

Hair loss can result for a number of reasons in both males and females. This may be the result of hormonal changes or medical conditions such as alopecia. Hair loss occurs when new hair doesn't replace the hair that has fallen out.

Hair loss can appear in many different ways, depending on what's causing it. It can come on suddenly or gradually and affect just the scalp or the whole body. Signs and symptoms of hair loss may include gradual thinning, circular or patchy bald spots, and sudden loosening of hair. Circular or patchy bald spots is the most common type of hair loss, affecting people as they age. In men, hair often begins to recede at the hairline on the forehead. Women typically have a broadening of the part in their hair. An increasingly common hair loss pattern in older women is a receding hairline (frontal fibrosing alopecia). Some people lose hair in circular or patchy bald spots on the scalp, beard or eyebrows. The skin may become itchy or painful before the hair falls out. A physical or emotional shock can cause hair to loosen. Handfuls of hair may come out when combing or washing hair or even after gentle tugging. This type of hair loss usually causes overall hair thinning.

Hair Loss in Females

<u>In females, hormonal changes such as menopause or thyroid problems can lead to hair loss</u>. Specifically, it's related to a lowered production of estrogen and progesterone. These hormones help hair grow faster and stay on the head for longer periods of time. When the levels of estrogen and progesterone drop, hair grows more slowly and becomes much thinner. A decrease in these hormones also triggers an increase in the production of androgens, or a group of male hormones. In

female, excess androgen levels (primarily testosterone) can cause a variety of symptoms such as acne, weight gain, excessive facial and chest hair (hirsutism), irregular menstruation, and excessive loss of hair at the scalp. There are many other factors that can contribute to hair loss during menopause. These include extremely high levels of stress, illness, or a lack of certain nutrients. Diagnostic blood tests that can help rule out other causes of hair loss include thyroid tests, and/or a complete blood count.

In TCM, these hormonal changes are due to a Liver Yin deficiency in combination with a Kidney blood deficiency.



Hair Loss in Males

In males, hair loss can occur from high levels and sensitivity to DHT and reduced kidney function. Hair loss is due to the shrinkage of hair follicles and the resulting impact on the growth cycle. New hairs become finer and finer until there's no hair left at all and the follicles become dormant. This hair loss is caused by increased DHT levels and certain genes that cause increased DHT receptor sensitivities. Dihydrotestosterone (DHT) is made from testosterone by an enzyme called 5-alpha reductase (5AR). DHT and testosterone are essential in regulating the metabolism of the prostate, skin, and hair follicles. However, DHT is more potent than testosterone. As men age testosterone levels decrease resulting in the activity of 5AR to increase. To compensate, an increase in the conversion of testosterone to DHT occurs. When DHT levels are too high, it can lead to male patterned baldness. DHT can shrink the hair follicles as well as shorten the hair growth cycle by binding to the receptors on the hair follicles. Increased levels of DHT can also make the follicles take longer to grow new hairs.

Hair follicle receptor sensitivity also plays a role in hair loss. The AR gene encodes the receptor on hair follicles that interact with testosterone and DHT. If the receptors are particularly sensitive, they are more easily triggered by even small amounts of DHT, and hair loss occurs more easily as a result. Other genes may also play a part.

Androgens are a group of male hormones that include testosterone as the primary androgen. Higher levels of androgens

in males is connected to decreased renal function.² Androgens have been shown to affect renal hemodynamics and promote glomerular and tubular injury.² This decline in kidney function can further affect hormone imbalance and results in hair loss. Kidney damage and CKD is tied to hair loss due to excessive protein being lost through urine. Many tissues in the body utilize protein including hair and the hair follicles.

Age, stress, and other factors can influence hair loss. But genes play a significant role, and men who have close male relatives with male patterned baldness have a much higher risk of developing it themselves.

In TCM, this condition is due to a kidney deficiency in combination with a liver Yin deficiency.

Hair Loss due to Chronic Immune Stress

<u>Chronic immune stress from viral infections can also lead to hair loss</u>. This non-scarring hair loss is the result of an abnormal shift in follicular cycling with prolonged telogen phase. During the telogen phase, the hair growth cycle is at rest. This delay in the growth of new hair is what triggers hair loss. Scientists are not certain what causes this condition, although physical and emotional stress is believed to be the most likely culprit, not the virus itself. Hair loss can also be caused by high fever, illness or weight loss of more than 20 pounds – all of which are common viral infection symptoms. This is because a fever or illness can force more hairs into the shedding phase. Dermatologists say that hair loss can occur 2 to 3 months after a patient becomes infected with the coronavirus – even weeks after recovery.

In TCM, this condition is due to a Qi and Blood deficiency and invasion of Evil Qi from the meridian in combination with liver, and kidney deficiencies.

Hair Loss from Alopecia

Medical conditions such as alopecia, an immune system related disease, can lead to round patches of hair loss. Alopecia is a disease that develops when the immune system attacks its own hair follicles, where hair growth begins. The immune attack can cause hair loss anywhere on the body. The attack to the hair follicle matrix epithelium makes it undergo early cortical differentiation (anagen hair follicles), which are then prematurely induced into the catagen phase.

While hair can be lost from any part of the body, alopecia usually affects the scalp and face. Hair typically falls out in one or two small, round patches about the size of a quarter. In some cases, hair loss is more extensive and



may also occur in the beard, eyebrows, and arms or legs. In some cases, the hair may become thinner without noticeable patches of baldness, or it may grow and break off, leaving short stubs. Patches where hair has fallen out are smooth and round and can be peach-colored. Hairs that look like exclamation points are sometimes seen at the edges of a bald patch. Most people with the disease are healthy and have no other symptoms. A few people may also feel a burning sensation or itching.

Forms of alopecia include Alopecia areata with patches of hair loss, Alopecia totalis with complete loss of scalp hair and Alopecia universalis with total loss of all body hair. The course of alopecia areata varies from person to person. Some have bouts of hair loss throughout their lives, while others only have one episode. It is possible that emotional stress or an illness can bring on alopecia in people who are at risk typically occurring after a major life event such as an illness, pregnancy, or trauma.

In TCM, the immune attack of the hair follicles is due to Damp and Heat on the scalp in combination with deficiencies in the kidneys, liver, and blood. The liver is a major organ that determines autoimmunity due to control of the T cell immunity by the suppressor T cells produced from the liver.

Wellness Recommendation

<u>The wellness recommendation for hair loss in females due to hormone changes</u> includes Alopecia A, Brown, and LC Balancer. Alopecia A nurtures the kidneys, liver, and blood. It helps nurture hair follicles and assists in tissue regeneration.

Angelica Sinensis, an herbal ingredient in Alopecia A, can invigorate and nourish the blood, is rich in micronutrients, and can expand the scalp capillary.¹ Semen Cuscutae and Fructus Psoraleae have the functions of tonifying kidney, nourishing essence and contain anti-oxidative effects.¹ Brown improves the liver's structure and function, alleviating the liver's fatigue and congestion, and help buffer the hormone changes to adjust to the new metabolic condition. Herbal ingredients in Brown have been shown to have endless benefits on liver health. They contain antioxidant, hepatoprotective, anti-inflammatory, antifibrotic, and hypolipidemic effects.³ LC Balancer nurtures kidney Yin to enhance microcirculation and increase nutrient absorption necessary for hair growth. Patients can notice new hair growth in 4-6 weeks. 3 months of protocol is recommended to have a significant improvement.

<u>The wellness recommendation for hair loss due to chronic immune stress</u> includes Alopecia A, LC Balancer, Linguicin, and Bitter Plus. Alopecia A nurtures the kidneys, liver, and blood. It helps nurture hair follicles and assists in tissue regeneration. Linguicin nurtures the Qi and Blood of the meridian and clears Evil Qi from the meridian. It helps clear chronic viral infections in the nervous system and reduce its inflammation. Bitter Plus nurtures blood Yin and works to reduce high levels of proinflammatory cytokines and histamine in the blood. LC Balancer nurtures kidney Yin to enhance microcirculation and increase nutrient absorption necessary for hair growth. Patients can notice new hair growth in 4-6 weeks. 3 months of protocol is recommended to have a significant improvement.

<u>The wellness recommendation for hair loss in males due to high levels of DHT and poor kidney function</u>, includes Xcel, LC Balancer, Masculine +, and M-strong. Xcel and LC Balancer nurture kidney Yin and Yang to enhance kidney filtration and the balancing of minerals such as proteins. This helps to prevent protein loss through urine which is important since hair is mainly comprised of protein. Many ingredients in both Xcel and LC Balancer have been shown to improve kidney function. Rehmannia Root, in Xcel, for example preserves kidney structure and renal function through lowering fast glucose and urinary albumin excretion. Cinnamon Twig, also in Xcel, contains many antioxidant effects and enriches and nourishes the kidneys. Ganoderma Lucidum, an ingredient in LC Balancer, restores the renal antioxidant defense system to prevent kidney damage. It's also been shown to reduce renal dysfunction and morphological damage.

Masculine + and M-Strong are also recommended to further enhance Kidney Yin and Yang as well as Liver Yin. They work to normalize levels of testosterone in order to reduce the over activity of 5AR and the resulting high DHT levels. Masculine + enhances Kidney Yin and Yang and nurtures Liver Yin. It helps enhance the production of the male sex hormone testosterone by improving blood circulation to the testes, supporting the pituitary gland's hormonal production including the luteinizing hormone (LH), as well as improving liver health. M-Strong nurtures Kidney Yang. It helps promote blood flow to the kidneys and male sex organs. The herbal ingredients utilized have been shown to increase T levels by reducing SHBG, increasing blood flow to the genitals using the same mechanism as Viagra, decreasing blood glucose levels, and increasing LH levels. Patients can experience improvements in energy levels, new hair growth, and hair thickening within the first few weeks and three months of the protocol is recommended for significant improvement.

<u>The wellness recommendation for hair loss due to alopecia</u> includes Alopecia A, Alopecia B, and LC Balancer. Alopecia A nurtures the kidneys, liver, and blood. It helps nurture hair follicles and assists in tissue regeneration. Alopecia B is a topically applied formula that helps remove Damp and Heat in the hair follicles and reduce its inflammation. Through reducing inflammation, Alopecia B can help to decrease the levels of inflammatory cells that are attacking the hair follicles. LC Balancer nurtures kidney Yin to enhance circulation and increase nutrient absorption necessary for hair growth. Patients can expect new hair growth in 1 month. Initially, the new hair will be in grey color, however, it will become darker as treatment continues. 3 months of protocol is required to have significant improvement with sustained results.

Cause of Hair Loss	Product Recommendation
Hormonal Changes (Females)	Alopecia A, Brown, LC Balancer
Hormonal Changes (Males)	Xcel, LC Balancer, Masculine +, M-strong
Chronic Immune Stress	Alopecia A, LC Balancer, Linguicin, Bitter Plus
Alopecia	Alopecia A, Alopecia B, LC Balancer

Selected Case Studies

<u>Case 1: Improvement of Post-COVID-19 Hair Loss</u> Wei Laboratories Practitioner, DC, OR - March 2022

On July 31st 2021, A 48-year-old female practitioner was diagnosed with COVID-19. She started noticing her hair was falling out starting in September 2021. She was experiencing pain and tingling on her scalp in the same location were her hair was shedding. By the end of October 2021, she had lost 70% of her hair. It was determined that stress and COVID19 triggered Telogen effluvium.

At the beginning of November, the practitioner reached out to Wei Labs and started with Linguicin, Bitter Plus, and Alopecia A to address her post-COVID hair loss symptoms. Linguicin was recommended to nurture the Qi and Blood of the meridian and clear Evil Qi from the meridian. It helps clear chronic viral infections in the nervous system and reduce its inflammation. Bitter Plus nurtures blood Yin and works to reduce high levels of proinflammatory cytokines and histamine in the blood and decrease the tingling and pain felt in her scalp. Alopecia A nurtures kidney, liver and blood and it nurtures hair follicles and assists in tissue regeneration.

The practitioner noticed improvements right away with a decrease in pain and tingling in the first week of taking the formulas. In the middle of December, she had new hair growth and Bitter Plus was removed from the protocol and replaced with LC Balancer. By December 31st, she had noticed more drastic improvements in her hair loss improvements and her hair stopped falling out completely. At this point, she continued only with the Alopecia A and LC Balancer to further promote the growth of healthy hair follicles.

By the end of January, her hair was filling in, thicker and not tangling as it was before. Now in March, she has about 2 inches of new growth, her hair is growing at a rate of a quarter of an inch a month and she is feeling stronger overall.

<u>Case 2: Increased Energy and Hair Growth</u> Wei Laboratories Practitioner - April 2022

A male patient had started a clean diet, exercising, and Wei Labs LC Balancer, Masculine +, and M-Strong in January of 2022. He quickly noticed an improvement in energy. Also, his leg hair, which had previously started thinning, had become thicker. After three months, his hair on his head had also gotten thicker as well as a darker brown color instead of grey. People close to the patient were continuously commenting on how he looked like he had more hair. The patient is happy with the results of the hair growth as well as his increased energy and overall health improvements. His cholesterol is now in range and all other blood work measurables are in normal range.

References:

- 1. <u>https://iopscience.iop.org/article/10.1088/1755-1315/621/1/012166/pdf</u>
- Tomaszewski, M., Charchar, F. J., Maric, C., Kuzniewicz, R., Gola, M., Grzeszczak, W., Samani, N. J., & Zukowska-Szczechowska, E. (2009). Inverse associations between androgens and renal function: the Young Men Cardiovascular Association (YMCA) study. American journal of hypertension, 22(1), 100–105. <u>https://doi.org/10.1038/ajh.2008.307</u>
- Choi, E., Jang, E., & Lee, J. H. (2019). Pharmacological Activities of Alisma orientale against Nonalcoholic Fatty Liver Disease and Metabolic Syndrome: Literature Review. Evidence-based complementary and alternative medicine : eCAM, 2019, 2943162. https://doi.org/10.1155/2019/2943162