

# NIH News in Health

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## Understanding Acupuncture

### Time To Try It?

Acupuncture is a traditional medicine that's been practiced in China and other Asian countries for thousands of years. Its proponents say it can do everything from relieving pain to bringing a general sense of wellness. Others think the only benefits you get from acupuncture are in your head. Recent studies have found that both sides may have a point. Acupuncture can be effective for certain health problems, such as some types of chronic pain. But how it works is something of a mystery.

Acupuncture is the stimulation of specific points on the body. The methods can vary, but the most well known type in the United States is the insertion of thin metal needles through the skin. At least 3 million adults nationwide use acupuncture every year, according to the latest estimates.

Acupuncture is part of a family of procedures that originated in China. According to traditional Chinese medicine, the body contains a delicate balance of 2 opposing and inseparable forces: yin and yang. Yin represents the cold, slow or passive principle. Yang represents the hot, excited or active principle. Health is achieved through balancing the 2. Disease comes from an imbalance that leads to a blockage in the flow

of qi—the vital energy or life force thought to regulate your spiritual, emotional, mental and physical health. Acupuncture is intended to remove blockages in the flow of qi and restore and maintain health.

Researchers don't know how these ideas translate to our Western understanding of medicine, explains Dr. Richard L. Nahin of NIH's National Center for Complementary and Alternative Medicine. But the fact is that many well-designed studies have found that acupuncture can help with certain conditions, such as back pain, knee pain, headaches and osteoarthritis.

"In many research studies, it's clear that if you're comparing acupuncture to usual care, the acupuncture group almost always does better," Nahin says. The problem, he explains, is that when researchers have compared acupuncture to carefully designed "control" treatments, the picture becomes more complicated.

Well-designed clinical trials need control groups—people who get a sham or simulated treatment called a **placebo**. Placebos might come in the form of a sugar pill or a saline injection. They give researchers something to compare the real treatment



with. But designing a placebo for acupuncture is a challenge.

"I don't really think you can come up with a great placebo needling," says Dr. Karen J. Sherman, an NIH-funded acupuncture researcher at Group Health Research Institute in Seattle.

For example, when researchers have compared inserting needles with just pressing a toothpick onto acupuncture points, they've often found both treatments to be successful. But Sherman questions whether these are really controls. Many traditional acupuncturists would consider them true treatments, too. The important thing, in their view, is to hit the right spot, not necessarily how deep you go.

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### Definitions

#### Placebo

A look-alike substitute that's not expected to have any effect. It's used to compare how well an experimental treatment works.

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Another option for a placebo would be to test a different location. But Sherman says that would be inappropriate for treating pain because acupuncturists traditionally needle tender points. "To me, there's no place on the back, if you have back pain, where you can say you have a great control," Sherman says, "so I don't think that's a really solid idea."

Further complicating things is that



### **Wise Choices If You Want to Try Acupuncture**

- Talk to your health care provider about it, especially if you're pregnant or nursing, or are thinking of using acupuncture to treat a child.
- Find an acupuncturist who's experienced working with your problem.
- Check credentials. Most states require a license to practice acupuncture.
- Don't use acupuncture as a replacement for conventional care.
- Don't rely on a diagnosis of disease by an acupuncturist who doesn't have conventional medical training.
- To help ensure coordinated and safe care, tell your health care providers about any complementary and alternative practices you use.

acupuncture treatments are about more than just needles. "There'll be needles," Sherman says, "but there'll probably be other things they do in the course of the treatment. Acupuncturists will talk to you in a particular way. They might give you dietary advice or exercise advice that stems from a non-Western theoretical construct. They'll try to engage you in your own healing. They might give you a different model for thinking about your health."

"It's hard to design placebo-controlled studies of acupuncture when we don't understand what the active component of the intervention is," explains Dr. Richard E. Harris, an NIH-funded researcher at the Chronic Pain and Fatigue Research Center in Ann Arbor, Michigan.

Treatment for pain is the best-studied aspect of acupuncture. Many parts of the brain are connected in the processing of pain, and how much pain you feel partly depends on context. "If a person has an injury in battle, they might not feel it," Sherman explains, "but if they have a similar injury just walking down the street, they might just think it was dreadful."

"If you look at some of the data, what you find is that sham acupuncture and true acupuncture both produce some pain relief in whatever condition they're looking at," Nahin says. "But while both treatments turn on areas of the brain, they turn on different areas of the brain."

Harris and his colleagues, in studies of fibromyalgia patients, have found



### **Web Links**

For more about acupuncture, see our links online:

<http://newsinhealth.nih.gov/issue/Feb2011/Feature1>

differences at the molecular level as well. "We were able to show that sham acupuncture and real acupuncture both reduced pain in fibromyalgia patients equally," he says, "but they do it by different mechanisms."

If acupuncture truly works by a different mechanism than sham acupuncture, Harris says, then they're not the same thing, even if they both help relieve pain. Harris and others are now trying to get to the bottom of what acupuncture is actually doing. Their ultimate goal is to see if other treatments might pair well with acupuncture to reduce pain better than either alone.

Should you try acupuncture? Studies have found it to be very safe, with few side effects. If you're thinking about it, talk to your doctor. "We tell people they really need to talk to their primary care provider and discuss whether acupuncture is a viable option for them," Nahin says. "While you could go to an acupuncturist independent of a medical practitioner, we feel that an integrated approach to care is always the best approach."

"Find somebody who's dealt with your problem before," Sherman advises. "Talk to the practitioner about your specific situation and then see if it's something you can live with because it might not be the right treatment for you."

If you do decide to try acupuncture, she adds, "You need to know that you should give it some time. You can't expect one session will tell you whether it works or not. Be open minded and willing to at least entertain some of the notions that the acupuncturist brings up. Give it a try if you're open to it."

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# When Words Get Stuck

## An Update on Stuttering

In "The King's Speech," a recent movie set in pre-World War II England, soon-to-be King George VI has to conquer a stammer (Americans call it a **stutter**) that has hindered him since childhood and makes public speaking an agony. With the help of a speech therapist, the king learns how to control his stutter enough to get through a speech. But King George never completely defeated his stutter. Although he managed to overcome the characteristic repetition of sounds at the beginnings of words, in old films you can still see him pausing, grimacing, gathering his courage and moving on as best he can.

More than 50 years later, therapies for those who stutter aren't that different from the king's. Many, like King George's, focus on learning ways to minimize the impact of the disorder. They involve learning to speak more slowly, regulating breathing, and gradually progressing from single-syllable responses to longer words and more complex sentences.

Stuttering affects more than 3 million people in America and

another 60 million worldwide. Approximately 75% to 85% of those who stutter in childhood will outgrow it when they become adults. However, there is currently no way to know who will stop and who will continue. Boys are more than twice as likely as girls to stutter, a difference that increases even more in adulthood, when men are 3 to 4 times more likely to stutter than women.

People have recognized stuttering as a speech disorder for thousands of years. They've speculated about what causes it for just as long. In King George's time, it was thought to stem from childhood emotional trauma or an unhealthy attachment to a parent, usually the mother. Today, some people still mistakenly think that stuttering is caused by psychological or social problems, or nervousness and anxiety.

That's beginning to change because of a recent discovery by a team of researchers led by NIH scientists. They identified changes in 3 different **genes** that appear to play a role in stuttering. The researchers propose that part of the brain dedicated to fluency of speech may be uniquely sensitive to problems caused by defects in these genes. Further research could provide new insights into what causes stuttering. Eventually, this work may suggest ways to correct the problem.

Researchers hope that one day stuttering can be treated as a biological disorder with a medical cure, not a character weakness. In the meantime, if you or your child



stutters, a variety of treatments are available. Talk to a speech-language pathologist—a health professional trained to test and treat children with voice, speech and language problems—about the options. ■



### Definitions

#### Genes

Stretches of DNA, a substance you inherit from your parents, that define characteristics such as how likely you are to get certain diseases.

#### Stutter

A speech disorder in which sounds, syllables or words are repeated or prolonged, disrupting the normal flow of speech. These speech disruptions may be accompanied by signs of struggling, such as rapid eye blinks or tremors of the lips.



### Web Links

For more about stuttering,

see our links online:

<http://newsinhealth.nih.gov/issue/Feb2011/Feature2>



### Wise Choices If Your Child Stutters

Many children stutter as toddlers and pre-schoolers but grow out of it. Bring your child in for evaluation if:

- stuttering has continued for 6 months or longer
- your child has other problems with speech or language
- your child has strong fears or concerns about stuttering
- there is a family history of stuttering



# Health Capsules

## Tinnitus Cure May Lie in the Brain

Scientists were able to eliminate tinnitus—a persistent ringing in the ears—in rats by stimulating a nerve in the neck while playing a variety of tones. The finding gives hope for a future tinnitus cure in humans.

Tinnitus is usually a high-pitched tone in one or both ears, but can also sound like a clicking, roaring or whooshing sound. While tinnitus isn't fully understood, it's known to be a sign that something is wrong in the sound processing system. Something as simple as a piece of earwax blocking the ear canal can cause tinnitus, but it can also come from a number of health conditions—for example, from hearing loss after being exposed to loud noise.

There's no known cure for tinnitus. Current treatments generally involve masking the sound or learning to ignore it. NIH-funded researchers set out to see if they could develop a way to reverse tinnitus by essentially resetting the brain's sound processing system.

The researchers used vagus nerve stimulation (VNS), a technique known to release chemicals that encourage changes in the brain. They paired it with the playing of different tones other than the tinnitus frequency. This technique, the scientists reasoned, might induce brain cells to tune to frequencies other than the tinnitus one.

The researchers played various tones during VNS to noise-exposed rats with tinnitus 300 times a day for about 3 weeks. Both the rats' behavior and brain activity tests showed that their tinnitus had disappeared.

"The key is that, unlike previous treatments, we're not masking the tinnitus," says Dr. Michael Kilgard of the University of Texas, one of the lead researchers. "We are eliminating the source of the tinnitus."

VNS is already used to treat people with certain other conditions. The scientists are now planning to conduct clinical studies of VNS paired with tones in tinnitus patients. ■

For links to more information, see these stories online:  
<http://newsinhealth.nih.gov/issue/Feb2011/Capsule1>



### Featured Web Site

#### Time to Talk

<http://nccam.nih.gov/timetotalk>

Patients and their health care providers need to talk openly about all of their health care practices. This includes the use of complementary and alternative medicine (CAM). Time to Talk is an educational campaign to encourage patients—particularly those 50 and older—and their health care providers to openly discuss the use of complementary and alternative medicine (CAM). When patients tell their providers about their CAM use, they can ensure that their providers ask them about it. When providers ask their patients about CAM use, they can ensure that they are fully informed and can help patients make wise health care decisions. Simply put—it's time to talk!

**NCCAM** NATIONAL CENTER FOR COMPLEMENTARY AND ALTERNATIVE MEDICINE NATIONAL INSTITUTES OF HEALTH

Back to Home Health Information Time to Talk

**TIME TO TALK**

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(1) NIH Radio Dr. Briggs Speaks About Time to Talk

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## Tasty, Healthy Family Meals

Nutritious and tasty meals can be easy to prepare for your family. Get some ideas and inspiration from a new NIH cookbook. *Keep the Beat Recipes: Deliciously Healthy Family Meals* has more than 40 kid-tested recipes featuring a variety of healthy entrees, side dishes and snacks that parents and children can enjoy together. The free cookbook also offers time-saving tips and helpful resources for busy families.

The recipes were developed by David Kamen, a Culinary Institute of America-trained chef/instructor and father of 2. The dishes are based on heart-healthy principles from the NIH's National Heart, Lung and Blood Institute (NHLBI). Recipes include nutrition analysis and provide guidance for preparing meals that are low in saturated fat, trans fat, cholesterol, sodium and added sugars.

"With a healthy approach to cook-

ing, families learn to enjoy the taste of heart-healthy meals that can help lower their risk of heart disease and other conditions," says NHLBI Acting Director Dr. Susan B. Shurin.

The cookbook and individual recipes are available on the *Keep the Beat: Deliciously Healthy Eating* website at <http://hin.nhlbi.nih.gov/healthyeating>. Or call the NHLBI Health Information Center at 301-592-8573. ■

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