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HIRSUTISM

Hirsutism is excessive body hair on a woman similar to that of a man. It is a common complaint among women. It affects about 7% of women ages 18 to 45 years. This problem can be distressing. Extra facial and body hair is thought of as unpleasant in women in our society. Hirsutism may also indicate the presence of other hormonal problems that require examination.

NORMAL HAIR GROWTH AND ITS CONTROL

Hair on the skin acts as protection against cold weather and skin irritants. Hair grows from "hair follicles" within the skin. If the hair follicles are not destroyed, hair continues to grow. Hair will grow even if it is plucked or removed in any other way. There are about 50 million hair follicles covering our body. One-fifth is located on the scalp. Only the soles of the feet and palms of the hands have no hair follicles. There is no difference in the number of hair follicles between men and women of the same race or ethnic group. The number of hair follicles does not increase after birth. They begin to slowly decrease after age 40.

Adults have two types of hair. *Vellus* hair is soft, fine, and usually short. It may be colorless. This gives the impression of "hairless skin". In women, this occurs on the face, chest and back. *Terminal* hair is longer, coarser and thicker. Examples are the scalp, pubic and axillary hair in both men and women. Facial and body hair in men is also of the terminal hair.

Hair growth occurs in cycles. The hairs on the human body are usually not in phase with each other. Some are growing while others are resting or falling out. They give the impression of "continuous" growth. Rapid hormonal changes may cause the growth cycles of hair to shift and become similar. This happens when birth control pills are started during pregnancy. Hairs will grow and fall out at the same time. This gives the impression of "shedding". This will eventually change back to normal. Various hormones control hair growth. Thyroid and growth hormone affect all hairs of the body. The most important hormones affecting hair growth are called "androgens" or male hormones. Androgens cause hair to change from vellus to terminal hair. Once a vellus hair has been changed to the coarser terminal hair, it cannot change back.

WHAT IS HIRSUTISM?

Hirsutism is excessive body hair on a woman similar to that of a man. All women have terminal hair in some parts of their bodies. This type of hair is located on the scalp, pubic and axillary area. A few dark hairs around the nipple or over the thighs may be normal. This is not associated with any problem. Hirsutism is the presence of dark thick hairs over the face, chest, stomach, back, upper thighs, or upper arms. If only the forearms or calves are affected, this is not considered hirsutism.



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Hirsutism is excessive terminal type hair. It needs to be distinguished from "vellus hypertrichosis". This is an excessive growth of vellus-type hair. It may be darker than usual. This is very common in women of Mediterranean descent. It usually runs in families. This is not hirsutism.

WHAT CAUSES HIRSUTISM?

The most common cause of hirsutism is an extra amount of male hormones or "androgens". Very rarely is the skin of some women very sensitive to low levels of androgen. Their hair follicles produce mostly terminal-type hair. As women become older, their ovaries stop making estrogens. This is the female hormone. The effect of androgens is greater. There may be a slight increase in the number of dark terminal hairs covering the body. This change is usually not excessive.

Most women with hirsutism have higher levels of male hormones in their blood. This is called "hyperandrogenemia". In women male hormones are produced by either the ovaries or the adrenals. These hormone-producing glands are located above each kidney. Rarely does the adrenal gland produce excess androgens. Excessive adrenal androgens may be due to late start adrenal hyperplasia, Cushing's disease or adrenal tumors.

The majority of hirsutism results from higher levels of male hormone produced by the ovary. Rarely the ovary contains an ovarian tumor that leads to the extra secretion of male hormones. Most women with hirsutism, have "polycystic ovarian syndrome". This is also called Stein-Leventhal syndrome. The exact cause for this problem is not clear. Women with this disorder usually do not have regular periods. They produce higher levels of male hormones.

Sometimes excessive body hair may be related to the use of drugs with an androgen-like effect. Examples are danazol for endometriosis and anabolic steroids used in body-building, etc. Disorders of the thyroid or growth hormones rarely lead to changes in body hair.

In order to determine the cause of your hirsutism, your doctor will obtain blood tests for different hormone levels. He/she may also order a pelvic ultrasound and/ or x-rays. This is to make sure you do not have an ovarian or adrenal tumor. He/she may also check the adrenal gland by performing an "adrenal stimulation test".

HOW IS HIRSUTISM TREATED?

In most women hirsutism should first be treated with hormones. This will avoid progression of the disorder. Your doctor will find out the cause of your hirsutism. Appropriate hormonal therapy can be started. It is important to remember excessive hair growth took many years to develop. You should not expect to see a major



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difference in the hair growth rate immediately. It may take five or six months of hormone treatment. Being patient is very important in the treatment of hirsutism.

Birth control pills are the most commonly used hormonal treatment. They provide protection against unwanted pregnancies. They regulate cycles and stop excessive hair growth. Birth control pills decrease the production of male hormones by the ovaries. They also make the liver produce more "binding globulin." This is a protein in the blood that traps androgens. It causes them to be less effective. Estrogen and progesterone combinations can also be used with a similar effect. In selected patients with PCOS, adding an insulin-sensitizing agent may also be helpful in decreasing hirsutism. The use of the drugs alone, to decrease the production of male hormones and to regulate the menstrual cycles, has only a modest beneficial effect on excess hair growth. If hirsutism is significant your doctor will generally add an anti-male hormone (anti-androgen) to your treatment. Examples of anti-androgens are spironolactone, flutamide, and finasteride.

The most commonly used anti-androgen is spironolactone (Aldactone[®]). This drug was initially intended as a "water pill" or diuretic. This medication directly fights the effect of androgens in the skin. You may notice you need to urinate more often. You may feel tired when you begin taking this medication. In addition, your periods may become a little irregular if they were previously normal. This medication does not provide adequate protection against unwanted pregnancies. It is very effective for the treatment of hirsutism.

Sometimes a combination of the above medicines is used in treating hirsutism. You should wait up to six months before judging whether a hormone treatment is not working. You should not expect the hormone treatment to make the hirsutism you currently have disappear. Hormone treatment is primarily used to stop *new* hairs from forming.

Once the hormone treatment has taken its full effect, you should continue to take it. Electrolysis can be used to permanently remove any remaining unsightly hairs. Frequent shaving will provide cosmetically satisfactory results. Most women with very mild degrees of hirsutism simply pluck the offending hairs. Plucking from sensitive areas, such as the face, leads to infection of the hair shaft. This can cause curling of the hair into the skin resulting in pimples. Acne and a worsening cosmetic problem can also happen. You should absolutely avoid plucking any hairs and consider waxing. Some women use depilating agents on their faces or other parts of their bodies. The face is particularly sensitive to these substances. It can become quite irritated. Because hair is produced as a defense against chemical irritation of the skin, your hirsutism may be worsened.



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Although many women may feel this is unpleasant, close shaving is the best method for temporarily removing unsightly hair. Using an electric shaver further reduces skin irritation.

The only permanent way of removing excessive hair is by "electrolysis". The electrologist uses a very fine needle. The needle is placed down the hair shaft into the hair follicle or band. A mild electric current permanently kills the hair follicle. Side effects include burning of the skin and infection of the hair follicles. Each hair must be killed individually. It may take many sessions to remove hairs from very large areas of the body. Only a limited number of hairs can be killed at one session. Ask your physician for the location of a reputable electrologist.

Lasers have also been used for the treatment of unwanted facial hair. Their effect is not usually permanent. Many patients are satisfied with their results. Side effects include permanent burning and damage to the skin.

Finally, a new facial cream may be helpful in reducing the presence of unwanted hair. This can be used especially on the face. Eflornithine HCL (Vaniqa®) is available by prescription. It has to be applied twice daily. A decrease in hair growth is generally observed within 4 to 8 weeks of treatment. Treatment must be continued in order to continue to control hair growth with this medicine. Some patients may develop a rash or mild skin irritation. Eflornithine HCL works by stopping the activity of an enzyme called "Ornithine decarboxylase". This enzyme decreases the production of "polyamines". These are proteins that control and stimulate hair growth.

WHAT SHOULD I EXPECT IN THE LONG TERM WITH HIRSUTISM?

In most cases it is not possible to "cure" the hormonal problem causing hirsutism. Your doctor may be successful in stopping new hairs from growing. When the hormone treatment is stopped, your hair growth may start again. It may be useful to stop the hormone treatment after a couple of years. This will determine if the hair growth will return. It is extremely important to be very patient during your hirsutism treatment. Because hirsutism often runs in families, you should monitor your daughters for any excessive hair growth. Excessive terminal hairs cannot be permanently removed except by electrolysis. It is very important to evaluate and treat hirsutism as early as possible. If you notice your daughter beginning to develop excessive hairs, your gynecologist or reproductive endocrinologist should see her.