

## To Itch or Not to Itch?

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Editorials

Controlling the itch is a huge part of the battle in stopping your hair loss. You've probably had it. The annoying itch associated with hair thinning. A significant number of men and women who are experiencing hair loss have it, and many of our users report such unbearable itching that they scratch until it hurts. Find out why using Nizoral shampoo can mean the difference between failure and success in your hair loss treatment regimen...

We contacted Dr. Kevin McElwee, owner of Keratin.com and asked him to write an article for us on how detrimental inflammation and sebum production is to the hair loss and hair loss treatment process. Here was his reply, and his very elaborate article:

*"Well you opened a real can of worms with that article suggestion. It is a complex situation and you will find different dermatologists saying different things about the significance of inflammation in AGA (Androgenetic Alopecia, or Male and Female Pattern Baldness). I have spent a few hours trying to knock it into shape and as a result it has gotten rather long. Feel free to hack the article down to size."*

### **The technical stuff...**

When looking at tissue biopsies from human scalp skin it is fairly common to see inflammatory cells. Inflammatory cells are part of our immune system. They should always be there. We need them to protect against viruses and bacteria that can get into our body through wounds. Healthy skin should contain a lot of what are called dendritic cells and Langerhan's cells. These cells form part of our primary immune defense. They are involved in what is called "immunosurveillance". In other words, these cells migrate through the skin constantly checking our cells and other material they find to make sure there are no foreign proteins present, particularly foreign proteins from bacteria and viruses. There are even some inflammatory cells inside the upper regions of the hair follicle. They probably look for pathogens that might try to take up residence in the hair follicle canal.

### **More Inflammatory Cells in the Scalp than Elsewhere**

inflammatory.jpg

Inflammatory  
Cells

Scalp skin contains more clusters of inflammatory cells than you would see in non-scalp skin. These cell clusters are often very close to follicles, and they contain *other* immune cell types that would not normally be seen in healthy skin. Many times they contain things like mast cells, lymphocytes,

and sometimes neutrophils. While there are always a few of these cells in healthy skin, seeing them in greater numbers on the scalp is a rather worrisome sign. When inflammatory cells increase in number they are usually responding to something. The cause of the greater clustering on the scalp isn't totally understood. It could be a response to some change in the skin or hair follicles, or it could be from an outside factor entering the skin.

Not many studies have been done to look at these cell clusters. Three are mentioned in the footnotes of this article. These small studies generally involved taking biopsies and looking at the numbers of inflammatory cells around hair follicles. *By comparing the frequencies of cell numbers in alopecia affected and normal scalp skin, most of the authors concluded that inflammation might contribute towards the hair loss.* However, there is a flaw in this reasoning. These studies always look at the inflammation after hair loss had developed. They didn't take into account the possibility that changes in the hair follicle DURING hair loss may attract the cells, and an inflammatory response. So there is a lot of argument among dermatologists over whether scalp inflammation in AGA actually contributes to AGA. Some well respected dermatologists believe that it does, while others say that scalp inflammation is common and seen even when AGA is not present.

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headscratch.jpg

## **Seborrheic Dermatitis and Hair Loss**

Many people who experience Androgenetic Alopecia (male and female pattern baldness) express concern about a tingling and itching that can vary in severity from a slight tingling to an extremely annoying inflammation. It has been hypothesized that this itching, which almost always seem to appear at the onset of MPB, is a response to the hormonal changes going on in the scalp. Even in the absence of MPB, dermatitis on its own will result in a mild telogen effluvium type hair loss, so in the presence of MBP, dermatitis can significantly speed up the speed of your loss and inhibit the effectiveness of your treatments. Both AGA and dermatitis are quite common and it is quite possible to have both conditions together. Many people do. In fact, it has been hypothesized that even in the absence of any noticeable itching, this same inflammation can exist on a smaller scale and should be treated with a shampoo like TGel or Nizoral. If you have a combination of both AGA and a the itch of dermatitis, then successfully treating the dermatitis will not only slow down the speed of your loss, but

it will help with your hair growth. It would not stop progression of the underlying AGA, but it would give some degree of hair growth improvement. There are two main kinds of dermatitis to consider, seborrheic dermatitis and contact dermatitis. Seborrheic dermatitis involves an inflammatory response to the oils produced by the sebaceous glands while contact dermatitis is the result of exposure to some allergic factor – most often a chemical in a shampoo or conditioner. Both types of dermatitis can cause a fungal infection that makes things worse.

### **Anti Inflammatory in the Propecia Trials**

tgel.jpg

When studies on Propecia were conducted, the drug users were all asked to wash their scalps with Tgel shampoo. The reasoning behind this was two fold. First, cosmetic hair products do affect the look or hair and the trial investigators were going to take global photographs so they wanted the volunteers to all be using the same shampoo product throughout the study. Second, *the issue of whether dermatitis could influence the hair growth response to Propecia needed to be minimized.* Tgel is a reasonably effective treatment for dermatitis (seborrheic or contact) while at the same time it has no known direct stimulation or inhibition of hair growth. *By using Tgel the investigators could remove the question of whether scalp dermatitis was influencing any hair growth response to the Propecia use from the clinical trial.* Some think the investigators were worried that Propecia might stimulate dermatitis itself hence the use of Tgel, but there has never been any official word to confirm or deny this, and at least to my knowledge there has been no reporting of dermatitis exacerbation with the use of Propecia.

### **Why no Nizoral in the Propecia Trials?**

Some people wonder why the Propecia trial did not use Nizoral as the shampoo of choice. The main problem with this was that Nizoral shampoo was not readily available when the trial started. If the Propecia trial was taking place today when Nizoral is readily available it probably still would not be used. Although Nizoral is officially used for treating dermatitis and combating mild scalp fungal infections, *the active ingredient (ketoconazole) has known anti androgen properties and this may have some positive effect on hair growth.* The objective of arranging a trial to test Propecia was to examine the effects of the drug, not the effects of Nizoral.

In one small clinical study it was even suggested that the actions of Nizoral on hair growth were equivalent to the effects of 2% minoxidil (4).

Nizoral and Tgel are not made by Merck, the makers of Propecia, so they are not likely to promote the merits of combining Nizoral or Tgel with using Propecia even though there may be advantages to the consumer in doing so. However, *many dermatologists will recommend to their patients the use of Propecia, Nizoral and Tgel.* You can use all three in a combined regimen. Nizoral should not be used more than twice a week. Other days you can use Tgel and normal shampoo in rotation. The only problem with Nizoral and Tgel is that they can be quite drying to the hair. You can remedy this with a separate conditioner.

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### **Nizoral, the god of hair loss Shampoo's**

nizoral1.jpg

Without exception, nizoral is the most successful shampoo on the market today at not only controlling the itch, but any underlying inflammation you may not be able to detect, while simultaneously helping stimulate minor hair growth. No other shampoo we know of can do this. Tgel is another good alternative, but no regimen should be without Nizoral. You can get Nizoral in the shampoo section of any grocery store, typically at the end, next to the Rogaine. We suggest all our users make use of it once every 3 days. Apply it immediately as you get in the shower, and let it soak for the duration of your shower. After a few weeks your itching should be gone, and we suggest continuing with it indefinitely. Its truly the only shampoo out there that can do what it does. In the natural products isle at the local store you will also find aloe vera or tea tree lotions. These products can work well, but of course they only reduce the inflammation and do not treat the underlying cause of the inflammation. If you stop using them and the underlying promoter of the irritation is still present, then the inflammation will come back. One word of warning, anti-inflammatory products do seem to have the potential to promote folliculitis (let's call it scalp acne) when they are used for a long time. It is ironic that an anti-inflammatory product should do this, but it does seem to occur in some people. If folliculitis develops just stop using the product and it should go away.

### **Inflammation and the Effectiveness of your Regimen**

At this stage in our understanding of inflammatory cells and their influence on hair growth we don't know which inflammatory signals are good and which are bad. However, it is reasonable to say that if your scalp is irritated/inflamed

AND you see you are losing more hair, then the kind of skin irritation/inflammation you have is certainly not helping to grow hair and may even be exacerbating it. The best thing for you to do is make sure you are using Nizoral shampoo once every 3 days as part of your regimen. Its ability to reduce any noticeable (and unnoticeable) inflammation will only benefit your progress, and the effectiveness of your treatment regimen. Having antiandrogenic properties itself, it may also help stimulate hair growth, and it is literally the only shampoo on the store shelves today that can do this.

All the above applies more or less equally to men and women. The nature of inflammation in female AGA has not been investigated in any detail, but it is quite likely that at least some women have a big problem with scalp inflammation and this may be contributing to their hair loss. Skin biopsies from women with AGA can show much the same kind of cellular inflammation seen in biopsies from men. Women are also susceptible to dermatitis whether contact dermatitis or seborrheic dermatitis - just like men. If dermatitis seems to be a problem then medicated shampoos like Nizoral nad Tgel are just as valid for use by women as by men.

### **In Conclusion**

Some say AGA and inflammation are inextricably linked and part of the same problem. Some say they are two separate conditions but often found together in the same person because they are so common. Some say inflammation is a primary cause of hair loss and others say the inflammation is just a secondary response to something else that is causing the hair loss. This is all very confusing and the scientific evidence to prove who is right and who is wrong is not likely to be produced for a long time. However, if you have hair loss and scalp irritation together it makes sense to look into reducing scalp inflammation. No one can say for sure if it will really help hair growth but it should do no harm. Is it possible that eliminating scalp irritation might stop hair loss completely for a while? – possibly!

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- 2) Jaworsky C, Kligman AM, Murphy GF. Characterization of inflammatory infiltrates in male pattern alopecia: implications for pathogenesis. *Br J Dermatol.* 1992 Sep;127(3):239-46.
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4) Pierard-Franchimont C, De Doncker P, Cauwenbergh G, Pierard GE. Ketoconazole shampoo: effect of long-term use in androgenic alopecia. *Dermatology*. 1998;196(4):474-7.

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