



HEALTHY HAIR & LENGTH COURSE – MONTH 3

Oil rinsing, Hair Porosity, Protein Treatments, Vitamins, trimming, stress and sleep and trimming.

So is there a scientific test to know how porous hair is?

- Yes, there is and much like the proven tests to see if oil penetrates hair, it is a lab-based test that is generally not an easy or cheap method to do. It is called gas sorption and involves detecting the flow of a gas (or air) through hair. It has been used to show that bleaching and UV damage do both indeed greatly change the porosity of hair (Journal of cosmetic science 59.4 (2008): 303)

Is there a home - test for porosity?

- There is no single test that I would say is reliable. Many people think that hair repelling water is a bad thing, but it really is not, it is excellent. It means your hair has its oil coating and is working well. The oil coating cannot fully block out water coming in or out, it is a permeable barrier.

Please reject or accept products based on how they work. If a product leads your hair to be constantly dry, leave it. If a product makes your hair too mushy, stop using it. Find products that work by trusting yourself and your hair.

Lessons for high Porosity

- Deep conditioning hair to help seal damaged spots on the cuticle surface
- Sealing hair with oil or silicone based product to help prevent moisture from escaping your hair

Lessons for low porosity hair

- Incorporating a steamer into your hair care regimen
- Using humectant rich products to draw moisture to the hair, especially in humid climate.

Protein moisture balance

Protein treatments are an essential part of maintaining the health of black hair. They strengthen hair, help prevent breakage, repair damage, and restore elasticity. These treatments are especially helpful on chemically treated tresses, including color-treated or relaxed hair. Protein is crucial for strength and even moisture retention.

For natural hair damage tends to come from normal weathering - washing, drying, combing, heat use etc.

Protein treatments are known to temporarily repair and strengthen hair. They do this by filling up gaps in the cuticle and if of a sufficiently small size can also penetrate to the cortex. (Journal of Cosmetic Science, pg69-87, 1993).

Protein molecules contain amino acids and are an essential part of the human body. Ninety percent of your hair is comprised of proteins, most of which are keratin. When hair is exposed to the sun, wind, pollutants, heat, and chemicals, the proteins can break down. This damage causes hair to lose elasticity and become dry and brittle. Over time, this may cause breakage.

Protein treatments are designed to create a protective barrier for your hair. The result is stronger hair that has an extra layer of protection from damaging elements. It also looks and feels healthier. When paired with deep conditioning, the protein treatments can become an important part of maintaining or restoring healthy hair.

Protein treatments you may want to try

Aphogee Keratin 2 minute reconstructor – roughly every 2 months

ApHogee Two-Step Protein Treatment – preferable get this done at a saloon – every 3 months

Enitan's protein defence – easy to use. – every month for adults

Homemade: Gelatin (for those who want to experiment. Synchronised swimmers swear by it). It is hydrolysed protein (usually pork). The recipe is simple, just make the gelatin up as per the instructions on your pack and apply it to your hair. Gelatin can be tricky to use as it can easily form lumps, use hot water instead of cold to help prevent this and of course allow the mix to cool before using it. Once you are done, rinse and follow up with a deep conditioning treatment

So why is hydrolysed protein the correct size?

to be useful, protein has to stick to hair and form temporary bonds. Very large protein simply can't form these bonds reliably. With damaged hair, very small hydrolysed protein (known as peptide fragments) can also be absorbed - meaning it can penetrate through to the cortex and be deposited in the hair shaft (Journal of Cosmetic Science, pg69-87, 1993).

Even the size of your hydrolysed protein Matters

hydrolysed protein has an **ideal size** for use:

collagen hydrolysates for example, this is a molecular weight of 2000 (*Book reference - Conditioning agents for hair and skin By Randy Schueller, Perry Romanowski*). For **wheat hydrolysates** this is around 5000-10000 (*Book reference*

-Principles of Polymer Science and Technology in Cosmetics and Personal Care By Errol Desmond Goddard, James V. Gruber). The problem is most protein conditioner do not actually state the molecular weight.

