

Myth vs Fact

“Fountain of Youth” Hormones



This fact sheet was created to address myths about “anti-aging” hormones and to provide facts on what these hormones really do.

You might have seen claims on the Internet or in a magazine saying that certain hormones can help keep you young. But are these claims about anti-aging hormones true? We'll help you separate myths from facts about these two hormones: human growth hormone and DHEA.

CLAIMS ABOUT HUMAN GROWTH HORMONE AND DHEA

HUMAN GROWTH HORMONE

Claims

Reverses aging
Improves athletic performance
Increases muscle strength
Increases endurance
Decreases body weight
All are unproven

Myth or Fact?

All are unproven
More evidence is needed for these claims

DHEA (DEHYDROEPIANDROSTERONE)

Claims

Slows down aging
Increases energy
Increases muscle strength
Boosts immunity
Decreases body weight

Myth or Fact?

All are unproven
More evidence is needed for these claims

HUMAN GROWTH HORMONE

What is human growth hormone?

Human growth hormone is a substance made in your body that controls growth and metabolism. It's made by the pituitary gland, a small gland at the base of your

brain. Another form, synthetic human growth hormone, is manufactured. The synthetic form is identical to human growth hormone and is used as a medicine for people who need to take growth hormone. If children or adults have too much or too little growth hormone, they can have health problems.

What does human growth hormone do?

Growth hormone has several important functions. In children, growth hormone helps them grow taller, increases muscle and the length of their bones, and decreases body fat. In adults, growth hormone stimulates metabolism—the way cells break down food to produce energy and make the substances needed by the body.

How is growth hormone used legally?

The U.S. Food and Drug Administration (FDA) has approved growth hormone for certain conditions. It must be prescribed by a doctor and is given by injection. In children, growth hormone is used to treat:

Growth hormone deficiency (too little growth hormone)

Health problems that cause short stature (being much shorter than other children of the same age), such as chronic kidney disease or Turner syndrome (a genetic condition in girls).

In adults, growth hormone is used to treat

Growth hormone deficiency caused by pituitary damage such as a tumor, surgery, or injury

Muscle wasting from AIDS and HIV

Short bowel syndrome



Does growth hormone have a use in healthy adults?

Studies of healthy adults taking growth hormone have had differing results. Some short-term studies showed that older adults increased their muscle mass. But studies did not show improvement in muscle strength or endurance. More studies are needed to learn whether healthy adults can benefit from taking growth hormone.

How is growth hormone used illegally?

Growth hormone is sometimes used in ways not approved by the FDA. People take it to try to stop or reverse the effects of aging or to improve athletic performance. Athletes sometimes take growth hormone along with anabolic (tissue-building) steroids in an effort to build muscle, increase strength and athletic performance, and decrease body fat.

What are the risks of taking growth hormone without a doctor's prescription?

You can have harmful side effects if you take growth hormone without a prescription. Side effects of short-term use include joint and muscle pain, tingling, and swelling in the hands or feet. Taking high doses of growth hormone long-term (more than a few months) might lead to diabetes, high blood pressure, or heart disease. When people inject growth hormone that comes from human cadavers, they risk developing a fatal brain condition called Creutzfeldt-Jakob disease.

Growth hormone is sometimes sold as a dietary supplement. Supplements are not regulated by the government and sometimes do not contain what the label says they contain. They might be contaminated with harmful ingredients. Growth hormone is only effective if it is injected, so supplements in pill form carry risks but are unlikely to have any have any benefits.

DHEA

What is DHEA?

DHEA (dehydroepiandrosterone) is a hormone made from cholesterol by your adrenal glands. Your adrenal glands are located on top of your kidneys.

What does DHEA do?

Your body changes DHEA into two important sex hormones: testosterone and estrogen. Testosterone causes male sex characteristics to emerge during puberty in boys, such as growth of facial and pubic hair, enlargement of the penis and testes, and deepening of

the voice. In adult males, testosterone is related to sex drive, muscle and bone mass, and sperm production. Estrogen in women is related to breast development, release of eggs from the ovary, menstrual periods, and pregnancy. Men have small amounts of estrogen, and women have small amounts of testosterone.

Does DHEA have a role in treating certain health problems?

Some researchers have suggested that DHEA might be used to treat:

Adrenal insufficiency (Addison's disease)

Depression

Lupus

Obesity

Alzheimer's disease

Osteoporosis

Crohn's disease

Infertility

Problems linked to menopause

DHEA also might help induce labor in childbirth.

DHEA has not yet been approved by the FDA as a treatment for these health problems. More research is needed to study the potential benefits and the long-term risks of DHEA.

How is DHEA used inappropriately?

Some people use DHEA hoping it will increase endurance and muscle strength, increase energy, decrease fat, and boost immunity, but these effects have not been proven. Some athletes use DHEA but it is banned by the National Football League, Major League Baseball, the Olympics, and other athletic organizations.

What are the risks of taking DHEA without a doctor's advice?

In women, DHEA can cause changes related to an increase in testosterone: irregular menstrual periods, increased facial hair, increased sweating, smaller breasts, and a deeper voice.

In men, DHEA can also cause changes related to an increase in estrogen and/or a drop in testosterone: swelling of the breasts, decrease in the size of the testicles, acne, and hair loss.

Some side effects disappear when DHEA is stopped, but it is not yet clear if other side effects might be permanent. The FDA does not monitor the quality of DHEA supplements, so they may vary widely in terms of how much actual DHEA is in them. As with human growth hormone, DHEA supplements can be dangerous or ineffective.

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The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from the Endocrine Society (endocrine.org). This fact sheet is also available in Spanish at hormone.org.



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