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Finasteride

What is the role of testosterone / hormones / androgens in male pattern hair loss?

[Male pattern hair loss](#), or androgenetic alopecia, is an androgen-dependent disorder. In genetically susceptible men, dihydrotestosterone (DHT), a potent metabolite of the male androgen testosterone, contributes to male pattern hair loss. The conversion of testosterone to DHT is regulated by the enzyme 5-alpha reductase.

How does finasteride affect the body's hormonal / endocrine system?

Finasteride (Propecia®) is a specific type II 5-alpha reductase inhibitor. That is, it inhibits the enzyme responsible for regulating conversion of testosterone to dihydrotestosterone (DHT). By reducing DHT levels in the scalp, the drug decreases DHT's effects on the hair follicles, reversing the process of hair loss.

What is finasteride approved for?

Finasteride is indicated for the treatment of men with male pattern hair loss (androgenetic alopecia) to prevent further hair loss and increase hair growth.

How does finasteride work?

Finasteride inhibits expression of the enzyme, 5-alpha reductase, which regulates production of dihydrotestosterone (DHT). By lowering DHT levels in the scalp, it reduces DHT's harmful effect on hair follicles. Finasteride decreases DHT concentrations in the serum and the scalp by up to 70 and 60%, respectively.

How is finasteride administered?

Finasteride is an oral pill to be taken once a day. The usual dose is 1mg daily taken with or without food, at any time during the day.

Can women with hair loss use finasteride?

Finasteride is not indicated for use in women with hair loss ([female pattern hair loss](#)). Finasteride is contraindicated in women when they are or may potentially be pregnant, because it may cause abnormalities of the external genitalia of a male fetus.

How effective is finasteride?

The data are from three large, multicentre, placebo-controlled studies of 1,879 men with mild-to-moderate, but not complete, male pattern hair loss. The men received either oral finasteride once daily or placebo for one year. The endpoints for the studies were objective hair counts taken from a 1-inch diameter circular area, and subjective assessments of improvement by patients, investigators, and an independent panel of dermatology experts who evaluated pre- and post-treatment photographs.

What were the results of the trials?

The trials showed that finasteride can prevent hair loss in men with mild-to-moderate male pattern hair loss. In two of the clinical studies involving men with mild-to-moderate male pattern hair loss, 86% of men treated with finasteride maintained or showed an increase in the amount of their hair based on hair counts during the course of the studies. Only 14% of men treated with finasteride had further hair loss after 12 months of treatment, compared with 58% of placebo patients.

Are some patients more likely to respond to finasteride than others?

It is difficult to predict which patients will respond and to what extent. Patients studied in clinical trials had mild-to-moderate, but not complete, hair loss, and ranged in age from 18 to 41.

How quickly does finasteride work?

Daily use for three months or more may be necessary before a patient will notice prevention of further hair loss or increased hair growth.

Does finasteride grow hair in completely bald men?

No clinical data exist for completely bald men.

Can finasteride be used by elderly men?

No clinical trials have been conducted in men over the age of 41 to treat male pattern hair loss with finasteride.

How long do you have to take finasteride?

Daily use of finasteride for three months or more may be necessary before a patient will notice prevention of further hair loss or increased hair growth. There are no controlled clinical data on treatment for longer than 12 months. It probably will be necessary to continue treatment indefinitely to maintain the benefits.

What happens if you stop taking finasteride?

If a patient stops taking finasteride, DHT levels will rise again in the scalp, and it is likely that hair loss will resume.

Does finasteride grow hair on other parts of the body?

Finasteride is a specific inhibitor of type II 5-alpha reductase, which is found primarily in scalp hair follicles. In clinical trials, there was no reported effect on hair on the other parts of the body.

Teratogenicity Questions: Does finasteride cause birth defects?

Women who are or may potentially be pregnant must not use finasteride since it may cause a specific birth defect in a male fetus (hypospadias).

Does finasteride cause any side effects?

In clinical trials, finasteride was very well tolerated in men, with most patients reporting no serious side effects. The principal side effects associated with finasteride were decreased libido (1.8% of finasteride patients versus 1.3% on placebo) and erectile dysfunction (1.3% finasteride versus 0.7% placebo). In addition, decreased volume of ejaculate was reported in 0.8% of men treated with finasteride and 0.4% of those on placebo. All of these side effects resolved upon discontinuation of therapy, and also resolved in many men who preferred to continue

therapy.

Is there any evidence that long-term use of finasteride is dangerous or detrimental to a man's health?

Finasteride was evaluated in 3,200 men and it was very well tolerated, including patients on therapy for up to two years. Long-term suppression of DHT does not appear to be harmful. This is based on extensive research, dating back to 1974, of men born with a deficiency of 5-alpha reductase.

Are there any contraindications for finasteride?

Finasteride is not indicated for use in women or children. Finasteride is contraindicated in women who are or may potentially be pregnant. Finasteride is contraindicated in patients who are hypersensitive to any component of the product.

Does finasteride cause any interactions with other drugs?

No drug interactions of clinical importance have been identified. Studies have been conducted with finasteride and antipyrine, digoxin, glyburide, propranolol, theophylline, and warfarin, and no interactions were found. In clinical trials, finasteride was used concomitantly with ACE inhibitors, acetaminophen, alpha blockers, benzodiazepines, beta blockers, calcium channel blockers, cardiac nitrates, diuretics, H2 antagonists, HMG-CoA Reductase inhibitors, prostaglandin synthetase inhibitors (NSAIDs), and quinolones, without evidence of clinically significant adverse interactions.

I have heard that a combination of finasteride and [minoxidil](#) may be the best solution for male pattern hair loss. Is this true?

There are no human data supporting the use of this combination. Scientific studies would be required to assess the safety and efficacy of such a combination. At this time, no combination studies are planned.

Related information

On DermNet NZ:

- [Hair loss](#)
- [Male pattern hair loss](#)
- [Female pattern hair loss](#)
- [Alopecia areata](#)
- [Telogen Effluvium](#)
- [Minoxidil](#)

Other websites:

- www.propecia.com
- [Medsafe](#) consumer information on Propecia

Author: [Dr Nicholas M Birchall](#) Dermatologist. Dr Birchall is one of the principal investigators in the worldwide study investigating finasteride (Propecia). Auckland was one of the study sites where 31 patients were enrolled in the trial.

DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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