

should you add
collagen
to your diet?



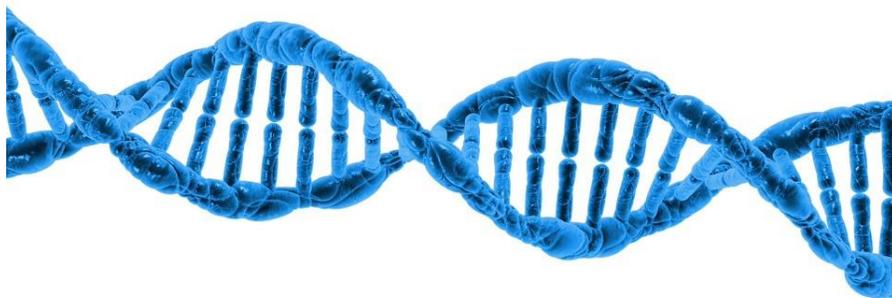
The Truth About Collagen...

When you hear the word 'collagen' the first thing that comes to mind is the firm buoyant wrinkle-free skin of youth. Pinch-test proof skin that bounces back from manipulation without a trace of stress; nails that are both strong and flexible; hair with length, strength, moisture and shine; and knees that don't ache after a morning run or flight of stairs. Luckily, aging no longer guarantees exile to a collagen-deficient island. Modern technology and research has uncovered ways to not only boost natural collagen production, but to add collagen to both topical and ingestible products in formulations that are impactful. Collagen is now one of the biggest health and beauty additives sold in so many forms and products you have no doubt been using or consuming it regardless of intentions.

Let's look at how collagen is being used for medical and cosmetic purposes today. Logically, the first question to ask is:

What is collagen?

Collagen is the most abundant protein found naturally in the human body; accounting for a third of all protein present in your body. It is the building block of bones, skin, muscles, tendons, ligaments, vessels and teeth. Think of it as the glue that holds your cells together providing structure. Collagen is a protein that is composed of amino acids in very unique sequences, giving it a different shape than all the other proteins that are spoken about. A lot of proteins, particularly the dietary proteins, are round or globular in shape; but collagen is long and thin- like a fiber and can be packed very tightly together to provide structural support.



There are actually different types of collagen...

So far, there have been around 28 different types of collagen identified, but of all these basically there are only four that most of us have heard of.

- **Type I**: This type accounts for 90% of your body's collagen and is made of densely packed fibers. It provides structure to skin, bones, tendons, fibrous cartilage, connective tissue and teeth.
- **Type II**: This type is made of more loosely packed fibers and is found in elastic cartilage, which cushions joints.
- **Type III**: This type supports the structure of muscles, organs and arteries.
- **Type IV**: This type helps with filtration and is found in lower layers of your skin.

Most people think that they should consume the type of collagen that matches their concern. However, there just isn't enough data around impact of supplemental collagen to support causal relationships between compositional improvements and what is ingested. Further there is hardly any long-term research on the subject.

How does the body produce collagen?

All human collagen starts off internally as procollagen. The body produces procollagen by combining amino acids: glycine and proline using vitamin C.

Consumption of foods high in the following nutrients will accelerate collagen production by your body's internal mechanisms:

- **Vitamin C**: Large amounts are found in citrus fruits, bell peppers and strawberries
- **Proline**: found naturally in egg whites, wheat germ, dairy products, cabbage, asparagus and mushrooms
- **Glycine**: found in pork skin, chicken skin and gelatine, but glycine is also found in various protein-containing foods
- **Copper**: found in organ meats, sesame seeds, cocoa powder, cashews and lentils

What about our diets – are we getting enough collagen in?

- The healthy human body naturally produces enough collagen to remain whole and functional. The body does not technically require outside/artificial collagen. Collagen production decreases after the age of 25 at a rate of 1% per year until menopause in women when the reduction is accelerated specifically during the first five years of menopause tapering off completely once the transition is completed.
- Few of us will develop a true medical problem where we don't make enough or have enough collagen in our bodies. Here are some conditions or diseases that can harm our natural collagen production.
 - ❖ One of these diseases is **Scurvy**, the one where your Vitamin C levels are so deficient. We know that vitamin C is a very important building block – it leads to collagen production in the body. Without Vitamin C as a building block, collagen in your body is really ineffective. Scurvy has symptoms such as bleeding gums, weak hair, even blood leaking from the skin though there are no scratches or cuts.
 - ❖ Another could be from the group of **Autoimmune Diseases**, such as rheumatoid arthritis or lupus. These are known to attack your collagen fibers, so you can imagine how they weaken your whole body's structural integrity.
 - ❖ What about **Infections**? When you have bad bacteria or viruses in your body, they can secrete an enzyme called collagenase – literally breaking down collagen and which is really bad. If you have an autoimmune disease, collagen supplementation might counteract the negative effects.
- **How is collagen depleted?**
 - ❖ **Sugar and refined carbs:** Sugar interferes with collagen's ability to repair itself. Minimize your consumption of added sugar and refined carbs
 - ❖ **Excess sun exposure:** Ultraviolet radiation can reduce collagen production. Avoid excessive sun exposure
 - ❖ **Smoking:** Smoking reduces collagen production. This can impair wound healing and lead to wrinkles

❖ Excess Alcohol Consumption

❖ Illicit Drug Use

Where Can You Find Collagen?

- Much like humans; mammals such as cows, chickens and pigs are also composed of collagen. As such, collagen supplements are regularly sourced from such animals. It is important to note that not all ingestible collagen is bioavailable and absorbed. However, at its most available collagen is absorbed at a rate of 90-95%.



- If you want to know what the most common source of collagen supplements is, it is cowhide. Chicken sternums are also used which is a rich source Type II Collagen. Fishbones, scales, and skin are also options used. As well as sow skin and fat.
- Once the collagen is separated from the animal source, it then gets hydrolyzed. Read about the whole process [here](#). Little bits of collagen are left which are called collagen peptides. These collagen peptides are also called collagen hydrolysate. The collagen bits can be easily absorbed from the GI tract and are used directly in the creation of collagen in the body. Speaking of collagen in the world of supplements, these are all the same:
 - Collagen
 - Collagen hydrolysate
 - Collagen peptides

Regardless of the source, it should be noted that all collagens have almost exactly the same compositions.

So what type of collagen is best for you?

If you are interested in trying collagen, doctors agree that it's important to choose wisely.

- **Contains all five types of collagen I, II, III, V and X** (Bovine, Hydrolyzed Chicken, Pure Hydrolyzed Marine Collagen, Eggshell Membrane and Avian Sternum Collagen).
- **Made from non-GMO**, grass fed, hormone free, and cruelty free sources
- **Must be Hydrolyzed for Absorption** – collagens are hard to absorb, hydrolyzed collagens have already been partially broken down for easier and faster absorption.
- **Capsules vs Powder** – although choosing between collagen capsule or powder is a matter of lifestyle but many consumers have reported collagen in capsule form is more effective and convenient.

Final facts on Collagen:

- Let's be clear that first: collagen is *not* a complete protein. Complete protein refers to a food that contains an adequate proportion of each of the nine essential amino acids necessary within the human diet, because collagen isn't a complete protein it shouldn't be used as your sole protein source.



What do we use collagen for?

- ✓ Hair, skin, and nails
 - ✓ The GI tract, especially the lining
 - ✓ Reduces joint pains and degeneration
 - ✓ Helps heal leaky gut
 - ✓ Boosts muscle mass, metabolism, and energy output
 - ✓ Improves the health of the liver
 - ✓ Protects cardiovascular health
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- The above are already good reasons to take collagen in the diet. It is absorbed completely, being utilized to make collagen fibers in all the important places of our body.
 - Regular collagen intake has been shown to support healthy gut lining, to strengthen the GI tract, promoting tissue repair, and building a healthy gut wall. Can you see that it's a no brainer health recommendation?
 - Leaky Gut sufferers could benefit from adding a daily dose of collagen to help support digestion. For those with issues with pain and joint discomfort, when you add collagen to your diet, you are going to notice a reduction in joint pain and arthritic symptoms.



Get your collagen to start looking and feeling your absolute best!