

Edition 2024| English



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# HAIR

A thing of beauty and joy forever!

(Approved Medicines for Hair loss for Girls/Women)



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# Chapter 1

## Reasons for hair thinning in women

### Think about It!

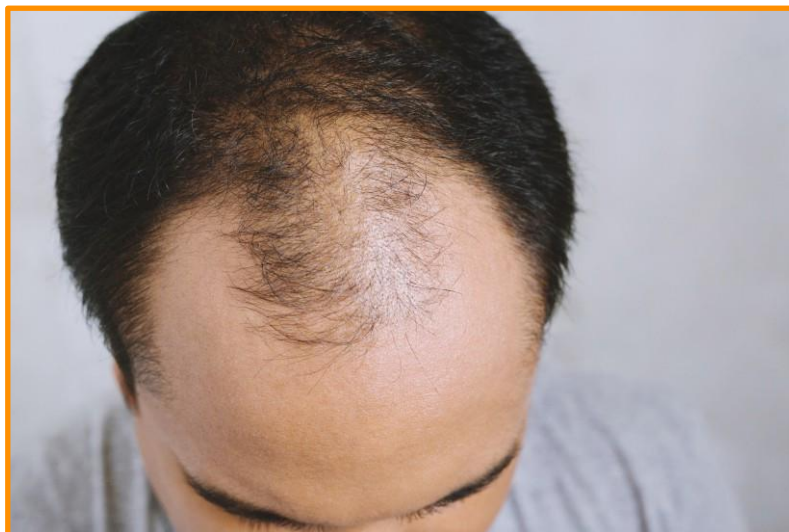
*A woman's hair is one of their biggest strengths that they can flaunt. Same thing was true with Rashi. She was a 25 year old women all ready to get married but to the everyday stresses of her life, her hair started to shed. Not just that, she ended up developing a bald spot in the crown of her head until she had to visit a hair specialist to start her medication of Minoxidil. After 6 months of suffering, her bald spot started going away and helped her gain back her self-confidence*



Chap1 Fig1

### In women hair loss means thinning of hair:

- This female **pattern hair loss** slowly results in a progressive decline in the density of the **scalp area**
- In other words, a **woman's hair scalp becomes thinner.**
- This is **different from male/men pattern baldness.**



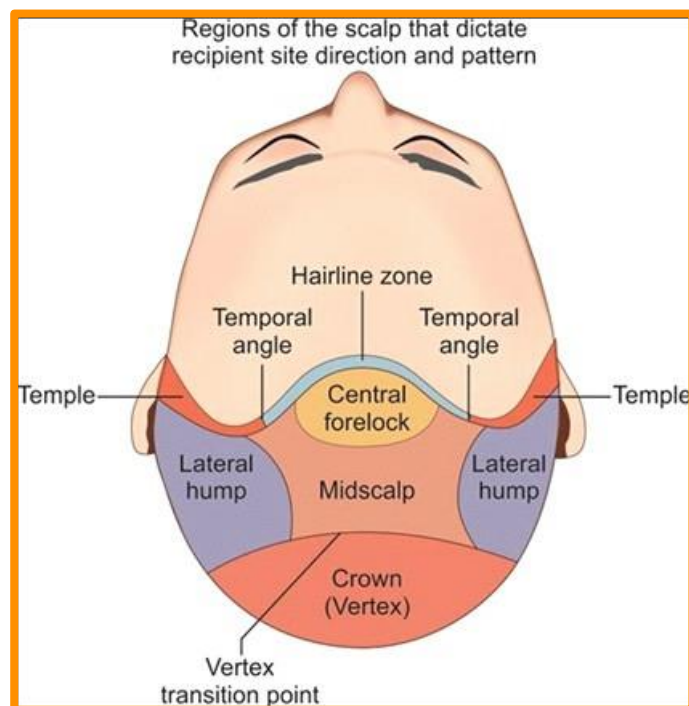
Chap1 Fig2

- It is **AGA (Androgenic alopecia)** in women.  
We also call it **woman pattern alopecia**.



Chap1Fig3

- It happens and can mostly be seen in women as they go through life.
- It involves the front scalp and the top of scalp; we call it vertex.



Chap1Fig4

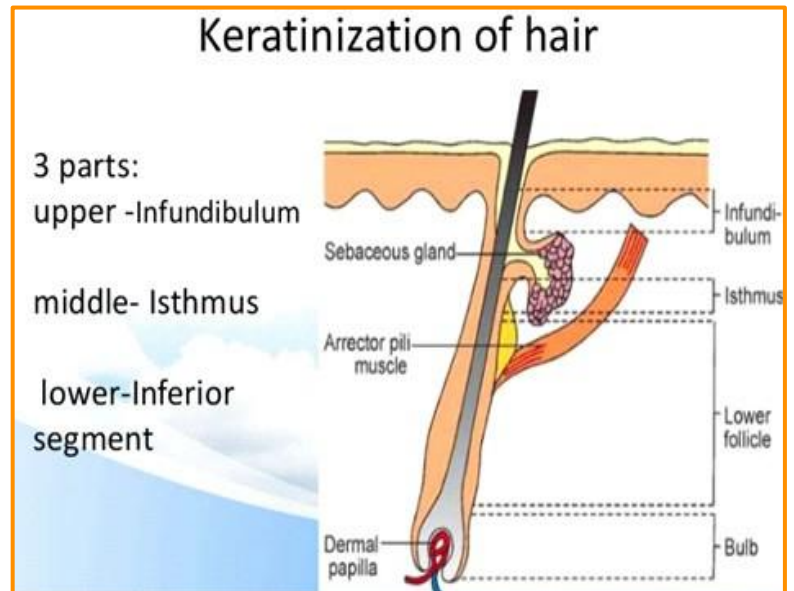


# Chapter 2

## Composition of Hair

### Hair is composed of:

1. Hair bulb which is the deep portion.- Hair bulb lies deep in the dermis. This is the place from where the hair originates.
2. Isthmus which is the middle portion.
3. Infundibulum which is the superficial portion.



Chap2Fig1

**Hair Bulb**

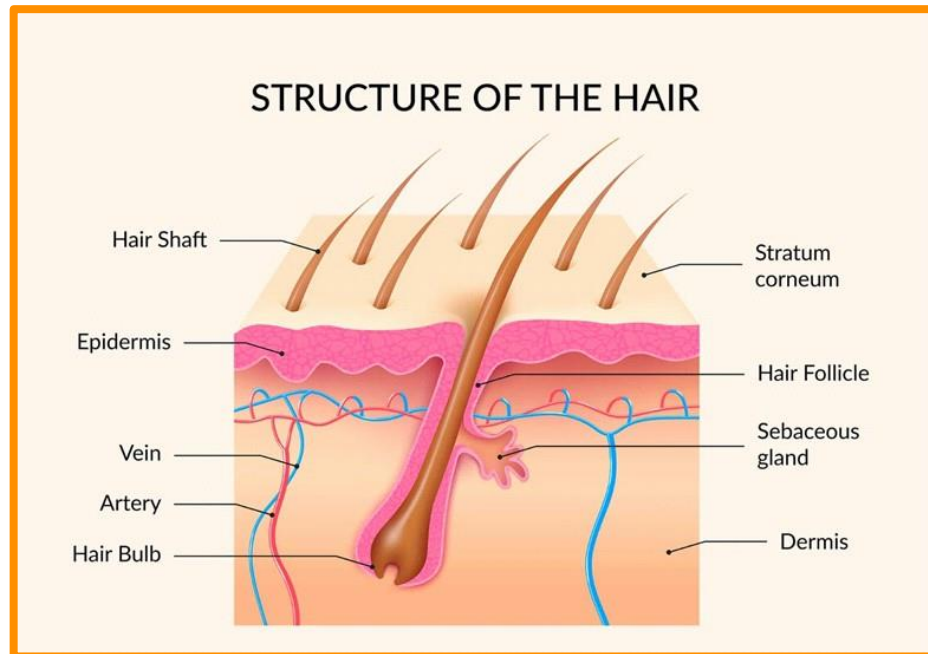


**Isthmus**



**Infundibulum**

**The hair shaft has:**



Chap2Fig2

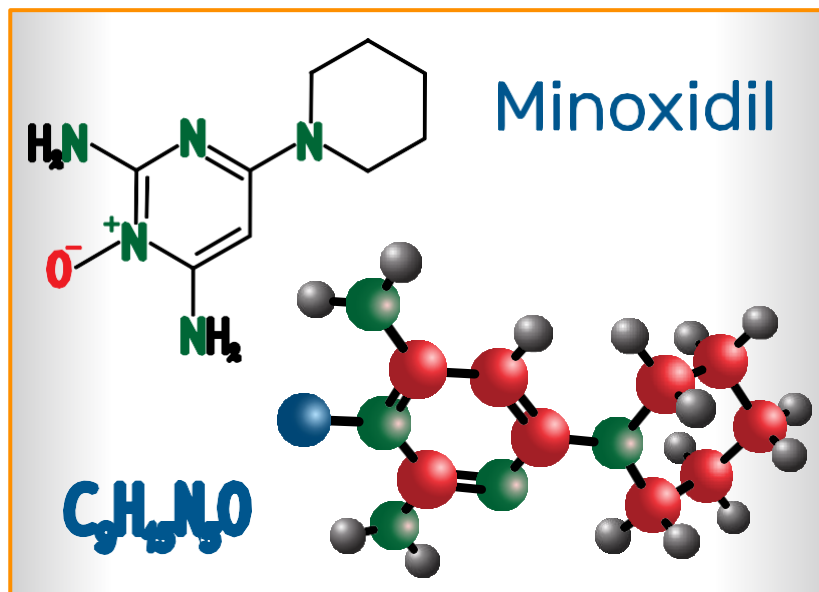
- **Medulla**
- **Cortex**
- **Cuticle**- The cuticle contains at least 54 different keratin proteins. So, compared to the keratin, which is also there in the skin, the hair keratin has more Sulphur. Sulphur present in the hair links keratin and makes the hair fiber stronger.

# Chapter 3

## Minoxidil- Introduction

Can we do something to prevent thinning of hair/ hair loss!

Yes, We can!!



Chap3Fig1

One of the most important medicine is:  
Minoxidil



Chap3Fig2

Sometimes, hair loss in women may be very distressing. They really want treatment for the hair loss.

**1. A woman should consult dermatologist before taking any medicine.**

**2. Medicines do work**

- Guidance and support are needed
- We recommend you seek advice from dermatologist.

**3. Topical Minoxidil is the best medicine**

- This is tried and tested for girls & women.
- There is sufficient data for minoxidil (topical) to reassure us that it does work.



# Chapter 4

## Phases of hair growth with Minoxidil



Chap4Fig2

### Topical minoxidil

- Can **prolong the growth phase** of the hair follicles
- And it **shortens the resting phase** of the hair follicle
- There are miniaturized follicles (small hair) and it **stimulates and converts them to the terminal area (long hair) on our head**

**Prolong the growth phase**

**Shortens the resting phase**

**Stimulates follicles to terminal area**

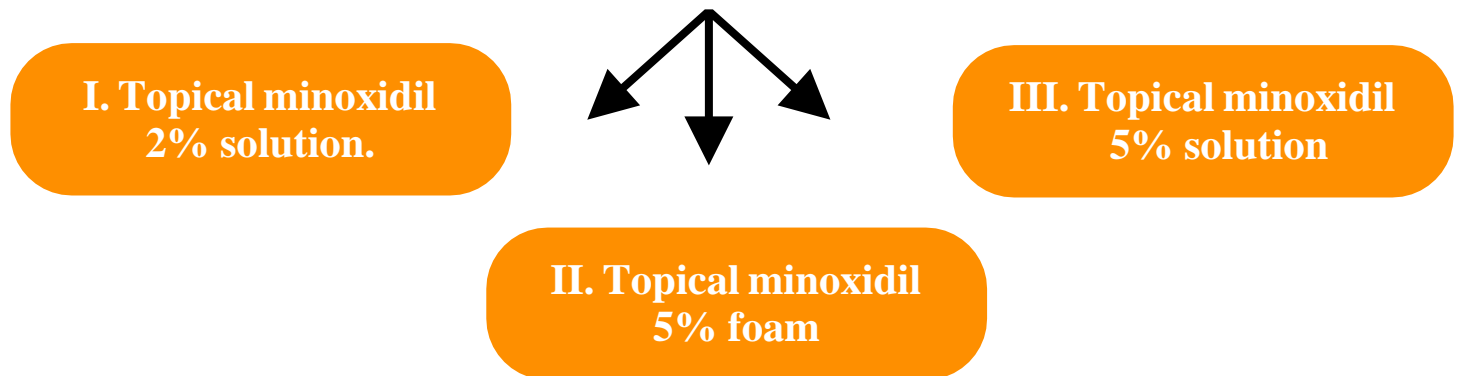
# Chapter 5

## Topical minoxidil is available in 3 different formulations



Chap5Fig1

### The topical minoxidil is available in three different formulations:



Three different forms of minoxidil are available.

All three formulations of minoxidil, works fine for female pattern hair loss.



Chap5Fig2

(I) Women usually **prefer 5% foam formulation** of topical minoxidil.

- All 3 formulations work.
- But it is difficult to say whether 5% works better than 2%.

(ii) **5% minoxidil** foam in which we take the cap of the foam bottle and fill one half capful and then we apply it once daily.

(iii) One fact is that **minoxidil 2% solution** is applied twice a day

- Minoxidil 5% solution (which we use 1 ml) once a day.

# Chapter 6

## How do we apply topical Minoxidil correctly?



Chap6Fig1

### You must understand that

I. We are not applying this medicine to the hair.

- We are **applying it to the scalp**

**Apply on Scalp**

II. So, we should take medicine in our hand

- Apply with the fingers
- Massage gently on scalp
- We can wash our hands.

**Apply with fingers and  
massage**

III. It takes about couple of hours for it to dry

**A few hours to dry**

IV. We should apply it for at least 2 hours before we go to sleep.

**2 hours before sleep**

V. If we go to sleep right away, then medicine can rub on the pillows and this will touch our skin on the different body sides or different skin areas of face, etc.

**Please DONOT go to sleep right after application**



Chap6Fig2

# Chapter 7

## Growth of Hair is a slow process

*A few years back, when I was in my early 20s, I had severe hair fall. It was pathetic. I had hair everywhere in my house. The volume was wasn't even the half of what it used to be. It gave me many sleepless nights. I shifted from one product to another, from one to another, one shampoo to another. They didn't work at all. Finally, after years of hoping something to work, I switched to abandoning every commercial branded product you can think of. Since then I use natural stuff like shikakai, multani mitti, and rice water to clean my hair. Along with the use of minoxidil, the clean hair care habits have helped grow my hair back.*



Chap7Fig1

**Does it really work,  
yes it does work!!**



You must understand that:

- Nothing happens overnight.
- There is **no magic**.

**The medicine is NO MAGIC!**

When we keep applying.

- We must **be patient**

**You have to be Patient!**

- At least about **4 months before** we can really see the impact of medicine Minoxidil on our hair.

**4 months before any changes**

- See hair becoming thicker.

We highly recommend that

- You continue **using it at least for a year**.

**Use it for a year atleast**

Usually, medicine works very well. But just in case, it is not working, then dermatologist can re-evaluate why it is not working, or any different medication is needed for it.

# Chapter 8

## Some Observations about Minoxidil



Chap8Fig1

- This is an especially important fact for everyone to understand.
- You should not worry at least up to 2 months, if you see more hair fall
- We do see some shedding of the hair initially. (Why!!)
- Initially, it does happen in about first 2 weeks to 2 months of minoxidil treatment.
- It is because
  - There is some hair which was supposed to fall off any way as natural process
  - Some hair fall and new hair comes in
  - The fact is Minoxidil medicine does stimulate hair follicles which were going to fall.
  - Minoxidil just makes those hair to fall sooner.

As you start using Minoxidil- **there is actually shedding of some hair initially**

## You should not stop the treatment

1. You will see the effect of the medicine approximately after 4 months.

**Effect of medicine happens  
in 4 months**

2. You should continue medicine for at least one year.

**Use it for atleast one year**

3. To be honest, our experience tells us,  
Yes, Minoxidil does work.

**Minoxidil does work**

4. There may be some mild symptoms- itching, flaking

# Chapter 9

## How long Minoxidil needs to be used?

### For how long Minoxidil needs to be used?

- You will see **thicker hair** as you continue to use it.
- Once you stop treatment, the effect will continue & **last for 3 to 4 months**. (Minoxidil effect takes 3-4 months to show results and on the other hand, continue for another 4 months after stopping the medicine.)

**How long Minoxidil needs to be used-** So, the answer to the question!

- If you want the effect to last for 1 year, then please use the medicine for 1 year.
- If you want the effect for 5 years, then please use the topical application for 5 years

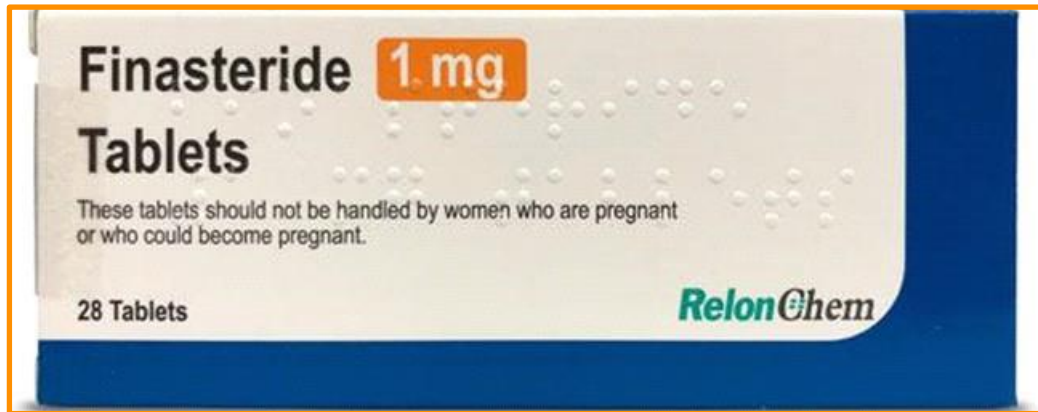


Chap9Fig1

**It's your choice!**

# Chapter 10

## Second well known medicine- Finasteride



Chap10Fig1

### Second well-known medicine for thinning of hair is “FINASTERIDE”

The finasteride is well tolerated by women.

- We should not give it to the women in reproductive age group or women who are planning to become pregnant
- Finasteride can lead to feminization of male fetus.
- The hair physiology and growth is directly/indirectly related to testosterone

**Not for women planning to get pregnant**

**Feminization of male fetus**

**Hair growth is related to testosterone**

Men and women both have female and male hormones

- Male hormone ( Testosterone) dominates in men

**Testosterone dominates  
in men.**

- Female hormone (Oestrogen) dominates in women. Oestrogen is important in women physiology and pregnancy.

**Oestrogen dominates  
in women.**

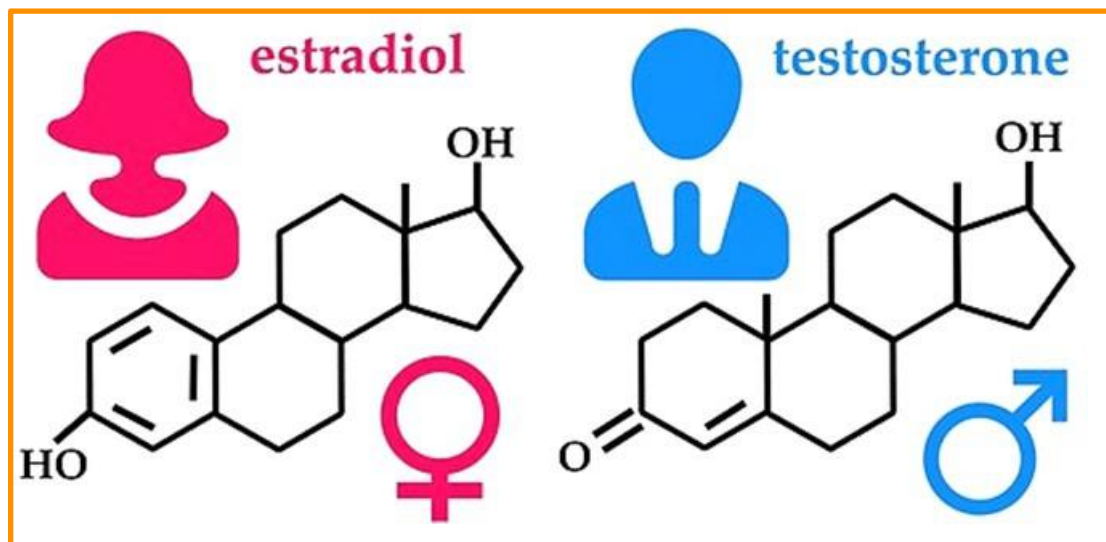


Chap10Fig2



# Chapter 11

## Hormones in Men/ Female



Chap11Fig1

### Believe it or not!

Both in men and women, sex drive is based on testosterone.

**Sex drive is based on Testosterone**

Female hormones are important for balancing sex drive in men.

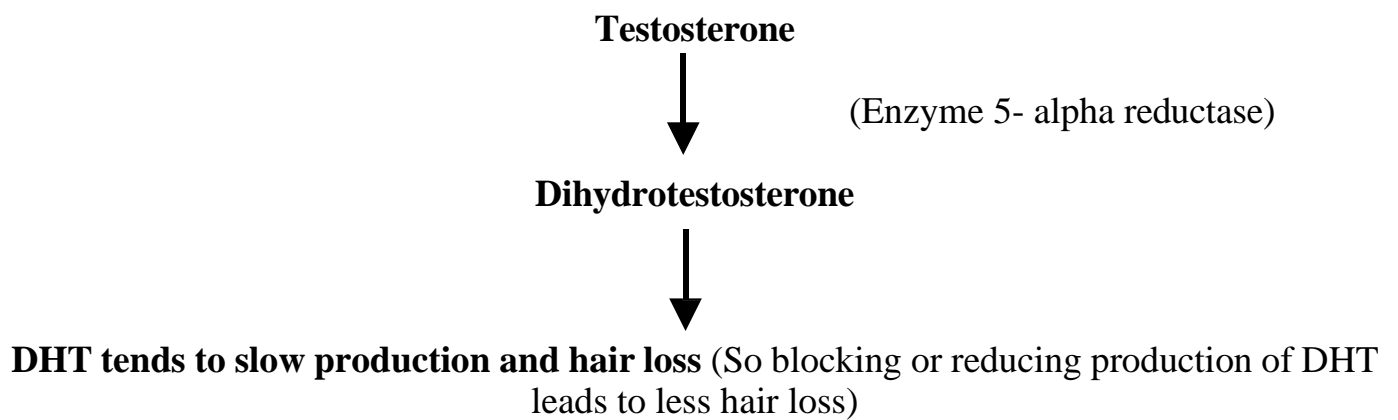
**Female hormones balance sex drive in men**

**Testosterone can actually be converted into female hormone.  
Testosterone and female hormone, both are important in male fertility.  
(A situation of very delicate balance in our body)**

### Reason for such an effect:

You must understand that

- Finasteride works through 5-alpha reductase
- Affecting the functions of blocking the conversion of testosterone into dihydrotestosterone
- That affects male baby and what we call feminization of a male fetus.



# Chapter 12

## Dutasteride



Chap12Fig1

### DURASTERIDE- another choice

- It is **both type 1 and type 2 inhibitor of 5-alpha reductase enzyme.**
- Once again, you must remember that **baldness occurs because of the increase in the 5-alpha reductase enzymes.**
- Once we inhibit this enzyme, it **slows down or prevents female pattern baldness.**

# Chapter 13

## Flutamide



Chap13Fig1

### Flutamide – we have choices

- This inhibits the action of androgen hormones.
- In other words, it is an **anti-androgenic agent**.
- We can give it to the women, and we must make sure that they **are not pregnant**,
- They are on contraception.

### The way we give it:

- Flutamide 250 mg for one year,
- Flutamide 125 mg for next year,
- Flutamide 62.5 mg for next 2 years.

BACKGROUND **Flutamide** has been rarely used for the treatment of female pattern **hair loss** (FPHL). **Flutamide** treatment for FPHL has not been evaluated in long-term studies with sufficiently large numbers of women. OBJECTIVE To evaluate long-term effects, safety, and tolerability of **flutamide** in women with FPHL.

[www.uptodate.com](http://www.uptodate.com) › contents › abstract

Medline ® Abstracts for References 21,31,32 of 'Female ...

Google Search

We have seen good results from flutamide **within 6 months** and then continued prevention of hair loss for **up to 2 years**. Flutamide can also be added to topical minoxidil 5% which is applied daily.

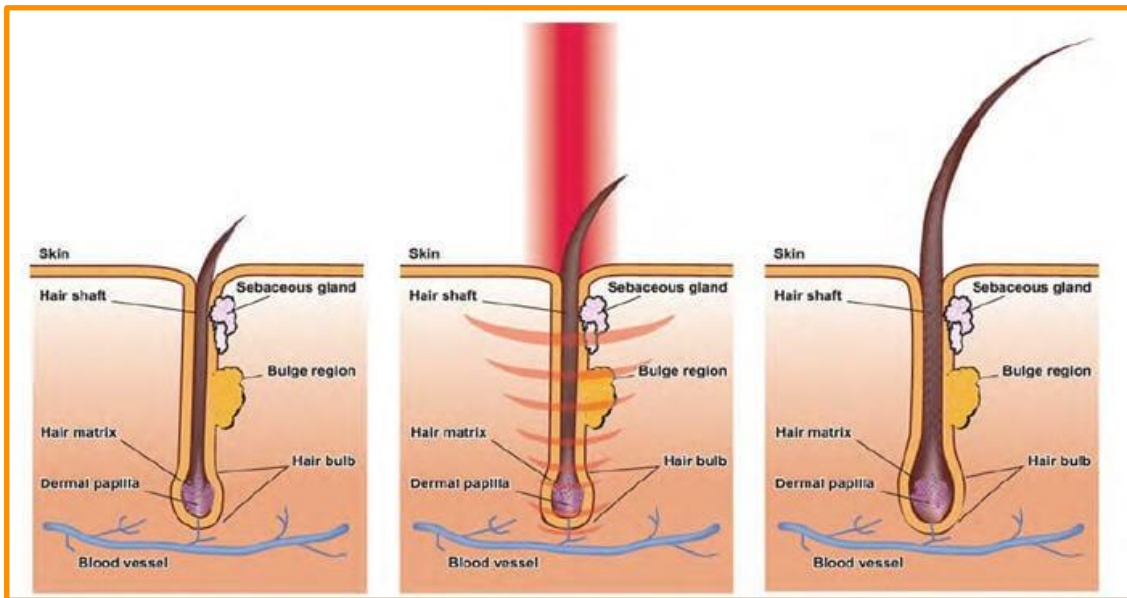
### Side effects of flutamide

- Decreased sex drive
- Some GI symptoms, and
- Liver functions

**We should take it obviously under the guidance of a dermatologist or M.D. physician**

# Chapter 14

## Low level laser light therapy



Chap14Fig1

## low level laser light therapy

- Believe it or not, in women **low level laser light therapy (LLT which we call as a photo biomodulation therapy)**.

It is safe and effective.





Chap14Fig2

- It is safe and effective

**Safe and Effective**

- It is given **3 times each week**

**Dose: 3 times a week**

- You need a **physician or specialist** who has experience with this treatment

**Dose: 3 times a week**

# Chapter 15

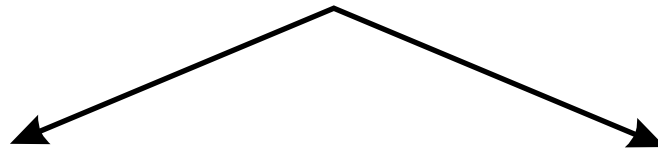
## Other medicines for hair loss



Chap15Fig1

### There are two more medicines

(They have shown effectiveness when we use it for long time, but as mentioned the previous treatments are more popular and well tried.)



#### **Latanoprost 0.1%**

(it is a topical prostaglandin analogue)

#### **Ketoconazole**

2% shampoo