

DHEA Other Names: Dehydroepiandrosterone, GL701, Prasterone

Uses

DHEA is one of the natural steroid hormones produced in small amounts primarily by the **human adrenal glands**. It is converted by the body into androgen and estrogen, hormones that affect sexual development and function. Individuals who have a condition known as Addison's disease or primary adrenocortical insufficiency do not produce enough of the adrenal steroids—including DHEA. Overall symptoms of Addison's disease usually appear gradually and they may include anemia, darkened skin and mucous membranes, fatigue, and weight loss. DHEA replacement in Addison's disease is controversial—with some studies finding positive effects such as lessened fatigue and improved mood; and other studies finding no effects. Currently, DHEA supplementation is not standard treatment for Addison's disease, although a prescription DHEA product does have an orphan drug designation for treating adrenal insufficiency. An orphan drug has been approved by the U.S. Food and Drug Administration (FDA) for extremely limited uses, such as for the treatment of a rare disease.

The most advanced scientific research concerning DHEA has centered on treating systemic lupus erythematosus (SLE), an autoimmune disease of connective tissue. Symptoms of SLE include arthritis, fever, and rash. SLE can also affect the central nervous system (the brain and spinal cord) and internal organs such as the kidneys. Because DHEA has shown some effectiveness in the treatment of SLE, a prescription form of DHEA is undergoing additional clinical trials that were requested by the FDA before it can be approved for treating SLE.

Because natural DHEA production decreases as individuals get older, some researchers believe that restoring DHEA to higher levels may delay some of the effects of aging. Especially in the last few years, DHEA has also been touted to increase the function of the immune system and to restore mental ability. Therefore, it has been studied for the treatment of numerous conditions that include AIDS, Alzheimer's disease, chronic fatigue syndrome, erectile dysfunction, and Parkinson's disease. Low blood levels of DHEA have also been found in chronic inflammatory conditions such as inflammatory bowel disease. High levels of blood sugar and conditions such as fibromyalgia also may decrease DHEA. While clinical research continues for several of these conditions, no definitive results prove that DHEA supplementation is effective for any of them.

DHEA has also been associated with other effects on health. For example, supplemental DHEA and its breakdown product DHEA-sulfate (DHEA-S) may have produced improvements in osteoporosis for elderly individuals as well as for younger individuals who have osteoporosis that results from conditions such as anorexia nervosa or from drugs such as corticosteroids. Results of a recent 2-year long study of 130 individuals over the age of 60 years showed that DHEA produced slight improvement in bone density. No improvements were seen in body structure, insulin sensitivity, muscle strength, or oxygen utilization, however. In mice and other laboratory animals, DHEA supplements may have increased both the production of insulin and the body's ability to use insulin more effectively.

However, laboratory animals commonly used for research produce such tiny amounts of natural DHEA that giving them even very small amounts of supplemental DHEA may produce affects that may not be achievable in humans. In addition, many animal studies of DHEA used injected forms that are not commonly available.

In human research studies, low levels of DHEA have been measured in individuals with schizophrenia. Unbalanced amounts of DHEA as compared to other natural steroids may be linked with some types of depression. In one small study of humans, DHEA supplementation was related to a decreased incidence of cataracts. Another study found that it may help to reduce the symptoms of menopause. DHEA may also have an anti-obesity effect. Additionally, although no convincing evidence proves that DHEA supplementation alone helps to increase muscle size and activity, a few small studies have shown that it may enhance the muscle-building effects of exercise. Therefore, DHEA is banned from use by Olympic athletes. Much more research is needed to prove or disprove all of the potential effects of DHEA supplementation.

When topical forms of DHEA (creams or gels) are applied to the skin, 50% or more of its active ingredients are absorbed into the body. Topical DHEA may be used to restore vaginal tone and possibly increase bone mineral density for postmenopausal women. It may also promote the skin's production of collagen and proteins that may prevent some of the dryness and wrinkling caused by aging or sun exposure. DHEA cream—often combined with other herbal ingredients—is available commercially without a prescription.

Does this medication have side effects?

The following side effects are associated with DHEA Oral:

Common side effects:

Gas	Less Severe
Bloating	Less Severe

Infrequent side effects:

Incomplete or Infrequent Bowel Movements	Less Severe
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Feel Like Throwing Up	Less Severe
Intense Abdominal Pain	Less Severe
Rare side effects:	
Liver Problems	Severe
Kidney Stone	Severe
Loss of Appetite	Severe
High Amount of Calcium in the Blood	Severe
Stuffy Nose	Less Severe
Hair Loss	Less Severe
Abnormal Hair Growth on Body or Face	Less Severe
Acne	Less Severe
Abnormal Trouble Sleeping	Less Severe
Low Energy	Less Severe
Head Pain	Less Severe

INTERACTION

Does this medication interact with other medications?

DHEA Oral may interact with the following medications

Serious Interactions:

These medications may interact and cause very harmful effects. Consult your healthcare professional (e.g., doctor or pharmacist) for more information.

[DI-TRIVALENT CATIONS/TETRACYCLINES](#)

Moderate Interactions:

These medications may cause some risk when taken together. Consult your healthcare professional (e.g., doctor or pharmacist) for

more in formation.

[SELECTED MINERALS/ORAL IRON SUPPLEMENTS](#)

[DI-; TRIVALENT CATIONS/CHLOROQUINE;](#)

[HYDROXYCHLOROQUINE](#)

[ORAL CALCIUM PRODUCTS/ESTRAMUSTINE](#)

[ORAL CALCIUM PRODUCTS/STRONTIUM](#)

[ORAL CALCIUM PRODUCTS/SELECTED ORAL](#)

[QUINOLONES](#)

[CALCIUM CARBONATE/LEVOTHYROXINE](#)

[CALCIUM SUPPLEMENTS/CALCIUM CHANNEL BLOCKERS](#)

When should I be careful taking it?

Women with hormone-dependent conditions such as endometriosis, uterine fibroids, and cancer of the breast, ovaries, or uterus should not take or use DHEA due to its possible estrogenic effects. Men with prostate cancer should also avoid taking DHEA.

Pregnant women and women who are breast-feeding should not use DHEA. DHEA converts to DHEA-s in the liver. Taking it can worsen impaired or abnormal liver function, so individuals with known or suspected liver conditions should not take DHEA.

Precautions

Because DHEA could interfere with insulin use by the body, individuals who have diabetes should check with their doctors before beginning to take DHEA. Individuals with diabetes who do take or use DHEA may need to check blood sugar levels more often.

Mood disorders have been reported to worsen when DHEA is taken. Individuals who have or have had depression should take DHEA with caution. If signs of unusual excitability, irritability or mood

changes occur while DHEA is being taken, it should be stopped and a doctor should be contacted promptly.

High levels of DHEA have been associated with negative effects on cognition (thinking, reasoning, and memory) for older women and for individuals with schizophrenia. While a definite link has not been established, supplemental DHEA may decrease mental abilities.

Taking DHEA as a dietary supplement can prevent the body from producing DHEA naturally. In general, natural DHEA production does not begin to decline until after the age of 30. Individuals under 30 years of age should not take DHEA, unless they are advised to take it by a doctor.

What interactions should I watch for?

Prescription Drugs

Some research has found an association between psychotic disorders and high levels of natural DHEA. Whether supplemental DHEA may cause or worsen psychoses is not known. In theory, though, taking DHEA may interfere with drugs that are used to treat psychosis. Some antipsychotic drugs are:

- chlorpromazine (Thorazine)
- fluphenazine (Prolixin)
- prochlorperazine (Compazine)
- Risperdal
- Seroquel
- Zyprexa

Corticosteroid drugs are used for a wide range of inflammatory conditions including arthritis, asthma, cancer, eye conditions, and skin infections. They have also been shown to reduce the amount of DHEA made by the body. When supplemental DHEA is taken at the same time as corticosteroids, effects of both the drug and the

supplement may be unpredictable. It is advised not to take DHEA and corticosteroids at the same time. Commonly prescribed corticosteroids include:

- beclomethasone (Beconase, Vancenase)
- dexamethasone
- hydrocortisone
- methylprednisolone (Medrol)
- prednisolone
- prednisone
- triamcinolone (Azmacort, Nasacort)

Although the reason is not clearly defined, insulin and DHEA seem to interfere. Some scientific evidence supports the theory that insulin decreases DHEA made by the body, while other studies appear to show that high doses of DHEA increase insulin resistance (the body's inability to use insulin normally). In general, taking DHEA while using insulin is not recommended. Individuals who have diabetes but who do not use insulin to treat their diabetes should talk to their doctors before beginning to use DHEA.

In one study, blood levels of triazolam (Halcion) increased when DHEA was taken at the same time. Triazolam is used to treat insomnia. Increased blood levels of triazolam may result in excessive drowsiness or dizziness. Drugs similar to triazolam include alprazolam and diazepam. Individuals who are taking any prescription drug that promotes sleep or relaxation should talk to doctor before starting to take DHEA at the same time.

DHEA is changed in the body to estrogen and androgen, hormones responsible for sexual characteristics. In theory, taking DHEA at the same time as these hormones could cause high levels of the hormones in the blood.

- If DHEA is taken with estrogen or oral contraceptives, estrogen levels may become too high. Symptoms of high estrogen levels include:
 - Bloating
 - Breast tenderness
 - High blood pressure
 - Upset stomach
- If DHEA is taken at the same time as testosterone, testosterone levels may become too high and liver damage may occur. Symptoms of high testosterone include:
 - Breast enlargement
 - Changes in sex drive
 - Prostate enlargement
 - Swelling

In a few small studies, the effects of aromatase inhibitors (Arimidex, Aromasin, and Femara), Faslodex, and tamoxifen—drugs used to treat breast cancer—were lessened among study participants whose blood levels of DHEA-S were higher than 89 micrograms per deciliter.

DHEA is broken down by certain enzymes in the liver, therefore it may interfere with prescription drugs that are processed by the same enzymes. Some of these drugs are:

- Allergy drugs such as fexofenadine (Allegra)
- Antifungal drugs such as itraconazole (Sporanox) and ketoconazole (Nizoral)
- Cancer drugs such as etoposide (VePesid), paclitaxel (Taxol), vinblastine, or vincristine
- Drugs for high cholesterol such as lovastatin
- Oral contraceptives

Some research in animals suggests that the mood-stabilizing drug lithium may reduce the levels of DHEA and DHEA-S in the brain. No serious problems are believed to result, but doses of DHEA may not be as effective as expected if lithium is taken at the same time.

Herbal Products

Some evidence shows that eating or taking large amounts of soy can decrease the effects of DHEA. While no serious consequences have been reported, the intended effects of DHEA may be lessened.

Foods

Individuals who consume large amounts of soy-based foods should be aware that the results of DHEA may be reduced.

Some interactions between herbal products and medications can be more severe than others. The best way for you to avoid harmful interactions is to tell your doctor and/or pharmacist what medications you are currently taking, including any over-the-counter products, vitamins, and herbals. For specific information on how DHEA interacts with drugs, other herbals, and foods and the severity of those interactions, please use our [Drug Interactions Checker](#) to check for possible interactions.

Should I take it?

Produced naturally by the adrenal glands, liver, and testes; DHEA is converted in the body to an intermediary product, androstenedione (andro), and then to the sex hormones estrogen and androgen. The brain may also produce DHEA independently. DHEA production normally decreases as people get older—beginning to decline gradually at about the age of 30 years and falling by 80% to 90% of peak levels by age 80. Some conditions—including depression, type 2 diabetes, chronic fatigue syndrome, and SLE—also result in lowered DHEA levels. Although the effects of DHEA as a dietary

supplement have not yet been proven, it has been promoted to help improve conditions associated with low DHEA levels, and to prevent age-related conditions such as memory loss and erectile dysfunction. The DHEA used in dietary supplements is obtained from chemicals in wild yams. Eating wild yams or using "wild yam extracts", however, does not raise levels of DHEA in the body. Because DHEA may soften dry skin, it may be included as an "anti-aging" ingredient in cosmetic products.

Dosage and Administration

No published studies of DHEA supplementation in humans have lasted longer than about 12 months. The consequences of taking DHEA in high doses or for long periods are not known. At least one manufacturer advises limiting doses of supplemental DHEA to 10 mg or less per day and taking it no more than 2 weeks or 3 weeks per month.

Most of the human research for DHEA has involved oral doses (capsules, tablets, or liquids). However, as a hormone, DHEA may disintegrate in stomach acid, limiting the usefulness of oral forms. Several studies have shown that a topical dosage form, such as a cream or a gel, which is absorbed directly into the body results in higher blood levels of DHEA than oral dosage forms.

Commonly suggested oral doses of DHEA include:

Addison's disease	20 mg to 50 mg per day
Persons 65 years of age or older	25mg to 50mg per day
Erectile dysfunction	50mg per day
Depression	30mg to 90mg per day
Lupus	50mg to 200mg per day (only under a

doctor's supervision)

Topically, about 1/4 teaspoon of 10% DHEA cream or gel may be rubbed into the skin once a day or twice a day.

Summary

A great deal of scientific research is being done to test the usefulness of DHEA for treating AIDS, Alzheimer's disease, depression, and a number of other conditions. It has shown enough effectiveness to be recommended for approval by the FDA as a prescription to treat systemic lupus erythematosus (SLE), but it has not been proven effective in treating other conditions or slowing the process of aging.

Risks

DHEA is converted in the body to estrogens and androgens—hormones that influence sexual characteristics and reproduction. Its use is not recommended for pregnant or breast-feeding women, and for individuals with hormone-dependent conditions such as breast cancer or prostate cancer. Individuals under the age of 30 years and anyone with liver conditions should also avoid taking DHEA.

Individuals with diabetes or mood disorders should be extremely careful if they use DHEA. They should talk with their doctors before starting to take DHEA and they should stop taking it if problems develop.

Side Effects

Major side effects of DHEA can include:

- Decreased HDL cholesterol
- Depression or overexcitement
- High blood pressure
- Insulin sensitivity changes
- Liver dysfunction

Less severe side effects may include:

- Abdominal pain

- Acne
- Deepened voice in women
- Insomnia
- Menstrual changes

Interactions

DHEA can interfere with the way the body uses some prescription drugs. A health professional should be consulted before DHEA is started by individuals who take any prescription medications, particularly the following types of drugs:

- Antipsychotics
- Breast cancer therapy
- Corticosteroids
- Drugs for insomnia
- Hormone replacement therapies
- Insulin

Last Revised September 5, 2007.