



# Collagen

## What is collagen?

Collagen is a simple protein made up of amino-acids. Amino acids are built from carbon, oxygen and hydrogen. In fact collagen makes up approximately 30% of the protein within the body. As a structure Collagen is intensely strong and is a vital protein that is found all over the body: In tendons and ligaments. It plays an important role in the protection function of the skin in that it helps limit the absorption and spreading of pathogenic substances, environmental toxins, micro - organisms and cancerous cells.

## Why do we need collagen?

Collagen is the main protein of connective tissue and is responsible for: skin firmness, skin moisturisation, skin suppleness, constant renewal of skin cells. Research proves explicitly that the skin ageing process occurs in connective tissue, whose main ingredient is collagen.

Collagen is vital for skin elasticity, which is essential for the flexibility of the skin without stretching. It allows our skin to constantly expand and contract without looking like a well worn, well loved old cardigan than has stretched beyond recognition. Skin loses its elasticity and ability to expand because of the decreasing ability to retain water. When elasticity is compromised, when we put on excessive weight, or we are pregnant, the elastin fibres are really under pressure and the result can mean stretch marks.

Like Love and marriage, Laurel and Hardy, and Yin and Yang, both collagen and elastin fibres support and need each other. Because of this dependency upon each other, it is important to build both not just one, for real and best results. It is therefore important, that, to facilitate increased Collagen production within the skin, we need to ensure that we have increased elastin fibres, water and energy. The synthesis of collagen requires a high level of atmospheric oxygen. The collagen in these types of products are going to do nothing more than moisturize the skin. Collagen cannot be absorbed by the skin.

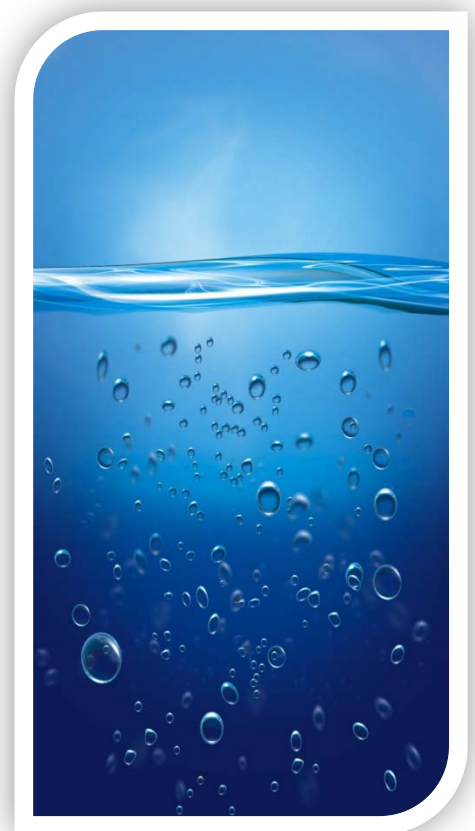
## Collagens dependency on Oxygen

As mentioned in the section "What is collagen" we already know Collagen is a simple protein made up of amino-acids, and that Amino acids are built from carbon, oxygen and hydrogen. It is therefore true to say that, in order for collagen to be produced, the body needs sufficient supply of all of these 3 fundamental elements. Let look closer at how the body actually receives these elements and begin to appreciate what we can do to help ourselves.

### Hydrogen (H) - a macronutrient

It would be virtually impossible to understate the importance of this element to human life. First of all, water is a compound of hydrogen and oxygen (H<sub>2</sub>O). We can survive years, or at least months without getting most of the other elements that we need to survive. We can survive weeks without food, but we would die after only a few days without water. Water is incredibly important in our bodies. In fact, almost 70% of our body is made of water. It dissolves other life-supporting substances and transports them to fluids in and around our cells. It is also a place in which important reactions take place in our bodies. Chemically, water is a remarkable substance and its many unique attributes make life possible. Hydrogen is obviously a critical component of water and minute chemical bonds called "hydrogen bonds" are what give water many of its unique attributes.

Also, hydrogen is practically always bound to the carbon that our bodies are constructed of. Without this arrangement, our bodies would be little more than a pile of atoms on the ground. Stomach acid is a compound of hydrogen and chlorine (hydrochloric acid, or HCl). Logically, hydrogen is extremely important in allowing us to digest our food properly and to absorb the many other elements that we need to



survive. Finally, many chemical reactions that make life possible involve the hydrogen ion. Without this unique and important element, we simply couldn't exist.

Karin Herzog products based on the original and ground-breaking formulas of her Late Husband, Dr Paul Herzog, have been clinically proven to deliver additional water directly into the skin. This is no mean feat and is something that most other skin care product try to achieve to lesser or greater extent. Herzog remains the world's only product to deliver not just oxygen but water deep into the skin.

**We can legally claim that we oxygenate the tissues as we have passed the necessary clinical testing's by a recognised European testing laboratory. Using Herzog gives you peace of mind and assurance that the product you invest in, is doing what it is supposed to do and is a major benefit to the skin.**

#### **Carbon (C) - a macronutrient**

The element carbon is perhaps the single most important element to life. Virtually every part of our bodies is made with large amounts of this element. The carbon atom is ideal to build big biological molecules. The carbon atom can be thought of as a basic building block. These building blocks can be attached to each other to form long chains, or they can be attached to other elements.

This can be difficult to imagine at first, but it may help to think about building with Lego blocks. You can think of carbon as a bunch of red Lego blocks attached together to form one long chain of Lego's. Now, you can imagine sticking yellow, blue and green Lego's across the tops of the red (carbon) Lego's. These other colours represent other elements like oxygen, nitrogen or hydrogen. As you stick more and more of these yellow, blue and green Lego's to the red chain, it would start to look like a skeleton of Lego's with a "spine" of red Lego's and "bones" of yellow, blue and green Lego's. This is a lot like the way that big molecules are made in the body. Without carbon, these big molecules could not be built.

Now, virtually every part of your body is made up of these big molecules that are based around chains of carbon atoms. This is the reason we are known as "carbon based life forms". Without carbon, our bodies would just be a big pile of loose atoms with no way to be built into a person. Carbohydrates are simple sugars, composed of carbon, hydrogen, and oxygen atoms. The body gets carbon therefore from a good diet because carbon atoms always bond to hydrogen atoms, using Herzog which delivers additional water allows more carbon to be transported,

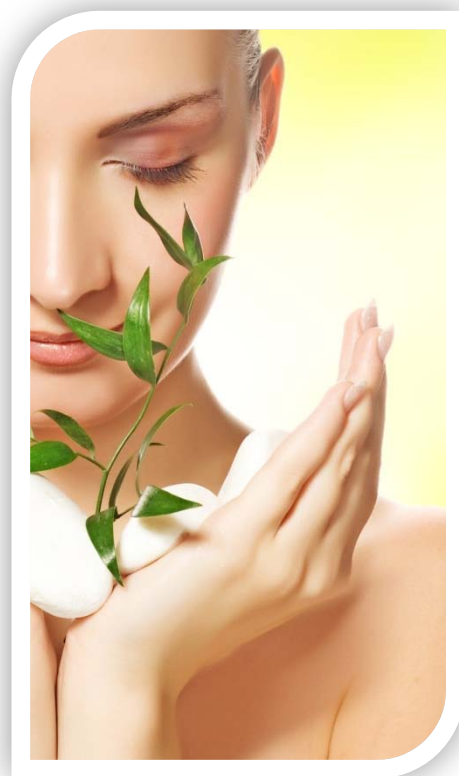
#### **Oxygen (O) - a macronutrient**

It may seem obvious that people need to breathe oxygen to survive, but plants need this element too. Many people think plants "breathe" carbon dioxide and "exhale" oxygen. But in reality, plants also "breathe" oxygen at certain times. Without oxygen, plants could not survive. Without plants, we wouldn't have food to eat. Plants do provide the oxygen and the earths atmosphere is made up of approximately 20% Oxygen. However in polluted areas like major inner-cities, this oxygen count is depleting and the air quality is compromised.

**Oxygen is the regulator within our bodies. It fights infection and bacteria. Oxygen has a stimulating effect on the 10 systems of the body and is used as the fuel and energy.**

Oxygen plays a vital role in the breathing processes and in the metabolism of the living organisms. Appropriate levels of oxygen are vital to support cell respiration. Oxygen plays an important role in the energy metabolism of living organisms. The living cell is the site of tremendous biochemical activity called metabolism

This is the process of chemical and physical change which goes on continually in the human body: build-up of new tissue, replacement of old tissue, conversion of food to energy, disposal of waste materials, reproduction - all the activities that we characterize as "life." All functions of our body are regulated by oxygen. It must be replaced every moment because 90% of our lives depend on it. Oxygen energizes cells so they can regenerate. Our body uses oxygen to metabolise food and to eliminate toxins and waste through oxidation. Our brain needs oxygen each second to process information. All of our organs need a great deal of oxygen to function efficiently. The ability to think ,feel ,move eat, sleep and even talk all depend on energy generated from oxygen.



Oxygen is the only element capable of combining with almost every other element to form the essential components necessary to build and maintain our body. For example oxygen + nitrogen+ hydrogen= protein : oxygen+ carbon+ hydrogen=carbohydrates : oxygen +hydrogen=water.

### How important is oxygen to a healthy body?

Many experts conclude that a lack of oxygen in human cells and tissue is linked to a vast variety of and quite possibly all health problems and disease, and that supplemental oxygen therapies have remarkable physiological benefits. It plays a very important role in the body acting as guardian and protector against unfriendly bacteria and disease organism. Most scientists and doctors reiterate that metabolic disorders are the result of blood deficient in oxygen.

## When you consider the full importance of oxygen, it becomes clear that this versatile element is the single most important substance to life.

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Replace, increase and then keep topping up the vital life line elements for your cells ( including the skin ) that age, environment and modern living take out on a daily basis. To have peace of mind that that is in fact what you are doing it is good to know Herzog is logical, reliable and developed and supported by Specialists, clinicians and Doctors.

### Can the skin absorb collagen from a cream?

Well not one to beat around the bush and wanting so much to educate and give people the facts to enable **YOU** the consumer to make an **educated** choice about what you spend your hard earned cash on....Here we go

## 'It is impossible for your skin to absorb collagen from a cream that is placed topically onto the skin.' Fact!

That means that any product you buy that purports to increase your collagen production by pushing collagen from the cream into the skin, is making a false claim. at best they can only moisturise the skin, which yes is important and beneficial but then lots of things do that and you don't need to spend incredible amounts of money because the cream "contains" collagen!

The only logical and proven way to increase collagen is to stimulate and increase your bodies own production of this protein. to do that it needs the elements we looked at in our previous sections: i.e. Oxygen - Hydrogen – Carbon



Karin Herzog products deliver 2 out of 3 of these elements, and the 3rd, Carbon, comes from your diet and then needs the other 2 to function fully. Applied correctly and regularly you can be assured that you are replacing the vital elements needed to maintain a healthy and active skin. Because of this results from Herzog are Cumulative. the skin just keeps on getting better and better until its the best your skin can be. Many clients report that their skin has got "USED" to the product they use and so its not working any more. This does not and can not happen with Herzog.

## The skin recognises and welcomes the delivery of essential elements and goes to work with them.....Now that's Common sense, science and unique!