

More Than Skin Deep

Understanding collagen—the key to healthy skin, joints and bones

BY SHERI RADFORD

It's not your imagination: you have been hearing more about collagen lately. But what is it? Should you be taking it? How?

"Most people don't know that, without collagen, we wouldn't be able to form bones, cartilage or skin," says biochemist Jean-Yves Leroux, president and co-CEO of Medelys, a Quebec company that makes natural health products. "There are 28 types of collagens in our bodies, each with various functions. Overall, their role is structural, mechanical and responsible for making our systems, organs and tissues run smoothly."

Andrea Pierce-Ghafoor trained as a dietician, and now works as director of insights and innovation at Genuine Health. She says of collagen, "It's the most abundant protein in your entire body." It's found in skin, muscles, tendons, cartilage, bones, organs, teeth and nails. Among the reasons everyone needs collagen, she lists: "to build up your joints, to increase elasticity of your skin and your hair and your nails. We're continuing to find new reasons why it's so important."

So far, so good. But there is a downside—for anyone over age 20, at least. According to Jenna Mangan, a certified nutritional practitioner at CanPrev Natural Health Products, "Somewhere around our mid-20s, our bodies break down collagen faster than we make it. Specifically for women, this catabolic process increases around the menopause age, which is usually where we detect more signs of collagen loss." She pinpoints the commonly blamed culprits: "sun damage, poor diet, nutrition, stress, overexercise—but it really comes down to the chronological, inevitable aging process."

As collagen production slows, skin starts to sag, muscles ache, gastrointestinal issues occur, muscle mass decreases and tendons and ligaments stiffen. Certain foods can help—bone broth, chicken



and fish with the skin left on. But most experts agree: it's practically impossible to get enough collagen through diet alone, which is where supplements come in.

"When you look at the collagen out there, most of the time it has been hydrolyzed into peptides, and that makes it more bioavailable," Mangan explains. "A lot of research has been done on the size of the peptides, [looking at] their interaction to the receptors on our cells for triggering collagen synthesis at different areas in the body." In other words, different peptide sizes target different areas of concern, such as joint cartilage tissue or the skin's fibroblast cells.

These collagen supplements come in powder, liquid or pill form. The key is to find whatever form works for your lifestyle, so that taking collagen becomes a daily habit. Only by consuming it daily do the positive effects continue.

Three main types of collagen are used in the supplements: marine (fish), bovine (cow) and porcine (pig). "Marine collagen is extracted from fish skin. And prior to the popularity of marine collagen, fish skin was actually just a by-product that was waste in the fishing industry," explains Avalon Lukacs, founder and CEO of Aura Inner Beauty. The Calgary company focuses on transforming skin from within, using probiotics, adaptogens and collagen. "Marine collagen is really the most premium collagen. It has smaller peptides, which means it's better absorbed by our body."

As for vegan options, according to Lukacs, "There isn't really a vegan collagen. If there was, we would use it." Companies such as Geltor in the U.S. are working on developing vegan formulations, but thorny questions remain around the safety of genetically modified organisms. Lukacs asks, "At what point do we just realize things from nature matter more than being completely vegan? Because there's usually some sacrifice along the way."

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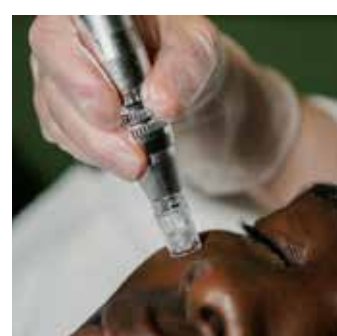
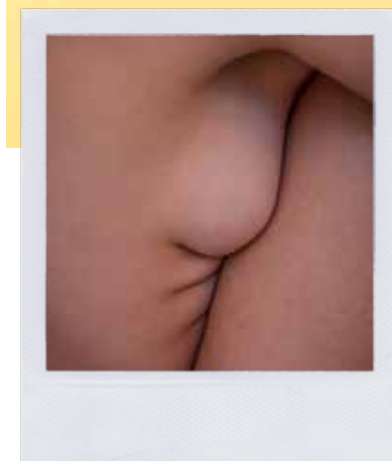
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Adding to consumer confusion are the many products advertised as vegan collagen. "It's more or less just vitamin C, which is a natural booster of your own collagen production," says Lukacs. Collagen boosters can be beneficial, but they're no replacement for collagen supplements.

Certain surface treatments can help with collagen. Formula Fig, a medical spa with locations in Vancouver and one opening in Toronto, offers a Collagen + Texture facial that uses nano-needling, cryo-lymphatic massage and LED light therapy to stimulate collagen production, resulting in skin that looks and feels rejuvenated. Other ways to give your body's natural collagen a little help include topical formulations such as Graydon's Fullmoon Serum. It includes African mahogany bark extract, which has been shown to enhance collagen production.

Leroux, ever the biochemist, clarifies how collagen applied externally differs from that taken internally: "When applied topically, it will stimulate localized collagen production but is more limited since peptides and amino acids don't enter the skin as efficiently as in the gut."

Much is yet to be learned about collagen. Mangan says, "There's lots of emerging research out there on wound healing, digestive disturbances and even Alzheimer's disease, which is quite fascinating." One thing the scientists do seem to agree on, though, is that collagen is the closest thing we've found (so far) to a fountain of youth. V