

MEDICAL TREATMENTS

General Information

There are a limited number of FDA-approved, non-surgical hair restoration treatments –finasteride (Propecia® or Proscar®), minoxidil (Rogaine®), Nizoral® Shampoo and low level laser hair therapy.

The importance of medical therapy is to add thickness to your existing hair and to slow the hair loss process. Both are considered treatment successes as without the medications the hair loss is virtually certain to proceed faster than if you were not on the medications. It is for this reason that medical therapies are always a part of the treatment of hair loss, even if you desire hair restoration surgery.

In the case of surgical treatment, continued hair loss will cause gaps to form between the transplanted area and the receding natural hair in the area. The use of medications will help delay the need for additional surgery. The hair loss process can also affect the donor hair, that is, it can cause thinning of the transplanted hair over the course of 10-30 years. The medical therapies will help protect your investment in the transplanted hair.

Finasteride (Propecia® or Proscar®) (see the attached fact sheet for additional information)

Available only by prescription the medication is for men and is orally administered. The 1mg dose of finasteride is simple to take and is easily incorporated into any daily routine, especially if you are also taking other supplements. This medication is a DHT II (dihydrotestosterone II) blocker and decreases the influence of DHT II on male pattern baldness. Research has indicated that 85-90% of men who take this medication consistently, will experience significant reduction in hair loss and even re-growth of miniaturized hair.

There have been no reports of negative drug interactions. Reported side effects are limited to fewer than 2% of patients which include a drop in libido and occasional erectile dysfunction. If a patient has these side effects we usually suggest taking half the dose (1/2 mg/daily or 1mg every other day). The biggest difference between *Propecia*® and *Proscar*® is that the former is formulated as a 1mg pill and will cost about \$80 for 30 pills. The latter is a 5mg formulation and the patient will need to cut the pill into quarters so that the effective dose is approximately 1mg. The prescription for generic *Proscar*® or finasteride will cost about \$3-\$4 /month.

There is a 1mg generic finasteride tablet available but due to an exclusive manufacturing contract it is still relatively expensive at about \$65/month. The price is anticipated to drop substantially within the year.

Minoxidil (Rogaine®)

This over-the-counter medication is applied topically. Minoxidil has been on the market for a long time and has no reported drug interactions. Research has indicated that approximately 50% of men, who apply this medication consistently, will experience some reduction in hair loss and possible re-growth of miniaturized hairs. The generic liquid formulation is a bit oily in nature. The brand name *Rogaine*® and

the minoxidil generic foam increase the efficiency of delivering the active ingredients and it is much easier to use than the liquid as it dries quickly. The packaging instructs the user to apply the foam only to the crown and to do so twice a day. We have found that once daily is usually sufficient with the Rogaine®/minoxidil foam and should be applied to any areas that are thinning, not just the crown. In rare cases minor skin irritation, heart palpitations, light headedness, and dizziness has been reported.

The cost of Rogaine®/minoxidil varies from store to store, but we have found that Costco or Sam's Club has the best pricing that typically runs about \$40-\$50 for a 4-pack that should last you up to 8 months. If you choose to use the liquid version, be aware that it will require you to patient apply the liquid twice a day on a consistent basis for it to be as effective as the foam version once a day, thereby negating any savings.

2% Nizoral® Shampoo

Available only by prescription for men and is topically applied. This product was originally developed as a treatment for dandruff. During the clinical trials they found that about 40% of men who used the product on a daily basis experienced some re-growth of hair. It is thought that this shampoo works as an androgen (male hormone) blocker and simply replaces the shampoo you might currently be using. Lather up with a small amount, typically a drop the size of a half dollar is sufficient, and rub it in and leave it in contact with your scalp for 3-5 minutes. Then rinse the shampoo and finish your shower as usual. You can use conditioners or styling products as you have before, they key is the 3-5 minutes of contact with your scalp. As with any new product that comes in contact with your skin, on rare occasions some minor skin irritation has been reported. No drug interactions are reported for Nizoral®.

You can either fill the prescription at a local pharmacy and it's usually covered by insurance because it's a dandruff treatment not a hair growth medication (if you have to pay out of pocket it will cost about \$55 for a 4-6 week supply) or go online and buy it from a Canadian pharmacy (for example www.canadapharmacy.com) for about \$25/bottle.

NOTE: Prescriptions for either form of finasteride and *Nizoral*® are typically written for a 12 month period and can be filled at most pharmacies. In the case where a prescription runs out, the pharmacy will contact us directly and we can renew it for another 12 month period via phone or fax.

Other Shampoos

There has been some recent evidence that shampoo products that contain caffeine may also help hair thicken by creating larger follicles. One product is *Nioxin Diamax* and another product is *Hair Surge* that contains both caffeine and ketoconazole (the active ingredient in *Nizoral* shampoo mentioned above). Both can be purchased online and from some hair styling salons.

Laser Hair Therapy

There are several variations on the low level laser therapy treatments. The most common is for the patient to purchase a Laser comb or brush from a medical supply store or via the internet. The majority

of these products work the same way and vary only in what “bells and whistles” they have. The number of laser diodes will vary with price; however, the use is the same for all whether they cost \$85 or over \$1000. Typically, for a period of 15-20 minutes every other day slowly move the brush/comb across thinning areas on the scalp. The scientific literature has some recent studies to support its use in male and female pattern hair loss.

There are helmet or baseball cap-like devices available that can cost anywhere from \$650 to \$3500. Two examples are the *Theradome* helmet (available for purchase through this office) and the LaserCap (www.lasercap.com) available with a doctor’s prescription. A good review can be seen at www.LaserHairDevices.com.

I do offer a clinical version of the low level laser therapy treatments in our office and it requires you to start off by visiting our office twice a week for three weeks, then slowly we decrease the number of visits to where you may only come in once a month. During these visits you will be comfortably seated under a hood that contains over 100 laser diodes. The treatment lasts for 15-20 minutes and you can watch TV or read a book, magazine or listen to your iPod®. The cost of this option is \$2000, but covers all future laser treatments in our office.

Platelet Rich Plasma (PRP) with ACell

This treatment involves drawing blood from your arm and spinning it in a special centrifuge to create plasma that has about three times the normal concentration of platelets. Platelets contain approximately 35 growth factors that can potentially promote hair growth in cases of male and female pattern hair loss. A non-cellular matrix (connective tissue) made from porcine bladder called ACell is added to the PRP as it may stimulate stem cells. There are no controlled studies to indicate the chances of success with this therapy, how successful it is at slowing hair loss, or the amount of new hair growth one may expect. There are case reports and anecdotal information that in some individuals the therapy can both grow hair and slow hair loss.

The procedure is performed in the office under local anesthesia, take approximately one hour and the only possible side effect noted is mild scalp soreness for a day and possible forehead swelling (only seen in one patient out of hundreds). The procedure costs \$1500.

Natural Treatments

There are a several “natural” treatments for hairs loss but their effectiveness is not well studied. *Saw palmetto* is one option and some and has been used for prostate enlargement issues. Because DHT 2 is thought to be one of the primary causes of prostate enlargement it was theorized that saw palmetto is a DHT 2 blocker. The dosage used is typically 160-200mg twice a day.

A second option, with limited testing, is *pumpkin seed* oil which has been shown to block the formation of DHT. The dose would be 200mg twice a day.

There are some reported side effects of gastrointestinal issues and body itching with these treatments.

Dietary Supplements

There are no studies to support the use of any dietary supplements to promote hair growth however there are some anecdotal observations that suggest a product called "*HELP HAIR Whey Protein*" from www.helphair.com/shake.php may promote faster growth of transplanted hair. It is suggested that patient begin using this product two weeks prior to surgery and then continue its use.

FINASTERIDE INFORMATIONAL FACT SHEET

In consideration of beginning treatment with the drug Finasteride for hair loss, or for continuing maintenance therapy with Finasteride, the following information will help to formulate your decision. The benefits of taking Finasteride will not be covered below, but are available through other sources. Keep in mind that Finasteride will help maintain your hair, but over a long period of time, further hair loss may still occur. In 1992, Finasteride was approved by the FDA to treat prostate gland enlargement, and approved by the FDA to treat male hair loss in 1997. Finasteride is in the class of drugs called 5 alpha reductase inhibitors, which prevent the conversion of testosterone to dihydrotestosterone type II (DHT2). In men DHT2 promotes genetic hair loss and benign enlargement of the prostate, which generally begins after the age of 50.

THE PSA BLOOD TEST

Finasteride can affect a PSA blood test, a screening test for prostate cancer. Because it shrinks a man's prostate gland, it will lower the PSA level by about 50%. Whenever you have a PSA test performed, always advise your doctor you are taking Finasteride.

PROSTATE CANCER

There have been many reports associating Finasteride with prostate cancer. Data was gathered from a 7-year study involving >18,000 men which showed a slightly higher incidence of prostate cancer in the Finasteride group compared to the placebo group - 1.8% (Finasteride) vs. 1.1% (Placebo). This data is very difficult to analyze because on one hand it showed a reduction of early prostate cancers, and on the other hand it showed a slight increase of greater developed prostate cancers. Many urologists feel this was the result of an increased sensitivity of the prostate biopsy test to finding the more aggressive tumors, because the Finasteride prostates being tested were smaller in size. Regardless if you are on Finasteride, all men over 50 should have a yearly rectal exam for prostate cancer screening.

BREAST CANCER

Very rare cases of male breast cancer have been reported in men using Finasteride. The relationship between long term use of Finasteride and male breast cancer is currently unsubstantiated. Because of the rarity of male breast cancer, we recommend routine self-breast exams in men to check for lumps, bumps, pain or nipple discharge.

SEXUAL ADVERSE EVENTS

There is much clinical data derived from various studies that consistently demonstrates Finasteride tablets 1mg will have about a 2% incidence of sexual adverse events, such as decreased libido, difficulty in achieving an erection, and a decrease in the amount of semen produced. In these studies the side effects stopped not only in men who discontinued Finasteride, but also in most who continued taking the drug. Since the initial studies began, there have been reports of erectile dysfunction that continued after stopping the drug. The validity of these reports and the medical explanations for this are not known.

RARE SIDE EFFECTS

- Breast tenderness and enlargement
- Depression
- Allergic reactions
- Testicular pain

DONATING BLOOD

Patients on Finasteride should not donate blood because the blood can then be potentially given to females in pregnancy. No females of child bearing age should ever handle Finasteride tablet