

Conclusions

In previous chapters, information on the benefits of the oral application of collagen hydrolysate has been given, from the viewpoint of a number of specialist areas, with respect to its qualities in preventing osteoarthritis and as a concomitant therapy of the disease as a nutritional supplement.

Now, the principal goal is to ensure that this knowledge is utilized in practice.

In doing so, some considerable skepticism on the part of both physicians and patients regarding the use of natural methods of healing and such “banal” treatments as nutritional optimization first has to be overcome. More, in fact, has to be achieved: generally, in modern medicine, a paradigm change has to take place from cure to prevention of disease. Prevention is better than cure – this is still completely valid in reality. Those who propagate proven methods as opportunities for the prevention of disease are in no way old-fashioned but completely up-to-date as far as modern medicine is concerned. Nutritional optimization based on experimental and clinical data is part of this process.

■ Optimized nutrition is an opportunity for prevention

Collagen hydrolysate has (again) generated some considerable interest in medicine and science in recent years. Some aspects no doubt require further scientific work; and, results of long-term prospective clinical studies are not yet available. However, confirmed results already obtained indicate that collagen hydrolysate might influence cartilage metabolism and prevent degenerative disease as well as enhancing and supporting the complex therapy involved.

■ Osteoarthritis is a primary health problem

“What happens frequently is always important”, is one of the creeds in medical practice. As far as disease is concerned, there should be no value hierarchy; for the patient, “his” disease is always the most important. However, degenerative joint disease is particularly of medical and social importance due to its high frequency, its chronic and progressive course, the lack of causal cure with conservative methods, its high degree of disturbance of quality of life and the immense costs involved. In view of increasing life expectancy and the increasing number of people of old age, osteoarthritis is in fact increasing in frequency. This development is enhanced by a predisposition brought about by lifestyle in the way of overweight, lack of activity, false mechanical stress on joints and false nutrition. These aspects have been comprehensively dealt with in previous chapters to show that osteoarthritis has many and various causes and that lifestyle and working conditions have an enormous influence on the disease.

The World Health Organization (WHO) has declared this decade as “**Bone and Joint Decade**” to bring the problem to the public’s eye.

It is a particular challenge to use suitable preventive measures to exert an influence on the development and progress of joint “wear and tear”.

■ **The major benefits of collagen hydrolysate**

Even though definite proof of the preventive effects of collagen hydrolysate on joint degeneration still needs to be furnished by long-term prospective clinical studies with larger patients pools, the read-out of data available from experimental and clinical investigations is positive: collagen hydrolysate has been confirmed as having a positive effect on chondrocyte metabolism and the stability of cartilage matrix.

In summary, it can be established that collagen hydrolysate possesses a number of benefits that make it interesting for use in the prevention and therapeutic support of joint degeneration.

The major benefits are:

1. **Excellent tolerability** – a major reason why the US authority FDA has classified collagen hydrolysate as **GRAS (“Generally Recognized As Safe”)**. Also, WHO and the German Federal Institute for Drugs and Medicinal Products have accorded collagen hydrolysate the highest possible safety status.
2. Its **amino acid composition** corresponds to that of the cartilage matrix (threefold amount of glycine and proline / hydroxyproline compared to other proteins). Thus, collagen hydrolysate is a “customized” building block for the synthesis activity of the chondrocytes.
3. Collagen hydrolysate is **well resorbed**. Its **low-molecular structure** allows transmural persorption through the intestinal wall with resulting temporary concentration within the joint cartilage and confirmable metabolic activation of the chondrocytes.
4. It is a **natural product** produced from natural raw materials; there are thus no problems of stability associated with oral application.
5. Collagen hydrolysate **has practically no undesired side-effects nor does it react with drugs or other food / food ingredients**.
6. Administration of collagen hydrolysate **stimulates the anabolic phase** of cartilage matrix turnover; this brings about a phase of regeneration and stability in joint cartilage.
7. Clinical studies have shown that it might have synergy effects with analgesics and anti-inflammatory drugs; this in turn can result in a **reduced consumption of analgesics** and hence a reduction of overall risk.

8. There is **no risk of infection** due to microorganisms; the stringent veterinary controls applied to the raw materials and the production process itself (treatment with acids, alkali and heat) render all such microorganisms inactive.
9. There are **no undesired alimentary effects such as weight increase or dietary imbalance** as collagen hydrolysate is a protein comprising only amino acids, water and minerals and contains no fat, carbohydrates or preservatives.
10. **Oral administration** of collagen hydrolysate is uncomplicated as it is available in numerous product variations (powder, capsules, beverage) and in various flavors. There is thus a high degree of compliance on the part of the user.
11. The **cost-benefit relationship is favorable**; thus there is every chance that the user will consume it on a permanent basis.
12. There are **no restrictions on its use**. Adolescents, pregnant women, manual workers, diabetics, obese people and all who do not have protein metabolism problems, problems of elimination or other rare diseases can take it without risk.