

## What is DHEA

DHEA is a hormone that is naturally made by the human body. It can also be made in the laboratory from chemicals found in wild yam and soy. However, the human body cannot make DHEA from these chemicals, so simply eating wild yam or soy will not increase DHEA levels. Don't be misled by wild yam and soy products labeled as "natural DHEA." DHEA serves as a precursor to male and female sex hormones (androgens and estrogens). DHEA levels in the body begin to decrease after age 30. This decrease occurs more quickly in women than men.

DHEA is taken by mouth for slowing or reversing aging, improving thinking skills in older people, and slowing the progress of Alzheimer's disease.

Athletes and other people take DHEA by mouth to improve physical performance. But DHEA use is banned by the National Collegiate Athletic Association (NCAA) and Olympic Committee.

DHEA is also taken by mouth for sexual dysfunction, and to improve well-being and sexuality in men and women. It is also used for preventing clogged arteries, breast cancer, infertility, diabetes, and metabolic syndrome.

Some people take DHEA by mouth to treat systemic lupus erythematosus (SLE), an immune condition characterized by dry mouth and dry eyes (Sjögren's syndrome), weak bones (osteoporosis), a form of muscular dystrophy called myotonic dystrophy, fibromyalgia, multiple sclerosis (MS), low levels of steroid hormones (Addison's disease), depression, schizophrenia, chronic fatigue syndrome (CFS), muscle damage from exercise, inflammatory bowel disease, to slow the progression of Parkinson's disease, for withdrawal symptoms, and for a condition called atrichia pubis.

DHEA is taken by mouth for weight loss, decreasing the symptoms of menopause, rheumatoid arthritis, and aging skin.

People with HIV sometimes take DHEA by mouth to ease depression and fatigue.

Women sometimes use DHEA inside the vagina for strengthening the walls of the vagina, for increasing bone mineral density, sexual dysfunction, and for a precancerous condition called cervical dysplasia.

Some people use DHEA intravenously (by IV) to induce labor and for a form of muscular dystrophy called myotonic dystrophy.

Some people inject DHEA as a shot for psoriasis.

DHEA is applied to the skin for aging skin and to strengthen the walls of the vagina.

Like many dietary supplements, DHEA has some quality control problems. Some products labeled to contain DHEA have been found to contain no DHEA at all, while others contained more than the labeled amount.

## How DHEA Works

DHEA is a "parent hormone" produced by the adrenal glands near the kidneys and in the liver. In men, DHEA is also secreted by the testes. It is changed in the body to a hormone called androstenedione. Androstenedione is then changed into the major male and female hormones.

DHEA levels seem to go down as people get older. DHEA levels also seem to be lower in people with certain conditions like depression. Some researchers think that replacing DHEA with supplements might prevent some diseases and conditions.

## DHEA Side Effects

DHEA is POSSIBLY SAFE when taken by mouth, applied to the skin, and used inside the vagina appropriately, short-term. DHEA has been taken by mouth for 12-24 months safely. DHEA has been safely applied to the skin for up to 12 months. DHEA has been safely used inside the vagina for up to 12 weeks. It can cause some side effects including acne, hair loss, stomach upset, and high blood pressure. Some women can have changes in menstrual cycle, facial hair growth, and a deeper voice after taking DHEA.

DHEA is POSSIBLY UNSAFE when taken by mouth in high doses or long-term. Do not use DHEA in doses higher than 50-100 mg a day or for a long period of time. Using higher doses or using for a long time period can increase the chance of side effects.

### Special Precautions & Warnings:

**Pregnancy and breast-feeding:** DHEA is POSSIBLY UNSAFE when taken by mouth during pregnancy or breast-feeding. It can cause higher than normal levels of a male hormone called androgen. This might be harmful to the baby. Don't use DHEA if you are pregnant or breast-feeding.

**Diabetes:** DHEA can affect how insulin works in the body. If you have diabetes, monitor your blood sugar carefully if you are taking DHEA.

**Hormone-sensitive conditions such as breast cancer, uterine cancer, ovarian cancer, endometriosis, or uterine fibroids:** DHEA is a hormone that can affect how estrogen works in the body. If you have any condition that might be made worse by exposure to estrogen, don't use DHEA.

**High cholesterol:** DHEA might lower "good cholesterol" (high lipoprotein cholesterol, HDL). If your HDL level is already too low, discuss DHEA with your healthcare provider before you start taking it.

**Liver problems:** DHEA might make liver problems worse. Don't use DHEA if you have liver problems.

Depression and mood disorders: There is some concern that patients with a history of depression and bipolar disorder might have some mental side effects if they use DHEA. DHEA can cause mania (excitability and impulsiveness), irritability, and sexual inappropriateness in people with mood disorders. If you have a mood disorder, be sure to discuss DHEA with your healthcare provider before you start taking it. Also, pay attention to any changes in how you feel.

Polycystic ovary syndrome (PCOS): Taking DHEA might make this condition worse. Don't use DHEA if you have PCOS.

### DHEA Drug Interactions

- Anastrozole (Arimidex) interacts with DHEA  
The body changes DHEA to estrogen in the body. Anastrozole (Arimidex) is used to help decrease estrogen in the body. Taking DHEA along with anastrozole (Arimidex) might decrease the effectiveness of anastrozole (Arimidex). Do not take DHEA if you are taking anastrozole (Arimidex).
- Exemestane (Aromasin) interacts with DHEA  
The body changes DHEA to estrogen in the body. Exemestane (Aromasin) is used to help decrease estrogen in the body. Taking DHEA along with exemestane (Aromasin) might decrease the effectiveness of exemestane (Aromasin). Do not take DHEA if you are taking exemestane (Aromasin).
- Fulvestrant (Faslodex) interacts with DHEA  
Some types of cancer are affected by hormones in the body. Estrogen-sensitive cancers are cancers that are affected by estrogen levels in the body. Fulvestrant (Faslodex) is used for this type of estrogen cancer. DHEA might increase estrogen in the body and decrease the effectiveness of fulvestrant for treating cancer. Do not take DHEA if you are taking fulvestrant.
- Insulin interacts with DHEA  
Insulin is used to decrease blood sugar. Insulin can also decrease the amount of DHEA in the body. By decreasing DHEA in the body insulin might decrease the effectiveness of DHEA supplements.
- Letrozole (Femara) interacts with DHEA  
Some types of cancer are affected by hormones in the body. Estrogen-sensitive cancers are cancers that are affected by estrogen levels in the body. Letrozole (Femara) is used for this type of estrogen cancer. DHEA might increase estrogen in the body and

decrease the effectiveness of letrozole (Femara) for treating cancer. Do not take DHEA if you are taking letrozole (Femara).

- Medications changed by the liver (Cytochrome P450 3A4 (CYP3A4) substrates) interacts with DHEA

Some medications are changed and broken down by the liver.

DHEA might decrease how quickly the liver breaks down some medications. Taking DHEA along with some medications that are broken down by the liver can increase the effects and side effects of some medications. Before taking DHEA, talk to your healthcare provider if you are taking any medications that are changed by the liver.

Some medications changed by the liver include lovastatin (Mevacor), ketoconazole (Nizoral), itraconazole (Sporanox), fexofenadine (Allegra), triazolam (Halcion), and many others.

- Tamoxifen (Nolvadex) interacts with DHEA

Some types of cancer are affected by hormones in the body. Estrogen-sensitive cancers are cancers that are affected by estrogen levels in the body. Tamoxifen (Nolvadex) is used to help treat and prevent these types of cancer. DHEA increases estrogen levels in the body. By increasing estrogen in the body, DHEA might decrease the effectiveness of tamoxifen (Nolvadex). Do not take DHEA if you are taking tamoxifen (Nolvadex).

- Triazolam (Halcion) interacts with DHEA

The body breaks down triazolam (Halcion) to get rid of it. DHEA might decrease how quickly the body breaks down triazolam (Halcion). Taking DHEA along with triazolam (Halcion) might increase the effects and side effects of triazolam (Halcion).

## Minor Drug Interactions

- Medications for inflammation (Corticosteroids) interacts with DHEA

The body naturally makes DHEA. Some medications for inflammation might decrease how much DHEA the body makes. Taking some medications for inflammation might decrease the effects of taking DHEA pills.

Some medications for inflammation include dexamethasone (Decadron), hydrocortisone (Cortef), methylprednisolone (Medrol), prednisone (Deltasone), and others.