hours. I’d go 50 feet, fall, and rest. He now uses a bicycle that helps him manage his fatigue, thanks to an onboard computer system that can power up a motor when his pedaling slows.

“My friend Mary said, ‘There’s no quit in you, is there?’ Can’t and quit are words I don’t want to have anything to do with. I know that when it’s toughest, I’m on the edge of a breakthrough, and because I know that, I keep going.”

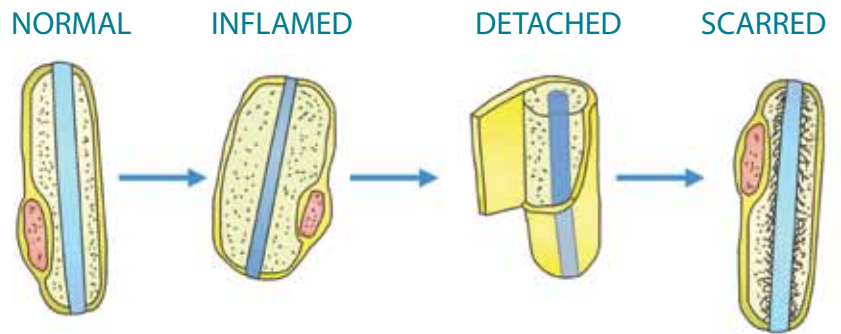


Illustration: Patient Education Institute

In multiple sclerosis (MS), the myelin that covers nerve cells becomes inflamed, swollen, and detached. It is then destroyed, forming a scar over the axons (nerve fibers). Sclerosis means scar.

Treatment

There is no cure for MS, but there are drugs that slow the progression of the disease. As of now, there are eight drugs that have been approved by the Food and Drug Administration (FDA). A tremendous amount of progress has been made. Most of these drugs target only the early stage of the disease, not the progressive stages that are worse. Treatment often depends on which type of MS an individual is has.

Questions to Ask Your Healthcare Provider

Good communication with your healthcare provider is very important in making sure you get the best, most accurate information about your health.

- Given my symptoms, could I have multiple sclerosis?
- What tests are needed to help diagnose whether or not I have MS?
- Does MS run in families?
- What other diseases might be causing my symptoms, other than MS?
- What stage of MS do I have, and will it get worse or better through treatment?
- Can diet and exercise affect my MS?
- Is there a chance my MS will ever go away?

Latest NIH Research

Scientists continue their extensive efforts to create new and better therapies for MS. At NIH, the National Institute of Neurological Disorders and Stroke (NINDS) conducts such research and funds additional research at major medical centers.

- **Interferons:** Beta interferon (a naturally occurring antiviral protein) has been shown to help prevent the disease from getting worse and may slow the progression of physical disability. When attacks do occur, they tend to be shorter and less severe.
- **Idebenone:** Clinical research is under way with this experimental drug originally developed for Alzheimer's disease. It is being tested on with people have the primary progressive form of MS.
- **Rituximab:** NINDS is conducting clinical research on this drug to evaluate the safety and effectiveness of using both intravenously and via an injection to treat secondary progressive MS.
- **Daclizumab:** NINDS researchers are exploring this drug as it relates to abnormal immune reactions in MS. The researchers are also discovering new keys to the basic biology of the immune system.
- In addition, there is a number of other treatments under investigation that may curtail attacks or improve function. Over a dozen clinical trials testing potential therapies are under way, and additional new treatments are being devised and tested.

To Find Out More

MS Information Page—National Institute of Neurological Disorders and Stroke

http://www.ninds.nih.gov/disorders/multiple_sclerosis

MedlinePlus—In the Search box, type in "MS"

medlineplus.gov

NIH Clinical Trials—Click on "Search for Clinical Trials" link, then type "MS" in Basic Search box

clinicaltrials.gov

NIH Clinical Research Trials and You—Click on "Finding a Clinical Trial" link

nih.gov/health/clinicaltrials/

John Cantú A Call to Action

"Lights, Camera, Action" signals the start of another busy day for filmmaker John Cantú, who works as a trailer editor on some of the nation's biggest films.



Recently, however, John realized that the call for "Action" means something quite different for a person living with multiple sclerosis, such as his girlfriend's brother, Chuy.

The more John spoke with Chuy, the more he recognized that, within the Hispanic/Latino communities there seemed to be a lack of understanding about MS.

John had already worked with the National MS Society, so he knew that the Society had extensive programs aimed at providing information and assistance to the Hispanic/Latino communities. He decided to use his talents and expertise to raise awareness of MS directly among this population.

John conceived the idea of "Better," an Internet video series that brings the story of MS to life through the eyes of Lily, a *folklorico* (Mexican folk ballet) dancer. Lily takes the audience along on her journey, as she finds a new way of realizing her dreams, which now include the reality of her MS, but without letting the MS define her.

"I chose the *folklorico* setting for my MS film project because it's such a world of blazing color and vitality that you cannot help but be drawn into it," says John.

In developing "Better," the actress playing Lily, Lilita Medina, spoke to a number of people living with MS to gain an understanding about how the illness affects movement and how it affects everyone differently.

"I want to share the message of "Better" with everyone to inform them that there is help and support out there. View the "Better" series free at www.better-film.com.

Breaking Bad Habits

Why It's So Hard to Change

By Vicki Contie

If something's bad for you—drug and alcohol abuse, smoking, excess weight—why can't you just stop?

National Institutes of Health-funded scientists have found clues to why bad habits are so difficult to kick. And they're developing strategies to help us change.

"Habits play an important role in our health," says Dr. Nora Volkow, director of NIH's National Institute on Drug Abuse. "Understanding the biology of harmful routines, and how to break them and embrace new ones, could help us adopt healthier behaviors."

Habits can arise through repetition. They are normal and often helpful. "We shower, comb our hair or brush our teeth without being aware of it," Volkow says. "This frees our brains to focus on different things."

Habits can also develop by triggering the brain's "reward" centers, setting up potentially harmful



Photo: iStock

Break Bad Habits

routines, such as overeating, smoking, drug or alcohol abuse, gambling and even compulsive use of computers and social media.

Dr. Russell Poldrack, a neurobiologist at the University of Texas at Austin, points out that enjoyable behaviors can release a brain chemical called dopamine. “Dopamine strengthens the habit even more,” Poldrack says. “This explains why some people crave drugs, even if they no longer feel particularly good once they take them.”

The good news is that humans are not simply creatures of habit.

“Humans are much better than any other animal at changing and orienting behavior toward long-term goals or benefits,” says Florida State University psychologist Dr. Roy Baumeister. “We’ve found that you can improve your self-control by doing exercises over time,” he says.

Volkow notes there’s no single effective way to break bad habits.

One approach is to become more aware of unhealthy habits, then develop strategies to counteract them: avoid walking halls where there’s a candy machine; avoid places where you’ve usually smoked; stay away from friends and situations linked to problem drinking or drug use.

Another helpful technique is to “mentally practice the good behavior over the bad” Poldrack says. “It’s not guaranteed to work, but it certainly can help.”

Some people find they can replace a bad habit, even drug addiction, with another behavior, like exercising. “It doesn’t work for everyone,” Volkow says. “But certain patients can engage in behaviors that are ritualistic and in a way compulsive—such as marathon running—and it helps them stay away from drugs, for example.”

Replacing a first-learned habit doesn’t erase the original behavior. But you can strengthen the new one and suppress the original.

Poldrack is using brain imaging to study the differences between first- and later-learned behaviors. “We’d like to find a way to train people to improve their ability to maintain these behavioral changes,” Poldrack says.

Some NIH-funded research is exploring whether certain medications can help to disrupt hard-wired behaviors and make it easier to form new ones. Scientists also are seeking genes that might allow people to easily form or readily suppress habits.

Bad habits may be hard to change, but it can be done. Enlist the help of friends, co-workers and family.

— excerpted, with permission, from *NIH News in Health* (<http://newsinhealth.nih.gov/>)

■ **Avoid temptations.**

If you always stop for a donut on your way to work, try a different route. Keep fatty foods, cigarettes, alcohol and other tempting items out of your home.

■ **Replace unhealthy with health behaviors.**

Exercise, practice a favorite hobby or spend time with family.

■ **Prepare mentally.**

If you can’t avoid tempting situations, prepare in advance. Plan how to handle temptations and mentally practice what you plan.

■ **Enlist support.**

Ask friends, family and co-workers to support your efforts to change.

■ **Reward yourself for small steps.**

Give yourself a healthy treat when you’ve reached a small goal or milestone.





Newspapers, radio, television, and the Internet are full of health news stories. Some sound too good to be true. Others sound truly alarming. Here are some tips on how to evaluate what you're reading, seeing, or hearing.

Research Results in the News: A Users Guide

It seems to happen almost every day—you hear about a new result of medical research on television or read about it in the paper. Perhaps you hear that a certain drug causes a 300% increase in strokes. That's a large increase—it sounds scary. But, if you know that in every 10,000 people not taking the drug, there are two strokes, then that increase really only means six strokes. Maybe that's not quite so frightening. Sometimes the results of one study seem to disagree with the results of another study. One article says that a new vaccine prevents a serious infection, but another says it doesn't.

7 questions to ask when you learn about a new medical finding:

1. Was it a study in the laboratory, in animals, or in people?

The results of research in people are more likely to be meaningful for you.

2. Does the study include enough people like you?

You should check to see if the people in the study were the same age, sex, education level, income group, and ethnic background as yourself and had the same health concerns.

3. Was it a randomized controlled clinical trial involving thousands of people?

They are the most expensive to do, but they also give scientists the most reliable results.

4. Where was the research done?

Scientists at a medical school or large hospital, for example, might be better equipped to conduct complex experiments or have more experience with the topic. Many large clinical trials involve several institutions, but the results may be reported by one coordinating group.

5. If a new treatment was being tested, were there side effects?

Sometimes the side effects are almost as serious as the disease. Or, they could mean that the drug could worsen a different health problem.

6. Who paid for the research?

Do those providing support stand to gain financially from positive or negative results? Sometimes the federal government or a large foundation contributes funding toward research costs. This means they looked at the plans for the project and decided it was worthy of funding, but they will not make money as a result. If a drug is being tested, the study might be partly or fully paid for by the company that will make and sell the drug.

7. Who is reporting the results?

Is the newspaper, magazine, or radio or television station a reliable source of medical news? Some large publications and broadcast stations have special science reporters on staff who are trained to interpret medical findings. You might want to talk to your healthcare provider to help you judge how correct the reports are.

The bottom line is—talk to your health professional. He or she can help you understand the results and what they could mean for your health. Remember that progress in medical research takes many years. The results of one study need to be duplicated by other scientists at different locations before they are accepted as general medical practice. Every step along the research path provides a clue to the final result.

To Find Out More

MedlinePlus: Understanding Medical Research

<http://www.nlm.nih.gov/medlineplus/understandingmedicalresearch.html>

Understanding Risk: What Do Those Headlines Really Mean?

<http://www.nia.nih.gov/health/publication/understanding-risk-what-do-those-headlines-really-mean>

What Does That Newspaper Article Really Say?

<http://understandingrisk.cancer.gov/media/newspaper.cfm>

Making Sense of Medical News

http://kidshealth.org/parent/system/doctor/medical_news.html

The Thyroid and You: Coping with a common condition

“Annual checkups are key to controlling hypothyroidism.”



Photo: Christopher Klose

Claudine Klose has hypothyroidism. But if it weren't for her doctor, she'd never know it. Like millions of other Americans, mostly women, she has never had any of the symptoms associated with this very common, controllable condition.

“During my annual physical exam three years ago, my doctor noticed that my thyroid gland was a bit enlarged. The subsequent blood test showed that my thyroid hormone levels were too low,” recalls the 60-year old sheep and hay farmer.

“A second blood test six weeks later confirmed hypothyroidism. Ever since, I've taken a low-dosage synthetic hormone every morning—and will for the rest of my life. I feel fine, thanks to my doctor. It's very important to have an annual physical, and to have your health professional check your thyroid levels.”

FASTFACTS

- Hypothyroidism occurs when the thyroid gland does not produce enough hormones, which regulate metabolism. Many of the body's functions slow down.
- Hypothyroidism is mostly caused by Hashimoto's disease, an autoimmune disorder. It affects women more often than men. Other causes include inflammation of the thyroid gland, treatments for hyperthyroidism or other thyroid problems, and certain medications.
- Some hypothyroid symptoms are fatigue, weight gain, cold intolerance, constipation, impaired fertility, and depression.
- Hypothyroidism is easily controlled with synthetic thyroid hormone.

Hypothyroidism

The thyroid is a butterfly-shaped endocrine gland in your neck. It makes hormones that help regulate metabolism—how the body uses energy from the foods you eat. These hormones also affect brain development, breathing, heart and nervous system functions, body temperature, muscle strength, skin dryness, menstrual cycles, weight, and cholesterol levels.

Millions of people in the U.S., mostly women, have thyroid diseases. If your thyroid does not make enough thyroid hormone, you have hypothyroidism, the most common thyroid condition. You can gain weight, feel tired, and have difficulty dealing with cold temperatures. If your thyroid makes too much thyroid hormone, you have hyperthyroidism. You can lose weight, have a more rapid heart rate, and be very sensitive to heat.

What are the thyroid hormones and what do they do?

The thyroid gland makes two hormones, triiodothyronine (T3) and thyroxine (T4). Their production is regulated by thyroid-stimulating hormone (TSH). The pituitary—the “master gland” of the endocrine system—makes TSH. When the body needs more thyroid hormones, the pituitary sends out more TSH. In response, the thyroid produces more hormones. TSH levels return to normal.

In hypothyroidism, the pituitary makes TSH. But the thyroid can't keep up. TSH levels rise above normal. This is a sign of hypothyroidism. TSH levels below normal indicate hyperthyroidism.

What is hypothyroidism?

Hypothyroidism is a condition in which the thyroid gland does not produce enough hormones to meet the body's needs. Body functions slow. Of the U.S. population 12 years and older, 4.6 percent have hypothyroidism. Women are much more prone to it than men.

What causes hypothyroidism?

Hypothyroidism has several causes:

Hashimoto's Disease

Also called chronic lymphocytic thyroiditis, Hashimoto's disease is an autoimmune disorder that leads to less hormone production. It is the most common cause of hypothyroidism in the U.S.

Thyroiditis

Thyroiditis is an inflammation of the thyroid gland. The thyroid leaks hormones into the bloodstream. At first, this raises hormone levels and leads to hyperthyroidism lasting a month or two. Then, before the thyroid is completely healed, most people develop hypothyroidism.

Congenital Hypothyroidism

Some babies are born with a thyroid that is not fully developed or does not work properly. This can lead to mental retardation and growth failure. Most U.S. newborns are screened for hypothyroidism. Early treatment can prevent complications.

Who is likely to develop hypothyroidism?

Women are much more likely than men to develop hypothyroidism. It is also more common among people over 60.

Because hypothyroidism develops slowly, many people don't notice symptoms of the disease. Regular testing is recommended if people have:

- had a previous thyroid problem, such as a goiter or thyroid surgery
- a family history of thyroid disease
- other autoimmune diseases, including Sjögren's syndrome, pernicious anemia, type 1 diabetes, rheumatoid arthritis, or lupus
- Turner syndrome, a genetic disorder of girls and women
- turned older than 60
- been pregnant or given birth within the past six months
- received radiation to the thyroid, neck, or chest

Treatments that may lead to hypothyroidism

Thyroid Surgery

Surgery to remove all or part of the thyroid is used to treat:

- hyperthyroidism, when too much thyroid hormone is produced
- an enlarged thyroid gland (goiter) that may cause the neck to appear swollen and can interfere with normal breathing and swallowing
- thyroid nodules (lumps in the thyroid gland)
- thyroid cancer

After partial removal, the thyroid may produce normal hormone levels. But some people still will develop hypothyroidism. Complete removal always results in hypothyroidism.

Radiation

Radioactive iodine, a common treatment for hyperthyroidism, gradually destroys the thyroid. Almost everyone who receives this treatment eventually develops hypothyroidism. Radiation for Hodgkin's disease, other lymphomas, and head or neck cancers can also damage the thyroid.

Medications

Some drugs that can lead to hypothyroidism include:

- amiodarone, a heart medication
- interferon alpha, a cancer medication
- lithium, a bipolar disorder medication
- interleukin-2, another cancer medication

Less commonly, too much or too little iodine in the diet or abnormalities of the pituitary gland cause hypothyroidism.

Pregnancy

Women can have hypothyroidism in early pregnancy and after delivery, even when they have never had thyroid problems. Women who normally take thyroid hormone may need more at these times. Untreated hypothyroidism can cause serious problems for the mother and baby.

Postpartum thyroiditis occurs in up to 10 percent of women in the first year after giving birth. It is painless and believed to be an autoimmune condition. Sometimes postpartum thyroiditis goes undiagnosed because it is mistaken for the exhaustion and moodiness that can follow delivery. In some women, the thyroid does not heal and hypothyroidism becomes permanent.

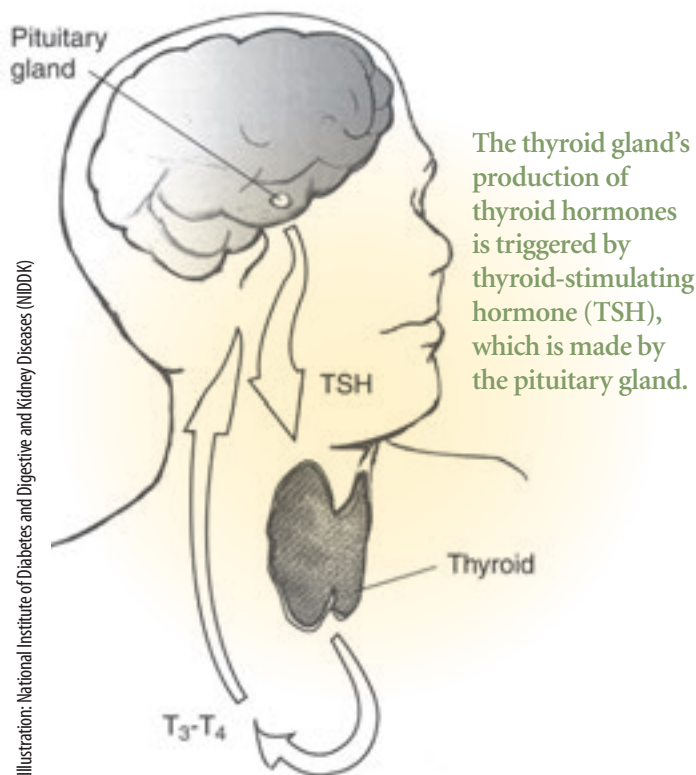


Illustration: National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

Symptoms

Symptoms vary and can include:

- fatigue
- weight gain
- puffy face
- cold intolerance
- joint and muscle pain
- constipation
- dry skin
- dry, thinning hair
- decreased sweating
- heavy or irregular menstrual periods and difficulty getting pregnant
- depression
- slowed heart rate

Diagnosis

Because many of its symptoms are seen in other diseases, hypothyroidism usually cannot be diagnosed based on symptoms alone. In addition to a patient's medical history and thorough physical examination, several tests are used to confirm hypothyroidism.

The first, most accurate measure of thyroid activity is the TSH test. Generally, above normal TSH levels indicate hypothyroidism. Mildly elevated TSH without symptoms of hypothyroidism is called subclinical hypothyroidism. Some doctors treat subclinical hypothyroidism immediately, while others monitor it for signs of worsening.

There is also the T4 test, which measures actual thyroid hormone levels in the blood. In hypothyroidism, the level of T4 in the blood may be lower than normal.

Treatment

Hypothyroidism is treated with synthetic thyroxine, identical to the hormone made by the thyroid. Exact dosage depends on the patient's age and weight, severity of the hypothyroidism, the presence of other health problems, and whether other drugs are being taken that might interfere with how well the body uses thyroid hormone.

TSH levels are measured about six to eight weeks after a patient begins taking thyroid hormone and the dose is adjusted accordingly. After the dose is stabilized, blood tests are taken in six months and then annually.

As long as patients take the recommended daily dose as instructed, hypothyroidism can almost always be controlled with synthetic thyroxine.



Photo: National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

**Griffin P. Rodgers, M.D., M.A.C.P., Director,
NIH's National Institute of Diabetes and
Digestive and Kidney Diseases**

Research Leads to Better Treatment

“Advances in research on molecular events lead the way to new tests and treatments for thyroid disease, such as the sensitive TSH test and synthetic thyroid hormone. We are committed to rapidly translating new knowledge into proven therapies that benefit patients.”

To Find Out More

- **National Institute of Diabetes and Digestive and Kidney Diseases, National Endocrine and Metabolic Diseases Information Service**
Phone: 1-888-828-0904;
www.endocrine.niddk.nih.gov
- **National Institutes of Health Clinical Trials Information**
www.ClinicalTrials.gov
www.nih.gov/health/clinicaltrials/
- **MedlinePlus**
www.medlineplus.gov
Type “thyroid conditions” in the search box
- **American Thyroid Association**
www.thyroid.org

Controlling Seasonal Allergies

In spring and summer, seasonal allergies affect millions of Americans. During allergic reactions, a person's immune system fights allergens, such as pollen or mold, that a normal immune system would not. Air purifiers, filters, humidifiers, and conditioners provide varying degrees of relief, but none is 100 percent effective. Various over-the-counter or prescription medications offer relief, too:

- **Antihistamines.** These medications counter the effects of histamine, the substance that makes eyes water and noses itch and causes sneezing during allergic reactions.
- **Nasal steroids.** These anti-inflammatory sprays help decrease inflammation, swelling, and mucus production.



- **Cromolyn sodium.** A nasal spray, cromolyn sodium can help stop hay fever, perhaps by blocking release of histamine and other symptom-producing chemicals.
- **Decongestants.** Available in capsule and spray form, decongestants thin nasal secretions and can reduce swelling and sinus discomfort. Intended for short-term use, they are usually used in combination with antihistamines.
- **Immunotherapy.** Immunotherapy (allergy shots) might provide relief for patients who don't find relief with antihistamines or nasal steroids. They alter the body's immune response to allergens, helping to prevent allergic reactions.

FASTFACTS

- Allergies are reactions of your immune system to one or more things.
- Pollens and mold spores can cause seasonal allergic reactions.
- The immune system is your body's defense system. In most allergic reactions, however, it is responding to a false alarm.
- Allergies cause runny noses, sneezing, itching, rashes, swelling, hives, abdominal pain, or asthma. Allergies typically make you feel bad. However, a severe reaction, called anaphylaxis, is life threatening.

— Source: National Institute of Allergy and Infectious Diseases (NIAID) and National Institute of Environmental Health Sciences (NIEHS)

Seasonal Allergy Research at NIH

- **Allergen and T-Cell Reagent Resources for the Study of Allergic Diseases:** This National Institute of Allergy and Infectious Diseases (NIAID) program is to identify the portion of a molecule to which an antibody binds, and to develop immune-based therapeutics.
- **Asthma and Allergic Diseases Cooperative Research Centers:** In 1971, NIAID established its Asthma and Allergic Diseases Centers to conduct basic and clinical research on the mechanisms, diagnosis, treatment, and prevention of asthma and allergic diseases.
- **Immune Tolerance Network (ITN):** The ITN is an international consortium of investigators in the United States, Canada, Europe, and Australia dedicated to the development and evaluation of novel, tolerance-inducing therapies in such disorders as asthma and allergies.
- **Inner-City Asthma Consortium:** Since 1991, the NIAID has funded research on asthma in inner-city areas with the goal of improving the treatment of children living in environments where the prevalence and severity of asthma is particularly high.

To Find Out More

- **MedlinePlus: Allergy**
www.nlm.nih.gov/medlineplus/allergy.html
- **MedlinePlus: Hay Fever**
www.nlm.nih.gov/medlineplus/hayfever.html
- **National Institute of Allergy and Infectious Diseases**
www.niaid.nih.gov/topics/allergyandasthma/
- **National Survey of Lead and Allergens in Housing (NSLAH)**
www.niehs.nih.gov/research/clinical/join/studies/riskassessment/nslah.cfm

Tips on Complementary Health Practices

What are the five things you should know about dietary supplements? You can learn the answer to that question and more in a new monthly series of “Time to Talk” tips. The easy-to-read information is meant to encourage people to talk with their health provider if they are considering using complementary medicine. Products and practices that are not part of standard care are considered complementary medicine—herbal medicine and acupuncture are examples. NIH’s National Center on Complementary and Alternative Medicine (NCCAM) created the “Time to Talk” campaign. The monthly tips can be found on the “Time to Talk” web page at <http://nccam.nih.gov/timetotalk>.

Remember This: Nutrients in Fish May Boost Memory

If you want to stay sharp as you age, eat a diet with omega-3 fatty acids. That’s a type of fat found in most fish, especially fatty fish like salmon and herring. Researchers from the Framingham Heart Study say a diet low in omega-3 fatty acids may cause your brain to age faster and lose some of its memory. The

team reached that conclusion after studying more than 1,500 people with an average age of 67. People with low levels of omega-3 fatty acids in their blood scored lower on tests that measured memory and thinking ability than people with higher levels. Researchers at the University of California in Los Angeles led the study. The National Heart, Lung and Blood Institute and the National Institute on Aging at NIH helped fund the work.

Diet Linked to Form of Diabetes Seen During Pregnancy

A recent study finds that a diet high in animal fat and cholesterol may affect a woman’s pregnancy. Researchers found that women who ate a lot of animal fat and cholesterol before becoming pregnant were at increased risk of

developing gestational diabetes. Gestational diabetes is a form of diabetes seen during pregnancy. “Our findings indicate that women who reduce the proportion of animal fat and cholesterol in their diets before pregnancy may lower their risk for gestational diabetes during pregnancy,” said senior author Cuilin Zhang, MD, MPH, PhD, of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). Two other NIH Institutes funded the research, the National Cancer Institute and the National Institute of Diabetes and Digestive and Kidney Diseases.

Suffering Sinuses: Antibiotics May Not Help Most Infections

Taking antibiotics for a basic sinus infection probably won’t help. That’s the conclusion of a new study. In it, people who took antibiotics did not recover faster or have fewer symptoms than people who took dummy pills. Researchers suggest health providers hold off on prescribing antibiotics for a sinus infection. Instead, they suggest treating pain, cough, congestion and other symptoms, and waiting to see if more action is needed. Researchers at the Washington University School of Medicine in St. Louis conducted the study. The National Institute of Allergy and Infectious Diseases at NIH funded the research.



Photo: iStock

Walking Speed, Grip Strength May Predict Risk of Stroke, Dementia

Testing a person's walking speed and grip strength when they are middle-aged may help predict their risk of dementia and stroke. In the Framingham Heart Study, more than 2,400 men and women with an average age of 62 were tested and followed for up to 11 years.

Preliminary findings showed that those who were fast walkers were less likely to develop dementia than those with a slower pace. A stronger grip was associated with a lower risk of stroke, but only for people in the study who were 65 and older. Three NIH Institutes funded the research: The National Institute of Neurological Disorders and Stroke, The National Heart, Lung, and Blood Institute, and the National Institute on Aging.

A Taste for Salt May Start Very Young

New research provides something to think about when feeding your infant. The foods a baby eats in the first few months of life can shape his or her flavor preferences later in childhood, and even as an adult. Researchers took a close look at salt because past studies have shown



too much salt is bad for our health; they found that babies exposed early to starchy, salty food developed a greater preference for salty taste by as early as six months of age. This preference for salt continued into pre-school. NIH's National Institute on Deafness and Other Communication Disorders funded the work, which was done by the Monell Chemical Senses Center.

NIH-Funded Study Recognized as a Breakthrough of the Year

An NIH-funded study on HIV prevention was named the 2011 Breakthrough of the Year by the journal *Science*. The study found that a type of

medicine, called antiretroviral, can both treat HIV and prevent it from being spread between men and women. People infected with HIV who took the medication when they were relatively healthy, rather than when the disease has advanced, were 96 percent less likely to pass the virus to their uninfected partner. This study followed heterosexual couples in the United States and eight other countries. Investigators with the University of North Carolina in Chapel Hill led the research. NIH's National Institute of Allergy and Infectious Diseases funded the scientific breakthrough.

New Website Has Easy-To-Read Info on Drug Abuse

The National Institute on Drug Abuse has launched a new Web site for people who read at an eighth-grade level or below. The web site has information about preventing and treating drug abuse. It's written in plain language, has a simple design, large text, videos and other features that make it easy to read and use. Go to www.easyread.drugabuse.gov

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 on Minority Health and Health Disparities (NIMHD)** www.nimhd.nih.gov
(301) 402-1366
- **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 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

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ClinicalResearchTrials.nih.gov



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