100-HAR HAIR REGROWTH --- Here are dozens of recent developments that stimulate hair growth: Minoxidil...Magnetized Vitamins...Methionine & Serine...Thioglycolic Acid...Biotin...Cinnamic Alcohol...Hinkitiol...Retinoic Acid..."Scalp-Shrinking"...Pituitary Extracts...Cow Saliva...20 Articles...20 US Patent Abstracts.
Don't Despair If You're Losing Your Hair

Going bald? Take heart — it may not be permanent, say experts.

Baldness can be caused by several things besides genetic factors, and if you're losing your hair because of one of them, you can often take steps to get your hair growing again.

"If your father is bald and your grandfather is bald, then you can probably assume that you have genetic baldness. There's absolutely nothing that can be done to promote hair growth," said Dr. Neil Solomon.

But most other causes of baldness aren't permanent at all, he said. They include such things as drugs, chemotherapy, vitamin and mineral deficiencies, and crash dieting.

Often a trip to your doctor can determine if you're going bald for good.

"Your doctor can test your blood and find out if you have a vitamin or mineral deficiency. If you do he can treat you to help prevent additional baldness," said Dr. Solomon, former assistant professor at the Johns Hopkins University School of Medicine. And, he added, some lost hair may grow back.

"Thyroid deficiency can also lead to baldness," he said. "This can be checked from your blood and corrected with proper medication."

A variety of drugs and poisons produce hair loss, added Dr. Norman Orenreich, clinical associate professor of dermatology at New York University School of Medicine. "Even such relatively safe medications as vitamin B, which is in some of these things up you will stop the hair regrowth," he said. And crash dieting can bring on baldness from protein deficiency, he said. baldy.

"If your father is bald and you want to see if your baldness is hereditary, visit him if possible. Other things you can do to cause baldness include smoking, also increases baldiness."

"Obviously, I'm a believer. I'm seeing something happen up there," he said.

By NEIL BLINCOW

Potion Makes Bald Men Believers

Darragh, Pa.

Marcilla Ferens, secluded farmhouse has become a mecca for bald men who hope her concoction of herbs, vitamins and minerals will bring back the locks of their youth.

More than 20 shiny-pated men daily follow the bumpy roads that wind through cow pastures to her laboratory in this southwestern Pennsylvania community.

Although Ferens claims to have formulated a secret potion that can stimulate hair growth, the state Health Department disagrees.

"Good grief," said Jack Ogun, director of the department's Division of Drug Devices and Cosmetics. "Natural baldness is just something that doesn't come back. We have no evidence that anyone has produced a formula to grow hair," he said. "For every one that says they've grown hair, I can guarantee you there's a dozen that have no results."

Ogun said his department inspected Ferens' operation three years ago and plans another visit.

But the customers are satisfied.

"It's true. You wouldn't believe it," said car dealer Richard Lipicky. "I look in the mirror and see it happen every day. My head was bald from the front to the back and now I've got hair all over."

Since her work was reported in a local newspaper, Ferens has quit a teaching job to take care of an estimated 2000 persons waiting for the $20 treatment.

One ecstatic patient recently rushed into the newsroom of the nearby Greensburg Tribune-Review to show off what he says was newborn growth.

"This guy sure was excited," said editor Frank Myers. "He had little sprouts coming out of his head. They were light-colored and no more than a quarter of an inch long."

Ferens, 50, said she has been working on the treatment for about 40 years, ever since her balding physician uncle tried to restore his hair with homemade potions.

She would not disclose her success rate but said she can grow hair on almost anyone.

The first step of the treatment is to run a rake-shaped glass instrument filled with purple gas across the head to sterile the scalp. Then the subject holds a wire hooked to an electrolysis machine. The operator massages the balding area with the secret formula while holding a second wire to complete a low current.

"We sterilize the scalp and then force the formula in by electrolysis," said Ferens, who said she holds a doctorate in chemistry.

One subject, a Roman Catholic priest who asked not to be identified, said he had tried expensive transplants but only Ferens' treatment worked.

"Obviously, I'm a believer. I'm seeing something happen up there," he said.

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Bald Men Become Believers

From Page 1

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The follicle follies

As medical problems go, baldness is low priority—more threatening to ego than to health. But for balding men, 90 percent of whom are losing their hair simply because they are genetically programmed to do so, it is a vexing condition. And it does not yield to drugs, hormones, massages, or any of the millions of dollars worth of nostrums purchased by gullible victims each year.

But the legions whose crowning glories are thinning have a new champion in the Diagnostic Hair Loss Center at Baltimore City Hospitals, which is trying to assemble a biological profile of the balding process. Admittedly, no one can actually reverse or even arrest genetic balding. "We have no miracle cures, and we're not a hair transplant mill," cautions Stanford J. Lambberg, the hospital's chief of dermatology. "But with blood tests, hair plug analysis, good diagnostic histories, and biopsies, we can tell the majority of those who come to us why they are balding. At least we can keep them out of the hands of charlatans."

Charlatans, in fact, are all too popular because ignorance is so widespread. A common misconception, for example, ties baldness to a lack of virility. But Yale University anatomist James B. Hamilton demonstrated 40 years ago that the opposite may be true, that an inherited sensitivity to androgens, or male hormones, can cause hair loss. He studied 104 men who had been castrated and thus had no natural source of androgens. Nearly all had a full head of hair. When he injected them with the missing male hormones, however, those genetically programmed to be bald rapidly fulfilled their destiny.

A few researchers have taken advantage of the hormone link and tried to induce growth with doses of estrogens, female hormones that would counteract androgens. But giving estrogens to males has been linked to cancer, and hair growth is unpredictable.

Other remedies are equally risky. Recent reports suggest that the drug Minoxidil, usually used to treat severe high blood pressure, would grow hair on bald patients. But dermatologists at the Baltimore hair center say the benefits are spotty, with side effects that include strokes and heart attacks.

When myths and false hopes are cleared away, some hard biological facts remain. Hairs forming in the 100,000 follicles in the average scalp grow for two to six years, then enter a three-month resting phase before they are pushed out by new hair. At any given time, better than 90 percent of scalp hairs are growing, and 10 percent are resting. When the genetic clock runs down, follicles shrink, producing thinner and more fragile hairs. Fewer hairs reemerge from the resting phases, and baldness results. The precision of this growth clock was vividly demonstrated during World War II.

When a wounded soldier received an experimental full thickness skin graft to his thumb from scalp skin, hair grew on the thumb. Furthermore, his thumb went bald at the same time as the area where the skin graft originated.

Men, however, are not the only ones with balding problems. As female sex hormones diminish with age, thinning of scalp hair is common. Temporary hormone changes can cause hair loss after pregnancy, or following withdrawal from oral contraceptives. Up to a third of the hair may be lost by these women, but it usually grows back.

Malnutrition, anemia, and certain bacterial and fungal infections may thin the hair by causing follicles to begin their resting phase prematurely. Twisting or pulling hair may damage the follicle; heat drying, bleaching, tight braiding, and permanents may damage the protein "backbone."

Lambberg and his coworkers think the key to balding lies in hormones and their impact on genes. They are still looking for answers, but in the meantime they hope at least to help put the snake oil peddlers out of business.

—James L. Adams Rodgers
Q. There's a rumor that several doctors have come up with a secret drug for that use within the time limits made by government production schedules. Would you comment on this rumor?

A. There are many rumors about secret drugs. In most cases, however, these rumors prove to be groundless. The use of secret drugs is a sensitive issue and often involves legal and ethical considerations. It's important to verify such claims through reliable sources and official channels.
GRAY AND THINNING HAIR

Q I am a 27-year-old male whose hair has been graying since I was eighteen. Now, in the past two years, my hairline has been rapidly receding, and I fear I will be bald before I am 30. What might be some of the causes of this and what treatments are available? I would like to find a nutritionist who will do hair analysis, but I am leery unless I get a referral. No one in my family has ever had a serious hair loss, so it is not hereditary. I might add that I am high-strung and a heavy coffee drinker, eat lots of sweets, and smoke a pipe. I am looking forward to hearing anything you have to say.

C.R., Los Angeles, CA

A The cause of hair loss in men, so-called male-pattern baldness, (which is responsible for about 99% of all male baldness) is hormonal: an overproduction of the male sex hormone, testosterone. This results in a thickening of the galea (a sheet of tissue on the top of the scalp) and consequent constriction of blood capillaries and impaired blood supply to hair roots. The only effective way to stop hair loss caused by male hormone excesses is by correcting hormonal imbalances through medication with female sex hormones. Unfortunately, one of the side effects of such a medical approach is a marked demasculinization: the beard stops growing, the body assumes a feminine appearance, the sex drive diminishes—but the hair on the head will grow profusely! Needless to say, I do not recommend such a treatment, and, in my experience, most men would rather have thin hair, or even no hair, than to lose their masculinity.

Headstands (½ to 1 minute in duration) 3 or 4 times a day, can help to increase circulation in the scalp and bring more nutritive blood to the hair roots. Lying on a slant board with head down, 15-20 minutes at a time, accomplishes similar results. Massage, either with your fingers or a massager, is also helpful.

Then there are some nutritional ways to improve the supply of nutrients to your hair which can contribute to the graying of the hair by cutting off vital blood supply to the hair roots and by contributing to the deficiencies of vitamins and minerals that are needed for healthy hair. Sweets are even worse. Sugar robs your body of the B-vitamins, those mentioned in the list above, the deficiency of which will directly contribute to the graying of the hair. I suggest you go on a massive health-building program by optimizing your nutrition as recommended in this column, getting plenty of exercise, and taking all the vitamins and supplements suggested above, with a double dose of the following vitamins that have been reported by many researchers and users to be successful in preventing the graying of the hair and even restoring natural color to the gray hair. PABA, pantothenic acid, folic acid, brewer’s yeast.

Blackstrap molasses, garlic (or garlic tablets), and a good multi-mineral and trace element formula are also important. These nutrients can also be taken in supplementary form for two-three months. Listed below are suggested daily doses:

- Biotin – 150-300 mcg
- Inositol – 500-1000 mg
- Niacin – 100-300 mg
- Choline – 500-1000 mg
- Pantothenic acid – 50 mg
- Folic acid – 1 mg
- PABA – 50 mg
- B6 – 50 mg
- B-complex, high potency – 1 tablet
- E – 400-600 I.U.
- C – 1000-3000 mg
- Lecithin – 1 tsp granules
- Kelp – 1-3 tablets
- Silicon (from horsetail) – 3 tablets
- Cod liver oil – 1 tablespoon
- Brewer’s yeast – 1-2 tablespoons
- Zinc – 10-20 mg
- Selenium – 100 mcg

There are many brands of multiple vitamins for hair growth now available in health food stores which are combined in a single tablet, in case you are not inclined to take them separately as suggested above.

Now, to your second problem: the graying of the hair. While loss of hair is not primarily a nutritional problem, the graying of the hair is. Your letter indicates that you are abusing your body excessively. Do not abuse yourself and reform smoking and excessive drinking.
Nutritional Hair Care

by Nurse Vega
If a man does have the gene, what can he do? First, the bad news: According to the Food and Drug Administration (F.D.A.), no product on the market that claims to reverse balding is effective. Amino acids, essential oils, proteins and vitamins are all useless.

In 1979 the F.D.A. closed down all businesses that performed synthetic hair implants — the implantation of colored fibers into the scalp — after investigating many complaints from consumers. The synthetic fibers were invariably rejected as foreign objects by the scalp, which in many cases became seriously infected.

Implants, however, should not be confused with hair transplants (here's the good news), which are a safe, surgical method of permanently replacing hair. Hair transplants were first performed 20 years ago by Dr. Norman Orentreich, a New York City dermatologist, and the technique is now a routine office procedure performed by dermatologists or plastic surgeons on patients under a local anesthetic. Small pieces of scalp, called punch grafts or plugs, about four millimeters in diameter, are taken from the back of the head where hair still grows and are then transplanted to the top of the head.

The procedure may involve several sittings of an hour or more. Within five to seven days the patient can shampoo. But it will take six months to a year before hair is long enough to style, cautions Dr. Carlton L. Carpenter Jr., clinical professor of dermatology at Louisiana State University School of Medicine. At about $15 a plug transplants are expensive.

A similar procedure, a flap operation, performed by some plastic surgeons, involves transplanting wide strips of hair, but this surgery requires hospitalization. A hair piece is a satisfactory option for many men and when made of human hair, it can look very natural. Hair weaving is another temporary approach. Human hair is anchored with tiny knots to the hair that remains on the scalp. The process must be repeated every two months though, as the hair grows out.

Hair-growth research is currently being conducted in the United States and Europe, and two drugs being developed hold some hope for slowing down baldness.

Susan Gordon is a freelance writer specializing in health issues.
BROTHER, CAN YOU SPARE A DOME?
WITH A LICK AND SOME PROMISE, LIESEL
THE COW TRIES TO CURE BALDNESS

Yes, well, you see, the fact is there is this cow named Liesel on a farm near Trier, West Germany, and for about $14 a lick, airfare not included, she runs her tongue over the naked scalps of bald men every Wednesday in order to make their hair grow. That much is clear. It is also clear that Liesel the cow got into this humane pursuit because of Erich Schmitt, the West German hairdresser who owns her. "Hairdressers must remain open to new ideas," declares Schmitt, and he obviously means what he says. Without advertising, Herr Schmitt has acquired eight customers eager to submit to Liesel's ministrations five minutes each week, such is their craving to regain the hairs of yesteryear.

It all began with John Coombs of Salisbury, England. Coombs says he discovered the merits of cow licks—"by accident, certainly not by design"—on his Wiltshire dairy farm last November. He was feeding his favorite Jersey, Primrose, when dust from the feed settled on Coombs' bald head. Observing her master bending to fill the troughs, Primrose couldn't resist lapping at his scalp, and eight weeks later—shazam!—Coombs' wife noticed his hair returning. The good farmer was skeptical, but says now, "My hair is going up like the tide coming in."

Coombs decided to tell his story after he saw a television show on which volunteers had failed to grow hair by using bay rum, bear fat and an herbal concoction made from onion leaves. "My friends said, 'Good heavens, write it in and say you can cure baldness.'" Coombs recalls. "So I did. It was like lighting a heap of dynamite." Swarms of journalists descended, compared Coombs' pate with photos taken before Primrose got her tongue on it, and verified his reforestation. Headlines promptly flashed across Europe, where hairdresser Schmitt took note and decided to try the Primrose path himself. So far the results have been sparse. Of eight test cases he assigned to Liesel back in February, only one has grown peach fuzz. Undaunted, others still show up every Wednesday for their tongue lassings.

Although Coombs has applied for a patent, he concedes that being lapped by a cow can be a rough experience. The older the cow the harsher the tongue, says he, adding, "It feels like a fire. My hair's as long as grass and the cow can get her tongue around it and pull it." But Coombs, an honest yeoman who still isn't sure what all the fuss is about, might not be the best spokesman for his process. "I've been bailed for over a quarter of a century," he says. "I think baldness is dignified."
What Hair Tells About You

Research engineers at the University of California's Lawrence Berkeley Laboratory are unmasking pollution's chemical culprits and tracking their spread with a high-speed, super-sensitive device that analyzes human hair.

The device, called SAXAS (scanning automated x-ray analysis spectrometer), enables one technician to do in one hour what formerly took a team of technicians an entire week.

"This will be a major boon to environmental studies," says Albert Thompson, a principal developer of the instrument. "We've already observed a serious outbreak of poisoning through hair studies."

SAXAS has detected high concentrations of mercury in hair samples from Iraq. This was attributed to seed grain treated with a toxic fungicide that had been used as food. Hair samples showed a marked increase in mercury levels as consumption of the poisoned grain rose, then a gradual decline after consumption ended.

Scientists have long known that hair can tell a remarkable story. Growing at a steady rate of roughly one centimeter per month, hairs contain a layered record of elements in the body. Like geological strata, they show how substances vary in concentration over a period of time. But in the laboratory, hair demands slow and complex testing before it can yield its secrets.

"We use a technique called X-ray fluorescence spectroscopy," explains the UC engineer. "As X-rays pass through a hair sample, they excite various elements which generate X-rays with characteristic energies and intensities. We register these X-rays as we scan the hair using a recently developed high-resolution, energy-dispersive X-ray silicon detector.

"SAXAS can detect the presence of 16 different elements in quantities as minute as 20 millionths of a millionth of a gram—and from samples as small as two millimeters in length."

SAXAS' internal computer simultaneously performs several analytical functions, determining the presence of chemicals, calculating the density of the hair sample and correlating the data.

"We hope to analyze a lot more than hair," Thompson says. "SAXAS should be able to look at a wide range of samples including nerve tissue and air pollution particles."

"And," he added "in hair we can look for many other things, such as dietary deficiencies. SAXAS does not alter the specimens it analyzes, so we could examine from a precious artifact like the Shroud of Turin."

Thompson's co-developers on the project are Joseph Jaklevic, John Meng and Walter French. All are from LBL's Engineering and Technical Services Division.

SAXAS was developed for the Food and Drug Administration, in conjunction with the University of Rochester. Lawrence Berkeley Laboratory is operated by the University of California under contract with the U.S. Department of Energy.

—Paul Bendix
(415) 486-5771
Herbs Help Hair Grow

Is it possible? Yes, a herbal extract discovered in Africa, to cure dandruff, actually grows new hair on the scalp.

by I. Loewe

Hair is hang a tale, in fact a "hair-anomy". It is steeped in the history of South Africa — and has a gulf widening. This was how Lou Segal made a dandruff cure for hair and your life.

But at first of all, meet Lou Segal, to whom the tale happened, and who made things happen. A pharmacist who now makes his home in Vancouver, Mr. Segal had made a product of his own, a month before and after the tale was told, and the amazing problem of dandruff. Many of the clients at his pharmacy, then in Cape Town, South Africa, were afflicted by dandruff. This hair condition is particularly prevalent in that part of the world due to climatic conditions.

But if there’s a chance that led Lou Segal to East Africa on a vacation, or did destiny have a hand in bringing him smack up against a milestone in his career? Whatever the case may have been, his vacation soon developed into a regular business holiday when he became aware of an odd phenomenon: the native peoples of that region had beautiful hair! Luxuriant, thick and shiny, it contrasted sharply with the brittle, dry growth that covered the heads of the tribe’s racial counterpart in South Africa — people of the same race, yet with hair so different. His curiosity thoroughly piqued, Lou Segal set out to investigate. What he found astonished and delighted him.

"Quite simply, the people of this community were giving themselves a highly effective 'beauty treatment' without being the least aware of it. In preparing for certain tribal rituals, they applied a milk-like substance to their hair and skin. This herbal extract was probably less potent in its intended purpose of controlling skin forces than in its healing and restorative properties," Mr. Segal explained later.

Since most of us are romantics at heart, it doesn’t hurt to believe in a little magic, even when a large dollop of scientific expertise goes into the making of the lotion. As a chemist, Lou Segal had access to all the latest research data as a naturalist he was fortunate to discover a secret of the plant life of East Africa. Thus, with the full co-operation of members of the medical profession, he set about achieving a blend of science and nature. The result is Vita Herb, which is now being produced in Canada.

Grows New Hair

But that is not the whole story. Mr. Segal gave the herbal remedy to his Cape Town customers to use as a dandruff lotion. He was incredulous when customers who had used Vita Herb for a period of time not only found that the dandruff had disappeared but that new hair growth had developed. Skeptical though he was, Lou Segal could not deny the irresistible evidence before his eyes. New hair was appearing on once shiny pates.

In their own words, two gentlemen, who used Vita Herb, describe how they got more than they bargained for. Ed Borgosh of Vancouver says: "Around a year ago, after seeing an article in Alive about the remarkable success of your hair product in South Africa, I decided to give it a try. But I was very doubtful, because of past experience with too many other products, from every possible source. "Now I can say with all confidence that it works. I can see new hair on my head after years of suffering from constant hair loss. I wish I had known about Vita Herb years ago, before I wasted so much money on other ways, including hair transplants. So now you can tell your other customers that your product has worked not only on people in South Africa but also right here in Vancouver."

Thomas Fowler was one of the South African customers of Lou Segal who found that Vita Herb really made a difference. Mr. Fowler, who in his own words was "bald as an egg", was quoted in the Cape Town Sunday Times as saying: "I’m beginning to feel like one of those before and after advertisements. My wife wouldn’t believe it when I told her my hair was starting to grow again. She insisted on inspecting my scalp every evening with a magnifying glass. Now she has not the slightest doubt. For one thing, she is starting to complain that women are taking more interest in me than they did a year ago..."

I could go on and on with testimonials from the users of Vita Herb. Perhaps one day the company will receive a similar type of letter from you. Few can deny that a good, healthy head of hair helps a fellow feel good about himself — more vigorous, confident and younger. As I said at the start, this story could make a difference in your life.
Balding! It's a problem which many men and women suffer from and learn to accept. After all, we've all heard balding is determined by heredity and we can't do a thing about it. We're told to accept the onset of baldness as we age. "Your father is bald and your grandfather was bald — you'll be bald some day too!"

We must listen to lectures like this, but do we have to believe them? Up until now, we did. There was no widely believed and understood "cure" for baldness. Certainly we could purchase a wig or a toupee and disguise our "unbeatable" baldness. But this is no cure — it simply hides our lack of hair.

Scientists have been analyzing the problem for many years and have finally arrived at a genuine breakthrough — Biotin.

Endocrinologists have studied the life cycle of hair and concluded that the average life span is four years. At the conclusion of its life cycle, a hair will enter into a dormant or resting stage. At this point a new hair should sprout from the same root channel (or follicle), forcing the old hair out.

Therefore, in the natural regeneration process, we should lose and gain one hair from each of the thousands of root channels approximately once every four years. Of course, this loss of hair will never be apparent when observing the hair as a whole because they fall out and regenerate on a staggered time schedule.

Baldness begins when hair falls out and for one reason or another is never replaced in the root channel. At first, this failure to regenerate will not be noticeable. But as thousands and thousands of hairs are not replaced, a visible bald spot will materialize.

The hair trapped within this follicle is not dead and will begin to grow if the follicle is cleared. It is comparable to a plant seed which is buried in cement. The seed will not grow because it has nowhere to go (as well as getting no natural nutrients). If that same seed were taken from the cement and placed in the earth, it would grow. Its path to life will have been cleared.

The same holds true for the hair trapped within the blocked follicle. Endocrinologists sought to find a method to clear the path to life for these hairs. They found the female hormone, estrogen, to be an effective neutralizer of DHT, but also noticed many uncomfortable side effects. Eventually they discovered Biotin (a natural B vitamin) as a feasible substitute for estrogen.

While endocrinologists do not claim biotin will produce thick, curly locks on a barren head, they do say it will neutralize the DHT and aid in the regeneration of new hair. They tested many people suffering from various stages of baldness and concluded that as many as 70% of all cases were solvable. In further testing on the "solvable" cases, they found that biotin successfully generated new hair growth in 41% of those treated.

The average person loses between 50 and 100 hairs each day. These hairs are usually regenerated during the natural hair life cycle. If excessive amounts of hair are lost daily, it is a sign that they are probably not regenerating properly. Large amounts of hair in combs and brushes and on bed sheets or clothing should be treated as a sign of the onset of baldness. Of course, these tell-tale signs don't always mean the person is on the path to total baldness, but they do mean that more hair is falling out than is being regenerated.

By applying biotin directly to the scalp (in the form of shampoo and conditioner), the DHT will be neutralized and the path to life will be reopened for the hair beneath. Biotin will not bring dead hair back to life, but it will give live hair the opportunity to complete its natural four year life cycle.

Many endocrinologists agree biotin is the closest substance we have to the long sought after "miracle hair growth tonic."
Indians have been using them

LOW-COST HERBS CAN END CURE

OF BALDNESS

Experts claim experts

for centuries, claim experts
HAIR GROWTH WITH HERBS

Garlic Clove:
Drown the hair. You slice open a clove of garlic lengthwise, and put it on the affected area, squeezing out the juice. One hour later mix a few drops of bay rum to olive oil and massage the scalp morning and night.

Garlic Mask:
Slice two cloves of garlic very fine and mash well. Mix with 90% proof alcohol and let stand for two days. Strain, then add one cup of fresh burdock, chopped roots or flower heads, and let stand for five days. Strain the juice and sponge the scalp every evening for a month. This should be sufficient to promote hair growth.

Garlic Perles:
Squeeze the oil from garlic perles, then rub the oil thoroughly into the scalp every night.

Rosemary Oil:
Mix equal parts of rosemary oil and olive oil in a bottle. Shake it well, then massage it well into the scalp morning and night.

Coconut Oil:
Reports have been made that by massaging coconut oil into the scalp area has promoted hair growth.

Sesame Seeds:
Take the root, cut it into little pieces, then boil it and wash your hair in this water. Reports have been made that hair reached beyond the buttocks. Discrepia have been made the plant contained a male hormone known as testosterone, which promotes hair growth.

Kelp Pluck:
A formula fromJapan used to stop bailing by applying the juice of kelp on to the hair for several days.

Herbal Lotions for Setting Your Hair:

(1) Gum tragacanth—3/4 oz.
    Rosewater—1 pt.
    Sweet almond oil—1 tsp.
Break the tragacanth into small pieces and soak in rosewater. Allow to stand in a warm place, shaking well occasionally until the gum is softened into a gelatine-like solution. Strain through a cloth, then add the oil and mix thoroughly. The preparation is then ready to use.

(2) Quince seeds—3 tsp.
    Hot water—1 pt.
    Oil of lavender—15 drops
The quince seeds must be soaked in hot water for about three hours. Then strain and mix the liquid with the essential oil and cologne water.
Herbal Shampoos

(1) Place a heaping teaspoon each of nettle, rosemary, chamomile, mullein, and echinacea in a porcelain or pyrex bowl. Pour one pint of boiling water over the herbs, cover the bowl and allow the infusion to stand for 15 to 20 minutes. Strain and add shavings of castile soap while the liquid is still warm enough to dissolve them.

(2) Soapless shampoo: one large or two small whole eggs beaten thoroughly, add two tablespoons of glycerine and six drops of almond oil. First brush your hair, then part the hair in sections approximately one half inch wide and apply the mixture with the finger tips. When the entire scalp has been covered, comb the mixture through the hair to the ends. Now massage the scalp and hair for ten minutes, then rinse thoroughly several times with warm water until the egg mixture is completely washed out. Do not use hot water as this coagulates the eggs.

Dry Shampoos

Dry shampoos are herbal powder which is dusted and massaged into the hair and scalp from a container with a perforated top. Powder is allowed to remain on the hair all night and brushed out in the morning.

(1) Powdered coriander roots ---- 6 oz.
    Cassia buds (correctly ground) 3 gr

Mix together thoroughly and rub through a fine sieve. Use about once a week.

(2) Powdered coriander roots ---- 6 oz.
    Corn starch --------------- 2 oz.
    Oil of violets ------------- 10 drops.

Mix and use in the same way as the first recipe.

Herbal Hair and Scalp Conditioners

(1) Sweet almond oil------ 5 oz.
    Rosemary oil --------- 1 oz.
    Lavender oil --------- 30 drops

Mix the herbal oils and rub gently into the scalp every two or three nights.

(2) The scalp can be stimulated and the hair kept in good condition by the application of a little warm olive oil mixed with oil of marjoram.

(3) Orange-scented treatment for dry hair:
    Oil of orange-------------- 20 drops
    Sweet almond oil ------- 3 oz.
    Rosemary oil ---------- 1 oz.

If your hair is already in a natural oily condition and a fragrance is desired, you can use any essential oil, such as oil of violet or lavender, but much more sparingly and only once a week.
**Recipe for getting rid of dandruff:**

Keep combs and brushes clean. Brush the hair gently and thoroughly night and morning. Prepare the following lotion:

- Rosemary leaves ---- 7 oz.
- Horax ------------ 2 tablespoons

Steep in 1 quart of boiling water. When cold, add:

- 30 drops of cologne
- ½ oz. of glycerine

"Massage" into scalp gently once or twice a day.

**To keep hair in place:**

Squeeze a little lemon juice into a small bowl and apply to the hair with a piece of cotton. It takes no more than a few minutes for the application to dry. Now brush your hair and you will find that it will not only stay in place, but will have a beautiful sheen. This simple lemon treatment also helps to highlight the waves of curly hair.

**Herbal rinse for very fine unmanageable hair:**

(1) Place a good handful of nettle leaves in a large pyrex or porcelain bowl. Pour one quart of boiling water over the herb, cover and allow to steep until cool. Strain and pour over the head, using a second container to catch the liquid, so that the hair may be rinsed several times. If the hair is put up in curlers directly following this rinse, it will comb out into strong fluffy waves.

(2) Prepare an infusion of peach leaves or rosemary, and use in the same way as the nettle rinse.

**Vinegar Rinse**

A solution of vinegar and water is excellent for dissolving soap film which is sometimes difficult to rinse out of the hair. In addition to cutting the soap, it helps restore the normal acid mantle to the scalp. Normal skin is acid, while scalp is alkaline. Soap shampoos cause the scalp to become temporarily alkaline, and it may take up to 24 hours before the normal acid condition returns to the scalp. A vinegar rinse neutralizes the alkaline effects of the soap and also serves as a mild antiseptic.

Use 1 cup of vinegar to one quart of warm water. Pour slowly over the head. The vinegar rinse is used last, after the hair has been rinsed several times with plain water.

**Aromatic Vinegar Rinses**

A vinegar rinse may be scented by steeping with aromatic botanicals, or by adding a few drops of fragrant herbal oils.

Suggested combinations: Equal parts of rosemary, dried lavender flowers, cut orris roots.

Herb oils: Rosemary, bergamot, lavender, violet. Just a few drops of the oil are generally sufficient for each quart of vinegar.
Hair-Raising Tale
of a Dreamer Who Made Good

Bob Murphy
by Ron Tepper

"If man has found a way to get to the moon, why is it so hard to believe that he’s also found a cure for baldness?"

When Bob Murphy asks that question from the headquarters of his company New Generation in Sparks, Nevada, it at first sounds fake.

But the more you talk to the guy, the less he sounds like a snake-oil salesman and the more he sounds like the classic entrepreneur. The great dream for many Americans is to develop a product, manufacture it, and then make a killing with it. Strange as it may sound, Murphy is sitting on top of a company that is marketing a product that could make him a million. Not only that, it does something for its users that nobody believes can be done. It grows hair.

His story started while watching Merv Griffin one night and hearing a scientist talk about a simple new compound that would regenerate the hair on the heads of bald people. Since Murphy was bald, he was more than a little interested.

The very next day, he and a pharmacist friend went to the University of California Medical Library and after two days of research found the answer. Basically, it was a cleansing solution discovered by researchers at the University of Helsinki. Bob’s friend put the compound together and they both started using it. Within weeks, Bob’s hair started to regrow.

“I had read in Entrepreneur that testing is critical in launching a new product,” said Murphy, “and I wouldn’t have attempted to market this compound without proper test results. Every inventor should keep that in mind. Make sure you develop and test-market your product first. If you’re dealing with a controversial product like I am, then find prominent citizens to participate if possible.”

For the next year, he lived on a borrowed $85 a week as more than 100 prominent Sacramento citizens—ranging from doctors and dentists to a police captain and legislators—tried his product. After the year-long test, 75 percent of the people reported hair growth. The success of the test and the resulting newspaper publicity led to several dozen orders for his product. Within months, the California Food and Drug Administration told him he was operating illegally because he was selling a “nonapproved drug.” Murphy countered that his product was not a drug. It only contains two ingredients, Polyoxyethylene 60, which is used in salad oil, and purified water. It is simply a cleanser. It cleans away material that inhibits hair growth. Because of its simplicity it isn’t even patentable.

This argument didn’t register with the FDA, which said that if Murphy had sold his product as a drink instead of a shampoo, he would have been all right. The FDA wanted him to cease and desist. However, it said if he moved out of California, he could still market the product within the state. So Murphy moved his headquarters to Sparks and thought his problem was solved.

He hadn’t counted on the post office, which wanted him to stop selling through the mails, insisting the product didn’t work. Murphy refused to stop selling it, and post office officials took him to court, where he produced 16 witnesses (the most the judge would allow) who verified that the product did work. The post office produced a doctor who said—without looking at the test results—that the formula would never work. But Murphy still wasn’t discouraged.

He bought AEA Report 303, “How to Promote Your Business and Get Free Publicity,” and decided to tell his side of the story. He did a number of TV talk shows and was interviewed in several magazines. “With that additional exposure,” he claims, “the orders began to flow. Then I tried some direct mail and from there I went to television advertising.” Murphy’s television approach was unique. “You could never sell this—even with the money-back guarantee that we offer—from a one- or two-minute television commercial. So we put together a 28-minute interview show with a well-known moderator. We bought time for the show on stations in about 20 small towns across the country and it worked.”

So far, more than 6,000 people have used New Generation, bringing in more than $250,000 in sales. Only 7 percent of those who ordered have asked for their money back.

But Murphy still isn’t satisfied. “Direct mail is a slow way to market a product like this, so a few months ago I had another idea. I read a story in Entrepreneur about multilevel marketing. In March we launched the product via a multilevel sales force. It makes sense.

“We already have 6,000 customers and many have asked about being distributors. In other words, we have the basis for a giant company. Multilevel will enable us to distribute the product at a minimum cost to a maximum number of people.”

If you get the impression that Murphy is a natural whiz at marketing, you’re wrong. “Like many people, I’m still learning. Before we developed New Generation, I had spent nearly 25 years in the hotel field. I quit my hotel job and gambled. I’m glad I did. I did it because I believed in it. And anyone who has the same feeling about their product will ultimately find a way to distribute it. Just don’t give up.”
Gland Extract Makes BALD HEADS Grow Hair

Three pictures of sixty-year-old man. A when treatment began, B a few months later, C after he grew full crop of hair

One of the most unusual of Dr. Bengston's patients was a man sixty years old whose hair suddenly started to fall out four years ago. Within three months he was totally bald. A study of his history showed that he had been afflicted with rheumatism for six years. He began receiving pituitary gland injections in February, 1928. In August, 1928, a slight fuzz appeared. Five weeks later his entire head was covered with down and early in February, 1929, he started to grow a crop of true white hair. By May he had a full growth of white hair.

Another outstanding case was that of a youth, eighteen years old, whose hair began to fall out in large patches one summer. The baldness continued to develop increasingly larger areas.

The pituitary treatment in his case began in April, 1928, and by December the entire head had a noticeable surface of down. Early the following February true white hair started to replace the down. By September 10, 1928, the eyelashes and eyebrows were regained.
Is cholesterol the cause of baldness?

Two Finnish researchers have implicated cholesterol as one of the agents responsible for causing hereditary baldness in men. In a treatment based on applying water-fat solubilising compounds they claim a per cent success rate in stimulating resting follicles back into their growth phase.

There is no such thing as a cure for baldness. But many men going "thin on top" may be pleased to hear that there is one treatment which ought to halt their loss of hair. What they won't be so pleased to hear is that the treatment is castration. This week sees the launching in Britain of a somewhat less drastic measure which claim the Finnish inventors, arrests excessive hair loss in two out of three people who persist with it, treatment for six months or more. As there is likely to be considerable coverage of the announcement in the popular press, it is important that all should realise that it is definitely not a cure for baldness.

Nothing in use therapeutically at present can make hairs grow when the follicles have withered away. There may, at some future date, be a genuine development in neogenesis of hair follicles in bald skin—but the announcement from Finland is definitely not this.

Hairs are dead keratinised cells which are cemented together as they are extruded up through the follicles. The follicles themselves are minute stock-like impressions of the tissue layer (superficial epithelium) beneath the scalp. Of the five million follicles covering the body of an adult male, only one million are on the head and no more than 100,000 in the scalp. They are normally depleted with advancing age—down from an average of 615 per sq cm at 20-35 years to 465 per sq cm at 50-50 years. Paradoxically, male pattern baldness can also occur in women. And other forms of baldness occur in man and woman often following an illness or during treatment with antimitious drugs or during pregnancy. In such cases, however, the loss is brief and the hair normally returns naturally within a few months.

Under normal conditions, the daily requirement of germinative tissue to carry on mitotic activity and synthesis of the complex fibrous proteins for hair production is enormous. When active, the small mass of cells in the matrix at the base of a follicle produce 0.33 mm of hair per day. A growing follicle is said to be in anagen, a quiescent one in telogen. At any one time, around 65 per cent of the follicles are in the growing phase, which on average lasts for two to three years; the resting phase normally lasts for only three to four months. With age, however, the ratio of anagen to telogen decreases—and so if follicles could be either prevented from going into quiescence, or stimulated back into anagen, there ought to be a chance of preventing or delaying the onset of alopecia.

Male pattern alopecia occurs in some chimps, monkeys and a variety of other primates as well as in man. Among humans, it is most common in Caucasoids, less so in Negroids, and least in Mongoloids. Hats and hair-dressing style have no effect whatsoever. In the animal world at least, the display of bare skin is a secondary sexual characteristic. Indeed, baldness can be induced by administering the male hormone, testosterone; in fact, it is the natural androgenic stimulation of hair follicles predisposed to genetic factors and age, which initiate the onset of baldness.

The onset is characterised by a reduction in the duration of anagen, resulting in an increase in the number of telogen follicles which contain so-called "club" hairs that are loosely held and easily shed. In some cases up to around a hundred a day being lost. Several months later the follicles become progressively reduced in size, skinnier up rather like the point of a pencil, in the follicles that join the club hairs. This almost colourless hairs of anagen.

No chance of neogenesis

The issue of whether new follicles can be grown in an adult scalp is a very moot point indeed. The only generally accepted evidence that spontaneous neogenesis of hair does exist in nature is the Kiwi, and in the case of an Australian marsupial known as the bandicoot. But for neogenesis in man, the sceptics are vocal and many. The authoritative picture established 13-2 by Dr. William Macalman when at Brown University, Rhode Island, remains intact. By returning an at one of his ex-New England Macalman's new research into how much hair grows from an "effective area of skin" it is more than questionable.

So what is the cause of arresting or preventing hereditary alopecia? Actually, quite good. Dr. Herman Chase, a colleague of Macalman's at Brown University, says that probably anything that causes extensive epidermal hyperplasia (excessive cell multiplication in the skin) should be able to initiate a new anagen phase in telogen follicles. "My guess certain do trick in this in man and animals." Plucking, too, can initiate new anagen from resting follicles. There is evidence also that vigorous proctolagy (pulling) the hair just short of dislodgment or breakage, is an effective means of inducing anagen. Cut ting or shaving hair as pulling or vigorous massage has no effect at all.

The telogen-anagen treatment being launched in Britain this week is the result of work at the First Department of Pathology, Helsinki University. The studies originated in a cancer research programme carried out by Professor Kai Setälä with grants from the US National Institutes of Health. Early in the programme one of Setälä's colleagues, Dr. Ilona Schreck-Purrola, was looking for compounds which could act as methodological aids when studying the mechanism of skin tumour formation. A requirement was that they should be both lipophilic and hydrophilic (fat and water soluble) and capable of lower.
ing the interfacial tension. Their role was thus much the same as a non-ionic synthetic detergent.

In one series of experiments, Schreck-Purola painted the shaved skins of some 40,000 mice with a powerful carcinogen called DMBA (9, 10-dimethyl-1, 2-benzanthracene). The mice were treated every morning at 9 am for 16 days. One group, however, was also treated with a standard non-ionic detergent at 3 pm each afternoon. The result was that, though they had received the same powerful dose of carcinogen which caused massive disorganisation of the cellular arrangement and follicular structure in other mice (see Figure 1), the skins of the detergent-treated mice were quite normal (see Figure 2). The ultraviolet electron microscope studies revealed that excessive cell multiplication had occurred within the walls of the follicles, with the highest mitotic activity being located around the follicle-mouth. This prompted Setal and Schreck-Purola to mount a year-long series of tests with mice exposed up to twice a day to a variety of detergent solutions. Subsequent electron microscope studies revealed that excessive cell multiplication had occurred within the walls of the follicles, with the highest mitotic activity being located around the follicle-mouth. There seemed also to be some evidence that the detergent had induced a shift in the hair cycle from the telegen resting phase into the anagen growth phase. For the maximum effect, the Finnish researchers say that the detergent needs to belong to a group of polyval fatty acid esters having a molecule containing a sugar alcohol or glycerol. They claim that the ratio between the water and 'den solubility is also critical.

In the second part of their study, the Finnish researchers divided 320 adult volunteers (including 47 women) into two groups—one for skin irritation studies, the other to see if there was a genuine anagen-stimulating effect. All told, the volunteers underwent some 1505 treatment-months. As none of the subjects was given a placebo, there were no controls in the scientific sense—and hence the results, until repeated in other laboratories, must be considered with caution. The photographic evidence of subjects before and after treatment is also far from convincing. Nevertheless, the researchers claim: "In the course of an average test period of nine months per person, a re-growth of hair occurred in 110 out of 175 probands. New growth of hair occurred in about 60 per cent of cases with a period of continuous treatment of 6-12 months' duration."

Is cholesterol the culprit?

But what is the treatment—and if it has any effect at all, what is its mode of action? The main ingredients of Setal and Schreck-Purola's preparation include a synthetic detergent and well-known irritant called Tween 60 containing the fatty acid esters; nicotinic acid "to increase the blood circulation," say the researchers; alcohol for appearance; urea to increase the water content of the subcutaneous tissue; yeast extract "to supply the essential amino acids"; glucose or fructose "as a source of energy"; and lactic acid to adjust the pH to the skin value of 5-6.5. One wonders what possible effect the addition of sugars and essential amino acids can have, when the blood circulation will supply all that is necessary anyway. At least one hair preparation based on essential amino acids has been tried before and found to be ineffective.

"Kind of mess"

Setal argues that the skin, with all its appendages, is an important organ for formation and storage of cholesterol, a precursor from which all steroid hormones are biosynthesised. Consequently, it is not all the androgen in the body which is metabolised. "In short," he says, "there thus exists a 'kind of mess' of various steroids and their metabolites in the cutaneous elements." We should therefore blame only the androgens for causing excessive hair loss he adds.

The cholesterol needed for structural purposes is supplied by sebaceous glands attached to the skin. He claims that even the presence of cholesterol, particularly in an imbalance ratio, may be one of the provocative agents, says Setal, in the molecular architecture of the Tropos 0 compound appears to allow the fatty acid of the molecule to lock on to and displace the cholesterol in the membrane of re-creating the follicle wall. Apparently, the process which triggers the cell leads to hyperplasia and triggering of the follicle to form new shafts. Whether Setal's theory is reported under the microscope or not, the results in clinical use are patented or not, it is a fact.

Whatever one personally believes, one thing is certain: nature cannot be hurt. Any form of treatment, assuming it is effective, is going to take at least three months to have any noticeable effect. Too much of the scepticism surrounding Setal's ideas clearly stems from the lack of overwhelming evidence in his favour. From his own data it is obvious that many of his subjects lost interest part way through the treatment, and thus inflated up its failure statistics.

Perhaps, in the final analysis, the word of William Montagna are the most fitting epitaph for all who would research the cause of hair growth. "It is unfortunate that many of those who are interested in hair growth have looked constantly at baldness with a eye toward 'growing' or 'restoring' hair and have been guided by emotion or by commercialism," he wrote in his classic textbook, "Structure and Function of Skin" (Academic Press, 1962; now revised and republished). "Locked within the hair follicles in the hair or balding scalp are the secrets of growth and differentiation," he continued. "To understand the phenomena that guide growth and differentiation of hair is to understand growth, which is the basis of all biology and phenomena."
Hair Loss

Hair loss is a common condition that affects men and women of all ages. It can be caused by a variety of factors, including genetics, hormones, stress, and certain medical conditions. While hair loss is often temporary, it can also be permanent in some cases.

Hair loss can be experienced in different ways. Some people notice it only temporarily, while others see a significant decrease in their hair over time. In some cases, hair loss can be severe enough to cause noticeable baldness.

Hair loss is a common concern for both men and women. It can affect self-esteem and confidence, and many people seek solutions to help prevent or reverse hair loss.

There are many causes of hair loss, including genetic factors, hormonal changes, stress, and certain medical conditions. It is important to talk to a doctor or healthcare provider if you are concerned about hair loss.

In some cases, hair loss can be treated with medications, topical treatments, or other therapies. It is important to work with a healthcare provider to determine the best course of treatment for your individual needs.

Hair loss can be a challenging experience, but there are many resources available to help support and empower those facing it. Whether you're just discovering you have hair loss or have been dealing with it for some time, there are many options available to help you feel better about your appearance.

Finally, a remedy for hair loss is to maintain a healthy lifestyle, including a balanced diet and regular exercise. This can help support hair growth and overall health.

By John K. Nwia

The Daily Californian

Tuesday, April 19, 1999

Page 3
women being immune to baldness is that women who have established themselves in formerly male-dominated jobs, are beginning to show signs of male-type balding.

Kemps is proud of his theory; he believes it is a more logical approach to the male hair loss problem than existing theories.

He received a letter from a Stanford Dermatologist who stated, "I have read Kemps book. I believe this represents a serious research effort on the part of the author. The interpretation of existing hair growth and disease knowledge is somewhat simplified and the resulting experimental approach suggested is unusual. However, the Kymes Theory cannot be rejected without objective scientific testing."

Both Kemps and the Stanford dermatologist agree that the Kymes Theory should undergo further clinical testing. "(Unfortunately, medicine) is not Mr. Kemps field and he is not able to obtain the cooperation of a pharmaceutical company or a university," the dermatologist said.

It's a frustrating situation for Kemps. Because he has no product to sell, pharmaceutical companies are not interested in researching his idea. For the present, Kemps has no recourse but to give seminars at Berkeley and just keep talking. His next seminar will be in the Student Union in March. His book, "Hair Loss: The Kymes Theory" is available for $5 at C-training bookstores.
The Kryos Theory (kryos: meaning cold and pronounced as in cryogenics) is a new theory on human body and scalp hair. Sociological developments, complex stressful life styles, dressing and sleeping habits are producing longer and coarser hair on the body and face, but, at the same time such conditions together with styling of the hair are diminishing the amount of hair on the crown of the head. The main assertions of the Kryos Theory are:

A. Body hair is longer and coarser today than in earlier times,
B. Hair grayness indicates a deficiency in the body's systems,
C. Scalp hair is a useful part of our body, and
D. Common baldness is caused by reduced circulation.

Research to support A., B. and C. above is incomplete. The conclusions of the research on D., common baldness, are summarized below.

A number of factors quite different in nature cause reduced blood circulation. The reduced circulation lowers the temperature, and consequently the metabolic rate in certain areas of the scalp slows down. Reduced metabolism creates an atrophic condition, increases the amount of impurities, and hair loss occurs.

Not all the factors which could be involved in the circulation reduction process act simultaneously. The number of the factors involved during a particular period of time and their intensity changes with time. Such changes dictate the duration, the particular location on the scalp and the amount of hair loss.

Physiology explains how the involved factors cause the reduced circulation and its consequences. The fact that baldness occurs only on the top of the head is explained by the anatomical structure of that area.

The above claims are supported by a number of clinical experiments which were performed by different researchers who used different methods, including the ongoing experiments in U.S.A. with Minoxidil. The most significant experimental support is provided by the success of hair transplants and the "blockage-therapy" which was performed in Japan.

Additionally, because of its long history and the number of people affected, the baldness problem offers some undisputable empirical evidence in support of the circulation theory. An example of such support is provided by the fact that among men the "brainworkers" are affected in much greater numbers than the blue collar workers. (One of the latest studies published in 1977)
shows that 71% of college professors were balding compared with 53% of the total male population.) Other support is provided by the increased number of balding men and women with industrialization, the phenomenon of hair oiliness and the use of head coverings by certain populations.

Perhaps, the most significant empirical evidence in support of the circulation theory is provided by the latest observed relations of hair styles and the appearance of the first balding areas (the different starting patterns of hair loss). Such observations on Black Americans, Asians and Caucasians show a clear relation between the first balding areas and the hair styles or kinds (straight, kinky, etc.) of hair.

A report of over 100 pages regarding the research on hair loss has been recently completed. Copies of this report are available to those interested in hair research or in writing about this subject. The main points of this report could be summarized as follows:

a. Explains the axiomatic acceptance with the beginning of the second half of this century of the male-hormone and heredity theories and the reasons for their rejection,
b. Identifies the reasons for the failure of previous theories and experiments which were based on reduced circulation in the scalp,
c. Identifies a number of factors which cause the reduced circulation within certain areas of the scalp and the consequences of such reduction,
d. Explains the reasons why baldness occurs only on the top of the head (the final or Hippocratic pattern),
e. Explains that hair loss is easy to prevent or stop at an early stage and the difficulties of stopping it after several years of ongoing hair loss,
f. Provides an explanation of the association of hair loss and hair oiliness which was considered during the first half of this century as the main cause of baldness,
g. Provides physiological justification and experimental and empirical evidence to support these claims, and
h. Suggests some simple, inexpensive and harmless clinical experiments which could provide clear results within three to four months. One important feature of such experiments is that they could control the scalp's circulation independently from the factors which cause the reduction in the circulation.
The Kryos Theory
Baldness - Its Cause, Prevention and Cure
by Theo Kemos, M.S.

The Problem

Factors Causing Circulation Reduction
a) mental stress - not physical stress!
b) cold environment (also controlled cold environment),
c) certain hair styles,
d) body overprotection,
e) internal needs of blood (fever, injuries),
f) hair washing,
h) certain hats, etc.

Methods to Counter-Act Circulation Reduction
a) skeletal or facial muscles,
b) anesthetizing or cutting the nerves leading to the top of the scalp,
c) appropriate hair styles,
d) appropriate head coverings,
e) long hair, scalp massaging, physical activities, scalp exercising, etc.

It appears that, the Ancient Egyptians first suspected that hair loss is caused by the scalp's reduced circulation. The Kryos Theory, like most other theories, claims that baldness is caused by the scalp's reduced circulation. Based on the same claims, many clinical experiments were performed by different researchers who used different methods. Most of these experiments, including the ongoing one with minoxidil, show some success, but none could provide the final answer. The two main reasons for their failure are:
a) not maintaining a 24 hour a day normal circulation, and
b) not taking the scalp's condition at the time the experiments started into consideration.
Electric Cap Treats Hair and Scalp

To stimulate scalp circulation and beautify the hair, an electrically heated cap is now available. A cream embodying ingredients said to be similar to those present in normal skin is applied to the scalp and then "baked in" by the cap's heating element at slightly higher than body temperature.

A Scientific Method of Growing Hair

The Evans Vacuum Cap provides the scientific means of applying to the scalp the common sense principles of physical culture. Baldness and falling hair are caused by the lack of proper nourishment of the hair roots. This lack of nourishment is due to the absence of blood in the scalp—an abnormal condition. It is the blood which conveys nourishment to the hair roots, as well as to every other part of the body. If you want the hair to grow on the scalp the blood must be made to circulate there. It is exercise which makes the blood circulate. Lack of exercise makes it stagnant. The Evans Vacuum method provides the exercise which makes the blood circulate in the scalp. It gently draws the rich blood to the scalp and feeds the shrunken hair roots. This causes the hair to grow.

Test It Without Expense

You can tell whether it is possible to cultivate a growth of hair on your head by ten minutes' use of the Evans Vacuum Cap. We will send you the Cap with which to make the experiment without any expense to you. If the Evans Vacuum Cap gives the scalp a healthy glow, the normal condition of the scalp can be restored. A three or four minutes' use of the Cap each morning and evening thereafter will produce a natural growth of hair. If, however, the scalp remains white and lifeless after applying the vacuum, there is no use in trying further—the hair will not grow.

The Bank Guarantee

We will send you, by prepaid express, an Evans Vacuum Cap, and will allow you ample time to prove its value. All we ask of you is to deposit the price of the Cap in the Jefferson Bank of St. Louis, where it will remain during the trial period, subject to your own order. If you do not cultivate a sufficient growth of hair to render the method effective, simply notify the bank, and they will return your deposit in full. We have no agent, and no one is authorized to sell, offer for sale or receive money for the Cap. The bank will give you a receipt, under their guarantee, and all money is paid direct to
New Kind of Hat
Worn 10 Minutes a Day
Grows Hair in 30 Days
—or No Cost

No matter how thin your hair may be this remarkable new scientific invention is absolutely guaranteed to give you a brand new growth of hair in 30 days—or it costs you nothing. Don't send a cent. Just mail coupon below.

By ALOIS MERKE
Founder of Famous Merke Institute, Fifth Ave., N. Y.

I HAVE perfected a new invention that I absolutely guarantee will give you a new head of hair in only 30 days—or the trial costs you nothing.

This new invention—the result of an experience gained in treating thousands of cases of baldness—is in the form of a new kind of hat. It is worn on the head just 10 minutes a day. No unnecessary fuss of any kind. Just put the hat on your head. Wear it 10 minutes. And that's all there is to it.

Sounds impossible, doesn't it? All right. Then let me emphasize this fact. I don't care how thin your hair is. I don't care how many treatments you have taken without results. Unless my discovery actually produces a new growth of hair on your head in 30 days, then all you need do is tell me so. And without asking one question, I will instantly—and gladly—mail you a check refunding you every penny you have paid me.

How It Works

My invention is 100% different from anything known or used before. It proves that in a big percentage of hair troubles the hair roots are NOT dead, but merely dormant.

The reason ordinary measures failed to restore hair is because they merely treated the surface skin. My new invention goes further. It gets right to the cause of most hair troubles—the starving dormant roots.

Your hair grows just as a tree grows—from the roots. To make a tree grow you wouldn't rub "growing fluid" on the bark. Instead you would nourish the roots. And my invention provides, at last, not only an efficient way of stimulating these dormant roots, but of giving them the nourishment they need to grow hair again.

No Risk of Any Kind

At the Merke Institute, Fifth Avenue, N. Y., which I founded, stage and social celebrities have paid as high as $500 for the results secured through personal treatments. Yet now, through my new invention, these results may be secured by any who have a desire for NEW HAIR—NOW.

Remember. I didn't ask you to risk a cent. I realize that my treatment will not grow hair for EVERYBODY. There are some extreme cases of baldness that the world's smartest doctors can help. But my new invention has already or is now growing hair for hundreds of those who had long ago given up hope that I am willing to let you try it entirely at my risk, and if it fails then I lose—not you.

Free Booklet Explains Invention

If you will mail the coupon in the pocket below I will send you my new 16-page booklet, "The New Way to Make Hair Grow," describing my invention in detail. I also send much helpful information on the care of hair—and in addition, it shows what my treatment is doing for thousands of others.

No matter how nearly bald you are—no matter how many treatments you have tried without results—this booklet will prove of deepest interest to you. So mail it today now—and it will be sent free by return mail to ALLIED MERKE INSTITUTES, Inc., 512 Fifth Avenue, Dept. 174, New York City.

Allied Merke Institutes, Inc.
Dept. 174, 512 Fifth Avenue, New York City.
Please send me a copy of the booklet, 'The New Way to Make Hair Grow,' free, and full details of the Merke Institute.

Name_________________________City_________________________
Address_______________________State______________________

Control of chronic hair loss in the face of grossly excessive fall-out, plus a poor hereditary factor, is at last coming within the purview of therapeutic control. Through use of modern biochemical and cosmetic techniques, hormonal and enocrine imbalances that underlie premature hair loss often may be reversed, or at least controlled.

No longer is male-pattern baldness untreatable in its early stages. When shampoo washings are heavy with effluvium, and the comb, brush and pillow similarly loaded with hair, the patient can take positive steps to avoid despair. With vigorous and early treatment, there is a possibility that he can bring the hair loss under control, and diminish or at least delay the onset of baldness. Similarly, the female faced with a parallel problem can look for some relief—if vigorous therapy is initiated early.

Endocrinologists generally agree that male-pattern baldness is genetic in origin and is characterized by an excess of androgenic factor in the glandular milieu. Density of scalp hair is largely attributable to the influence of female (estrogenic) hormone. Facial and corporeal hair on the other hand is a function of the androgenic complex, a relative excess usually manifesting itself in a heavy beard as well as a thick coat of hair over the chest, extremities and abdomen. Such usually is the case in male pattern alopecia, even where the scalp may be totally devoid of visible hair.

The opposite holds for females during child-bearing periods, when scalp hair is rich and luxuriant (the “crowning glory” of womanhood) and there is few (if any) terminal hair on chest, abdomen or extremities. In proper endocrine balance, the pubic escutcheon definitively is characteristic of each sex.

It would appear logical, therefore, that proper application of an anti-androgen factors exclusively to the scalp might be of measurable influence in correcting local hormone imbalance predicated to exist in male pattern baldness. The delivery system would have to be of a level of sophistication that would localize the treatment to the scalp alone and minimize leakage of the topically applied compounds into the general circulation. Such a selective modality should have little or no side effects on other organ systems.

The therapeutic system we have developed utilizes such a selective topical cream Plus a fortified shampoo to accomplish these objectives:

1. To reduce hair loss to the normal effluvium of less than 50 hairs daily.
2. To stimulate dormant (telogenic) hair follicles to return to an active growth (anagen phase).
3. To fortify and stimulate the viability of borderline hair roots to delay or prevent easy epilation.
4. To improve and protect the existing hair shafts from trauma, breakage, splitting and other deleterious mechanical effects.

If these objectives are achieved before final atrophy of the hair follicle, it is logical to anticipate either delay or cessation of the balding process. Although the full mechanism of hair growth is not fully understood, it nevertheless is reasonable to expect that anti-androgen compounds might reverse or delay male-pattern baldness; since the hair follicle is programmed genetically to follow a characteristic life cycle, and hormones play the primary role as agents for inherited traits of the scalp. Following observations by Hamilton and Orentreich that estrogen prolongs the anagen phase of scalp hair growth, the regimen employed early in this study provided this hormone to the hair roots.

* Presented at the Scientific Assembly of the American Academy of Family Physicians in Boston in October 1976.
Simplest and most readily available anti-androgen is estrogen and its analogs. Enzymatic factors recently have been implicated, and our recent studies have been leaning heavily in this direction.

Utilizing a sophisticated “mini-emulsion” designed to penetrate scalp epidermis and dermis, leaving its product load within these skin tissues on a cellular level, this investigator designed a treatment regimen which since 1974 has met with measurable success.

Prior to 1975, percutaneous topical applications applied daily through a cream and thrice weekly with a shampoo contained estradiol (0.25 per cent in the former and 0.5 per cent estrone in the latter). Nicotinic acid was incorporated into the cream for vasodilatation and enhanced absorption. This penetrating cream was gently massaged into the alopecic areas of the scalp once daily at bedtime. Areas rich in dormant rootlets (live follicles or lanugo) were designated for the subjects under treatment. Size of the dispersed particles in the mini-emulsion appeared to restrict action of the ingredients to the skin and its appendages. Such selective penetration was achieved by control of particle size of the lipid phase to 500-1000 millimicrons.

Further supportive measures involved use of a specially designed shampoo three times weekly (usually on arising). This shampoo was tailored to reduce breakage of hairs, and to further enhance the smoothing effect of normalization of the anagen-teleogen ratio of scalp hairs. It further provided amino acids and or polypeptides both as conditioners as well as raw material for protein synthesis. Cystine, cysteine and methionine were selected for the shampoo mix.

In our quest for active agents with fewer side effects than estrogen when used long-term, we abandoned the female hormone and replaced it with a sophisticated co-enzyme of the di-carboxylase series, Biotin. This compound, in the vitamin B-Complex family, is also known as Vitamin H.

Biotin appears to serve as a co-enzyme in fixing of the CO₂ radical in the splitting of amino acids, and to contribute significantly to nucleic acid protein synthesis. It is important in carboxylation reactions. On a more theoretical level, it is thought to accelerate metabolic breakdown of dihydrotestosterone. Substituting Biotin for Estradiol and Estrone, but using the same skin-penetrating cream and shampoo as excipients, comparable

60% restitution of occipital area hair in 33-year-old male came after 13 months of steady application of creams.

50% restoration after seven months of continuous application of cream in 53-year-old black male with typical occipital baldness.

After seven full months of treatment, 37-year-old male with eight-year history of fallout shows almost complete coverage.

Improvement of anterior hair line after 10 months of treatment in a 35-year-old male with history of five-year excessive hair loss.

Clinical effects in controlling excessive hair fall-out were observed in 1,187 subjects in the past 18 months (dosage 0.25 to 1.0 per cent). There were no side effects.

Excessive hair loss can occur in either sex
TABLE I
REDUCTION OF EXCESSIVE DAILY FALLOUT OF HAIR

<table>
<thead>
<tr>
<th></th>
<th>ESTRADIOL STUDY</th>
<th>BIOTIN STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER OF PATIENTS IN STUDY</td>
<td>748</td>
<td>1.197</td>
</tr>
<tr>
<td>NUMBER OF PATIENTS WITH EXCESSIVE DAILY FALLOUT OF HAIR</td>
<td>694</td>
<td>1.187</td>
</tr>
<tr>
<td>PATIENTS RESPONDING WITH MARKEDLY LESS FALLOUT*</td>
<td>631 (90%)</td>
<td>1.058 (89%)</td>
</tr>
</tbody>
</table>

* DETERMINED BY SERIAL 24 HOUR TOTAL HAIR FALLOUT COUNTS.

TABLE II
INCIDENCE OF HAIR GROWTH BY AGE GROUP (DECADES)

<table>
<thead>
<tr>
<th>AGE LEVEL</th>
<th>ESTRADIOL STUDY ONLY*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO PATIENTS</td>
</tr>
<tr>
<td>17-30 years</td>
<td>238</td>
</tr>
<tr>
<td>31-40 years</td>
<td>360</td>
</tr>
<tr>
<td>41-50 years</td>
<td>112</td>
</tr>
<tr>
<td>51-70 years</td>
<td>38</td>
</tr>
<tr>
<td>TOTALS</td>
<td>748</td>
</tr>
</tbody>
</table>

Conclusion: The younger the patient the more pronounced the rate of successful hair growth.

* BIOTIN STUDY IN PROGRESS.

When acute in nature and unrelated to familial factors, it is readily corrected by focussing attention on the primary etiology such as febrile states, post partum endocrine imbalance, chronic illnesses, protein deprivation (concentration camp diets) etc. The hair readily re-grows on correction of the underlying pathology. However, when history and examination reveal the likelihood of genetic or "pattern" baldness, vigorous steps can help to stem the oncoming alopecia.

Of course, volume of daily hair fall-out can be grossly distorted by the presence of broken hairs. When added to the excessive telogen effluvium, these can present an even more dismal picture to the unhappy patient. It thus becomes vital to examine total 24-hour hair loss repeatedly to determine what portion consists of broken hairs. Since these are of less serious moment and more readily corrected, such data are significant in prognosis.

The causes of broken hairs are myriad. Foremost are local infections of the scalp: vitamin or protein deficiency states: physical trauma to hair by the patient himself (or herself) more often by too vigorous massage, combing, brushing, use of too much heat (by way of driers, hot combs, too much sun). Excessive use of dyes, sprays, hair straighteners, detergents, permanents. Such factors are readily eliminated by proper management. Especially important is the use of a shampoo designed to restore elasticity, luster and manageability to the terminal hairs. Proper use of selected "protein conditioners" can be especially valuable.

The shampoo originally used in this study was a buffered mini-emulsion of sodium estrene sulfate containing amino acids and cyclomaltodextrins.
farmer claims...

baldness

HE MAY HAVE bats in his belfry, but an enterprising farmer swears he’s found the long-sought cure for baldness—bat’s milk!

And now batman Gerhardt Flit has created the world’s first bat dairy to share his amazing cure.

The next morning I woke up with hairs sprouting out of my head and the palm of my hand.

Excited, Gerhardt began experimenting.

He caught a mother bat in a net and squeezed several drops of milk out of her tiny udder. He applied the liquid to his head.

“It was spring,” he recalls, “I was alone in the barn and several bats were hanging in the rafters above me, suckling their young.

“I felt a drop of something hit my head and I wiped it off. I thought it was a bat dropping but I looked in my hand and saw it was white.

Astounded

“The next morning I woke up with hairs sprouting out of my head and the palm of my hand.”

Excited, Gerhardt began experimenting.

He caught a mother bat in a net and squeezed several drops of milk out of her tiny udder. He applied the liquid to his head.

“The results were astounding,” he points out. “The hairs began sprouting like wild weeds.”

Eventually, Gerhardt found it was easier to rub the whole female bat across his scalp.

In less than six weeks, his head was covered with a thick mane of hair.

Realizing he’d discovered a miracle drug, the batty farmer began building nesting areas in his barn to attract more of the flying creatures.

Tiny herd

In no time he had a colony of several hundred, from which he separated about 60 nursing females.

The tiny herd is fed the finest foods and milked once a day in a miniature milking machine similar to that used for cows.

The precious liquid is then bottled and sells for $3,500 an ounce.

It’s a lot of money,” concedes Gerhardt, of Bern, Switzerland. “But it’s easier than rubbing screeching bats across your head.”

Scientists have yet to test the bat milk for possible side effects.

“1 said, how in heaven’s name did you happen to swallow your hearing aid?”
Going to the Root of Hair Loss

Hair loss is usually caused by a diminishing supply of blood to the scalp, depriving hair follicles of the necessary nutrients and water to produce hair. Hormones, genetics and toxins from smoking and pollutants can influence the process. Male pattern baldness occurs when the enzyme 5-alpha reductase accumulates, turning testosterone into dihydrotestosterone. This latter substance reduces blood flow to follicles, retarding or stopping hair growth.

Minoxidil, the medical drug sold for hair loss, may not be the best choice to treat baldness. It comes with possible side effects, and many be hazardous for long-term use. When the drug is discontinued, any new hair that has grown falls out. Minoxidil also is usually ineffective for women.

A more natural way to encourage hair growth is a treatment called activated oxygenated serum (AOS). This is a combination of several ingredients including organic silica and activated oxygen that has been shown to increase blood flow in the scalp and support the structure of blood vessels feeding the follicles. A six-month study of 72 bald men conducted at the Hospital Saint Louis, in Paris, compared AOS with minoxidil. AOS was found to be just as effective as minoxidil in promoting new hair growth, thickening hair, and stopping hair loss, but without the side effects of the drug. AOS also did not cause seborrhea or dandruff, as do many topical applications. The benefits of AOS took effect within three months of use.

There are several dietary supplements believed to support hair growth and scalp health. These include: MSM and sulfur-rich amino acids that aid in building hair protein and maintaining healthy scalp capillaries; B vitamins, especially niacin, thiamin and biotin, that promote circulation; and flavonoids, antioxidants that may possibly promote hair growth. Natural topical treatments include algae oils that deactivate dihydrotestosterone; grape seed oil, an antimicrobial to encourage healing; and sunflower and safflower oils that supply fatty acids. Beneficial herbs include saw palmetto, which is thought to prevent conversion of testosterone into dihydrotestosterone; gingko biloba, to increase circulation; and horsetail, which contains organic silica.

The Healing Solution

Homeopathy and I_E Crystals

According to its critics, evidence supporting homeopathy is very scanty at best. But what disturbs them most is the lack of a credible theory to explain how this popular healing technique might work. Homeopathy employs some remedies that are so diluted, not even one molecule of the "active" ingredient remains. Proponents of homeopathy claim that in the process of dilution the "essence" of the substance somehow remains, and the remedies become even more powerful the more they are diluted.

A recent finding by chemist Shui-Yin Lo, a former visiting associate at the California Institute of Technology, suggests a possible scientific explanation of how homeopathy might work. Lo created extremely dilute solutions using dilution strengths similar to those used in over-the-counter homeopathic remedies. Examination of these dilutions with an electron microscope showed that in some cases the water contained strange ice crystals that formed at room temperature and under normal pressure. The crystals proved stable, even at high temperatures. Because the crystals were produced with the action of ions, Lo called them L_e crystals—ice formed under an electric charge.

An immunology professor at the University of California, Los Angeles, subsequently found that L_e crystals were able to stimulate several components of the immune system, and produce up to 100 times more biological activity than plain water. This has led some homeopaths to propose that homeopathic medicines work because they contain L_e crystals, but this theory has not yet been proved.

Meanwhile, studies continue to appear supporting homeopathy's effectiveness, although the number is small, and the results not especially dramatic. However, a truly impressive study recently appeared in the medical journal Archives of Otolaryngology — Head and Neck Surgery that compared a homeopathic remedy for vertigo with a conventional medical drug. The randomized, double-blind, controlled study involving 100 patients found that the homeopathic treatment was as effective as the medical drug, and both remedies reduced the frequency, duration and intensity of vertigo attacks.

Zapping Malaria

Although not a problem in the U.S., malaria kills more than one million
Hair Elixir Goes to Chinese Heads

Hair Elixir, a product known for its ability to strengthen and rejuvenate hair, has been introduced to the Chinese market. The product is advertised as containing natural herbs and minerals that promote healthy hair growth. Consumers in China have shown a growing interest in hair care products that offer both aesthetic and health benefits. The introduction of Hair Elixir in China is seen as a strategic move by the company to tap into the vast potential of the Chinese market for hair care products.

The product is claimed to contain a blend of essential oils and herbal extracts that work together to provide nourishment and protection to the hair. The launch event was held in Beijing, with demonstrations highlighting the product's effectiveness and potential benefits. Attendees were treated to a variety of hair care treatments and were given the opportunity to try the Hair Elixir product firsthand.

The success of Hair Elixir in China is expected to improve the company's overall performance and position it as a leader in the hair care market. The company has invested heavily in research and development to create a product that is not only effective but also culturally relevant to the Chinese consumer. The product launch in China marks a significant milestone in the company's global expansion strategy.
HAIR PREPARATIONS

Hair Preparations

PROCEDURE:
- Wash and comb the hair thoroughly.
- Apply a small amount of shampoo to the scalp area.
- Massage the scalp thoroughly with circular motions.
- Rinse the hair thoroughly with warm water.
- Repeat the process until the hair is clean.

HAIR TREATMENTS

Hair Treatments

PROCEDURE:
- Apply a small amount of hair treatment to the scalp area.
- Massage the scalp thoroughly with circular motions.
- Leave the treatment on the scalp for the recommended time.
- Rinse the hair thoroughly with warm water.
- Repeat the process as directed.

HAIR CUTTING TONGUE

Hair Cutting Tongue

PROCEDURE:
- Hold the hair firmly with the tongue.
- Use a sharp scissors to cut the hair.
- Pin the hair in place to ensure a straight cut.
- Repeat the process until the hair is cut to the desired length.

HAIR FOR MOURNING

Hair for Mourning

PROCEDURE:
- Apply a small amount of mourning hair dye to the hair.
- Massage the hair to ensure even color distribution.
- Leave the dye on the hair for the recommended time.
- Rinse the hair thoroughly with warm water.
- Repeat the process as directed.

GELSON-HAIR PREPARATIONS

Gelson Hair Preparations

PROCEDURE:
- Apply a small amount of gelson hair treatment to the scalp area.
- Massage the scalp thoroughly with circular motions.
- Leave the treatment on the scalp for the recommended time.
- Rinse the hair thoroughly with warm water.
- Repeat the process as directed.
A hair-raising puzzle

Electrical treatment may help reverse balding

Floyd Wandler's father was completely bald at 27, and his own hair started falling out when he was 25. Because baldness is a hereditary trait, Wandler, now a 40-year-old Vancouver businessman, says that he realized he would likely lose all his hair. But, two years ago, a friend told him about a new process undergoing tests in his home city. Wandler says that he was skeptical because he had spent years trying a variety of treatments. Still, he contacted Current Technology Corp. and volunteered to participate in the company's program. After six weekly sessions, Wandler claims that his hair loss slowed. After 12 weeks, his hair stopped falling out. Now, two years into the program, his hair has filled in on the sides of his head, and he no longer has bald spots at the back. Said Wandler: "I'm really excited about it. It's great. It's remarkable."

The apparent results of Current Technology's treatment are as remarkable as they are mysterious. Wandler and 55 other male volunteers who took part in a double-blind clinical trial at the University of British Columbia, completed last year, sat under a device resembling a salon hair dryer. For 12 minutes, once a week, 30 of the men received measured amounts of electrical impulses, 100,000 times below dangerous levels, according to the company. The remaining 26 men received a placebo. After 36 weekly treatments, which are completely painless, the men involved in the UBC trial had an average 66-per-cent increase in the number of hairs on their heads, and all but one of the 30 receiving the treatment stopped losing hair or showed regrowth.

But the reasons for the success have eluded researchers. Wrote Dr. Stuart Maddin, clinical professor of dermatology at UBC, who conducted the trial: "The rationale of this phenomenon is unclear." Like many observers, Dr. William Danby, secretary-treasurer of the Kingston, Ont.-based Canadian Dermatology Association, has adopted a wait-and-see approach. Said Danby: "As with any scientific work, it's customary to await independent confirmation of the results."

Since the mid-1970s, doctors and therapists have used low-level electrical stimulation to speed the healing of bone fractures and such soft-tissue damage as ulcers. According to Current Technology's president and chief executive officer, Anne Kramer, its hair-raising effect was discovered by an American acupuncturist in the mid-1980s while treating patients with electrode stimulation. At the time, Kramer and her husband, Robert, Current Technology's chief financial officer, were raising venture capital for mining companies. But, said Anne Kramer, "we were looking for a product and an industry to work in that we felt would survive the downs in the economy as well as respond to the ups."

The Kramers met with an acupuncturist, whose name they declined to identify, saying only that "he has not been involved with the company for a long, long time." The couple formed Current Technology in 1987, listed it on the Vancouver Stock Exchange and, for an amount the Kramers will not divulge, bought the rights to the acupuncturist's process. From a low this year of 94 cents in January, the stock traded as high as $7.40 this summer, but it swooned last week in the heat of the crisis in the Middle East and closed on Friday at $4.90. Still, the potential market for the treatment, if it fulfills its initial promise, seems solid. Balding, a largely male trait, affects between 20 and 25 per cent of all men by age 40—approximately 22 million North Americans.

Although experts say that they do not know why pulsed electrical stimulation would promote hair growth, Maddin posted his theory in his report of the UBC study published this summer in Philadelphia's International Journal of Dermatology. According to Maddin, who is on Current Technology's medical advisory board and who bought 2,000 shares in the firm, the electrical pulses may cause increased division of dormant hair follicles and of skin cells on the scalp.

Having met the safety and efficacy criteria of the medical devices regulations of the federal Food and Drug Act, Current Technology is now working towards satisfying the U.S. Food and Drug Administration's criteria and initiating its marketing strategy. According to Anne Kramer, the first chair-and-head device should be ready by December. The firm plans to enter into joint-venture agreements with dermatologists in Canada and the United States who would lease the devices and administer the treatments in their clinics at $50 per session, or $2,500 per year.

Still, despite early reports of success, many dermatologists are cautious. Dr. Neil Shear, for one, at Sunnybrook Hospital in Toronto, says that he would like to see more information before he decides whether to put a machine in his office. "Hair loss is not a trivial problem," said Shear, "it would be a real boon if this worked. But we'll see what happens." With so few other options available, there will likely be many bald people eagerly watching for any new developments.

HAL QUINN with NORA UNDERWOOD
in Toronto
YOU DON'T HAVE TO GO BALD!

Impossible you say? Thanks to years of German research on the scalp to learn what causes hair to fall out, there is finally a proven way to re-ignite one's natural hair growth process. And now, an award-winning medical journalist shares the exciting findings in a practical, easy-to-follow program that does what other so-called solutions only say they can. Stops balding and grow hair now.

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- How to prevent or stop hair loss from cancer chemotherapy or other cytotoxic drugs which damage normal vigorously dividing scalp cells along with killing cancerous cells
- How to recognize the particular cause of your hair loss and take the proper precautions to check it
- Which specific vitamin, mineral, herbal, enzymatic and hormonal remedies encourage the hair's preservation and restoration
- The ultimate nutritional drink imported from China that stops falling hair, excites it into regrowth, and boosts your immune system at the same time
- The medical aspects of alopecia and its permanent correction

Now you can stop baldness and regrow the hair you thought had been lost forever, with the hair-preserving routine that really works!

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Proanthocyanidins from Grape Seeds Promote Proliferation of Mouse Hair Follicle Cells In vitro and Convert Hair Cycle In vivo

TOMOYA TAKAHASHI, TOSHIKAZU KAMIYA and YOSHIHARU YOKOO
Tsukuba Research Laboratories, Kyowa Hakko Kogyo Co., Ibaraki, Japan

For the purpose of discovering natural products which possess hair growing activity, we examined about 1000 kinds of plant extracts concerning growth-promoting activity with respect to hair follicle cells. After an extensive search, we discovered that proanthocyanidins extracted from grape seeds promote proliferation of hair follicle cells isolated from mice by about 230% relative to controls (100%); and that proanthocyanidins possess remarkable hair-cycle-converting activity from the telogen phase to the anagen phase in C3H mice in vivo test systems. The profile of the active fraction of the proanthocyanidins was elucidated by thinlty degradation and tannase hydrolysis. We found that the constitutive monomers were epicatechin and catechin, and that the degree of polymerization was 3.5. We demonstrated the possibility of using the proanthocyanidins extracted from grape seeds as agents inducing hair growth. Key words: cell culture; condensed tannin; hair growth.

(Accepted May 19, 1998.)

Many materials have been investigated since ancient times in attempts to cure male pattern baldness. However, no really effective materials were discovered until the 1980s. Minoxidil, initially prescribed in its oral form for hypertension, was found to cause hypertrichosis (1), and was approved by FDA as a medication (Rogaine® Upjohn Co., Kalamazoo, MI, USA) for curing male pattern baldness (2). It is known that this drug stimulates the growth of hair follicle cells in vitro (3) and has hair cycle converting activity in vivo (4).

On the other hand, many plant extracts have been traditionally used for curing male pattern baldness. For instance, it has been reported that extracts of Swertia japonica Makino promote capillary blood flow and cause hair growth (5). Intradermal injection of capsaicin (one of the components of Capsicum annum L.) into the skin of telogen mice (C57BL/6 J) caused anagen induction (6). However, in most cases the efficacy was not examined and the active compounds were not identified.

We examined about 1000 kinds of plant extracts with the aim of finding hair follicle cell growth-promoting materials, and discovered proanthocyanidins extracted from grape seeds to be active compounds.

We report here on the in vitro growth-promoting activity with respect to hair follicle cells and the in vitro hair cycle-converting activity from the telogen phase to the anagen phase possessed by proanthocyanidins extracted from grape seeds. We also propose the application of proanthocyanidins extracted from grape seeds as an active agent for curing androgenetic alopecia.

MATERIALS AND METHODS

Materials

Grape seeds (Chardonnay variety) were obtained from the Saintes Vineyard Co., (Yamanashi, Japan). (+) Catechin, (-) epicatechin, (-) epicatechin-3-O-gallate were prepared from the Kurita Kogyo Co., Tokyo, Japan.

Isolation and culturing of hair follicle cells

Mouse hair follicle cells were isolated and cultured in MCDB-131 medium (7) according to the method reported by Tanigaki et al. (8) with minor modifications, which can be obtained from the authors.

Colorimetric assay for cell proliferation by MTT

The degree of cell growth was determined from an MTT [3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyltetrazolium bromide] assay (9).

Preparation of topically applied agents for in vivo evaluation

Fourteen grams of ethyl alcohol, 0.6 g of proanthocyanidins purified from the grape seeds, 2 g of 1,3-butylen glycol, 0.1 g of nonoxynol N-acetylgluamine (Kyowa Hakko Kogyo Co., Japan), 0.05 g of polyethylene (25) glycerol monostearate, and 0.025 g of polyethylene (1000) glycerol monostearate (Nihon Emission Co., Japan), and 3.25 g of pure water were mixed, whereby the solvents were dissolved to prepare a sample solution for the in vivo mice test.

Vehicle without proanthocyanidins was used as the control. Minoxidil and other drug-containing agents were prepared in the same way as the proanthocyanidin-containing agent.

Test for hair cycle-converting activity in mice

With reference to the method of Hattori & Ogawa (10), the hair cycle-converting activity was measured. In this test, 8-week-old male C57BL/6J mice whose hair cycle was in the telogen stage were used (11).

Purification of proanthocyanidins from grape seeds

Dry grape seeds (Chardonnay variety) were extracted with 75% (v/v) acetone, further purified using a column (9 cm × 25 cm size with a diameter of 100 mm) filled with Dowex HP-20 resin (Mitsubishi Kasei Co., Japan) followed by preparative high performance liquid chromatography (HPLC) using an ODS column.

Preparation of procyanidin B-2 [4-procyanidin-4'-8'-epicatechin]

Apple juice was applied to an HP-20 column (55% v/v methyl alcohol and 45% v/v methanol mixture) and eluted and applied to an LH-20 column (Pharmacy Biotech Co., Sweden, 50% v/v methyl alcohol and 55% v/v methanol mixture), followed by preparative HPLC (ODS column mobile phase was 15% v/v methyl alcohol).

Preparation of procyanidin B-3 [4-procyanidin-4'-8'-epicatechin]

Bacitracin extract was extracted with 50% v/v methanol; this extract was evaporated, and the following column purification proceeded by the same procedure as that of procyanidin B-2.

Determination of the structure of proanthocyanidins

The profile of the extracted and purified proanthocyanidins was characterized by the comparison of the flavylium ions (Fig. 1) and the degree of polymerization, and the degree of galloylation. The
HAIR GROWTH STIMULANTS

(CA is Chemical Abstracts)

1) Vitamin E, Nicotinic Acid Ester (0.5% - 5%) CA 80:40933g
   Japan Patent 72-47,663 (Cl. A-61K) 1 Dec. '72

2) Colchicine; CA 80:32381w
   Australian Patent # 440,609 (Cl. A-61K) 4 Oct. '73

3) Auxine Tricogena; CA: 81:58760
   extract increases skin histamine, stimulates hair growth

4) L-Methionine; CA 81:176108e

5) L-Serine; "":

6) L-Cysteine; "":

7) Biotin; CA: 85:182269e

8) Sesame Oil/Essence of Bergamot/Cloves; CA 77:9505v
   French Patent Demande 2,070,045 (Cl. A-61K) 15 Oct. '71

9) 4-Tode-3,5-Dimethyl-2-CycloHexylPhenol (5% - 10%);
   CA 77:118119p
   & Methol 0.5% - 2%; Camphor 0.5% - 2%; Borayl-Salicylate
   French Demarque 2,085,627 (Cl. A-61K) 0.5% - 2%

10) Husks of Green Walnuts; CA 77:130493e

11) Urea; CA 85:182269e
    Netherland Patent Appl. 74-14, 311 (Cl. A-61K) 7/66

12) 1-(ChloroMethyl)-Silatlane; CA 88:17701j
    German Othm. 2,615,654 (Cl. A-61K 31/69s)

13) Lactobacillus Culture/Lecithin/Powdered Tea/Ionized
    Water; CA 88:110537e
    Japan Patent Kokai 77-136, 969 (Cl. A-61K 35/38)

14) Collagen Extraction of Calf Skin; CA 85:182396n

15) Chondroitin Sulfate A; CA 83:109220

16) Chorionic Gonadotropin; CA 88:54987n

17) Pyridoxine, HCl; CA 82:36779s
    US Patent 3,826,834 (Cl. 424.263; A61K)

18) Acanthens (L-Citronellol, Myristic Acid, Brassidic Acid)
    & Sanarines; CA 82:47627t
    German Offenbach # 2,312,091 (Cl. A61K)

19) Hexadecanoic Acid (Ethyl Ester); CA 82:90073x
    Japan Patent Kokai # 77-93,518 (Cl. 30, 0, 6 B 3) 5 Sept. '74

20) Keratin Hydrolysate; CA 82:115997r
    US Patent 3,842,848 (Cl. 132-7; A61K)

21) Nicotinic Acid; CA 79:23508n
    German Offenbach # 2,248,290 (Cl. A-61K)

22) Ethynyl Estradiol Methyl Testosterone; CA 76:144805h
    & Quinine Sulfate, extract of Jaborandi, coliiensis, lemon oil, vitamin C
    Castor Oil
    South African Patent # 70-32,048 (27 May '71)

12
Kaminomoto
THE SUPERIOR HAIR SAVER
AND GROWTH ACCELERATOR

Introduction of KAWAICOGOLO

As is commonly known, abnormal hair loss and subsequent baldness are sometimes attributable to ailments of certain internal organs. However, it is also true that they are frequently resulted from deficiency in the hair producing elements under the scalp tissue, often caused by the lack of proper vitamins and hormones in the body. It will not be always correct to set down hair thinning and baldness solely to a physical hindrance, such as the irregularity of glandular secretion, nerve system or internal organic function, nor will it be just to lay the fault every time to one's own family heredity.

KAWAICOGOLO was perfected in Japan on the basis of the newest scientific discoveries and the thoroughly new made on the life and substance of human hair, afterwards. It is recognized by many medical authorities in Japan as a remarkably effective hair saver and growth accelerator.

As of its principal ingredients, KAWAICOGOLO contains HINOKI TOLL CRYSTAL extracted from Japanese Hinoki tree, which is acclaimed as a remarkably effective product discovered in recent years for rejuvenating hypodermic cells and helping growing healthful hair. Another outstanding ingredient is PHOTOSSENSITIVE ZINC OXIDE, an ultraviolet sensitive sensitive type possessing high potential of increasing the substantive power to absorb the energy radiated by the sun, whereby stimulating the skin metabolism and revitalizing energized cellular tissue. Also blended in KAWAICOGOLO is CAL-TANTOTHEMATE, the famous medical products discovered by Professors F.A. Lipsme and H.A. Krebbs, Nobel prize winners. This specific ingredient which belongs to the vitamin group is too well known for its usefulness in nourishing hypodermic cells and expediting growth of hair. Furthermore, KAWAICOGOLO contains six other properties, all being remarkably beneficial for accelerating hair growth.

KAWAICOGOLO is Differently Effective

KAWAICOGOLO is effective because its potent essences will gradually infiltrate into the scalp and distribute fresh vitality to the impoverished roots of hair. Moreover, it will unfailingly stimulate hair producing cells which fallen inactive under the scalp, and encourage the normal secretion of melanin color in the roots, and liquid alumina to the root, both of which are imperative for the growth of new hair. Thus, KAWAICOGOLO will step by step remedy every significant cause of hair loss and baldness. Those who suffer from hair thinning or even bald need not be despair entirely for there are many testified cases in which consistent users of KAWAICOGOLO have succeeded in recovering from severe cases and repelling healthy hair.

KAWAICOGOLO will in addition to its hair saving and growth accelerating virtues, display a remarkable effectiveness in keeping the scalp scalp fresh and sweet and free from destructive germs and other infectious dandruff, anointing scalp rich and unconditioned hair. A few drops of KAWAICOGOLO a day will provide your hair with glorious luster. Invigorating locks and exquisite fragrance. Growing hair and trimming eyebrows may also be relieved by daily application of this efficient preparation to the affected part.

KAWAICOGOLO is free from any harmful or deleterious effects to human body and scalp, if it is used externally.

Directions for Use:

- Shake the bottle well before use. Squeeze a few drops of KAWAICOGOLO onto the scalp, parts very lightly afterword. It is not necessary to rub the solution into the skin. Repeat the same application twice a day morning and evening.
- It is particularly advisable to apply more amply every time before going to bed, as the hair nourishing blood is usually brought to the scalp while the body is asleep, allowing KAWAICOGOLO to exercise its power at its best.
- Please refrain from washing your hair too often except with neutral soap or shampoo. Avoid soap or shampoo containing any of that is not neutral nature. Eat fruits, vegetables and other foods as much as possible.

Caution:

- The users of this medicated hair preparation are cautioned to try a "Skin Test" for any possible allergic effect prior to its application.
- Important: As much as the development of human hair comes by nature in a very slow process, the user of KAWAICOGOLO should not expect visible results of improvement in an unreasonable short period of time. It would require an average of two to three months, depending on the genuineness of the individual case, before a gleam of hopeful sign can be witnessed. It is requested the consistency and perseverance be exercised by those seeking truly good results of KAWAICOGOLO.

Notice: KAWAICOGOLO will have little effect for the baldness resulted from syphilis, diabetes or nervous burn.

Package:
- General 
- Economic size
- Higher Strength

KAWAICOGOLO is available at department stores, major drug stores and leading cosmetic shops.

Manufactured by KAMINOMOTO CO., LTD.
Kumochibashidori 3-chome, Fukuoka, Japan.
HAIR GROWTH

98. 8087c Prevention and reversal of hair graying. Semenya, Antal Hung. Teljes HU 22:296, 28 May 1982. Appl. 79/1981, 26 Nov 1979; 17 pp. Propolis and vitamins are synergistic in preventing hair graying and restoring hair color. The effectiveness of the synergistic mix can further be increased by exposing the components, preferably, to a magnetic field. Thus, a propolis is given contg. vitamin A [11103-57-4] 4000, vitamin B 
[59-43-8] 70, vitamin B 
[83-88-5] 70, vitamin K3 [8069-24-3] 30, vitamin H 
[83-19-9] 0.5, vitamin C [50-81-7] 2500, vitamin E [1406-18-4] 1000, vitamin D3 [50-14-6] 0.15, vitamin P [1340-08-5] 3000, and propolis 5000 mg in 1 L soin in addition to the usual hair prep. ingredients. The comp. is exposed to a 1000-13000 Oe magnetic field. Application to human, every 2nd day, for 15 wk restored hair color.

98. 8171a The use of retinoids and their derivatives to increase the rate of growth of human scalp hair and the rate of growth of hair in certain body areas. Kuehl, M. Eur. Pat. Appl. EP 60,533 (C7 A61K/00), 26 Sep 1982. DE Appl. 3105430, 15 Mar 1981; 1 pp. Hair tonics are prepared contg. retinoids obtained from plants and bovine hair ext. contg. cytokromes, phosphatidylcholines, phospholipids, and free phospholipids, esp. as an alc. or alc. soln. A hair tonic containing: 400 ml alc. EIOH, 460 ml H2O, 50 g plant lecithin, and the ext. of 250 g fresh beef heart. The beef heart was freed of fat, homogenized with H2O, and filtered. The filtrate was heated to beyond 100°C and the excess oil was removed. The residue from the 1st filtration was added with 250 ml EIOH at room temp for 2 days, filtered, the alc. phase was sep., and dried. Then the EIOH was evaporated, and the residue was suspended in 150 ml H2O. This suspension was mixed with the cytokromes soln. and pH adjusted to pH 7.5 with 50 g alc.-purified plant lecithin, 400 ml EIOH, and H2O to 1 L. Acetic acid, 1% by wt, could be added as a preservative. Explts. with men showed red. of hair loss and an increase in hair follicles in the growth stage.

99. 10858p Lecithin and bovine hair extract compositions for arresting the loss of hair and for promoting the growth of hair. Kastel, Wolfgang. Eur. Pat. Appl. EP 60,533 (C7 A61K/00), 29 Sep 1982. DE Appl. 3105430, 15 Mar 1981; 12 pp. Hair tonics are prepared contg. lecithins obtained from plants and bovine hair ext. contg. cytokromes, phosphatidylcholines, phospholipids, and free phospholipids, esp. as an alc. or alc. soln. A hair tonic containing: 400 ml alc. EIOH, 460 ml H2O, 50 g plant lecithin, and the ext. of 250 g fresh beef heart. The beef heart was freed of fat, homogenized with H2O, and filtered. The filtrate was heated to beyond 100°C and the excess oil was removed. The residue from the 1st filtration was added with 250 ml EIOH at room temp for 2 days, filtered, the alc. phase was sep., and dried. Then the EIOH was evaporated, and the residue was suspended in 150 ml H2O. This suspension was mixed with the cytokromes soln. and pH adjusted to pH 7.5 with 50 g alc.-purified plant lecithin, 400 ml EIOH, and H2O to 1 L. Acetic acid, 1% by wt, could be added as a preservative. Explts. with men showed red. of hair loss and an increase in hair follicles in the growth stage.

99. 8061sc Hair tonics promoting hair growth. Shizuye, Jpn. Kokai Tokkyo Koho JP 58/39,610 [83 39,610] (C7 A61K/00), 26 Sep 1982. DE Appl. 3105430, 15 Mar 1981; 4 pp. Hair tonics are prepared contg. egg white, methionine [52-63-3], thymopropionate [1046-76-8], pyridoxine-HCl [55-56-0], and egg yolk. This was added with 0.3 g hydrosolvent, 0.3 g methionine, and 200-800 mL EIOH. The effectiveness of the prep. was tested in 3 male human subjects and 4 female human subjects.
Compositions comprising mixtures of certain amino acids and vitamins particularly useful in the formulation of topically-applicable cosmetic compositions. The topical application of the compositions acts to improve the general complexion of the skin and to invigorate and revitalize the hair and scalp. Separate formulations are provided for each use.

20 Claims, No Drawings
AMINO ACID-VITAMIN FORMULATIONS FOR SKIN, HAIR AND SCALP CONDITIONERS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to compositions comprising mixtures of certain amino acids and vitamins useful in cosmetic formulations for topical application to the skin, hair and scalp.

2. Description of the Prior Art

A variety of compositions containing amino acids and vitamins have long been known to be used with host of dietary formulations either as nutritional supplements or in conjunction with other medications to correct specific physiological dysfunctions. All of the prior art patents reviewed containing amino acid-vitamin components generally involve the oral ingestion or the intravenous injection by the subject of the amino acid-vitamin combination formulation. For example, U.S. Pat. No. 3,914,419 discloses stable aqueous multinutrient preparations containing amino acids as intramuscular injection. U.S. Pat. No. 3,962,416 discloses an encapsulated nutrient comprising vitamins, amino acids, lipids, enzymes and minerals. U.S. Pat. No. 3,697,287 relates to an amino acid food composition comprising all the essential amino acids and vitamins. U.S. Pat. No. 2,887,437 discloses a distinctable and palatable tablet comprising specific vitamins and amino acids. U.S. Pat. No. 3,256,095 discloses a complete synthetic diet comprising an amino acid-vitamin composition. U.S. Pat. No. 3,773,930 also relates to a dietary composition having the subject combination. U.S. Pat. No. 3,639,587 provides amino acid-vitamin compositions as components for medicinal compositions for animals.

The prior art also discloses the use of amino acids alone as components in hair or scalp conditioning compositions. In this regard, U.S. Pat. No. 3,778,802 discloses a method of combatting scaling of scalp by applying to the scalp a solution of specific amino acids together with other organic acids. U.S. Pat. No. 3,849,576 relates to compositions comprising an active ingredient, a derivative of cysteine or cysteamine, which is useful for the treatment of skin and scalp. U.S. Pat. No. 3,997,659 relates to hair bleaching compositions containing arginine and various proteins or polypeptides having a high arginine content. U.S. Pat. No. 3,998,761 relates to a hair composition containing an essential conditioning ingredient having a relatively high level of keratin solids which, of course, contain a mixture of amino acids.

However, none of the prior art references disclose the specific combination of amino acids and vitamins for topical application according to the present invention which unobviously improves the general appearance of the skin, hair and scalp.

SUMMARY OF THE INVENTION

It has been discovered that mixtures of certain amino acids and vitamins within narrow concentrations provide compositions which are useful for topical application to the skin, hair and scalp to enhance softness and luster to the hair and to improve the general appearance of the skin. Separate formulations are provided for the skin and for the hair and scalp. Thus, the hair and scalp conditioner active compositions of this invention comprise mixtures of amino acids and vitamins in the following proportions given in grams per liter of the active composition:

<table>
<thead>
<tr>
<th>Vitamin B6</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.80 grams</td>
<td>12.00 grams</td>
<td></td>
</tr>
<tr>
<td>Vitamin B5</td>
<td>1.80</td>
<td>15.00</td>
</tr>
<tr>
<td>Vitamin B3</td>
<td>1.20</td>
<td>7.50</td>
</tr>
<tr>
<td>Methionine</td>
<td>0.75</td>
<td>4.00</td>
</tr>
<tr>
<td>Arginine</td>
<td>0.54</td>
<td>5.00</td>
</tr>
<tr>
<td>Cysteine</td>
<td>0.20</td>
<td>3.00</td>
</tr>
<tr>
<td>Cysteine hydrochloride</td>
<td>0.90</td>
<td>2.20</td>
</tr>
<tr>
<td>Phenylalanine</td>
<td>0.45</td>
<td>2.50</td>
</tr>
<tr>
<td>Leucine</td>
<td>0.50</td>
<td>2.75</td>
</tr>
<tr>
<td>Lysine</td>
<td>0.20</td>
<td>3.00</td>
</tr>
<tr>
<td>Glycine</td>
<td>0.28</td>
<td>2.50</td>
</tr>
<tr>
<td>Valine</td>
<td>0.10</td>
<td>2.00</td>
</tr>
<tr>
<td>Isoleucine</td>
<td>0.12</td>
<td>2.00</td>
</tr>
<tr>
<td>Threonine</td>
<td>0.06</td>
<td>1.20</td>
</tr>
<tr>
<td>Histidine</td>
<td>0.05</td>
<td>0.50</td>
</tr>
<tr>
<td>Tyrosine</td>
<td>0.03</td>
<td>0.20</td>
</tr>
<tr>
<td>Threonine</td>
<td>0.40</td>
<td>3.40</td>
</tr>
<tr>
<td>Zinc sulfate</td>
<td>2.50</td>
<td>3.00</td>
</tr>
<tr>
<td>Cystine</td>
<td>0.03</td>
<td>0.20</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>25.0 ml</td>
<td>750.0 ml</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>100,000 IU</td>
<td>200,000 IU</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>34,000 IU</td>
<td>170,000 IU</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>13,040 IU</td>
<td>43,000 IU</td>
</tr>
</tbody>
</table>

Compositions useful for the treatment of the skin according to this invention comprise mixtures of amino acids and vitamins in the following proportions given in grams per liter of the active composition:

<table>
<thead>
<tr>
<th>Vitamin B6</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.90 grams</td>
<td>9.00 grams</td>
<td></td>
</tr>
<tr>
<td>Vitamin B5</td>
<td>1.60</td>
<td>6.00</td>
</tr>
<tr>
<td>Vitamin B3</td>
<td>0.90</td>
<td>3.00</td>
</tr>
<tr>
<td>Arginine</td>
<td>0.86</td>
<td>6.00</td>
</tr>
<tr>
<td>Cysteine</td>
<td>0.40</td>
<td>2.00</td>
</tr>
<tr>
<td>Lysine</td>
<td>0.89</td>
<td>2.00</td>
</tr>
<tr>
<td>Trytophan</td>
<td>0.19</td>
<td>1.00</td>
</tr>
<tr>
<td>Histidine</td>
<td>0.10</td>
<td>0.50</td>
</tr>
<tr>
<td>Tyrosine</td>
<td>0.10</td>
<td>0.20</td>
</tr>
<tr>
<td>Cystine</td>
<td>0.003</td>
<td>0.02</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>100,000 IU</td>
<td>200,000 IU</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>34,000 IU</td>
<td>170,000 IU</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>13,040 IU</td>
<td>43,000 IU</td>
</tr>
</tbody>
</table>

The invention includes a method for preparing the novel amino acid-vitamin compositions for hair and scalp conditioners, which comprises a series of manipulative steps to produce stable homogeneous products. These steps include:

(a) preparation of cystine diluent;
(b) preparation of an amino acid mixture;
(c) preparation of a vitamin mixture using the cystine diluent of step (a);
(d) blending the amino acid mixture of step (b) with the vitamin mixture of step (c);
(e) incorporating additional vitamin components into the mixture of step (d);
(f) adding an aqueous solution of zinc sulfate into the amino acid-vitamin mixture of step (e); and
(g) incorporating adjuvants into the mixture of step (f), and thus forming a stable homogeneous composition.

In addition, this invention encompasses a process for treating the skin and the hair and scalp comprising contacting the skin and the hair and scalp with the respective compositions described above.
Accordingly, it is an object of this invention to provide novel compositions for use in topical cosmetic formulations.

Another object of this invention is to prepare novel compositions which may be incorporated in cosmetic formulations.

A still further object of this invention is to provide a method for the treatment of hair and scalp to condition the hair and revitalize the scalp. These and other objects are obtained by the present invention, as will become apparent from the following specification and claims.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In accordance with this invention, it has been found that certain amino acids in combination with certain vitamins provide novel compositions which have unusual cosmetic and conditioning properties, while another specific combination of amino acids and vitamins impart unusual cosmetic and conditioning properties to the skin.

Of equal importance is the novel procedure by which these compositions are produced.

The initial step in the process of preparing the hair and scalp active compounds consists of the preparation of a cystine dienolate. This involves introducing cystine into a vessel and refluxing until all the cystine dissolves. In another vessel, a mixture of amino acids is dissolved in distilled water and the mixture is heated to boiling, then is refluxed until all the contents dissolve, and then cooled. In yet another vessel, a portion of the cystine dienolate made in the first step and the vitamin mixture component are mixed until an emulsion is formed. To this vitamin emulsion is added sequentially the amino acid solution prepared in a separate vessel, a polyhydric alcohol solvent, vitamin D (ergocalciferol in a solution of a lower alkanol), vitamin E (d-a-tocopheryl) in an oil and a conventional surfactant. The additional vitamin E (d-a-tocopherol polyethylene glycol 1000 succinate) is added to the resulting solution and thoroughly mixed with zinc sulfate to provide a blend of active compounds.

In the preparation of the skin conditioner active compositions, the cystine dienolate, amino acid solution and the vitamin mixture are prepared in the same manner described above, albeit the amino acid combination, and the concentration of amino acid and vitamin mixtures are different. Only, arginine, cysteine, lysine, tryptophane, histidine and tyrosine are the amino acids used in this system. The procedure also differs in that polyhydric alcohol is first added to the amino acid solution and then followed by sequentially adding, a vitamin D solution, the vitamin mixture, a cosmetic base, vitamin E and additional vitamin E in the form of d-a-tocopherol polyethylene glycol 1000 succinate.

It should be understood that other methods of mixing can be used and the order of the manipulative steps can vary without interfering with the efficacy of the active compound, although the stability of the final composition may be less than that desired.

The amino acids employed in this invention encompass the a-amino acids which include neutral a-amino acids, i.e., those having an equal number of amino and carboxyl groups, basic a-amino acids, i.e., 65 those having more basic groups than carboxyl groups, and acidic a-amino acids, i.e., those having more carboxyl groups than amino groups. Natural and/or synthetic a-amino acids are intended, including those termed essential and nonessential amino acids.

Examples of essential a-amino acids or derivatives thereof are l-arginine, which is L-amino-4-guanidovaleric acid; l-arginine hydrochloride, which is C6H14N4O2CH3N3O2H2O; l-histidine, which is a-amino-4-imidazolopropionic acid; dl-histidine; l-histidine dihydrochloride; l-isoleucine, which is L-amino-b-methylvaleric acid; di-isoleucine; L-alloisoleucine; l-lysine, which is L-aminoisocaproic acid; dl-lysine; l-leucine, which is L-aminoacaprylic acid; 1-lysin; 1-lysine, which is L-aminoisocaprylic acid; 1-lysine monopistrate, which is C6H14N4O2C3H7NO2O; 1-lysine dihydrochloride, which is C6H14N4O2·2HCl; 1-lysine monohydrochloride, which is C6H14N4O2·HCl; dl-lysine dihydrochloride; dl-lysine monohydrochloride; dl-monopistrate; l-methionine, which is L-amino-2-methylmercapto butyric acid; dl-methionine; 1-phenylalanine, which is C6H5CH(NH2)CO2H; dl-phenylalanine; 1-phenylalanine picolinate, which is C6H13NO2C6H4NO2; dl-phenylalanine picrate, which is (CH3H1NO2C6H4NO2)·O; l-threonine, which is L-amino-3-indolepropionic acid; 1-tryptophane hydrochloride, which is C6H9N3O2·HCl; 1-tryptophane picrate, which is C6H13NO2C6H4NO2·O; dl-tryptophane; 1-valine, which is L-aminoisovaleric acid; and dl-valine.

Other a-amino acids and derivatives thereof which can be added, for example, are the following neutral a-amino acids and derivatives thereof: glycine, which is aminocetic acid, CH2(NH2)COOH; glycine hydrochloride; tyrosine, which is L-amino-4-(4-hydroxyphenyl) propionic acid; cysteine, which is L-amino-b-mercaptovaleric acid; HCH3CH(NH2)COOH; cysteine hydrochloride, cystine which is 3,3'dithiobis(2-aminopropionic acid); and cystine hydrochloride. The amino acids can be used in either their levorotatory (l) or racemic (dl) forms.

The vitamers employed in this invention are a specific mixture of Vitamin A, Vitamin B3, Vitamin B5, Vitamin B6, Vitamin B7, Vitamin B8, Vitamin B9, Vitamin B12, Vitamin D and Vitamin E. The vitamers are incorporated into the formulations in any suitable form. Examples of vitamins which are added are listed below:

Vitamin A is 3,7-dimethyl-9,9(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6-nonatraen-1-ol and can be produced by total synthesis. The esters of Vitamin A are more stable to oxidation. Vitamin A acetate, is C22H32O2, and can be extracted from fish liver oils. Neovitamin A is 5-cis-Vitamin A and is naturally occurring isomer of vitamin A. Vitamin B1 is nicotinic acid amide or nicotinamide. Vitamin B6 is pantothenic acid or can be in the salt form of calcium-pantothenate. Vitamin B12 is pyridoxine. Vitamin B9 hydrochloride is termed pyridoxine hydrochloride and is 5-hydroxy-5-methyl-3,4-pyridine dimethanol hydrochloride, which is an advantageous form of Vitamin B9 which may be used in the practice of this invention. Vitamin D is 9,10-secoergosta-5,7,10(19), 22-tetraene-3,6-diol or ergocalciferol. Vitamin E refers to a-tocopherol and a-tocopherol derivatives, such as a-tocopherol esters including a-tocopheryl acetate, a-tocopheryl olate and preferably, a-tocopheryl polyoxyalkylene glycol moiety, generally referred to as the polyethylene glycol moiety of the ester, has a molecular weight in a range from about 600 to about 6000, and preferably, from
about 600 to about 1500. An example of such an ester and one which has been found to be particularly effective is α-tocopheryl polyoxyethylene glycol (1000) succinate wherein the polyoxyethylene glycol moiety of the molecule has an average molecular weight of about 1000.

The blends of the active compositions of this invention used for treating skin and hair and scalp have a pH range from about 4 to 8, and preferably, from about 4 to 6.

Suitable surface active agents may be incorporated into the active composition and may be nonionic or cationic in nature. Suitable anionic surfactants which are co-soluble with the water-alcohol solvent medium include the alkali metal salts of sulfated fatty alcohols or mixtures thereof having about 8 to 18 carbon atoms, e.g., sodium and potassium salts of sulfated cetyl alcohol, sodium and potassium salts of sulfated stearyl alcohol, sodium and potassium salts of sulfated lauryl alcohol, sodium and potassium salts of sulfated coconut fatty alcohols, and the like; alkali metal salts of alkyl esters of sulfated succinic acid having about 8 to 18 carbon atoms in the alkyl group such as the sodium salt of the dioctyl ester of sulfated succinic acid; alkali metal salts of sulfated fatty acid amides having about 8 to 18 carbon atoms, e.g., sodium and potassium salts of sulfated lauric amide, sodium and potassium salts of sulfated stearic amide, sodium and potassium salts of sulfated oleic amide, sodium and potassium salts of ricinoleic amide, and the like.

Suitable compatible nonionic surfactants include alkylamine oxides having about 8 to 18 carbon atoms, such as myristyltrimethylene oxide, cetyltrimethylene oxide, lauryltrimethylene oxide, stearyltimethylene oxide, and the like; fatty acid mono- and di-alkanolamides having about 8 to 18 carbon atoms such as lauric monoethanolamide, myristic monooethanolamide, stearic monoethanolamide, lauric diethanolamide, stearic diethanolamide, mixtures of coconut fatty acid mono- and di-ethanolamide. Further, suitable nonionic surfactants include polyethylene oxide condensates of castor oil. Other suitable nonionic surfactants include condensates of fatty acids, fatty alcohols, and fatty hydroxy acids which are characteristic of lanolin or woolfat, with 50 to 70 moles ethylene oxide. Such ethoxylated condensates are available as water-soluble lanolin designated as ethoxylated lanolin. Alkylated derivatives of these ethoxylated lanolins may also be used as water-alcohol soluble nonionic surfactants.

Additional suitable nonionic surfactants include condensates of higher fatty acids having about 8 to 18 carbon atoms, such as ricinoleic acid, with 3 moles ethylene oxide and condensates of the higher fatty alcohols having about 8 to 18 carbon atoms, exemplified by isocetyl alcohol, nonyl alcohol, decyl alcohol, and oleyl alcohol, with 3 moles ethylene oxide.

Suitable cationic surfactants include the quaternary ammonium compounds of mono- and di-alkylamines having from 8 to 18 carbons in the alkyl chain such as hexyltrimethyl ammonium chloride, dicyltrimethyl ammonium chloride, dioctyltrimethyl ammonium chloride, dodecyltrimethyl ammonium chloride, and the like.

Preferred surfactants for use in this invention are non-ionic surface active agents which are polyoxyalkylene derivatives of hexitol anhydride partial fatty acid esters (e.g. TWEEN® manufactured by I.C.I. United States, Wilmington, Delaware. Particularly preferred is a polyoxyalkylene derivative of sorbitan monononanoate TWEEN® 80).

The surfactant component is well known in the surfactant art and are employed in effective amounts, i.e., in an amount which is sufficient to provide a stable composition having skin, hair and scalp conditioning properties. In general from from about 0.05 to about 5 weight percent and preferably from about 0.5 to about 2 weight percent of a suitable surfactant or mixture of surfactants, based on the total weight of the final compositions, has been found satisfactory. Excessive amounts of surfactants tend to produce foams which are sticky and tacky to the touch, while insufficient amounts of surfactants provide a product having insufficient surface activity and skin, hair and scalp conditioning power.

The solvent system employed in the present invention comprises water and a mixture of monohydrated and polyhydric alcohols. Any lower alkanol having one to 3 carbon atoms, e.g., methanol, ethanol, n-propanol and isopropanol can be employed. Polyhydric alcohols include lower alkanol glycols such as ethylene glycol, propylene glycol and glycerine.

The active composition of this invention can also contain other known adjuvants, including for instance, bactericidal and bacteriostatic agents, detergents, penetrating agents, dyes, perfumes and the like. The carrier or excipient employed with the active compositions will depend on the form of the product desired. Additional ingredients, such as water, mineral oil, lanolin, lanolin derivatives, waxes, gelling agents, and suitable solvents can be compounded with the compositions of this invention to provide the desired form. It is well within the purview of those skilled in the cosmetic and pharmaceutical art to formulate stable lotions, creams, and aerosols containing the novel compositions. Thus, the active compounds can be applied topically to the skin and the hair and scalp as an aqueous dispersion, as a cream, as a gel, as a shampoo or an aerosol.

The blends of final formulations used for treating skin, hair and scalp have a pH range of from about 3 to 9 and preferably, about 4 to 6. This pH range is controlled by use of buffering agents well known to the art. In general, the buffering agents are prepared by using a solution of acids and salts or alkali and salts. Examples of buffering solutions comprising weak acids and salts would be boric acid and sodium borate, citric acid and sodium citrate, citric acid and sodium biphosphate.

The term "topical" as employed in this application relates to the introduction of the cosmetic, incorporated in a suitable base or vehicle at the site of the area for the exertion of local action. Accordingly, such topical compositions include those forms in which the cosmetic formulation is applied externally by direct contact with the surface to be treated. Conventional forms for this purpose include ointments, lotions, pastes, jellies, powders, and the like. The term "ointments" embraces formulations (including creams) having ionogenous absorption, water-soluble and emulsion-type bases as described in Remington's Practice of Pharmacy, 11th Edition (1956) page 336, Mack Publishing Company. Topical compositions as herein defined include also those forms which afford local as opposed to systemic release into
the immediate affected areas where such areas are not accessible for direct external application, such forms being sprays, aerosols, drops, powders, sterile aqueous suspensions and the like.

In accordance with the present invention, the novel active compositions in a suitable carrier may be topically applied to the hair and scalp of the subject to improve overall conditions of the hair and scalp. The blend of active compounds for hair and scalp is present in amounts of 1 to 25 weight percent of the final formulation and preferably about 5 to 15 weight percent. As an added benefit, topical application to the hair imparts softness, fuller body and luster characteristics to the hair. Additionally, the hair remains natural in appearance and in feel and retains these properties over a long period.

In accordance with the present invention, a method for the treatment of hair and scalp conditioning involves the steps of applying sufficient heat, either wet or dry, by conventional means, to the scalp of the person to be treated until the pores are opened; topically applying to the scalp about 2 to 50 cc and preferably 2 to 10 cc of the above-described composition, depending on the area to be covered; further applying sufficient heat to the scalp until the composition is absorbed by the scalp. This treatment is continued daily for approximately sixty days; thereafter, if desirable, the frequency of the treatment can be reduced to once a day for five days per week until the symptoms subside and then can be replaced by the application of a hair lotion containing said composition to the hair or scalp, or even by shampooing the scalp weekly with a detergent-containing solution of said composition. The beneficial effects produced by the practice of the present invention essentially can be observed by a healthier and cleaner scalp, the softness of the hair is enhanced and the general appearance thereof is improved.

In accordance with the present invention, it has been found that other specific novel amino acid-vitamin compositions are useful for the treatment of human skin.

The skin conditioner may be applied in any convenient form described above. The compositions of this invention impart a smoothness and lubricity to the skin and enhance its complexion. Suitable concentrations of the active compositions for skin treatment can range from 5 weight percent to 25 weight percent of the final formulation, and preferably from 5 to 15 weight percent.

The following examples illustrate the present invention:

**EXAMPLE I**

Preparation of a hair and scalp conditioner.

The following process steps were employed:

(a) A cystine diluent is prepared by introducing 0.09 g of cystine into a screw-top flask containing 1 liter of distilled water, the contents are heated to boiling and refluxed until the cystine dissolves completely. The solution is cooled to room temperature.

(b) An amino acid mixture is prepared in another screw-top flask containing 250 ml of distilled water; the following mixture of amino acids was introduced:

<table>
<thead>
<tr>
<th>Amino Acid</th>
<th>Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-lysine</td>
<td>0.10</td>
</tr>
<tr>
<td>DL-histidine</td>
<td>0.30</td>
</tr>
<tr>
<td>L-tryptophane</td>
<td>0.30</td>
</tr>
<tr>
<td>L-leucine</td>
<td>0.53</td>
</tr>
</tbody>
</table>

This mixture is boiled with constant agitation. Reuter conditions are maintained until all the amino acids are dissolved. Then the heating is discontinued and the solution cooled and maintained at 30° C.

(c) A vitamin mixture is prepared in yet another flask containing 125 ml of the cystine diluent made above by introducing the following:

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridoxine</td>
<td>6.25</td>
</tr>
<tr>
<td>Calcium-D-pantothenate</td>
<td>5.25</td>
</tr>
<tr>
<td>Nicotinamide</td>
<td>5.25</td>
</tr>
<tr>
<td>Vitamin A Palmitate</td>
<td>0.52</td>
</tr>
</tbody>
</table>

The mixture is stirred until all the ingredients are dispersed and the mixture is homogeneous.

(d) In a separate glass flask, a solution of ergocalciferol (Vitamin D) is prepared by dissolving 0.02 grams with 10 ml ethanol or isopropanol.

(e) A solution containing 250 l ml of the amino acid mixture and 125 ml of the vitamin mixture is prepared. To this solution is added with stirring 650 ml of propylene glycol U.S.P. followed by the addition of 2.5 ml of the ergocalciferol solution prepared in step (d). Next, 12.5 ml of Tween 80 and 33,400 I.U. of D-tocopherol in vegetable oil are introduced and thoroughly agitated until the resulting solution is homogeneous.

(f) An addition of 2,600 I.U. of D-tocopherol polyethylene glycol 1000 succinate in the liquid phase is added to the homogeneous solution prepared in step (e).

(g) To the resulting composition in step (f), an aqueous solution prepared by dissolving 2.5 grams of zinc sulfate (ZnSO4·7H2O) in 50 ml of distilled water is added with mixing. An effective amount of a suitable fragrance is added to provide a milky white lotion as a final product.

Tween 80 is a polyoxyalkylene derivative of sorbitan monooleate, manufactured by the ICI United States, Inc., Wilmington, Del.

**EXAMPLE II**

Preparation of a skin lotion.

The following process steps are employed:

(a) A cystine diluent is prepared by introducing 0.09 g of L-cystine into 1 liter of distilled water, the contents are heated to boiling and refluxed until complete dissolution of the cystine occurs.

(b) In 328 ml of distilled water combine the following:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-arginine</td>
<td>1.48</td>
</tr>
<tr>
<td>L-cysteine</td>
<td>0.82</td>
</tr>
<tr>
<td>L-lysine monohydrochloride</td>
<td>0.82</td>
</tr>
</tbody>
</table>
Mix well and heat to boiling. Reflux until all the amino acids are dissolved. The refluxing should be accomplished with a minimum loss of water. Remove from reflux and cool to about 30° C. (c) Into 82 ml of the cystine diluent prepared in step (a), the following were introduced:

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium-d-pantothenate</td>
<td>4.92 grams</td>
</tr>
<tr>
<td>Pantothenic hydrochloride</td>
<td>2.80</td>
</tr>
<tr>
<td>Nicotinamide</td>
<td>1.64</td>
</tr>
<tr>
<td>Vitamin A palmitate</td>
<td>0.55</td>
</tr>
</tbody>
</table>

The mixture is stirred constantly until the blend is emulsified.

<table>
<thead>
<tr>
<th>Vitamin B₁₂</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B₆</td>
<td>1.80</td>
<td>12.00</td>
</tr>
<tr>
<td>Vitamin B₉</td>
<td>1.50</td>
<td>15.00</td>
</tr>
<tr>
<td>Methionine</td>
<td>0.75</td>
<td>4.00</td>
</tr>
<tr>
<td>Arginine</td>
<td>0.54</td>
<td>5.00</td>
</tr>
<tr>
<td>Cystine</td>
<td>1.60</td>
<td>6.20</td>
</tr>
<tr>
<td>Phenylalanine</td>
<td>0.45</td>
<td>2.50</td>
</tr>
<tr>
<td>Leucine</td>
<td>0.30</td>
<td>2.25</td>
</tr>
<tr>
<td>Lysine</td>
<td>0.20</td>
<td>3.00</td>
</tr>
<tr>
<td>Glycine</td>
<td>0.28</td>
<td>2.50</td>
</tr>
<tr>
<td>Valine</td>
<td>0.10</td>
<td>2.00</td>
</tr>
<tr>
<td>Isoleucine</td>
<td>0.12</td>
<td>2.00</td>
</tr>
<tr>
<td>Tryptophane</td>
<td>0.06</td>
<td>1.20</td>
</tr>
<tr>
<td>Histidine</td>
<td>0.05</td>
<td>0.50</td>
</tr>
<tr>
<td>Tyrosine</td>
<td>0.03</td>
<td>0.20</td>
</tr>
<tr>
<td>Threonine</td>
<td>0.04</td>
<td>0.40</td>
</tr>
<tr>
<td>Zine sulfate</td>
<td>2.50</td>
<td>3.00</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>100,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>54,000</td>
<td>170,000</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>13,000</td>
<td>43,000</td>
</tr>
</tbody>
</table>

2. The composition according to claim 1, additionally containing at least one monohydric and at least one polyhydric alcohol.
3. The composition according to claim 2, wherein the said alcohol is selected from the group consisting of lower alkanols, alkylene glycols and glycerols.
4. The composition according to claim 1, additionally containing a cationic or nonionic surfactant.
5. The composition according to claim 4, wherein the surfactant is a polyoxyalkylene derivative of sorbitan monooleate.
6. The composition according to claim 1, wherein said composition is in the form of a stable emulsion.
7. The composition according to claim 1, wherein said excipient is a pharmaceutically acceptable base.
8. The composition according to claim 1 as a lotion.
9. The composition according to claim 1 as a cream.
10. A method of treating hair and scalp to enhance softness and luster and to impart fuller body to the hair comprising the step of topically applying to the hair and scalp, as an active composition, the mixture of amino acids and vitamins according to claim 1.
11. The method of treating hair and scalp according to claim 10, comprising the steps of applying sufficient heat to open the pores of the scalp, topically applying said composition to said hair and scalp, and drying the treated hair and scalp.
12. The method of claim 10, wherein the final composition contains from 1 to 25 weight percent of said active composition.
13. The method of claim 12, wherein the final composition contains from 5 to 15 weight percent of said active composition.
14. A composition for topical application to the skin to improve the general appearance thereof comprising a mixture of amino acids and vitamins in the following proportions given in grams per liter of the final composition:

<table>
<thead>
<tr>
<th>Component</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B₁₂</td>
<td>2.90</td>
<td>9.00</td>
</tr>
<tr>
<td>Vitamin B₆</td>
<td>1.60</td>
<td>6.00</td>
</tr>
<tr>
<td>Vitamin B₉</td>
<td>0.90</td>
<td>3.00</td>
</tr>
<tr>
<td>Arginine</td>
<td>0.80</td>
<td>6.00</td>
</tr>
<tr>
<td>Cystine</td>
<td>0.80</td>
<td>2.00</td>
</tr>
<tr>
<td>Leucine</td>
<td>0.60</td>
<td>2.00</td>
</tr>
<tr>
<td>Lysine</td>
<td>0.60</td>
<td>2.00</td>
</tr>
<tr>
<td>Tryptophane</td>
<td>0.19</td>
<td>1.00</td>
</tr>
<tr>
<td>Histidine</td>
<td>0.10</td>
<td>0.50</td>
</tr>
</tbody>
</table>
15. The composition according to claim 14, wherein said excipient is a greaseless ointment base comprising sodium lauryl sulfate, cetyl alcohol, propylene glycol and a paraffin wax.

16. The method of treating skin to improve the general appearance thereof which comprises the step of topically applying to the skin area as an active composition the mixture of amino acids and vitamins according to claim 14.

17. The method of claim 16, wherein the final composition contains from 5 to 25 weight percent of said active composition.

18. The method of claim 17, wherein the final composition contains from 5 to 15 weight percent of the active 25 composition.

19. A method for the preparation of a composition comprising a mixture of amino acids and vitamins for topical application to the hair and scalp which comprises the steps of:

(a) preparing a cystine diluent by combining cystine and water and heating until the cystine dissolves in the water;
(b) preparing an aqueous solution of the following amino acids: methionine, arginine, cysteine, phenylalanine, leucine, lysine, glycine, valine, iso-leucine, tryptophane, histidine, tyrosine and threonine;
(c) preparing a vitamin blend of vitamin A, vitamin B₆, vitamin B₁₂ and vitamin B₉ in the cystine diluent of step (a);
(d) separately preparing a vitamin D solution;
(e) adding to the aqueous amino acid solution prepared in step (b) at least one polyhydric alcohol;
(f) adding to the solution prepared in step (e) a portion of the vitamin D solution of step (d);
(g) combining the resulting amino acid solution of step (f) with the vitamin blend of step (c);
(h) adding vitamin E to the components of step (g) and mixing until the mixture becomes homogeneous;
(i) adding the composition of step (h) to an excipient with constant stirring until the composition becomes homogeneous and thus forming a stable composition;

wherein the amounts of the active ingredient amino acids and vitamins in the final composition are in the following proportions given in terms of grams per liter:

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenylationine</td>
<td>0.45</td>
<td>2.50</td>
</tr>
<tr>
<td>Leucine</td>
<td>0.30</td>
<td>2.25</td>
</tr>
<tr>
<td>Lysine</td>
<td>0.20</td>
<td>3.00</td>
</tr>
<tr>
<td>Glucose</td>
<td>0.24</td>
<td>2.50</td>
</tr>
<tr>
<td>Valine</td>
<td>0.10</td>
<td>2.00</td>
</tr>
<tr>
<td>Iso-leucine</td>
<td>0.12</td>
<td>2.00</td>
</tr>
<tr>
<td>Tryptophane</td>
<td>0.06</td>
<td>1.20</td>
</tr>
<tr>
<td>Histidine</td>
<td>0.05</td>
<td>0.50</td>
</tr>
<tr>
<td>Tyrosine</td>
<td>0.03</td>
<td>0.20</td>
</tr>
<tr>
<td>Cystine</td>
<td>0.003</td>
<td>0.02</td>
</tr>
<tr>
<td>Threonine</td>
<td>0.40</td>
<td>3.40</td>
</tr>
<tr>
<td>Zinc sulfate</td>
<td>2.50</td>
<td>1.00</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>100,000.0 U</td>
<td>200,000.0 U</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>34,000.0 U</td>
<td>170,000.0 U</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>13,000.0 U</td>
<td>43,000.0 U</td>
</tr>
</tbody>
</table>