



INTERCONTINENTAL JOURNAL OF PHARMACEUTICAL INVESTIGATIONS AND RESEARCH

ICJPIR | Volume 2 | Issue 4 | Oct – Dec - 2015

Research Article

Hair repair™: Nutritional support to inhibit DHT naturally and nourishes the follicles of hair

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ABSTRACT

Beautiful hairs are not just about looks, it is a sign of excellent general health as well as good hair care practices. Hair is composed primarily of proteins. It is made of three layers, the medulla, cortex, and cuticle. Damaged hair is caused by many factors such as excessive heat styling. It is characterized internally by open cuticles and broken protein bonds. Physically, damaged hair is rough, brittle to the touch, and prone to split ends. Many chemicals such as bleaches, perms, and relaxers damage hair greatly. In order for them to work they must swell hair's cuticle. This process roughens cuticle, making it prone to chipping and breaking off. These chemicals also wear down protein bonds in hair--the very thing that keeps our hair strong and lustrous. Hair repair is an intensive hair repair formula for men & women, towards strengthening hair & promoting hair growth. Hair repair tablet contains Sawpalmetto extract, Betasito sterols, Stinging nettle extracts that are powerful DHT (DihydroTestosterone) inhibitors effective for the treatment of Androgenic Alopecia. Where as DL- methionine & N-acetyl cysteine retains hair luster, prevents Alopecia as well as hair follicle cell apoptosis. Biotin & Vit B12 regenerates RBC which is vital for healthy hair; zinc prevents Dandruff & boosts hair regeneration. Copper helps as pigmenting factor for hair, PABA (para amino benzoic acid) restores grey hair to its original color.

Keywords: DHT, hair loss, Alopecia.

INTRODUCTION

Hair loss is a concern that affects us all, it's comforting to know that the human body sheds approximately 100 of its 100,000–150,000 strands of hair every day and new ones grow to take their place. As we age, this renewal process may slow where more hairs are lost than grown. Real hair loss is most noticeable in men. What is commonly known as male

pattern baldness is an inherited condition called androgenetic alopecia and it may begin as early as age 20. Male hair loss is distinguished by a receding hairline or widow's peak and thinning on the crown. The rate of hair loss may be slow, gradual, or fast. By age 50, about 50 percent of men will experience thinning and hair loss. For 40–50 percent of women, hair may begin to thin after age 50 (typically after menopause). This is called female-pattern baldness.

Women tend to see their hair thin throughout the head but most visibly on the crown. Significant hair loss for women before age 50 is rare and usually triggered by hormonal fluctuations, stress, or a secondary health concern.

OTHER KINDS OF HAIR LOSS INCLUDE

ALOPECIA AREATA

This form of hair loss is characterized by patchy baldness or bald spots. It affects both men and women equally, both adults and children, but it is rare, affecting less than 2 percent of the population. Hair loss due to alopecia areata is usually triggered by an immune system disorder. Once addressed, the hair usually grows back.

ANAGEN EFFLUVIUM

This condition occurs when hair in the growth phase falls out prematurely. Prescription medications used for the treatment of cancer are the most common cause of this condition. Chemotherapy patients may lose up to 90 percent of their hair as a result of anagen effluvium.

TELOGEN EFFLUVIUM

A natural part of the hair growth cycle includes a resting phase called telogen, which involves 10 percent of hair at any given time. Telogen effluvium occurs when up to 30 percent of hairs on the head are in the resting phase at any given time. This condition may be caused by physical or emotional stress, and hair growth will return to normal as stress is eased. The health of your hair is a reflection of the overall state of your health, so it is important to address hair loss from a multipronged approach that includes both the use of standard medical treatments to slow hair

loss, and nutritional and lifestyle changes to address and improve health.

SIGN & SYMPTOMS OF HAIR LOSS

- Bald patches
- Scalp irritation
- Sudden, excessive or increased hair loss
- Visible thinning of the hair around the top and sides of the head
- If hair loss is accompanied by other symptoms such as fatigue, cold hands and feet, dry skin and hair, and menstrual fluctuations, it may be the warning signs of hypothyroidism or an underactive thyroid.

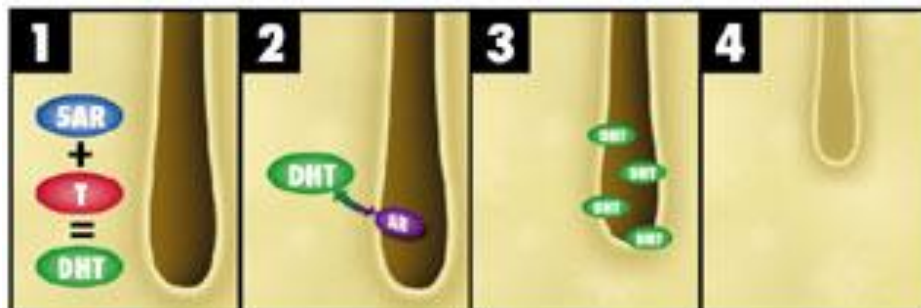
RISK FACTORS FOR HAIR LOSS

- Age: Hair loss is more common with age
- Burns, injuries, and skin infections such as ringworm
- Drugs used to treat gout, arthritis, depression, heart problems, high blood pressure, and birth control pills can lead to hair loss.

GENETICS

- Hair treatments: Chemicals used for dying, tinting, bleaching, straightening, or perming can cause hair to become damaged and break off if they are overused or used incorrectly; hairstyles that pull your hair too tightly also can cause some hair loss, which is known as traction alopecia.
- Hormonal changes such as pregnancy and menopause
- Immune disorders (lupus, diabetes, thyroid disease)
- Nutritional deficiencies: Inadequate protein, iron, or essential fatty acids
- Severe gastrointestinal disorders
- Stress: Emotional stress, fever, surgery, flu
- Weight problems and extreme dieting

HAIR LOSS MECHANISM



TESTOSTERONE 5α Reductase DHT

1. The enzyme 5α - Reductase converts Testosterone to Dihydrotestosterone
2. DHT binds to Androgen Receptors
3. DHT causes increased hair loss & gradual miniaturization of the hair follicle
4. Over time the hair follicles die & the scalp becomes visible

DIETARY RECOMMENDATIONS TO PREVENT HAIR LOSS

Even though hair is not a living tissue, it is important to supply nutrients to the hair follicles in the scalp. While there are no foods that directly stimulate increased hair growth, choose foods that supply the body with a rich supply of vitamins, minerals, antioxidants, fibre and protein.

FOODS TO INCLUDE FOR HAIR GROWTH

- Ensure adequate protein intake as protein is necessary for hair growth. Choose lean sources of protein (fish, poultry, lean cuts of meat, beans, nuts, seeds, and soy). Meat, poultry, and fish also contain iron, which is required for proper hair growth.
- Fish and flaxseed contain essential fatty acids necessary for proper hair growth.
- Nuts and seeds; almonds contain magnesium, which is important for hair growth.
- The outer skin of plants such as potatoes, cucumbers, green and red peppers and sprouts can strengthen hair because they are rich in the mineral silica.
- Whole grains, vegetables, and fruits are good sources of essential nutrients and fibre.

FOODS TO AVOID PREVENTING HAIR LOSS

- Caffeine and alcohol can deplete the body of nutrients and also raise adrenal levels, which can trigger hair loss.
- Foods high in sugar can raise cortisol levels (a stress hormone) and cause the body to produce more androgens, promoting hair loss.

- High intake of salt has been linked to hair loss. Foods high in salt include processed and snack foods, deli meats, and the salt shaker.
- Reduce or eliminate pro-inflammatory foods: saturated fat (fatty meats and dairy) and trans fats (processed foods and fried foods). Saturated fat reduces the amount of sex hormone-binding globulin (SHBG), a substance that normally binds to testosterone. With less SHBG, more testosterone can be converted into DHT, which promotes hair loss.

LIFESTYLE SUGGESTIONS TO PREVENT HAIR LOSS

- Regular exercise and healthy sleep habits will increase circulatory and overall health, promoting healthy hair.
- Reduce the frequency of washing and drying your hair. Use a gentle shampoo and conditioner. Avoid using hot water and hair dryers or curling irons whenever possible.
- Avoid exposing hair to chlorinated pool water or any other chemical solutions (perms and dyes).
- Do not over brush your hair. Limit grooming and always be gentle when brushing or combing hair. Keep braids and ponytails loose.
- Give yourself a weekly deep conditioning treatment and scalp massage to protect the hair shaft and stimulate new hair follicle growth.
- Wear a wide-brim hat when outdoors to protect your scalp and hair from the sun's damaging rays.
- Don't smoke. According to one report, smokers were four times more likely to have grey hair than non-smokers and were more prone to Hair loss

To improve the health of hairs and prevent hair loss, consider the following:

1. Eat lots of vegetables, fruits, whole grains, fish, nuts, seeds, and ensure adequate protein intake.
2. Reduce or minimize saturated fat, caffeine, sugar, and salt.
3. Get regular exercise and don't smoke.
4. Avoid using harsh chemicals and heat on your hair.

HAIR REPAIR - NUTRITIONAL SUPPORT FOR HEALTHY HAIRS

Hair repair is an intensive hair repair formula for men & women, towards strengthening hair & promoting hair growth.

COMPOSITION

Each film coated tablet contains:

Sawpalmetto extract	-	160 mg
Betasitosterols	-	50 mg
Stinging nettle extracts	-	100 mg
DL- methionine	-	25 mg
N-acetyl cysteine	-	25 mg
Biotin	-	150 mcg
Zinc	-	15 mg
Copper	-	1mg
Vit B12	-	5 mcg
PABA	-	50 mcg

PHARMACOLOGY

Sawpalmetto extract, Betasitosterols, Stinging nettle extracts are powerful DHT (DihydroTestosterone) inhibitors effective for the treatment of Androgenic Alopecia. DHT stands for dihydrotestosterone, a hormone formed when the enzyme 5-alpha-reductase breaks down testosterone. DHT is the primary underlying cause of male-pattern baldness. DHT shortens the hair growth cycle, causing the hair follicles to shrink and stop production of hair, leading to hair loss. DHT not only affects men but also women, particularly after menopause when levels of estrogen decrease. Hair repair tablets used to treat baldness work by inhibiting the action of 5-alpha-

reductase, thus reducing the formation of DHT. High-fat diets can also boost DHT levels.

DL- METHIONINE & N-ACETYL CYSTEINE

Retains hair luster, prevents Alopecia as well as hair follicle cell apoptosis. Male pattern baldness, also known as androgenic alopecia or androgenetic alopecia, is caused by the hair follicle's sensitivity to DHT. The follicles *miniaturize* (shrink), resulting in a shorter lifespan and the abnormal production of hair. Apoptosis, A form of cell death in which a programmed sequence of events leads to the elimination of cells without releasing harmful substances into the surrounding area.

BIOTIN & VIT B12

Regenerates RBC which is vital for healthy hair,

ZINC

Prevents Dandruff & boosts hair regeneration,

COPPER

Helps as pigmentation factor for hair,

PABA (para amino benzoic acid)

Restores grey hair to its original color.

MECHANISM OF ACTION OF PHYTONUTRIENTS IN HAIR REPAIR

Saw palmetto, Beta sitosterol & Stinging nettle extracts synergistically act as powerful DHT inhibitors, effective for treatment of Androgenetic Alopecia ^{2,3}

Saw Palmetto Extract	Stinging Nettle Extract	Beta Sitosterol
• Lowers the Levels of DHT • Slows down the process of hair loss • Stabilizes hair density	• Excellent hair vitalizing nutrient • Blocks 5 Alpha reductase activity thus DHT • Promotes hair follicle activity & ensures strong healthy Hair • Lowers levels of elevated TNF alpha another cause of hair loss¹	• Targets hormones responsible for male & female pattern baldness • Has estrogen blocking effects • Prevent new DHT Synthesis • Exhibits anti-inflammatory property

ESSENTIAL HAIR SPECIFIC NUTRIENTS IN HAIR REPAIR

BIOTIN	ZINC	COPPER
- Promotes hair growth & increases hair elasticity, preventing breakage ⁴ - Increases hair shaft diameter & gives a fuller appearance ⁵	- Essential for normal hair growth & maintenance ⁶ - Accelerates hair regrowth & protects hair color - Prevents dandruff - A beneficial adjuvant therapy in mild type of long term alopecia areata.⁶	- Strengthens hair shaft & stops further hair loss - Prevents defects in color & structure of hair
PABA	VITAMIN - B12	DL-METHIONINE
- Helps to prevent, maintain & restore natural hair color⁷ - Prevents bleaching of hair by sunlight - Improves quality & strength of hair	- Helps in Haemoglobin synthesis, improves hair follicle nutrition - Smoothest hair growth to an even rate	- Helps retain hair lustre - Helps to grow & repair hair
N-ACETYL CYSTEINE		FOLIC ACID
- Significantly reduces hair-pulling symptoms for people with Obsessive Compulsive Disorder - Prevents hair follicle cell apoptosis and alopecia ⁸		- Important hair growing vitamin that promotes healthy hair growth - Decreases thinning of hair & receding hair line⁹ - Prevents premature greying of hair

Benefits of hair repair tablets

- Provides vital nutrients for hair follicles
- Restores hair's health
- Maintains natural balance of hair
- Rejuvenates damaged hair

DOSAGE

- 1-2 tab a day
- Notable changes observed when used daily for a period of 6 months

PACK

- 2 x15 tabs

Indications

- Strengthening of hairs
- Promoting hair growth

CONCLUSION

Hair repair tablets Provides vital nutrients for hair follicle as well as it Restores hair's health it also Maintains natural balance of hair & rejuvenates damaged hair follicles.

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