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What is Male Pattern Baldness/Hair loss?

Male pattern hair loss is an inherited condition, caused by a genetically determined sensitivity to the effects of **dihydrotestosterone (DHT)** in some areas of the scalp, particularly the front and crown. DHT is believed to shorten the growth, or anagen, phase of the hair cycle, from a usual duration of 3–6 years to just weeks or months. This occurs together with miniaturization of the follicles and progressively produces fewer and finer hairs. The production of DHT is regulated by an enzyme called 5-alpha reductase.

How common is Male Pattern Balding?

About 30 % of men by age 30 and 50 % by age 50 years of age will have androgenetic alopecia or male pattern balding.

Is it genetic? Do men inherit male balding from mom's side or dad's side?

The condition is inherited from both sides, contrary to popular belief that it is only mom's side. Over 190 genes are involved, and it is the interplay between these genes that determine when and how each man develops their male pattern hair loss. Environmental factors such as diet, lifestyle and stress may contribute to male pattern hair loss, but the combined effect of these environmental factors only account for a small amount of your hair loss.

What do men with male pattern balding experience?

- Men experience hair loss in the temples and the crown which slowly progresses to involve the entire frontal, mid and top of the scalp in some individuals. The back of the scalp is usually not involved.
- The condition is usually asymptomatic.
- In the early stages, many men will experience slightly increased shedding of hairs.

What tests are needed to confirm the diagnosis?

- Male pattern balding is a clinical diagnosis meaning that a biopsy and blood tests are not needed for the vast majority of individuals.

What are the treatments for male pattern balding?

- *Finasteride*
 - Finasteride specifically lowers the levels of DHT by blocking an enzyme (Type II 5-alpha reductase) that converts testosterone to DHT. Only men with mild to moderate, but not complete hair loss can expect to benefit from the use of Finasteride. In most of the men treated with Finasteride for 5 years, the

progression of hair loss was slowed, and at least half of these men also had some kind of improved hair growth. The benefits are clear: men who start taking daily finasteride at the first signs of hair loss will not go bald. There are no interactions with other medications. Finasteride has an added benefit of reducing the risk of future development of prostate cancer. **But there is a small risk of sexual side effects such as erectile dysfunction, ejaculatory problems and reduced libido, which require careful management by an experienced doctor**

- *Topical Minoxidil*

- Developed in the 1950s as a tablet to treat high blood pressure, minoxidil was an abject failure due to unwanted hair growth and was re-invented as a lotion applied directly to the scalp to address hair loss. In clinical trials, minoxidil has been shown to reduce hair loss, stimulate hair growth, and strengthen existing strands of hair. While minoxidil can help, you're unlikely to see full regrowth. It is usually applied twice a day, every day. Some men respond to minoxidil better than others, and some men fail to see any difference. If minoxidil works for you, it can take up to six to 12 months to see results. It's important to follow directions, which includes applying minoxidil every day. When using minoxidil, some men develop an irritated scalp. The newer formulation, which is a foam, seems to reduce this risk. Other possible side effects include an itchy scalp or headaches. Many men see results when they use only minoxidil. If you see a dermatologist, your dermatologist may add a prescription medication to your treatment plan. This can improve results. When you stop applying minoxidil, you lose its benefits. Because minoxidil helps you maintain your hair's thickness, some hairs may look and feel thinner. You'll also gradually notice that you're shedding more hair.

- *Oral Minoxidil*

- Some men find minoxidil irritates their scalp or causes dandruff. Others simply don't like the look, feel or smell of minoxidil in their hair, or find the twice daily application tedious. Men who prefer tablets to topicals can get a prescription for minoxidil sublingual tablets. The sublingual tablet is placed under the tongue and takes about 20 seconds to dissolve. Sublingual minoxidil has minimal effect on blood pressure and grows as much if not more hair than topical minoxidil without the need to put anything in the hair. Sublingual minoxidil also needs to be used for a minimum of 6 months. It takes this long to see the new hair growth. Men who use sublingual minoxidil can expect about 10,000 new hairs to grow on their scalp. As with the topical minoxidil, emerging new hairs push out old resting dead hairs and you will notice a temporary increase in hair shedding in the first few weeks of use. Counter-intuitively, the men who get the most shedding at 4-6 weeks get the best regrowth at 6 months. The hair shedding should settle after 2-3 weeks. Sublingual Minoxidil may cause some hair to grow elsewhere. You may find your eyelashes get longer, your eyebrows get thicker, your beard grows faster or even some additional hair on your back and shoulders. This is usually mild and fewer than 5% need a hair removal laser treatment. There is flexibility to adjust the dose according to response. For men who want more hair, the dose of sublingual minoxidil can be increased every few months. This needs to be supervised by your doctor.

- *Hair Restoration Surgery*
 - Men who start treatment too late and whose hair is too far gone to be saved by tablets and lotions might consider hair transplantation surgery, a cosmetic surgical procedure that has improved dramatically in recent years. Various techniques are available, but all involve taking hair-bearing skin from one part of the scalp and grafting these pieces of skin onto bald or thinning areas of the scalp. The main techniques are FUT and FUE. FUT stands for follicular unit transplantation. A 15 cm strip of hair bearing skin is removed from the back of the scalp. The follicles are separated into individual units and then implanted into the bald scalp. The main downside is the linear scar left behind on the back of the head locking men into longer hair styles. The other option is follicular unit extraction (FUE). Rather than a strip of skin and a scar, donor tissue comprises multiple tiny punch grafts that heal invisibly. Further dissection of these grafts releases single hair follicle units that can be implanted one by one into the bald scalp to recreate a natural hair line.
- *Low Level Laser Light Therapy*
 - Laser caps and laser combs are also being investigated as hair loss treatments. The caps contain multiple LED lights and are worn for 15-30 minutes every day. Some men notice a reduction in hair shedding and some hair regrowth over a 3-6 month period. There is considerable person to person variation in response
- *Platelet Rich Plasma*
 - This technique involves taking 30-50 ml of blood, and then spinning it down in a centrifuge machine to isolate the platelets. The platelets are then injected into the scalp every month for the first 6 months and then once every 3 months. Some men notice a reduction in hair shedding and some hair regrowth over a 6-12 month period.