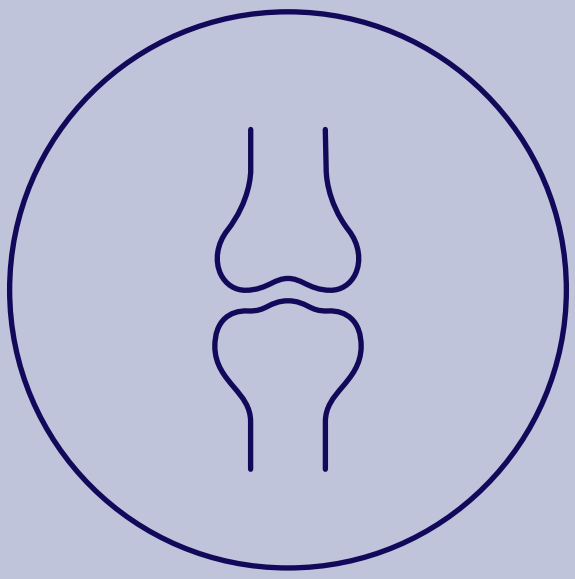


Joints

Repairs cartilage & improves painful, stiff joints

> **Our Pharmacy have a lot of customers who are keen runners, who previously were supplementing with chondroitin, glucosamine and MSM. The Totally Derma® formulation now solves all their joint issues.**
>
> Gould Pharmacy, London, UK

Totally Derma® collagen formula is a nutraceutical age management drink supplement designed to reduce inflammation and support joint function.

Joint problems – one of the leading risks of disability

Early protection of cartilage is important to ensure its health over time. Everyone is at risk of decreasing joint health because of the natural ageing process, environmental influence and congenital or inherited factors.

As we age, collagen production slows causing poor joint health and arthritis. Nutritional inadequacy, exposure to toxins and stresses of modern life also cause collagen to break down, resulting in skin wrinkles and sags, thinning of the hair, decreased joint flexibility and reduced vibrancy and strength of the skin and nails.

Athletes are more commonly at risk of knee and joint injuries due to the sustained impact and over-use of the joints from strenuous exercise.

Cartilage should be stimulated to regenerate itself as much as possible.

Arthred® – the science bit

The hero ingredient contained in Totally Derma® Collagen Drink supplement – Arthred® is a patented, low molecular weight, pharmaceutical grade hydrolysed collagen product.

It is a pre-digested powder that is easily absorbed via the small intestine to the blood supply, not requiring digestive enzymes to break it down. Obtained from a bovine source, it is made through a proprietary process that breaks down the collagen into very small pieces:

3 kilodaltons (kDa) for Arthred® vs. 70 kDa for regular sports drinks. This makes Arthred® extremely digestible and is well tolerated.

The powder supplement works in two ways

Inside the body, increased collagen and hyaluronic acid production means that stiff joints will become more flexible and comfortable, making this a great supplement for general health and fitness minded men and women.

Clinical studies

The benefits of Arthred® the main ingredient in Totally Derma®

Because it is sourced from animal collagen, the amino-acid composition of the peptides resembles that of collagen in human articular (joint) cartilage.

- Supports the manufacture of healthy joints
- Regenerates cartilage in joints at a cellular level
- Supports good elasticity of connective tissue and supports flexibility
- Is required for growth hormone
- Especially beneficial for individual & team sports athletes
- Supports post exercise recovery and repair
- Contributes to lean muscle mass
- Supports body metabolism for healthy weight management
- Is a good source of protein and amino acids
- 95% bio absorption

Amazing aminos

Collagen contains specific vital amino acids including arginine, proline, glycine and hydroxyproline. These are the essential building blocks for collagen synthesis.

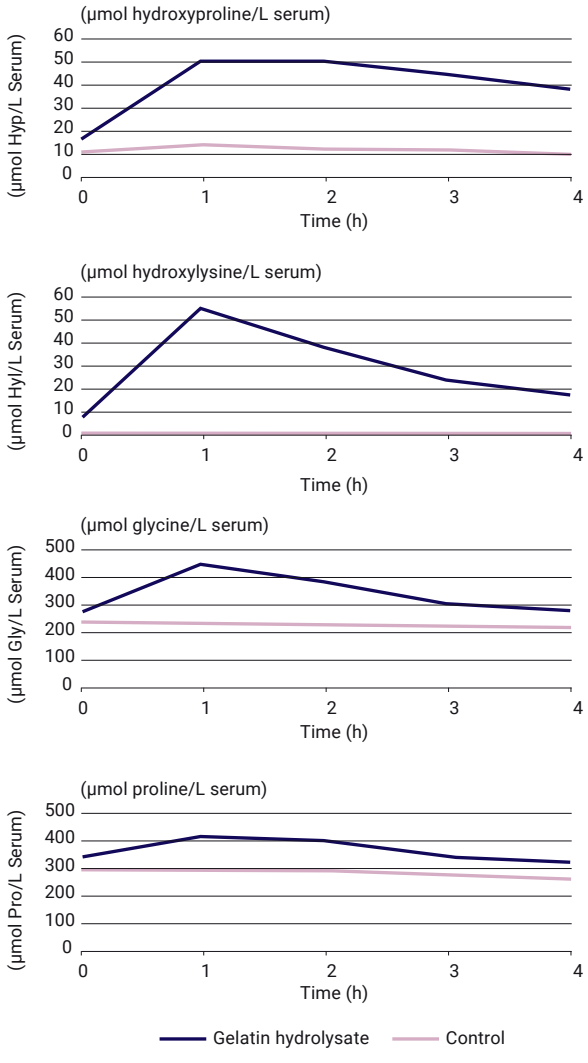
Once hydrolysed collagen is absorbed through the small intestine, it increases the serum levels of these amino acids. They are then transported to joints where they function as raw materials for the metabolically active cartilage cells.

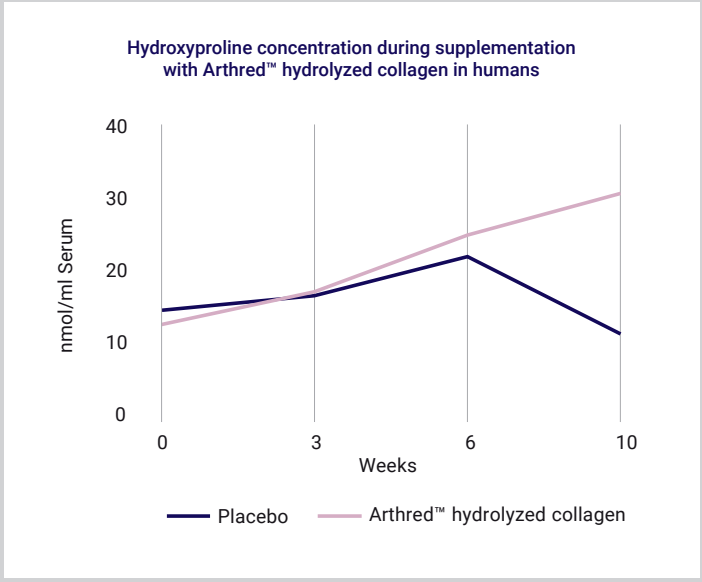
Totally Derma® contains 18 amino acids:

- Alanine 890 mg
- Arginine 815 mg
- Aspartic acid 635 mg
- Glutamic acid 1045 mg
- Glycine 2260 mg
- Histidine 190 mg
- Hydroxylysine 100 mg
- Hydroxyproline 1090 mg
- Isoleucine & Leucine 460 mg
- Lysine 335 mg
- Methionine 90 mg
- Phenylalanine 190 mg
- Proline 1535 mg
- Serine 325 mg
- Threonine 190 mg
- Tyrosine 80 mg
- Valine 300 mg

Hydroxyproline is one of the main components of Arthred™ hydrolysed collagen and is therefore a good marker whose uptake can be quantified in blood serum (10). The absorption of short-term orally administered hydrolysed collagen was measured by a single supplementation of 10g Arthred™ hydrolysed collagen. When compared to a standard diet control without hydrolysed collagen, supplementation resulted in a significant increase in collagen- characteristic amino acids like hydroxyproline, hydroxylysine, glycine, and proline in blood serum [9] (see below).

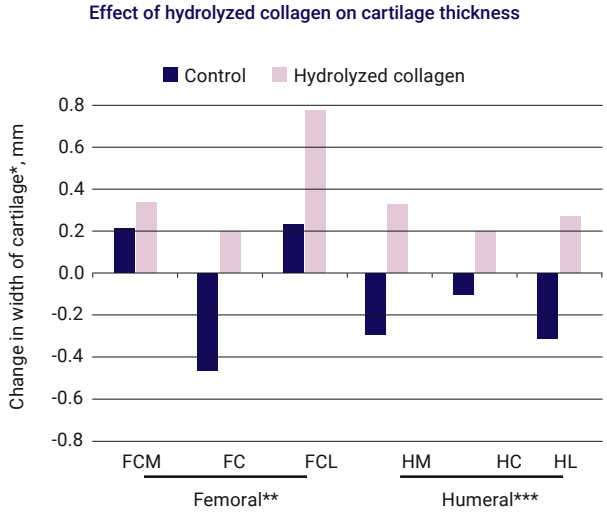
Amino acid concentration in serum after oral administration of gelatin hydrolysate





Beuker et al. (1993) conducted a double-blind, placebo-controlled clinical trial involving 52 student athletes (aged 21 to 27 years) to investigate amino acid concentrations in serum following long-term oral administration of Arthred™ hydrolysed collagen or a standard diet without hydrolysed collagen (placebo) during exercise [10]. The athletes performed one hour of physical training three times a week during a period of four months. The collagen-specific amino acid hydroxyproline concentration in plasma was continuously and significantly elevated during supplementation with hydrolysed collagen providing evidence that collagen was absorbed into the bloodstream. The placebo had no effect on hydroxyproline levels in the blood (see above).

Among healthy, competitive Spanish male mountain bikers (n=16) and female basketball players (n=10), Fernandez and Perez (1998) examined the effect of hydrolysed collagen (also called hydrolysed gelatine) on shoulder and knee joints. Subjects consumed hydrolysed collagen (10g/day) enriched with magnesium, vitamins B1, B2, B6 and pantothenic acid for a six-month period [11]. After supplementation, biometric ultrasound values of the cartilage showed statistically significant increases of cartilage thickness in supplemented athletes while control subjects exhibited either no change or decreasing cartilage thickness (see below). This indicates that enriched hydrolysed collagen may help maintain cartilage homeostasis and joint health among athletes whose joints have been stressed through competitive athletic performance.



* Change in width of cartilage following 6 months of supplementation

** Femorotibial cartilage: medial condylar (FCM), intercondylar notch (FC), lateral condylar (FCL)

*** Cartilage of the humeral head (HM), central (HC), lateral (HL)