

# Hirsutism – the body hair dilemma

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Many women are bothered by what they consider to be an excessive amount or undesirable distribution of body hair. In general, women in westernised countries such as Australia, have become attuned to the concept that having minimal facial and body hair is more attractive. As a result, there is extensive use of a range of cosmetic techniques to conceal or remove unwanted hair.

Body and facial hair growth is primarily determined by our genetics and varies substantially between racial groups and individuals. Therefore in multi ethnic communities as in Australia, differences between ethnic groups in terms of what is acceptable as normal body hair amplified. Greater amounts of body hair are less problematic in environments where women are more extensively covered by clothing according to the climate, religion or tradition. However, in countries where standards of dressing for women is more liberal, the weather is warm and activities like swimming the norm, having dark hair growth on one's upper thighs, abdomen or back is a considerable cause of embarrassment for many women.

Not surprisingly, undesirable hairiness for a girl or woman can be a substantial cause of anxiety leading to low self-esteem and restrictions in lifestyle. For most women, unwanted facial hair generates the greatest anxiety.

## What is normal body hair?

The number of hair follicles each woman has is genetically programmed before birth. Hair follicles exist on every part of the body except lips, palms and soles of the feet. Most of our body hair is fine and un-pigmented. Hair growth is controlled by our sex hormones, with androgens, for example testosterone, mainly being responsible for stimulating hair growth and increasing the darkness of body and facial hair. Hair follicles in certain parts of the body are more sensitive to the effects of androgens. We call these areas androgen sensitive areas of the body. These areas include the upper lip, chin, lower abdomen and pubic region, upper arms and inner thighs. Androgen speed the growth of hair as well as increase the thickness and darkness of hairs.

The term *hirsutism* is used to describe the growth of excessive, thick, dark hair in women in a pattern not considered normal for women. For some women this is simply genetic and their blood hormone levels are completely normal. Other women may have elevated androgens such as testosterone circulating in their blood causing their increased hair growth.

Women experiencing excess body hair that is more than a minor cosmetic nuisance should seek medical advice to exclude an underlying hormonal problem. This is more likely if a woman is also experiencing acne and/or irregular menstrual cycles. A sudden increase in hair growth may be a cause for concern and indicates the need for medical assessments.

Hirsutism is a common feature of a condition called polycystic ovarian syndrome and also may be linked to obesity and diabetes. However most women with hirsutism do not have a specific hormonal abnormality. Although blood tests may reveal slightly increased levels of androgen hormones, unless a woman has an underlying condition such as polycystic ovarian syndrome, it is common for the blood tests to be normal.

*Polycystic ovarian syndrome* (PCO) is the most common medical condition underlying excessive hair growth in women. The ovaries in this instance are not actually full of cysts but contain an increased number of follicles which appear as mini cysts as a result of failed ovulation. Women with PCO tend to over produce testosterone. (See information sheet on PCO).

A much less common medical condition causing excessive body hair growth is *congenital adrenal hyperplasia*. This is an inherited condition usually diagnosed in childhood but may develop later in life. It is more common in certain ethnic groups and is diagnosed with specific blood tests.

Fortunately ovarian and adrenal tumours producing abnormal quantities of androgens are rare. They are usually associated with a sudden and significant increase in hair growth and other signs of masculinisation.



## What tests should be done?

Women with mild to moderate increased hair growth that has developed very gradually and have regular menstrual cycles do not need any investigations. Women with more severe hirsutism and regular menstrual cycles should have their blood androgen profile checked. Women with irregular menstrual cycles, or who have stopped menstruating, need more extensive testing, including an ultrasound to evaluate the appearance of the ovaries.

## Management of hirsutism

The aim of any treatment for this condition is to achieve an acceptable cosmetic outcome. In addition women with PCOS may require therapy specific to PCOS management.

Common cosmetic approaches include bleaching with peroxide, heavy makeup, shaving, plucking, waxing and depilatory creams. These methods are time consuming and expensive. They are effective for mild forms of hirsutism, but for patients with moderate to severe hirsutism their effects are only temporary. Problems with such treatments include skin irritation from bleaches and depilatory creams, folliculitis with plucking, burns from waxing and the development of stubble after shaving.

Both electrolysis and laser therapy require trained personnel to provide treatment, are repetitious and expensive and practical for treating limited areas only, although electrolysis may be rapid and cost effective where the hair density is sparse. Laser therapy allows larger areas to be treated over a short time period.

## Electrolysis

Electrolysis produces permanent destruction of the hair. A benefit compared to laser treatment is that it can be used on both dark and light skinned patients and those with fair hair. It may be painful. Other side effects of redness and swelling are generally temporary. Acne and ingrown hairs as well as postinflammatory pigment changes may occur, as well as scarring and keloid formation in susceptible patients. Success depends on the skill of the operator.

People with pacemakers should not undergo electrolysis.

## Lasers and Intense Pulsed Light (IPL) treatment

Laser and light source treatment targets melanin (pigmentation) in the hair bulb which absorbs the light emitted by the laser or light source. This light energy changes into heat causing destruction of the hair bulb. If adjacent skin is also pigmented, however, the laser energy is absorbed into the surrounding epidermis causing damage or interference with absorption so that hair destruction is less effective. Therefore dark haired and fair skinned individuals, with relatively higher concentration of melanin in the hair compared to the epidermis, allow more selective absorption of light within the bulb. White or gray hair conversely is a poor target for laser treatment.

There is evidence to suggest that some lasers produce short-term effect of approximately 50 per cent hair reduction up to six months after treatment.

The most common side effects are redness and swelling which usually resolve within 24 hours after treatment. It can be slightly painful because of the heat energy created. Other side effects include hypopigmentation and hyperpigmentation.

## Medical treatments

Eflornithine cream (Vaniqa) is a specific, irreversible inhibitor of an enzyme involved in hair growth. It is available in Australia by prescription for delaying re-growth of unwanted facial hair in women following depilation. It is applied twice daily to affected facial areas. Studies up to six months indicate that Vaniqa cream significantly reduces hirsutism in women with unwanted facial hair. Vaniqa is effective in two out of three women after about six to eight weeks of treatment irrespective of the type of hair growth (dark or light hair) or skin colour. Because it is effective within a few weeks it complements the use of oral therapies and is very effective when combined with other treatments. When used in combination with laser therapy for the treatment of facial hirsutism it enhances the efficacy of laser. Hair growth returns to pretreatment levels within eight weeks of ceasing the treatment. Side effects are few and include acne, local skin irritation and rash. It must not be used (contraindicated) in severe renal impairment and is not recommended in pregnancy and breast feeding.

## Oral Pharmacological Agents

Pharmacological treatment is recommended when hirsutism is severe or when cosmetic measures have failed. Whatever therapy is used, six to twelve months of treatment is required before efficacy can be judged. Furthermore, the drugs are only effective when taken and the benefits fade when discontinued. A good measure of treatment efficacy is reduction in frequency and duration of cosmetic hair removal such as plucking.

Medical treatment can be divided into two main categories—drugs that reduce androgen production and medications that block androgen action—these are called anti-androgens.

### Oral Contraceptives

The suppression of the ovulatory cycle by the oral contraceptive pill (OCP) results in reduced androgen production. The OCP is ideal for women requiring regulation of their periods or contraception. Oral contraceptive pills that contain the progestins with specific anti-androgen activity, have been shown to significantly decrease hair growth over six months.

As each of the following block androgen (testosterone) action, reduced libido is a common unwanted side effect.

### Cyproterone acetate

Cyproterone acetate is an androgen receptor blocker. It can be taken in low dose (2mg/day) with as part of an OCP or alone in postmenopausal women. In women with acne and minimal hirsutism, low dose OCP therapy is adequate, but women with moderate to severe hirsutism usually require higher doses to achieve a satisfactory response .

The most common side effects include suppressed libido, diarrhoea, nausea, weight gain, breast tenderness, and headache.

### Spironolactone

Spironolactone blocks the action of androgens. Spironolactone is a common first line treatment of hirsutism, being as effective as cyproterone acetate. The recommended starting dose is 100mg twice daily that should be maintained for at least six to twelve months to achieve the best outcome. In women with regular cycles spironolactone may cause irregular bleeding, whereas in women with infrequent cycles, menstrual regularity may be restored. If necessary, menstrual cycles can be regulated with the addition of an oral contraceptive pill.

### Flutamide

Flutamide blocks androgen action and is most commonly used for the treatment of prostatic carcinoma. Its efficacy in hirsutism has been demonstrated with normalisation of hirsutism scores, similar to that of cyproterone acetate and spironolactone. One study demonstrated that low dose flutamide (62.5mg daily) reduced hair growth by seventy percent after twelve months of treatment. Liver toxicity is rare but has been reported with very high dose flutamide in prostatic cancer treatment, but not with lower doses commonly used for treating hirsutes . Flutamide is not currently marketed for treatment of hirsutism in Australia.

### Finasteride

Finasteride blocks the conversion of testosterone to a more potent form and is used in the treatment of male balding. In one study, a dose of 5mg daily for six months reduced hair growth by 47 per cent, and when combined with an OCP the effects were greater. The efficacy of finasteride compared to other anti-androgens is not clearly established with conflicting findings in different studies. Side effects with finasteride have not been commonly reported but may include headache, depression and breast tenderness and decreased libido. Women of child-bearing age must have effective contraception as the risk of feminisation of genitalia in male fetuses can occur with this agent.

It is important to be aware that it may take six to twelve months before any differences are noticed with drug therapy.

### Conclusion

Excessive hair growth is a common problem for women. Cosmetic management is sufficient for most women but medical treatment is a reasonable option when hair growth is severe. For most women drug treatment is only a temporary measure to alleviate symptoms while a long-term cosmetic program is established.