

NIH News in Health

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Getting It Straight Improve Your Posture for Better Health

Sit up straight! This common request may have been how you first heard about posture, the way you hold your body. Posture isn't just about how you look. How you position yourself can help or hurt your health over your lifetime.

"Posture is not only about how well you sit, but how well you move and go about your daily life," says Dr. George Salem, an NIH-funded researcher at the University of Southern California who studies how movement affects health and quality of life.

How you hold yourself when you're not moving—such as when you're sitting, standing, or sleeping—is called static posture. Dynamic posture is how you position your body while you're moving, like walking or bending over to pick something up. "It's important to consider both static and dynamic components of posture," Salem says.

Posture can be affected by many things: your age, the situations you find yourself in, and your daily choices. For instance, children may have to adjust to carry heavy backpacks to school. Pregnant women move differently to accommodate growing babies.

Your posture involves your musculoskeletal system. This includes your bones, muscles, joints, and other tissues that connect the parts of your body together. It's what provides form, support, stability, and movement to your body.



How you hold yourself can either align or misalign your musculoskeletal system. Throughout life, this system must adapt to the type of work you do, the hobbies you enjoy, how you use electronic devices, injuries, and even the kind of shoes you wear.

You may think that sitting with slumped shoulders or bending at your back instead of your knees sometimes won't hurt you. But small changes in how you hold yourself and move can add up over a lifetime.

Years of slouching wears away at your spine to make it more fragile and prone to injury. Holding your body and moving in unhealthy ways often leads to neck, shoulder, and back pain. In any 3-month period, about 1 in 4 adults in the U.S. has at least 1 day of back pain.

Poor posture can also decrease your flexibility, how well your joints move, and your balance. It can

impact your ability to do things for yourself and increase your risk for falls. Slumped posture can even make it more difficult to digest the food you eat and breathe comfortably.

Some research suggests a link between posture and mental health as well. "Someone with depression may appear more closed in, curved, and tend to look down," says NIH physical therapist Dr. Cris Zampieri. "When people feel anxious, they may raise their shoulders."

Scientists are now exploring the connections between posture and how we think and process information in the brain.

Our bodies change as we age. These natural changes make it especially important for older adults to maintain good posture, strength, flexibility, and balance. "Older adults tend to adopt a progressively hunched posture," says Salem. "When shoulders continue to round forward over time, it creates excessive loading on the shoulder joint. This can create injury and limit the independence of older adults."

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An extremely hunched posture, or hyperkyphosis, affects up to two-thirds of senior women and half of senior men. This posture has been associated with back pain, weakness, and trouble breathing. It can also limit everyday activities, like brushing your hair and dressing yourself.

Salem and other researchers have been studying the possible health benefits of yoga, particularly for older adults. Yoga is a mind and body practice that typically combines physical postures, breathing exercises, and meditation or relaxation. In one study, older adults with hyperkyphosis showed

significant improvement and less rounded shoulders after a 6-month yoga program.

"More people are participating in yoga," Salem says. "We're using innovative tools—like motion analysis with high-speed cameras and platforms that measure force—to understand what yoga is actually doing and how it's targeting the biological processes of our body." Ultimately, Salem says these findings will help therapists and yoga instructors design programs that are safe and effective for older adults. The team also plans to study other age groups and people with disabilities.

It's never too early or late in life to work on improving your posture and how you move.

"One way to improve your posture is to be aware of it in the first place," Zampieri says. "It's important to take a look at your posture before it becomes a problem. Yoga, tai chi, and other types of classes that focus on body awareness and mindfulness can help you learn to feel what's wrong in your own posture. They also help you connect your physical posture with your emotional state, offering benefits in both areas."

Classes aren't the only way to improve your posture. "Be mindful of your posture and how you're moving," Salem says. "Think about lifting your head, pulling your shoulders back, and tightening your abdominal muscles in everyday situations." Be aware of repetitive postures, like regularly lifting heavy objects, and

**Web Links**

For more about posture and health, click the "Links" tab at: newsinhealth.nih.gov/issue/Aug2017/Feature1

holding positions for a long time, like sitting at a computer all day at work.

"If you spend a lot of time in front of a computer, make sure you have a good setup," says NIH physical therapist Dr. Jesse Matsubara. "It's important that your workstation fits you the best it can. You should also switch sitting positions often, take brief walks around the office, and gently stretch your muscles every so often to help relieve muscle tension."

The foundation of good posture is having a body that can support it. This means having strong abdominal and back muscles, flexibility, and a balanced body over your life. Another way to improve posture is to lose weight, especially around your gut. More than 2 out of 3 Americans are either overweight or obese. Extra weight weakens your abdominal muscles, causes problems for your pelvis and spine, and contributes to low back pain.

"It's easy to develop suboptimal movement patterns after an injury or from years of pain," Salem explains, "but people can learn to distribute their weight evenly and balance their bodies again."

It's important to work with a doctor to find the types of physical activity that can help you maintain your health and mobility. Talk to your health care providers if you feel pain, have an injury, or have had surgery. They can give you feedback on how you're moving, help you avoid unhealthy movement patterns, and work with you to create a plan that's best for you. ■

**Wise Choices
Improve Your Posture**

- Be mindful of your posture during everyday activities, like watching television, washing dishes, or walking.
- Take frequent breaks for stretching and moving your body in different ways.
- Stay active.
- Maintain a healthy weight.
- Make sure work surfaces are at a comfortable height for you, whether you're working in an office, doing a hobby, preparing dinner, or eating a meal.
- Wear comfortable, low-heeled shoes.

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Missing Strands?

Dealing with Hair Loss

Hair loss is often associated with men and aging, but it can happen to women and children, too. Many people have thinning hair or bald areas on their head.

You can lose hair slowly or quickly. Whether or not your hair will eventually grow back depends on the cause. A family history of baldness, medical conditions or their treatments, and many other things cause hair loss.

The most common type of hair loss is called androgenetic alopecia, also known as male- or female-pattern baldness. It tends to run in families and causes your hair to fall out gradually. As men get older, they may start to lose hair in the front of their scalp. The pattern of hair loss for women is different. Their hair may thin out all over their scalp, but is often most obvious along the part.

Both men and women with androgenetic alopecia can apply medicines to their scalp to slow the progression of their hair loss. However, some medications are only



FDA-approved for men. Some men (and occasionally women) opt for hair transplant surgery, in which tiny plugs of hair are moved from the back of the head to the front. This option depends on how much hair is available for a transplant.

Another common type of hair loss is known as alopecia areata. Scientists recently discovered what causes this type of hair loss. Alopecia areata is an autoimmune disease. The immune system, which normally helps protect your body from disease, starts attacking hair follicles. Hair follicles are the part of the skin that hairs grow from. Usually, only small patches of hair on the scalp are lost. But in severe cases, hair all over the body may be lost. The hair loss may not be permanent because hair follicles are not destroyed. They are just stuck in a resting state.

Currently, there are no approved drugs for alopecia areata. However, an NIH-funded study recently discovered that a class of drugs called Janus kinase (JAK) inhibitors can stop, and even reverse, the disease. Dr. Angela Christiano, a skin disease expert at Columbia University, showed that JAK inhibitors block the damaging effects of the immune

system on hair follicles. Many people who took the drug had their hair grow back in her study. More clinical trials are now underway to determine how safe and effective JAK inhibitors are for treatment of alopecia areata.

"I think it's a hopeful time for patients with alopecia areata," says Christiano, who also has the disease. She hopes that the excitement around alopecia areata research will carry over to other types of hair loss, which tend to be understudied diseases.

If you start losing clumps of hair or notice your hair thinning, check in with your doctor. They can help identify the cause,

suggest possible treatments, and help you learn how to manage the condition.

Coping with the effects of hair loss on your head can be difficult, but there are many things you can do. "Find somebody that you trust and just talk about what's going on," advises Kathleen Baxley, who is the chief of social work at the NIH Clinical Center. She oversees a team that counsels people in clinical studies, including those who lose their hair because of a treatment. "It really helps folks a lot of the time just to tell their story. You can speak with a family member or close friend. Or, you can reach out to a counselor."

"Sometimes finding support groups helps," Baxley adds. Support groups meet in person or have discussions online. For other tips on how to manage hair loss, see the Wise Choices box. ■



Wise Choices

Take Care of Your Hair and Yourself

- **Be gentle.** Use your comb or brush carefully.
- **Cover up.** Wear a hat, scarf, wig, or hairpiece. It can protect your scalp from the sun.
- **Use sunscreen.** Protect bald, uncovered areas from sun damage.
- **Try a new style.** Ask your barber or hairstylist to make the most of your remaining hair.
- **Get support.** Share your feelings and get tips for coping with hair loss from others with the same challenge. Or, ask for support from a counselor.



Web Links

For more about hair loss, click the "Links" tab at: newsinhealth.nih.gov/issue/Aug2017/Feature2

Health Capsules

For links to more information, see these stories online:
newsinhealth.nih.gov/issue/Aug2017/Capsule1

Yoga May Help Treat Back Pain

Many people experience low-back pain over their lifetime. For those who don't recover quickly, the discomfort can become chronic, lasting for months or even years.

NIH-funded researchers have been looking for new ways to treat long-lasting low-back pain. A new study shows that yoga may help relieve moderate to severe low-back pain. The research team recruited 320 people with chronic low-back pain from diverse backgrounds and underserved communities. More than half of the study's participants were non-Hispanic black and earned less than \$30,000 per year.

The participants were randomly assigned to three groups. The first group took 12 weekly yoga classes designed for people with low-back pain. The second group had 15 physical therapy sessions over 12 weeks. These included exercises to strengthen back and core muscles. The third group received a self-help book and newsletters to learn how to deal with back pain.

The results suggested that a structured yoga class may be an option for treating chronic low-back pain. All three groups reported improvement in physical function and pain reduction. However, people

in the yoga and physical therapy treatment groups were more likely than those in the education-only group to stop taking pain relievers after a year.

"Chronic low-back pain disproportionately impacts those who are economically disadvantaged," says research team leader Dr. Robert Saper of the Boston University School of Medicine and Boston Medical Center. "Therefore, we feel that it was important to test whether the yoga would be received well by an underserved population as well as being effective." ■

What Are Your Health Risks?

It seems like a new health risk is in the news every day. How do you know which risks are worth worrying about? NIH has created a one-page guide called *Making Sense of Your Health Risks* to help you put risks into perspective.

A health risk is something that increases your chance of developing a disease. For example, getting too much sun on your skin may put you at higher risk for skin cancer. That doesn't mean that you will definitely get skin cancer. You can take steps to lower your risk by protecting your skin from sun exposure.

When you hear about a health risk, ask yourself some basic questions to decide what you should do. Who does this health news affect? Are they people like you? Are they your

age? Do they live in your area? How certain is this risk? What steps can you take to protect yourself?

You have the power to change many factors that put your health at risk. You can protect your skin from the sun. You can choose to eat healthy food and be physically active. However, you can't change all the things that affect your health risks. You can't change your age. You can't change a family history of an inherited disease.

Ask your doctor about the most important health risks for you. Write down any questions before your visit, and speak up if you don't understand something. See the one-page health risks guide, in both English and Spanish, at newsinhealth.nih.gov/issue/Aug2017/Capsule2. ■



Featured Website HIV/AIDS Resources

www.hiv.gov

Because of research, what was once a deadly disease caused by the HIV virus is now a treatable condition. Most people in the U.S. now don't develop the advanced stages of HIV infection called AIDS. The AIDS.gov website has changed its name to HIV.gov to reflect this progress! Learn about preventing, treating, and living with HIV.



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