THE ERA

OF

EPI-GENETICS

Reversing Hair Loss in Weeks

Traction alopecia

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THE ERA OF EPI-GENETICS REVERSING HAIR LOSS IN WEEKS

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About Trichologists on a Mission (TOAM)

What is TOAM?

"Trichologists on a Mission, TOAM, was created because there was an unmet need for alternative therapies and holistic-based solutions for hair loss that would provide satisfying, long-lasting, and low-risk results that can be offered as standalone treatments or paired with conventional medicines. TOAM's signature protocols and holistic solutions offer an unmatched opportunity to restore hope for the practitioner and the client.

We are an inclusive, professional-only organization offering a harmonious and creative learning environment for professional trichologists, hair loss specialists, hair stylists, barbers, naturopaths, holistic practitioners, and medical professionals of all disciplines.

Our philosophy as practitioners is to stress the importance of nurturing the Mind, Body, and Soul- which all play important roles in not only treating hair loss but also in developing a happy and healthy life."

-Nadia Ramos, founder of TOAM and Hair Again, Holistic Practitioners of Trichology™

TOAM's Objectives

- To educate and share best practices with medical, beauty and wellness professionals in the advancement of hair thinning, hair loss and scalp disorders utilizing a holistic wellness approach.

- To present educational lectures, round table focus groups, and clinical studies on industry advancements while offering the latest in alternative products, holistic treatment protocols- solutions that focus on the whole person.

- To offer the delegates a strong foundation in the study of trichology, allowing them to provide hair loss services and solutions to their clients, which could increase their business-building opportunities.

- To offer our partners the opportunity and assistance in selecting additional educational programs/ partnerships that would help them to broaden their knowledge in this area of specialty.

- To attract new strategic business partnerships and industry alliances, creating mutually beneficial relationships.

For more information, please visit https://trichologistsonamission.com

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EPIGENETICS

Epigenetics: Trust Your Gut

What is epigenetics?

The term "epigenetics" was first described by the developmental biologist Conrad H. Waddington in 1942, and it is the study of traits caused by mechanisms other than changes in the underlying DNA sequence (post-translational genetic modifications). Epigenetic marks can be inherited and/or accumulated, and they tell your genes to switch on or off. Epigenetics also affects how genes are read by cells, and subsequently whether the cells will produce relevant proteins or not. What you eat, drink, where you live, your sleep patterns, and how much/often you exercise can create chemical modifications around genes, which can cause those genes to turn on or off over time.

Epigenetics Controls Genes.

This occurs by 1) nature: epigenetics is what determines what a cell becomes (skin cell, blood cell, hair cell, liver cells, etc.) as a fetus develops into a baby through gene expression (active) or silencing (dormant); and 2) nurture: environmental stimuli can also cause genes to be turned off or on. Through epigenetic marks, internal and external environmental factors such as diet, stress, and prenatal nutrition can make an imprint on genes passed from one generation to the next.

There are two types of epigenetic marks: chemical (methylation) and protein (histones).

Epigenetics and lifestyle.

What we put in or on our bodies through the foods we eat, drinks we drink, skincare products we use, environmental toxins we breathe, the stress we experience, our sleep habits, and level of physical activity are all a part of a person's lifestyle. Lifestyles can affect epigenetic mechanisms such as DNA methylation, histone acetylation, and microRNA expression.

Certain foods or supplements (vitamins, minerals) may be able to adjust the expression of our genes, potentially influencing our health. For example, folate and vitamin B12 are needed for

proper DNA metabolism, selenium can epigenetically modulate DNA and histones to activate methylation-silenced genes, and the chemical compound diallyl-disulfide found in garlic has been shown to increase histone H3 and H4 acetylation[1]. It has even been hypothesized that dietary macronutrients that affect DNA methylation could contribute to a person becoming obese through epigenetic mechanisms.
Further, polyphenols found in fruits and vegetables have been shown to reverse in in-vitro models some of the epigenetic aberrations associated with malignant transformations in cells[2].
When it comes to epigenetics, trust your gut- because what you eat matters.

Stress and inflammation.
Stress hormones can also cause epigenetic changes. Chronic exposure to a stress hormone (glucocorticoids) can alter gene expression in the brain and thus modify a person's behavior. Epigenetic mechanisms may also facilitate the development of chronic inflammation by modulating the expression of pro-inflammatory molecules (cytokine TNF- a, interleukins, tumor suppressor genes, oncogenes). These molecules are produced/released by a variety of cells while they are under chronic inflammatory conditions- which in turn can lead to the development of major diseases such as autoimmune disorders and cancer.

Diet and environment affect your epigenetic state; however, epigenetics is reversible and can be controlled by fostering a healthy lifestyle.

Eating a diet full of organic fruits, vegetables, nuts, seeds as well as ensuring that you have an optimal level of vitamins and minerals can have a great impact on epigenetics. Also, ensuring that you are getting the proper amount of sleep, have a positive control over your stress responses (with the ability to relax your mind and body), partake in regular exercise, and avoid exposure to pollutants/toxic chemicals found in certain products and environments can not only greatly help you have control over your genes, but also help improve your overall quality of life.

Pillars Of Health and Epigenetic Protocols

There are several factors that help determine a person's overall level of health. This includes whether they get a certain disease or experience a specific health condition during their lifetime. They have been separated into seven pillars, albeit they all play off one another, as the occurrence/lack of one can be the deficiency/abundance of another:

The Seven Pillars of Health

1) DNA Methylation
2) Body Inflammation
3) Cellular Oxidative stress
4) Body Detoxification
5) Immunity
6) Lipid Metabolism
7) Mineral Metabolism

Methylation

What is Methylation?

Methylation is a biochemical process that involves the transfer of one carbon atom and three hydrogen atoms (CH_3, methyl) from one substance to another.

When optimal methylation occurs, it has a positive impact on many biochemical reactions in the body, especially with DNA, as DNA methylation is one of the most commonly occurring epigenetic events in mammals.

DNA methylation plays an essential role in normal biological processes and is an epigenetic mechanism used by cells to control gene expression, determining which genes are turned on or off. Gene expression can be significantly modulated by alterations in DNA methylation patterns.

(Distinct and abnormal patterns of DNA methylation have been observed in cancers[3].)

Recent studies have shown that methylation of the regulatory (promoter) regions of several genes, including known tumor suppressor genes, results in the failure to express their functional proteins, while methylation within the gene itself can induce mutational events. (Tumor suppression over or hypermethylated= OFF; tumor production under or hypomethylated= ON)

Researchers have linked abnormal DNA methylation to several adverse outcomes, including many human diseases[4].

For most other genes, less methylation = ON; more methylation = OFF. These methylation patterns can be passed on and may influence the gene expression of future generations. They can also be influenced by diet and environmental factors. Methylation is one example of how genes can be directly affected by the environment, as the environment can alter how many methyl groups are placed on the DNA.

Epigenetic Protocol:

To help improve the methylation cycle in your body, eat a healthy, whole-food, non-processed food diet, to include (unless you are allergic/sensitive to): Organic asparagus, avocado, beets, broccoli, Brussels sprouts, and mushrooms.

Deficiencies of folate (vitamin B9) and cobalamin (vitamin B12), two essential micronutrients, can affect proper DNA methylation.

Increase folic acid by eating organic leafy green vegetables, sunflower seeds, citrus fruits, beans, rice, and whole grains.

Increase B12 by eating organic shellfish, fish, chicken, eggs, meats, and drinking nonfat milk such as soy or oat.

Inflammation

What is inflammation?

Inflammation is the result of the immune system's natural response to an injury or illness. When inflammation occurs in the body, many different immune cells are involved (leukocytes, mast cells, basophils, platelets), and they release substances called inflammatory mediators. An inflammatory mediator is a messenger (cytokines, histamines, serotonin, bradykinin), that act on blood vessels and/or cells to promote and intensify an inflammatory response. Inflammation doesn't always help the body. In some cases, such as in psoriasis, the immune system fights against the body's own cells by mistake, causing harm.

Types of Inflammation:

1) Acute- A protective inflammatory response to an injury or infection, which normally resolves after the threat has been eliminated. The immune response lasts for only a short duration, usually no more than a few days. Tissue injury and fibrosis are generally only mild.
2) Chronic- Incomplete resolution of acute inflammation due to repeated attempts to neutralize (non-existing/autoimmune) threats can lead to chronic inflammation. This is a prolonged inflammatory response that involves a progressive change in the type of cells present at the site of inflammation (macrophages and T-lymphocytes). These cells produce cytokines and enzymes that cause lasting damage (fibrosis) to cells by simultaneously destroying and repairing the tissue involved in the inflammatory process. Also, prolonged blood vessel dilation, skin rashes (eczema, psoriasis), and even excessive mucus production can occur in chronic inflammation.
3) Destructive- Autoimmunity; the immune system attacks and eventually destroys healthy tissues that are targeted as harmful to the body. (Such as in rheumatoid arthritis where the joint is destroyed.)
4) Catabolic- Catabolism is a sequence of enzyme-catalyzed reactions where relatively large molecules in living cells are broken down. The production/release of the systemic

inflammatory biomarker C-Reactive Protein (CRP) is part of the acute-phase response to most forms of inflammation, infection, and tissue damage, and its production/release is affected by both genetic and environmental factors[5].

Stress Responses and Inflammation.

Repeated activation of the stress response takes a toll on the body. Chronic conditions can be intensified by the stress response activating too often, with too much intensity, or for too long. A stress response causes physiological and behavioral changes that include various body systems such as the nervous, endocrine, and immune system. A stress response also causes the release of adrenaline and cortisol hormones, as well as inflammatory mediators such as cytokines and oxygen-free radicals. Cortisol has various physiological effects on the body to include the suppression of insulin, suppression of the immune-inflammatory response, and delayed wound healing[6].

Epigenetic Protocol:

Eat green leafy vegetables, beets, bok choy, broccoli, nuts, seeds, berries (especially blueberries), garlic, ginger, avocados, almonds, walnuts, coconut oil, and plain popcorn. Taking anti-inflammatory supplements, such as turmeric, quercetin, and omega 3 fish oil may help.

Optimal Stress Management Zone: Relaxing the mind and body daily (even for brief periods) can help decrease stress responses and its effects. Breathing and relaxation exercises, aromatherapy, along with minimizing stressful thought patterns can help your body's natural relaxation system be more effective.

Oxidative Stress

What is oxidative stress?

Oxidative stress is a disturbance in the balance between the production of reactive oxygen species (ROS, free radicals) and the body's antioxidant defenses. Free radicals play important roles in many physiological and pathological conditions, as they produce oxidative damage to lipids, proteins, and nucleic bases (DNA).

Oxidative stress can induce an alteration in the methylation status of DNA by affecting the function and activity of the enzymes responsible for maintaining the epigenetic status, such as DNA methyltransferases (DNMTs), histone methylase, and histone deacetylase (HDAC).

Oxidative stress (oxidation) occurs when a person is "stressed out", has inflammation due to illness or injury, and naturally occurs during the body's detoxifying process. Studies have shown that a diet rich in polyunsaturated fatty acids could generate mutagenic free radicals and oxidative stress[7].

Epigenetic Protocol:

Eat a balanced diet that includes an abundance of organic fruits and vegetables and avoid sugary and processed foods. Glutathione is a very powerful antioxidant, and foods such as spinach, asparagus, peaches, walnuts, garlic, onion, avocado, beets, broccoli, kale can help the body produce glutathione.

Consume cinnamon, ginger, and turmeric.

Drink green tea.

Exercise regularly, as per your doctor's approval.

Reduce stress by breathing and relaxing for some time each day.

Detoxification

There are two phases of detoxification that include breaking down and excreting toxins.

- Phase 1- The liver uses enzymes to regulate oxygen and converts toxins into digestible forms.
- Phase 2- After the liver converts these digestible byproducts into water-soluble particles to be excreted, they are eliminated as waste products and cellular debris.

Most people in the United States are exposed to 1 gallon of neurotoxic pesticides and herbicides a year. Toxicity triggers mood changes, depression, aggression, and attention and a decline in mental focusing ability.

Epigenetic Protocol:

Eat organic broccoli, cabbage, garlic, onions, grapes, berries, and drink green and black tea

Practice “Intermittent Fasting” variants (if cleared by your doctor) and increase glutathione. Avoid alcohol, caffeine, and sugar.

Reduce your exposure to harmful chemicals and toxins in skin and hair care products by using organic, all-natural products. Read labels so you know what you are putting on/in your body.

Immunity

Having a balanced immune system is an important part of being healthy.

Types of immunity:

- Hyperactive immunity=The immune system is overactive. People who have allergies, asthma, and autoimmune disease have hyperactive immune systems.
- Hypoactive immunity= The immune system is weakened, allowing colds, flu, and infections to occur.

Epigenetic mechanisms have been shown to regulate many genes involved in the immune response and inflammation. Abnormal DNA methylation profiles and histone modifications have been known to cause several autoimmune diseases, asthma, and some cancers.

Epigenetic Protocol:

Consume adaptogens (herbs that balance, protect, and restore the mind/body), as they have a direct impact on the stabilization of immunity and stress/adaptogenic response.

Consume ginseng, holy basil (Ayurvedic), ashwagandha (Indian ginseng), astragalus root, licorice, Rhodiola, cordyceps mushrooms, goji berries, Rehmannia root, schizandra fruit, and red jujube juice.

Lipid Metabolism

Fats (or triglycerides) are ingested as food or created by adipocytes (fat cells) or hepatocytes (liver cells) in our bodies from carbohydrates.

Lipid metabolism is the oxidation (breakdown) of fatty acids to either generate energy or create new lipids from smaller constituent molecules.

Lipoproteins are important in lipid metabolism, as their job is to transport lipids around the body. They include:

- Very Low-Density Lipoproteins, VLDLs- carry new triglycerides (with cholesterol, a key ingredient in our cell membranes, that is an important precursor for vitamin D, bile salt, and hormone production) from the liver to the fat cells.
- Intermediate Lipoproteins, IDLs- are general transporters that are essentially VLDLs without triglycerides.
- Low-Density Lipoproteins, LDLs- are also general transporters that carry cholesterol, fat-soluble vitamins, triglycerides, and phospholipids out of the liver to cells around the body.
- High-density Lipoproteins, HDLs- carry triglycerides and cholesterol back to the liver. HDLs are needed to properly respond to the call to get energy out of our fat cells.

Genetic expressions govern optimal lipid metabolism. Fatty-acid sensing and metabolism are integrated by epigenetic events that control gene expression, together with ensuring proper cellular response to metabolites for growth[8].

DNA methylation also plays a role in the regulation of blood lipid levels and lipid metabolism-linked phenotypes and diseases. Epigenetic changes to DNA can be consequences rather than causes of dyslipidemia[9] (elevated blood lipids).

Epigenetic Protocol:

Reduce/eliminate all forms of bad fats, beef, butter, cheese, and all trans-fats in margarine, cookies, pastries, and all refined carbohydrates

Increase monounsaturated fats, nuts, seeds, salmon, avocados, olive oil, and high-quality carbohydrates such as whole grains, cruciferous vegetables broccoli and cauliflower.

Mineral Metabolism

Vitamins (A, Bs, C, D, E, K) and minerals (calcium, magnesium, zinc, iron,) are key components and regulators of many of the body's biochemical processes. For example, B1,2, and 5, are all involved in the various stages of deriving energy from fat, proteins, and carbohydrates. Iron, Niacin, and B6 help metabolize L-carnitine, which is essential for the transport of fatty acid components to energy-producing areas of cells (mitochondria).

If you are deficient in any vitamin or mineral, it can greatly affect normal cellular functioning. For example, having low levels of magnesium can negatively affect your insulin sensitivity. There needs to be a balance of minerals in the blood, as too many or too little can cause issues. Mineral metabolism disorders are sometimes genetically inherited from parents and passed down through generations. Starvation, chronic diarrhea, and alcoholism can also cause mineral metabolism issues for people.

Epigenetically active enzymes require cofactors such as minerals. Essential minerals have direct and indirect effects on the methylation status of the DNA- on epigenetic modifications of histones. The mineral balance in blood mostly affects the epigenome generation during embryonic development, but changes occur throughout life as lifelong epigenome editing can occur.

Epigenetic Protocol:

Take mineral supplements (as approved by your doctor).

Drink water with electrolytes (sodium, potassium, calcium, magnesium) and organic bone broth. Eat organic meats, fruits, vegetables, nuts, and seeds.

Use unrefined sea salt on your food in moderation.

THERAPIES

Healing Therapies, Tools, and Diets

Alkaline Diet= Good for all scalp disorders. A diet that is high in alkalinity (foods and beverages) can help prevent moderate and heavy hair loss, diminish hair thinning during menopause, can quickly restore hair loss during cancer chemotherapy, stop dandruff formation following hormonal treatment, relieve generalized dandruff and itchy scalp, stimulate new hair growth if the hair roots are still intact, and replace weak hair strands with stronger, healthier hair.

Aromatherapy= Good for all scalp disorders. Aromatherapy is a great stress-relieving tool. High levels of stress can negatively affect your health (mentally and physically). The stress hormone corticosteroid can suppress the effectiveness of the immune system, causing weakness, illness, and infection. Aromatherapy blends utilize essential oils in a diffuser or micro mister and can penetrate the skin's surface. Once the oils are in the system they work synergistically with the body at the site of malfunction or at the affected area to aid in healing.

Blood type diet = Good for all scalp disorders. This diet plan was created by naturopath Peter J. D'Adamo. People with different blood types react differently to stress, and the foods they eat cause different chemical reactions to occur in their bodies. By eating foods that pair well with your blood type, it is believed that you can lose weight, have more energy, digest foods more effectively, increase cellular regeneration while possibly reducing the occurrence of certain diseases. Visit https://www.dadamo.com/txt/index.pl?1001 for more information.

Expert Mesotherapy Tool with negative ion red light= Microinjections of proteins, vitamins and other nutrients inserted into the scalp, just below the epidermal layer of the skin. This stimulates the mesoderm layer in the skin and encourages the hair's natural regeneration and proliferation process to occur.

Low-level laser therapy (LLLT)= Good for all scalp disorders. This therapy is optional and may be performed after applying the follicle drops/temple balm. Low-level laser therapy is FDA-approved and utilizes safe, painless laser technology to treat hair loss by stimulating hair follicles to induce the regrowth of hair.

Mesotherapy= Good for all scalp disorders. Mesotherapy or intradermotherapy is a technique that involves the use of multiple intradermal injections of a mixture of compounds in low doses, at many points, near/over the affected sites on the scalp. It can help correct hormone imbalances in and around the hair follicle, deliver nutrients to the hair, and improve blood circulation.

Micro-mist therapy= Good for all scalp disorders. A micro mister can be used with the Mineral Clay Absorption (MCA) therapy to help prevent the clay paste from drying out. Essential oil blends may also be added for relaxing aromatherapy and for therapeutic uses on the scalp as well.

Micro-mister tool= Mists microscopic water particles that permeate deep into the hair follicles.

Micro-needling Therapy= Good for all scalp disorders unless the client has open wounds/sores. Open a new microneedle in front of the client and sanitize it with 91% isopropyl alcohol. (Tell the client to sanitize their microneedle before and after each use. It will be theirs to take home. Do not keep or store used microneedles.) Pass microneedle 10 times in a crosswise pattern across the client's scalp. Always wear protective gloves when micro-needling a client.

Micro-needle tool= Derma Roller with 520 stainless steel micro-needles.

Mineral Clay Absorption (MCA) Therapy= Good for all scalp disorders. A clay scalp mask can help detox, deeply cleanse pores, while avoiding over stripping hair. It is a natural alternative to hair washing that doesn't include any harsh chemicals or additives. Technique: Bring the client to the rinse bowl. Mix 2 tsp clay with 2 tsp infusion and 2 drops of essential oil (specific for each scalp condition). Apply to the client's scalp and leave on for 10 minutes before rinsing. Do not let the clay dry out. A micro-mister or steamer may be used to keep the client's scalp hydrated.

Types of clays:

- **Moroccan Red Clay**= Can be used as a gentle detoxifying cleanser and skin conditioner that won't completely strip your hair of its natural oils. It has antiseptic and anti-inflammatory properties that can help soothe the scalp- especially in those suffering from dandruff or psoriasis. It unblocks clogged pores and encourages hair growth. It also has a high mineral content that helps make the hair soft, reducing the need for a detangler.
- **French Green Clay**= Also known as sea clay, has long been known for its detoxifying skincare benefits that can be attributed to its unique blend of minerals. It

removes/absorbs impurities, dead skin cells, bacteria, and dirt- purifying the skin and unclogging pores.

- **White Kaolin Clay**= This clay stimulates blood circulation, strengthens hair, removes dirt, oil, toxins, and impurities without over-drying. It is the gentlest clay and thus great for sensitive or dry skin.
- **Red Kaolin Clay**= Is highly absorptive, removes the build-up of dirt, toxins, and oils on the scalp. It is best for oily skin types.

Clay can be combined with essential oils and sulfur. There are studies indicating that sulfur has positive effects on hair growth, and sulfur also has been linked to treating, relieving, and decreasing the occurrences of psoriasis, dandruff, eczema, and folliculitis. I personally find the hair growth benefits and level of scalp relief from the use of sulfur to be amazing.

Essential Oils= Provides calming, balancing benefits. Most have anti-fungal, ant-bacterial, and anti-microbial properties.

Herbal Tea Infusions= Delivers raw, healing elements that assist with scalp maladies and body detoxification.

Iridium= Stimulates blood circulation; helps to regulate the functions of the sebaceous glands. Has a PH of 6.

Low-level Diode Laser Technology tool= Uses light to painlessly stimulate hair follicles to induce the regrowth of thicker, fuller hair.

Ozonated oils, O_3= These oils are infused with ozone, which helps to purify, regenerate, and repair the scalp tissue.

Natural bristle brush= This helps to gently remove dead skin cells for lymphatic drainage.

Ozone (O_3) Therapy= Good for all scalp disorders and can be performed during every treatment session. Ozone consists of three oxygen atoms, O_3. Ozone therapy is used to treat conditions by disinfecting the affected area, improving the body's intake and use of oxygen, and activating the immune system. Technique: Sanitize the glass probe with 91% isopropyl alcohol before and after every use. Perform ozone therapy on the client for 7 minutes. Use the High-Frequency Table Unit with Violet Glass Probe **ONLY.**

pH-balancing conditioner/shampoo= Assists in regulating the pH-level of the hair fibers.

pH-Strip Test= Determines the acid content of substances by measuring the pH, or concentration of hydrogen ions.

Scalp Insufflation Therapy= For treating scarring alopecia and other scalp disorders. Perform after shampooing. A cap is placed on the client's head, isolating the scalp area. A hose is attached, and ozone is applied for 5 minutes. This helps to bring nutrients to the scalp area.

Scalp Insufflation tool= Ozone O_3 generator with a processing cap.

Scalp Irrigation Therapy= Good for treating all scalp disorders. Perform after ozone therapy. This therapy hydrates the scalp by misting a tonic that consists of humic acid, fulvic acid, and ozone. These acids work together to cleanse unwanted salt acids that surround and harden cell walls, creating cell permeability. Fulvic acid helps make cells able to absorb nutrients and is a multi-directional antioxidant. Essential oils may also be added to the tonic to enhance the treatment, and aromatherapy can help create a calming effect for the client.

Scalp irrigation tool= Hand-held Scalp Nano Steam Hydrating Gun with violet light.

Scalp Recovery Therapy= This therapy helps to remove dead skin cells and provide deep cleansing for pores on the scalp. Technique: Mix 2 oz distilled water with 2 TBS of iridium until it has a frothy consistency. Bring the client to the rinse bowl and apply the scalp recovery mix to their scalp with a natural bristle brush. Use a clean ultrasonic skin spatula to pass over their scalp, Rinse client and towel dry hair.

Toothpicks infused with tea tree and menthol= Folliculitis

Supplements= Help to ensure that you are getting enough of the vital substances your body needs to function optimally (vitamins, minerals, micronutrients).

Vitamin C and carbon-filtered showerhead= This purifies the water, removes chlorine, and builds your immune system.

Zyto Scan= Provides insights into your personal wellness that may have gone unnoticed previously.

Blood Type Diet

The Blood Type Diet was first described by the naturopathic doctor Peter J. D'Adamo in the late 1990s. His goal was to help his patients achieve a healthy weight so they could live healthier, longer lives in part by eating according to their blood type.

Dr. D'Adamo's research revealed that a person's blood type. is closely tied to their ability to digest certain types of foods, so, in theory, a diet in alignment with your specific blood type could improve digestion, help maintain an ideal body weight, increase energy levels, and prevent diseases including cancer and cardiovascular disease.

If you are unsure of your blood type, it is recommended to be tested if you would like to begin eating a diet that is in harmony with your specific type of blood.

Type O Blood: The Hunter

Type O has been theorized to be the original, "ancestral" blood type of the earliest humans who were hunter-gatherers and had diets that were high in animal protein.

O blood types should choose high-protein foods and eat lots of meat, vegetables, fish, and fruit but limit grains, beans, and legumes. To lose weight, seafood, kelp, red meat, broccoli, spinach, and olive oil are best; wheat, corn, and dairy are to be avoided.

Type A Blood: The Agrarian

Group A was said to evolve when humans began to farm and had more vegetarian diets. Type A blood individuals should choose fruit, vegetables, tofu, seafood, turkey, and whole grains but avoid meat (especially red). For weight loss, seafood, vegetables, pineapple, olive oil, and soy are best; dairy, wheat, corn, and kidney beans should be avoided.

Type B Blood: The Nomad

Group B blood types were said to arise among nomadic tribes who consumed dairy products. Those with type B blood should pick a diverse diet including meat, fruit, dairy, seafood, and grains. To lose weight, type B individuals should choose green vegetables, eggs, liver, and licorice tea but avoid chicken, corn, peanuts, and wheat. pork, lentils, tomatoes

Type AB Blood: The Enigma

Group AB blood was thought to have evolved from the intermingling of people with types A and B blood. Food choices for this blood type are intermediate between those with types A and B blood.

AB blood types should eat dairy, tofu, lamb, fish, grains, fruit, and vegetables. For weight loss, tofu, seafood, green vegetables, and kelp are best but chicken, corn, buckwheat, and kidney beans should be avoided.

For more information on the blood type diet, visit www.4yourtype.com.

Blood Type Diets

Eat		Avoid
Seaweed red meat cold water fish spinach, kale broccoli, olive oil	**Type O**	Wheat, Corn kidney and navy beans, white potatoes
Fruit (pineapple), vegetables (broccoli, onions), tofu, seafood, turkey, whole grains, olive oil	**Type A**	Dairy, wheat, corn, kidney and lima beans, oranges, meat (red)
Cultured dairy, red meat, broccoli, onions, pineapple	**Type B**	Chicken, corn, lentils, buckwheat
Cultured dairy, broccoli, walnuts, cauliflower	**Type AB**	Chicken, corn kidney and lima beans, buckwheat

Leaky Gut and the Scalp

What is a leaky gut?

Numerous tiny blood vessels surround the semi-permeable lining/barrier of the intestines and absorb nutrients from digested foods as they pass through, which will be transported throughout the entire body through the bloodstream. Poor diet, antibiotic use, and lifestyle choices can play a role in the destruction of this intestinal lining, increasing its permeability, and causing poorly digested food particles, harmful bacteria, and toxins to "leak" and gain exposure to the entire bloodstream. This can trigger autoimmune disease, exacerbate inflammation throughout the body, compromising the health of every organ system (to include the skin[10] and its appendages- the sebaceous glands, apocrine and eccrine sweat glands, hair follicles, and nails), alter hormonal balance, and even affect the brain's chemistry (and people's moods).

How does the leaky gut affect the scalp?

Epidemiological evidence shows a clear association between leaky gut and skin/scalp disorders[11]. Leaky gut causes inflammation, and most hair loss is due in part to inflammation of some kind.

Therapeutic strategy for healing the gut:

1. Remove all inflammatory foods, to include gluten, dairy, sugars, coffee, alcohol, and soy.
2. Replenish the probiotics and create a balance in the flora in your intestinal tract[12]= lactobacillus, acidophilus, etc.
3. Increase digestive enzymes/take supplements
4. Increase the pH of stomach acid/hydrochloric acid.
5. Take supplements of chlorophyll, Aloe Vera (juice), omega's, flaxseed oil, and lysine.
6. Drink alkaline water (make your own by adding 1 tsp baking soda to 8 oz of water) and organic bone broths.

BLUEPRINT FOR ADVANCED THERAPIES:

Hair Again Protocols for Treating Traction Alopecia

Traction alopecia is a form of hair loss caused by the hair being pulled in a certain manner for a period of time, as in being in a ponytail, a braid, or clip. It can also be caused by wearing tightly-fitting head garments often.

This condition is treatable, reversible, and does not cause scarring like other forms of hair loss *To purchase all of the tools, equipment, oils, clays, and shampoos to treat scalp disorders according to the Hair Again Protocol please visit https://hairagaininweeks.com/shop*

You will need:

- Distilled water
- pH-balancing shampoo and conditioner
- Vitamin C and carbon filtered showerhead
- Natural bristle brush
- Blow dryer
- Ozonator: High-Frequency Table Unit with Violet Glass Probe
- Green clay
- 91% isopropyl alcohol to sanitize your tools
- Eucalyptus and calendula tea
- Microneedle / Dermaroller 0.75
- Peppermint oil
- Temple balm (Pure'O Naturals)
- Steamer

Duration: 6-week program.

FEMALES= If your hormone levels are suspected to be out of balance, you may need to consult with an endocrinologist.

Step 1= Scalp Recovery: Mix 2 oz distilled water with 2 TBS of iridium until it has a frothy consistency. Apply the scalp recovery mix to the scalp with a natural bristle brush. Use a clean ultrasonic skin spatula to pass over their scalp, which helps to remove dead skin cells and provide deep cleansing for pores. Rinse.

Step 2= *(Do this for the first treatment only.)* Mineral Clay Absorption (MCA): Mix 2 tsp green clay with 2 tsp eucalyptus and calendula infusion, with 2 drops of peppermint oil. Apply to the scalp and leave on for 10 minutes before rinsing. (Do not let the clay dry out. A steamer may be used to keep the scalp hydrated.)

Step 3= Shampoo with a pH-balancing shampoo, (Pure'O Follicle growth system), rinse and follow with a pH-balancing conditioner (Pure'O). Use a vitamin C and carbon-filtered showerhead, which purifies water, removes chlorine, and infuses the hair/scalp with vitamin C. Towel dry hair, and follow with a blow dry of the scalp.

Step 4= High Frequency Wand: Sanitize the glass probe with 91% isopropyl alcohol before and after every use. Perform therapy for 7 minutes only in the affected area. Use once twice a week with clean hair.

Step 5= Scalp Irrigation.

Step 6= Micro-needling*: Open a new microneedle and sanitize it with 91% isopropyl alcohol. (Always sanitize the microneedle before and after each use.) Pass microneedles 10 times in a crosswise pattern across the scalp.

Step 7= Supplements to ensure cellular regeneration and healthy hair growth

Step 8= Shampoo the affected area daily and apply temple balm daily microneedle once a week.

Recommended Blood Tests to Help Treat Hair Loss

Blood chemistry analysis services are available through Hair again. Please visit hairagaininweeks.com for more information.

Proteins

- Albumin - a small protein produced in the liver; the major protein in serum
- Total protein - measures albumin and all other proteins in the blood, including antibodies made to help fight off infections
- C-reactive protein (CRP) - inflammation somewhere in the body
- Albumin/creatine ratio -Helps to determine the risk of developing a kidney or cardiovascular disorder

Liver Tests

- ALP (alkaline phosphatase) - an enzyme found in the liver and other tissues, bone; elevated levels of ALP in the blood are commonly caused by liver disease or bone disorders.
- ALT (alanine aminotransferase, also called SGPT) - an enzyme found mostly in the cells of the liver and kidney; a useful test for detecting liver damage.
- AST (aspartate aminotransferase, also called SGOT) - an enzyme found especially in cells in the heart and liver; a useful test for detecting liver damage.
- Bilirubin - waste product produced by the liver as it breaks down and recycles aged red blood cells.
- Albumin – measures the main protein made by the liver and tells whether the liver is making an adequate amount of this protein or not.
- Gamma-glutamyl transferase (GGT) - an enzyme found mainly in the liver and is a useful marker for detecting bile duct problems.

Basic Metabolic panel - health of the kidneys, blood glucose level, and electrolyte and acid/base balance.

Electrolytes

- Sodium - vital to normal body processes, including nerve and muscle function.
- Potassium - vital to cell metabolism and muscle function.

- CO2 (carbon dioxide, bicarbonate) - helps to maintain the body's acid-base balance (pH).
- Chloride - helps to regulate the amount of fluid in the body and maintain the acid-base balance.

Kidney Tests

- BUN (blood urea nitrogen) - waste product filtered out of the blood by the kidneys; conditions that affect the kidney have the potential to affect the amount of urea in the blood.
- Creatinine – waste product produced in the muscles; it is filtered out of the blood by the kidneys, so blood levels are a good indication of how well the kidneys are working.

Blood glucose test – to monitor diabetes.

- Glucose - energy source for the body; a steady supply must be available for use, and a relatively constant level of glucose must be maintained in the blood. Glucose is a sugar that serves as the main source of energy for the body. The carbohydrates we eat are broken down into glucose (and a few other sugars), absorbed by the small intestine and circulated throughout the body. Most of the body's cells require glucose for energy production; the brain and nervous system cells rely on glucose for energy and can only function when glucose levels in the blood remain within a certain range. The higher the level of glucose in the blood, the more glycated hemoglobin is formed.
- HbA1c - As glucose circulates in your blood, some of it spontaneously binds to hemoglobin (the protein that carries oxygen in your red blood cells) - the combination is called hemoglobin A1c (HbA1c). The amount of HbA1c formed is directly related to the amount of glucose in your blood. If your diabetes is not well controlled, your blood glucose levels are high, causing higher HbA1c levels.

Insulin - help determine the cause of low blood glucose (hypoglycemia) in patients.

- C-peptide - used to monitor insulin production by the beta cells in the pancreas and to help determine the cause of hypoglycemia (low blood sugar).

Thyroid function test

- Thyroid Stimulating Hormone (TSH) – TSH then signals your thyroid to make T3 and T4. The level of thyroid hormones in your body then feeds back to the hypothalamus and the pituitary, which in turn adjust the release of TSH.
- Free T4 – Thyroxine - By measuring the free hormones, the results are not affected by changes in the levels of thyroid hormone-binding proteins.
- Free T3 – Triiodothyronine - By measuring the free hormones, the results are not affected by changes in the levels of thyroid hormone-binding proteins.
- TSH-receptor antibodies (TRAb) - indicate Graves's disease.
- Thyroid peroxidase antibodies (TROAb) – indicates Grave's disease or Hashimoto thyroiditis as well as other autoimmune thyroid problems.

Complete Blood Count test

- Red blood cells - carry oxygen.
- White blood cells - fight infection.
- Hemoglobin - the oxygen-carrying protein in red blood cells.
- Hematocrit - the proportion of red blood cells to the fluid component, or plasma, in the blood.
- Platelets - assist with blood clotting.

Iron tests

- Serum iron test—measures the level of iron in the liquid portion of the blood.
- Transferrin test—directly measures the level of transferrin in the blood. Transferrin is the protein that transports iron around in the body. Under normal conditions, transferrin is typically one-third saturated with iron. This means that about two-thirds of its capacity is held in reserve.
- TIBC (total iron-binding capacity)—measures the total amount of iron that can be bound by proteins in the blood. Since transferrin is the primary iron-binding protein, the TIBC test is a good indirect measurement of transferrin availability.
- UIBC (unsaturated iron-binding capacity)—The UIBC test determines the reserve capacity of transferrin, i.e., the portion of transferrin that has not yet been saturated with iron. UIBC also reflects transferrin levels.
- Transferrin saturation—a calculation that reflects the percentage of transferrin that is saturated with iron (100 x serum iron/TIBC).

- Serum ferritin—reflects the amount of stored iron in the body.

Erythrocyte sedimentation rate (ESR) - measures the degree of inflammation present in the body.

Cholesterol test - Cholesterol in the blood is in complex particles called lipoproteins. There are different types of lipoproteins. HDL, good cholesterol, removes bad cholesterol from the body, whereas LDL, bad cholesterol, collects in the walls of blood vessels. The test for cholesterol measures all cholesterol (good and bad).

- HDL - HDL particles remove excess cholesterol from the body. Hence, having a high level of cholesterol carried by HDL particles is generally good and HDL cholesterol is often termed 'good' cholesterol.
- LDL - LDL is a type of lipoprotein that carries cholesterol in the blood. LDL cholesterol (LDL-C) is undesirable because it deposits excess cholesterol in the walls of blood vessels and contributes to the 'narrowing of the arteries' and heart disease and strokes.
- Triglycerides - Triglycerides are the body's storage.

Lipid profile - determines the risk of developing cardiovascular disease.

Vitamin, Mineral and Nutrient test

- Magnesium - is essential to many processes in your body, such as: producing energy from food; enabling your muscles and nerves to work properly; helping your cells absorb potassium and calcium. About half the magnesium in your body is in your bones. The rest can be found throughout your body. Only about 1 part in 100 is in your blood.
- Calcium - one of the most important minerals in the body; it is essential for the proper functioning of muscles, nerves, and the heart and is required in blood clotting and in the formation of bones.
- Zinc - blood test or urine test to check zinc levels, these may not give a definitive result. This is because zinc is only present in small amounts in the body's cells.
- Copper - the total amount of copper in your blood. Normally most of the copper in your blood is carried by a protein called ceruloplasmin.

- Selenium - the amount of selenium in the serum/plasma. Selenium is an essential trace element with important functions throughout the body. Selenium has several important roles including the synthesis and metabolism of thyroid hormones, immune function, and antioxidative processes.
- Iodine - accurate test for iodine levels in the body. However, it takes more time to read than a urine test
- Copper/Zinc Ratio – high Copper to Zinc ratio is believed to cause a range of detrimental health effects including growth and mental abnormalities, increased age degeneration and increase oxidative stress and cardiovascular disease risks.
- Folate (vitamin B9) - required to make red blood cells and to make and repair your DNA.
- Beta Carotene (Carotene) - measures levels of Carotene, a fat-soluble nutrient that is a precursor to vitamin A. Beta carotene is the form of vitamin A that is derived from plant sources.
- Vitamin A (Retinol) - measures levels of vitamin A, an essential nutrient required for healthy vision, skin growth and integrity, bone formation, immune function, and embryonic development. Vitamin A is required to produce photoreceptors in the eyes and to maintain the lining of the surface of the eyes and other mucous membranes. Deficiencies may occur in individuals with digestive disorders like celiac disease or irritable bowel syndrome. Retinol is absorbed from animal sources like eggs, fish, and liver.
- Vitamin B1 - measures levels of vitamin B1, also called thiamine. Vitamin B1 has a wide spectrum of uses including metabolic reactions and forming adenosine triphosphate (ATP), an energy source every cell type in the body uses. Deficiencies may occur in individuals with digestive disorders like celiac disease or irritable bowel syndrome.
- Vitamin B2 - measures levels of vitamin B2, also called riboflavin. B2 is important for energy production, enzyme function, and normal fatty acid and amino acid synthesis.
- Vitamin B3 - measures levels of vitamin B3, also known as niacin. Like all B vitamins, niacin plays a role in converting carbohydrates into glucose, metabolizing fats and proteins, and keeping the nervous system working properly. Niacin also helps the body produce sex-related and stress-related hormones and improves circulation and cholesterol levels.
- Vitamin B5 - measures levels of vitamin B5, also called Pantothenic acid. This vitamin is necessary to synthesize cholesterol, produce red blood cells, maintain a healthy digestive tract and breakdown fats and carbohydrates.

- Vitamin B6 - measures levels of vitamin B6, which is involved in the process of making serotonin and norepinephrine, chemicals that transmit signals in the brain. It is also involved in the formation of myelin, a fatty protein layer that forms around nerve cells. Deficiencies may occur in individuals with digestive disorders like celiac disease or irritable bowel syndrome.
- Vitamin B12 - measures levels of vitamin B12, also known as Cobalamin. B12 plays an important role in the normal functioning of the central nervous system, metabolism, and the formation of red blood cells. Deficiencies may occur in individuals with digestive disorders like celiac disease or irritable bowel syndrome.
- Vitamin C - measures levels of vitamin C, which plays an important role in the growth and repair of body tissues including repairing maintaining cartilage, bones and teeth, healing wounds and forming scar tissue, and aids in making skin, tendons, ligaments and blood vessels.
- Vitamin D 25-Hydroxy (Calcidiol) - measures levels of Vitamin D 25-Hydroxy in the blood for deficiencies. The major function of vitamin D in humans is the maintenance of calcium homeostasis.
- Vitamin E - measures levels of vitamin E, a fat-soluble vitamin and antioxidant that has a wide spectrum of health uses.
- Vitamin K - deficiencies because a lack of vitamin K is usually discovered when unexpected or excessive bleeding or easy bruising occurs.
- Omega 3 Index - is the sum of the fatty acids Eicosapentaenoic Acid (EPA) and Docosahexaenoic Acid (DHA) in red blood cell membranes and is expressed as a percentage.

Hormones- The hormonal system (called the endocrine system in medical terminology) influences your metabolism, growth and many other functions. In the hormonal system, glands secrete chemicals known as hormones into the bloodstream or surrounding tissue.

- Testosterone - Both men and women make testosterone in their bodies, although men usually produce much more of it than women. A blood test for testosterone can show how much of this important sex hormone is in your body.
- Oestrogen - is a sex hormone produced both by women and men, although in much greater amounts in women.
- Oestradiol — important for ovulation, conception, pregnancy, healthy bones and cholesterol levels in women

- Oestriol — important during pregnancy; oestriol levels usually start to rise after the eighth week of pregnancy
- Oestrone — the most important oestrogen after menopause
- Follicle-stimulating hormone (FSH) - FSH levels increase when you enter menopause, but levels also rise and fall during a normal menstrual cycle.
- Progesterone - a hormone produced by the ovaries during ovulation which helps to prepare the uterus to receive a fertilized egg.
- Dehydroepiandrosterone (DHEA) - a weak male hormone (androgen) produced by the adrenal glands in both men and women. The DHEA-sulfate test measures the amount of DHEA-sulfate in the blood.
- Sex Hormone Binding Globulin (SHBG) - Measuring the level of SHBG in your blood gives important information about your levels of "free" or unbound hormones that are biologically active and available for use.
- Luteinising Hormone (LH) - produced by the pituitary gland and is important for male and female fertility. In women it governs the menstrual cycle, peaking before ovulation. In men, it stimulates the production of testosterone.

BCA Report- Identifies early health risks in blood sugar, cardiovascular health, thyroid function, autoimmune disorders, hormonal imbalances, immune challenges, and adrenal dysfunction. This is to insure successful recovery.

Drug-Induced Nutrient Depletion

Whether you occasionally take a pharmaceutical like an antibiotic or count on a drug long term such as a cholesterol health lowering statin, your need for specific nutrients increases. Many prescriptions, as well as commonly used over-the-counter drugs, cause potentially serious nutrient depletions.

Drug	Indication for Usage	Nutrients Depleted
Opiate		
hydrocodone/acetaminophen	Narcotic for pain relief	Folic Acid, Vitamin C, Iron, Potassium
Statin Drugs		
Lipitor, Crestor, Lescol, Pravachol, Zocor, Mevacor	Lowering Cholesterol	Coenzyme Q10
ACE Inhibitor		
Lisinopril. Altace, Accupril, Capoten, Prinivil, Zestril, Vasote	High Blood Pressure	Zinc
Thiazide Diuretic		
Hydrochlorothiazide	High Blood Pressure	Coenzyme Q10
Beta Blocking Drugs		
Atenolol, Corgard, Lopressor, Tenormin, Toprol XL, Metoprolol	High Blood Pressure	Coenzyme Q10, Chromium, Melatonin
Loop Diuretic		
Furosemide, Lasix, Ethacrynic acid, Edecrin, Bumex,	High Blood Pressure, Heart Failure	B1, B6, Vitamin C, Calcium Magnesium, Phosphorus, Potassium, Zinc
Proton Pump Inhibitor		
Omeprazole, Prilosec, Prevacid, Nexium, Protonix, Aciphex	GERD, severe gastric ulceration	Beta-carotene, B1, B12, Folic Acid, Calcium, Zinc
Biguanide		
Metformin, Glucophage	Diabetes, Prediabetes	Folic Acid, B12
Bisphosphonate		
Fosamax, Actonel, Boniva, Didronel, Skelid	Osteoporosis	Calcium Magnesium, Phosphorus
Corticosteroid		
Flonase, Beclovent, Beconase, QVar, Vancenase, Vanceril	Asthma, Allergic Rhinitis	Beta-Carotene, B6, Folic Acid, Vitamin C, Vitamin D, Calcium Magnesium, Potassium, Selenium, Zinc, Melatonin

Drug	Indication for Usage	Nutrients Depleted
Fluoroquinolone Antibiotic		
Levaquin, Avelox, Cipro, Floxin, Noroxin, Penetrex, Trovan	Bacterial Infection	Biotin, B1, B2, B3, B6, B12, Zinc, Healthy intestinal bacteria
Conjugated Estrogen		
Premarin Hormone replacement therapy, birth control pills	Hormone Replacement Therapy	B6, Vitamin D, Calcium Magnesium, Zinc, Folic Acid, B12
Beta-2 Adrenergic Receptor Agonist		
albuterol aerosol Brethine, Proventil, Tornalate, Ventolin, Xopenex	Asthma, COPD	Potassium, and possibly Calcium Magnesium, Phosphorus
Corticosteroid		
Prednisone, Deltasone, Celestone, Cortisone, Cortef, Cortone, Dexamethasone, Decadron, Hydrocortone, Medrol, Methylprednisolone	Severe Inflammation, Autoimmune Disease, Immune System Suppression	Beta-Carotene, B6, Folic Acid, Vitamin C, Vitamin D, Calcium, Magnesium, Potassium, Selenium, Zinc
Calcium Channel Blacking Drugs		
amlodipine (Norvasc), felodipine (Plendil), nifedipine (Procardia, Adalat), nimodipine (Nimotop), nisoldipine (Sular)	High Blood Pressure	Vitamin D
Sulfonylurea		
glyburide, glipizide, glimepiride, Amaryl, Diabeta, Glucotrol, Glynase, Micronase	Diabetes	Coenzyme Q10
Cardiac Glycoside		
Digoxin, Digitek, Lanoxin, Lanoxicaps	Heart Failure, Arrhythmias	Calcium Magnesium, Phosphorus, Potassium, B
Penicillin Antibiotic		
Amoxicillin, Amoxil, Trimox, Penicillin	Infection	Healthy Intestinal Bacteria, B1, B2, B3, B6, B12, Vitamin k, Folic Acid, Biotin, Inositol
Macrolide Antibiotics		
Erythromycin, Azithromycin, Biaxin, Zithromax	Infection	Healthy Intestinal Bacteria, B1, B2, B3, B6, B12, vitamin K, Folic Acid, Biotin, Inositol

Drug	Indication for Usage	Nutrients Depleted
amitriptyline, clomipramine, doxepin imipramine, Anafranil, Asendin, Elavil, Tofranil, Vivactil	Depression	Coenzyme Q10, B2, Sodium
Potassium Sparing Diuretics		
amiloride, spironolactone, triamterene, Aldactone, Dyazide, Dyrenium, Maxzide	Heart Failure, High Blood Pressure	Calcium Magnesium, Phosphorus Watch for a high Potassium level
OTC (non-prescription medication) NSAID		
Ibuprofen, naproxen and other Arthritis drugs	Inflammation, Pain	Folic Acid
Aspirin, Acetaminophen		
Tylenol	Pain, Fever	Coenzyme Q10, Glutathione
Antacids		
Amphojel, Basaljel, Aluminum Hydroxide plus Magnesium, Gaviscon, Gelusil, Maalox, Mylanta	Gastritis, GERD	Beta-Carotene, Folic Acid, Vitamin D, Calcium Magnesium, Chromium, Iron, Zinc, Phosphorus
Laxatives with Bisacodyl		
Carter's Little Pills, Correctol, Dulcolax, Feen-a-Mint, PMS-Bisacodyl	Constipation	Calcium, Potassium
H2 Inhibitors		
Famotidine, Pepcid, Tagamet, Zantac	Ulcer, GERD	Folic Acid, B1, B12, Vitamin D, Calcium, Iron, Zinc

*Please note: Beta-Carotene represents Vitamin A depletion. Related drugs are listed because in many cases there is a similar depletion profile.

*The statements herein have not been evaluated by the Food and Drug Administration. These products are not intended to treat, diagnose, cure, or prevent any diseases. Visit your doctor if you are having any health-related issues.

For more information, please visit https://trichologistsonamission.com or https://hairagaininweeks.com/

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