

Emu Oil Hair Loss and Frontal Regrowth

Of all the compounds so far recommended in our treatment protocol topical Emu Oil has consistently gotten the most positive feedback in regards to frontal regrowth, with many users experiencing the initiation of vellous (fuzz) growth within weeks.

It is a given in hair loss treatment that frontal regrowth is much more difficult to attain than regrowth in the vertex or crown. This especially holds true of the "FDA approved " compounds Rogaine and Propecia, as test data have shown them to be of virtually no use in stimulating frontal regrowth. Why this is the case is unclear, and has been a source of frustration to those who respond well in the crown, only to have their hairline stay in its receded state. In this article we will review the medical properties of topical Emu Oil, to give a clearer understanding of the multiple mechanisms by which it supports hair growth.

The emu, *Dromaius nova hollandiae*, is a flightless bird part of a group called ratites which also includes the ostrich and the kiwi. Modern Australians learned early on from the aborigines the many valuable qualities in the emu and its oil. The earliest research studies in emu oil come from Australia, and Australia continues to export emu oil to this day.

In the United States today there is a growing network of research labs interested in emus and their incredible oil. This animal that was originally imported as an oddity, a rare species with unique attributes, has become the source of an oil, that in its pharmaceutical grade form, is worth close to a thousand dollars per gallon on the current wholesale market. Most people agree it is cheap at even this price considering its health promoting characteristics.

Emu oil is rendered from a thick pad of fat on the back of the bird that was apparently provided by nature to protect the animal from the extreme temperatures in its Australian homeland. The fat is carefully rendered to prevent the formation of trans fatty acids, 100 pounds of fat producing anywhere from 50 to 90 pounds of pale yellow oil. Correctly processed oil is almost 50% monounsaturated fatty acids with the rest of its make up being saturated and polyunsaturated fatty acids. (See Table 1) Studies at the Occupational Dermatology Laboratory of the University of Texas Medical School at Houston and elsewhere have shown that "70% of the fatty acids in emu fat are of the unsaturated variety." These are the fatty acids that help protect one's heart. The second conclusion of this study was that oleic acid, a monounsaturated fatty acid is the largest component of emu oil, that and this fatty acid may well be the main reason for this oil's amazing ability to penetrate the skin and carry with it hair growth stimulating medications.)

Emu oil is almost 100% triglyceride in nature which makes it an almost completely neutral lipid. Researchers feel that the reason that it penetrates human skin so readily is that it has a total lack of phospholipids. Human skin is phospholipid deficient which means that there is no phosphorus in human skin. Anything put on human skin and scalp that has phosphorus in it will not penetrate because skin is programmed to keep such penetration from happening. Conversely, anything such as emu oil that is phospholipid deficient, i.e. has no phosphorus, will penetrate right in and take with it any medicinal materials added to it. Even on its own without added materials emu oil has amazing hair growth properties.

Properties of Emu Oil

The most important property of emu oil has already been mentioned. It is highly penetrating. This ability to penetrate the stratum corneum barrier of the skin, brought about by the high levels of oleic acid mentioned earlier, has in it the basis for many new uses in the future. Emu oil could be combined with various medicinals or cosmetic materials to take them beneath this barrier and could do it relatively more cheaply and as effectively as the costly liposomes and iontophoresis now available. At the present time, physicians in Australia specializing in hair growth are using emu oil for this penetrating ability because it gets into the scalp and enhances the potency of topical medications, in addition to making them last longer.

It is **anti-inflammatory, which may be in part why it stimulates hair growth**. Four Australian inventors have isolated a yellow-colored component in emu oil that appears to be at least one of the active ingredients causing the oil's anti-inflammatory activity. They have patented the substance they isolated, and this patent, or other research, could lead to new anti-inflammatory medicines in the future that are without side effects, are non-irritating, which continue to work and are not thrown off or rejected by the body, and which are far less expensive than current anti-inflammatories are. There is much anecdotal material available on the anti-inflammatory abilities of emu oil. It has been shown to reduce pain, swelling and stiffness in joints, to reduce recent bruising and muscle pain, and ease sports related muscle strains as well. Perhaps most significantly it has been shown to inhibit tumor necrosis factor alpha (tnf-a), an inflammatory cytokine that has been shown to be involved in male pattern balding.

Emu Oil has also been shown to be a 5 alpha reductase inhibitor in target tissues when topically applied, which likely contributes significantly to its hair growth properties.

Emu oil is a **good emulsifier**, has good "blendability." This means that it has the ability to blend oil and water together and produce a cream that does not feel oily on the skin or scalp. The problem is that most topical hair loss treatments do not penetrate the skin barrier very well. As we have seen above, however, emu oil can penetrate the skin barrier and do so without leaving an oily residue behind. This bodes very well for its future use in cosmetics as well as pharmaceutical uses.

A third important property of emu oil is that it is **bacteriostatic**. Tests show that in its pure state, emu oil grows no bacterial organisms. Pure pharmaceutical grade emu oil has a long shelf life for this reason and also because of its low levels of polyunsaturated fats which are the most subject to oxidation and eventual rancidity. This bacteriostatic activity will be of great help in future uses both cosmetically and pharmaceutically, and is essential for treating hair loss, as bacterial infiltrates have been shown to be present in MPB.

Emu oil has no **potential for irritation** of the skin and scalp. It is shown to have no side effects, and this means that even at full strength, emu oil has irritation levels so low that they are the same as those found in putting water on the skin, i.e. nonexistent. This enhances its abilities in topical hair loss treatment and sports medicine as well. This characteristic is unusual and it also better its position as an anti-inflammatory because most of the anti-inflammatory drugs are irritating and have side effects.

Emu oil is **non-comedogenic**, that is to say it does not clog up pores and thus does not cause pimples when used. This cannot be said for mineral oil (one of the current, popular carrier oils in cosmetics and rubbing oils) which causes outbreaks of pimples when used.

It is a **good moisturizer** which adds to its protective ability and promotes anti-aging of the skin. Researchers believe that its unique combination of saturated and unsaturated fatty acids may be an explanation for its ability to enhance the willingness of the upper layers of the skin to hold water. Like Viviscal, an expensive marine protein extract, It increases the thickness of human skin and

scalp 2.5 times (which is thinner in MPB, and cures perifollicular inflammation, an inflammation present around hair follicles affected by MPB. There is much anecdotal material regarding its **anti-aging and wound healing** abilities. Stories of the oil being applied to burns and causing them to heal at a far faster rate abound.

The **anti-aging factor** in emu oil was proven in a study at the Boston University School of Medicine in which a pharmaceutical grade emu oil was topically applied to depilated mice in a for a two-week-long period in a double-blind study using corn oil as the control substance. The processed emu oil produced a 20% increase in DNA synthesis which meant that the growth activity of the skin of these animals had a 20% increase. Also the hair follicles were much more robust and the skin thickness had increased as well. Dr. Michael Holick, MD, Ph.D. who conducted these tests said they also discovered that "over 80% of hair follicles that had been asleep were woken up and began growing hair." He explained that hair follicles go through stages from resting to growth and back to sleep again, and that they awoke these hair follicles by stimulating them which indicates that it stimulates skin growth as well.

For hair regrowth in mice Dr. Holick applied Emu Oil three times a day. Many others have experienced fuzzy regrowth in the hairline on a once a day application, which can be done before bedtime, shampooing in the AM.

Cautions

As with any product which is galloping from obscurity to explosive use, we would be remiss if we didn't say "buyer beware" before we closed this article. Emu oil was approved by the FDA for use in July of 1992, and the least we can ask is **that it be pure and correctly processed**. Both anecdotal evidence and research suggest that it does all the things that have been discussed in this article. To attain these effects, the oil you utilize must be processed properly. There are some important questions and considerations.

- Is the **oil free from contamination by hormones** which can be generated if the bird is processed inhumanely, and is the oil **free from blood and meat residues** from improper handling?

- Has the oil been processed in such a way that **trans fatty acids are not produced**? These come into being when any oil is processed at too high a heat and are the cause of many health related problems because they are non-natural and not usable by the human body.

- Is the product completely **free of solvent extractors** used in processing? And is the company processing the oil willing to certify that this is so? The best oils whether from emus or vegetable oils are made without solvent processing because this method of processing heats the oil to temperatures that of necessity produce the unwanted trans fatty acids mentioned above, besides leaving non-edible solvent residues in the finished product.

- **Has the oil been refined by use of degummers** (to remove stickiness from the oil) **or a corrosive base material such as sodium hydroxide** used to remove phospholipids and other protein like substances which can cloud the oil? These steps are not desirable because the degummers also remove calcium, magnesium, iron, copper, chlorophyll, lecithin and other phospholipids which enable the oil to penetrate the skin.

Have **synthetic anti-oxidants or preservatives been added** to the oil? Correctly processed emu oil free from blood or body residues is naturally bacteriostatic and these steps are not needed.

The above are just a few of the more pressing questions that should be asked when purchasing emu oil or indeed any oil that is to be used in or on the human body.

Article taken from "Emu Oil Hair Loss and Frontal Re-Growth"