



# QSS Forti 5

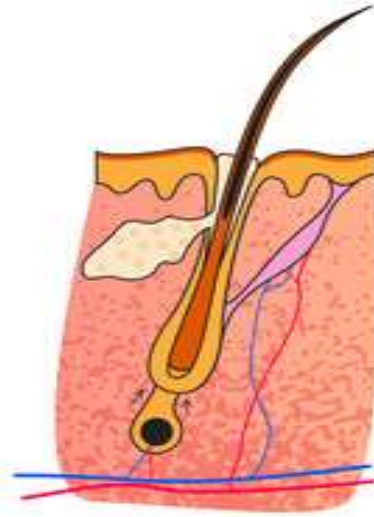
## NUTRITIONAL HAIR RECOVERY SUPPLEMENT

# Hair Growth Cycle Stages:



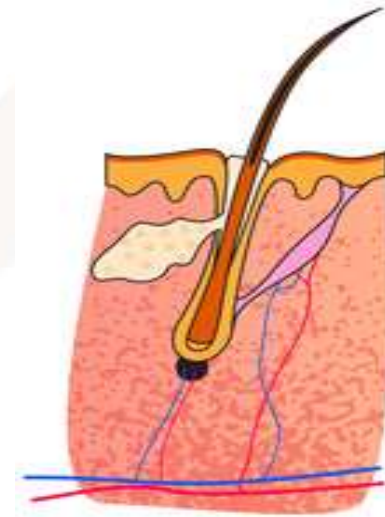
## ANAGEN PHASE

- Active growth
- 2-6 years
- 1 cm. per month
- 85-90%



## CATAGEN PHASE

- Transition
- 1-2 weeks



## TELOGEN PHASE

- Resting (Fall)
- 3 - 4 months
- 80/100 per day
- 10-15%

# Types of Alopecia:-

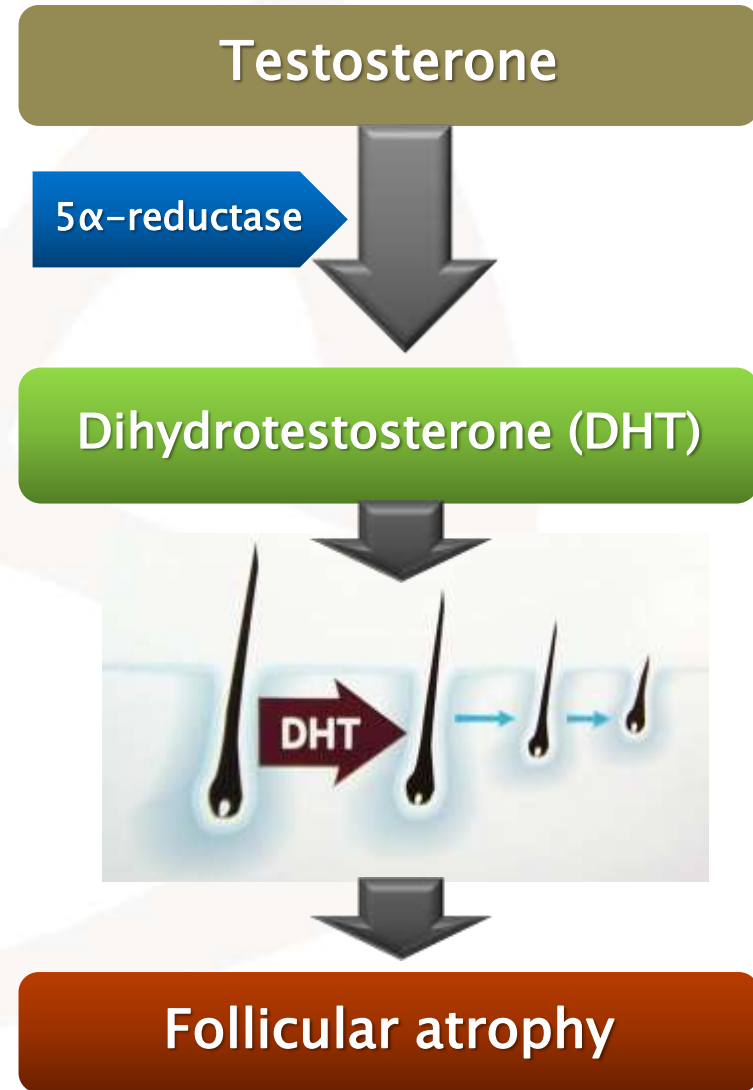
- **Alopecia Areata (AA):** an autoimmune condition which causes patchy hair loss.
- **Alopecia Totalis (AT):** total loss of all hair on the scalp.
- **Alopecia Universalis (AU):** total loss of all hair on the body
- **Alopecia Barbae:** alopecia areata that is localised to the beard area.
- **Androgenetic Alopecia (AGA):** It is thought to be a hereditary form of hair loss and is the most common type of progressive hair loss.
- **Scarring Alopecias (Cicatricial Alopecias):** group of rare disorders which cause permanent hair loss.
- **Traction Alopecia:** usually due to excessive pulling or tension on hair shafts
- **Anagen Effluvium:** caused by chemicals
- **Telogen Effluvium:** a general 'thinning' of the hair.

# Androgenetic Alopecia

- **AGA (Androgenetic Alopecia) is the most common form of hair loss, affecting up to 80% of men and 50% of women in the course of their lives.**
- **Caused by a progressive reduction in the diameter, length and pigmentation of the hair.**
- **Hair thinning is limited to the frontal, temporal and vertex areas (androgen dependent scalp regions) and results from the effects of the testosterone metabolite dihydrotestosterone (DHT) on androgen-sensitive hair follicles.**
- **Androgen sensitivity is genetically determined and depends on DHT production through the **5 Alpha Reductase** enzyme.**

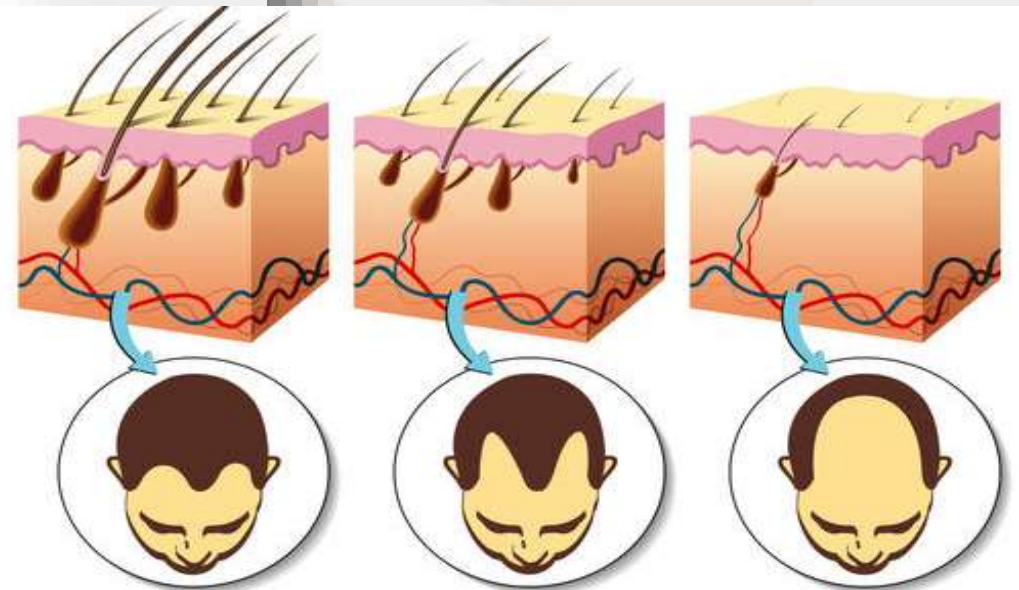
# Androgenetic Alopecia

- Male pattern baldness
- Androgen-dependent alopecia

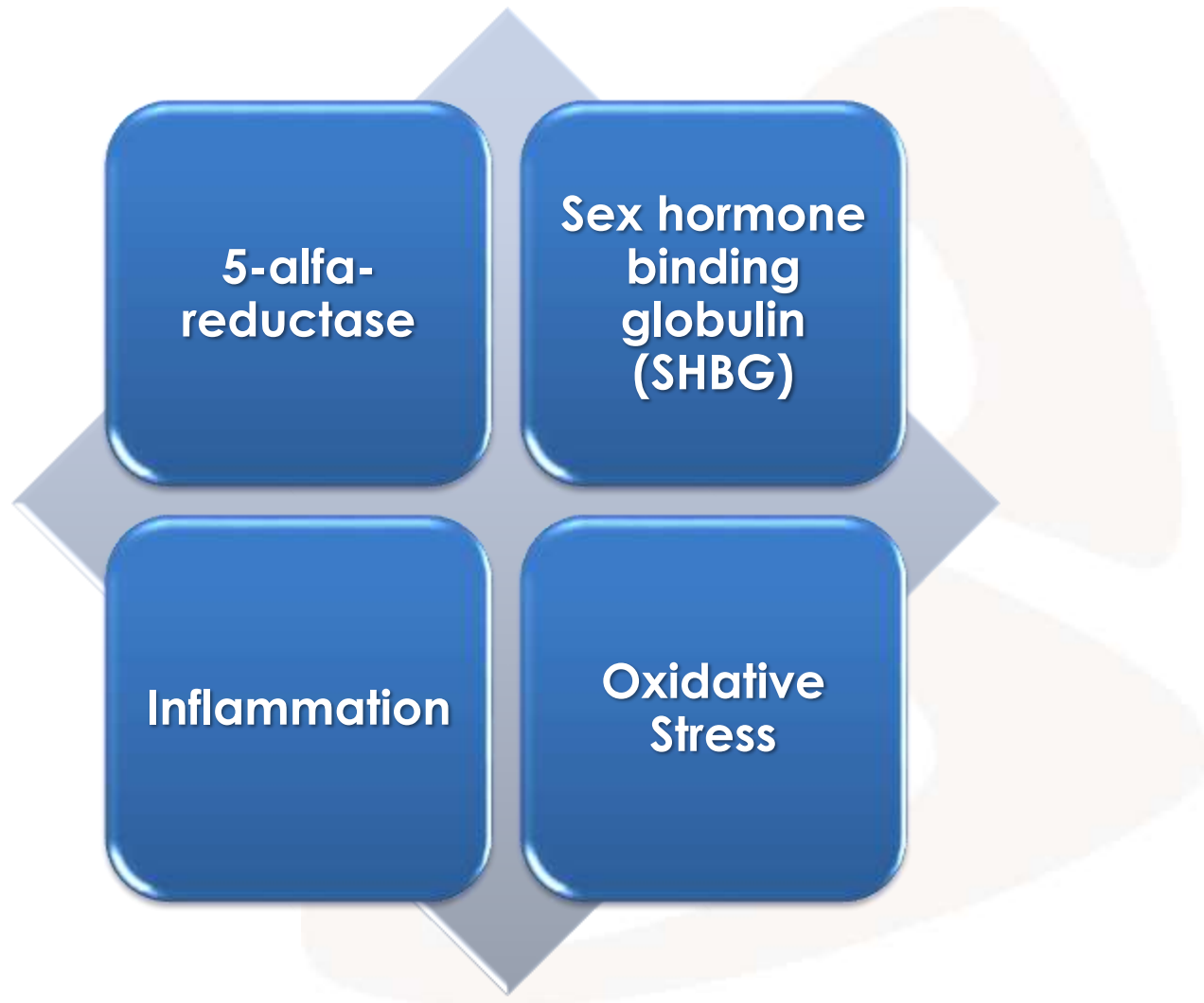




# Miniaturization of Hair:-



# Androgenetic Alopecia Causes



## ▪ 5 Alfa Reductase

- 5 Alfa Reductase isoenzymes are responsible for converting free testosterone into DHT.
- 2 isoenzymes : type 1 and 2.
- In the scalp type 1 is mainly located in the sebaceous gland and type 2 in the hair follicle.
- Inhibition of type 2 5 Alfa Reductase is an effective treatment of AGA

## ▪ Sex Hormone Binding Globulin (SHBG)

- There is a clinically established inverse relationship between sex hormone binding globulin (SHBG) and androgenetic alopecia (AGA) in women.
- Increasing of the SHBG levels reduce bioavailability of sex hormones.



## ■ Inflammation

- Commonly associated with androgenetic alopecia and other scalp disorders.
- Microscopic follicular inflammation in the pathogenesis of AGA
- Inflammatory cytokines induce telogen and can accelerate progression of androgenetic alopecia.

## ■ Oxidative Stress

- Contributes to the aging process of the hair follicle, hair graying and hair loss.
- With age, the production of free radicals increases, while the endogenous defense mechanisms decrease.
- Anti-oxidants can then have an important role in the prevention and treatment of hair loss

# MPHL:



# FPHL:



## ■ Stimulation of Hair Growth

- Melatonin
- Green Tea Extract

## ■ Preventing Hair Loss

- Melatonin
- Vitamin D

## ■ Anti-androgenic Properties

- Melatonin
- Beta-Sitosterol
- Soy Isoflavones

## ■ Anti-inflammatory Benefits

- Beta-Sitosterol
- Soy Isoflavones
- Green Tea Extract
- Omega 3 and 6

## ■ Delivering Key

## Antioxidants

- Melatonin
- Soy Isoflavones
- Green Tea Extract



## ■ Induces Hair Growth and Pigmentation

- The anagen hair follicle (HF) produces melatonin in loco as a cyto-protective and apoptosis-suppressive agent
- Prevents telogen as it reduce spontaneous apoptosis in HF keratinocytes
- Prevents stress-induced hair loss.
- Melatonin can protect the follicle from systemic “stressors” associated with high levels of norepinephrine
- Melatonin is a potent antioxidant - free radical scavenger with capacity to stimulate DNA repair
- Interacts with androgen receptors and has anti-androgenic properties

*Hautarzt. 2009 Dec;60(12):962-72 - Br J Dermatol. 2004 Feb;150(2):341-5 - Curr Probl Dermatol. 2001;29:165-74 - J Pineal Res. 2008 Jan;44(1):1-15 - Mol Cell Endocrinol. 2012 Apr 4;351(2):152-66 - FASEB J. 2005 Oct;19(12):1710-2*

# Vitamin D (Cholecalciferol)

- **1.25-dihydroxyvitamin D3 (1.25-D3) modulates growth and differentiation of keratinocytes via binding to a high-affinity nuclear vitamin D receptor (VDR)**
- **Mutations in VDR also lead to an inherited form disease that runs with alopecia**
- **Optimal concentration of vitamin D is necessary to delay the aging phenomena, including hair loss**
- **Vitamin D deficiency is associated with increased hair shedding**

*Dermatol Online J. 2010 Feb 15;16(2):3 - Arch Biochem Biophys. 2011Oct 7 - J Invest Dermatol. 2012 Apr;132(4):1075*



# Beta Sitosterol

- **Non competitive 5 alfa reductase type 1 and 2 inhibitor**
- **Utilized in the treatment of androgenic alopecia and benign prostatic hyperplasia.**
- **Provides estrogen and androgen receptor blocking**
- **Increases Sexual Hormone Binding Globulin (SHBG) levels**
- **Provides anti-inflammatory benefits**

*J Altem Complement Med 2002 Apr; 8 (2): 143-52 - Am J Clin Dermatol. 2010;11(4):247-67*

# Soy Isoflavones

- **The singular consumption of Soy lowers DHT by 15%.**
- **The Combination of Soy Isoflavones and Green Tea lowers DHT by 80% in animal models**
- **Anti-inflammatory benefits on androgen induced inflammation**
- **Soy Isoflavones facilitate Equol production and anti-androgen that neutralizes DHT effects**
- **Increase SHBG levels.**
- **Low levels of SHBG are known to be associated with Male and Female Pattern Baldness**
- **Modulates estrogen-dependent mechanisms and/or inflammatory activity associated to alopecia**

*Exp Dermatol. 2003 Feb;12(1):30-6 - J Nutr Sci Vitaminol (Tokyo). 2007 Feb;53(1):57-62  
[www.hairloss-research.org/LinkUpdateSoyIsoflavonesforHairlossandAgingSkin2-11.html](http://www.hairloss-research.org/LinkUpdateSoyIsoflavonesforHairlossandAgingSkin2-11.html)*

# Green Tea Extract

- **Antioxidant Benefits**
- **Oxidative stress directly affects the cell membrane and facilitates entry of DHT, DHEAS and other damaging factors into the cell.**
- **Reactive oxygen species (ROS) cause sebaceous gland hyperplasia, promotes increased type I 5-AR enzyme activity and higher DHT formation**
- **Provides Anti-inflammatory benefits**
- **Increases SHBG levels**
- **Hair Growth Stimulators**
- **Epigallocatechin-3-gallate, the main polyphenol in green tea, stimulates human hair growth and prolongs the anagen phase through proliferative and anti-apoptotic effects on human dermal papilla cells.**

# Omega 3 & Omega 6 FA:

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- **Provide potent anti-inflammatory properties**
- **Inflammation is commonly associated with androgenetic alopecia and other scalp disorders**
- **Inflammatory cytokines induce telogen and can accelerate progression of androgenetic alopecia**

*J Drugs Dermatol. 2011Dec;10(12):1404-11. - Journal of Plastic Dermatology 2009, 5,1-11  
Leukot Essent Fatty Acids. 2012 Apr 20*

## SUPPLEMENT

<i>Supplement Facts</i>		
<i>Serving size: 2 Capsules</i>		
	Amount per serving	% Daily Value
Vitamin D (as cholecalciferol)	200 I.U.	50%
Soy Isoflavones (seed) Extract (Standardized to 40% Isoflavones)	300 mg	*
Green Tea (leaf) Extract (Camellia Sinensis) (Standardized to 98% polyphenols, 75% Catechins & 45% EGCG)	250 mg	*
Omega 3 & Omega 6	150 mg	*
Beta Sitosterol Complex (standardized to 45% Beta Sitosterol)	100 mg	*
Melatonin	3 mg	*
* Daily value not established		
Other Ingredients: Gelatin, Maltodextrin, Silicon Dioxide, Magnesium Stereate		

Thank you.