Easy-Prot 99 ©

Solution to fight malnutrition

Easy-Prot 99 ©

Solution for athletes

Easy-Prot 99© is a 99% concentrated protein powder of animal origin, marine (Europe)

Instant Dissolution
Guarantee without any residue, without smell or taste after dissolution

Technical specificities Easy-Prot 99©

Guarantees et additives	• Free from artificial additives ensuring purity and high quality • This product does not contain and is not produced using any GM ingredients or processing aids and is designated GMO free according to EU Directive 2001/18/CE, Regulation CE1829/2003 and Regulation CE1830/2003.
Provenance	• Hydrolysed collagen based on fish. North Atlantic origin. Responsible fishing.
Organoleptic testing	• 5g of powder to 2dl cold water
Shelf life and storage	• 24 months at dry conditions (20°C)
Compatible	• Coeliac, Diabetes, Halal
Allergen	• fish

Typical nutritional content (/100gr)

Energy	389kcal/ 1634 KJ
Protein	*95g*
Fat	*< 0.5g*
Salt	*< 1g*
Sodium	*< 0.5g*

Amino acid profile (g/100gr)

Glycine	*29.24*	*Methionine*	*1.67*	*Threonine*	*3.06*
Alanine	*10.85*	*Cystine*	*< 0.006*	*Aspartic Acid*	*7.44*
Hydroxyproline	*7.02*	*Tyrosine*	*0.77*	*Tryptophane*	*0.06*
Proline	*12.19*	*Phenylalanine*	*2.12*	*Glutamic Acid*	*11.98*
Valine	*2.37*	*Histidine*	*1.42*	*Serine*	*7.44*
Leucine	*2.93*	*Arginine*	*9.77*	*Ornithine*	*< 0.05*
Isoleucine	*1.65*	*Lysine*	*4.28*		

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FOREWORD

THE DEMAND FOR PROTEIN NOWADAYS

The way one looks at health today, especially maintaining a healthy body, is more and more interested.

Indeed, S. Moloughney (2018) indicates in his report « Protein Trends » that an emerging demand is felt around the consumption of protein. The consumer would be more and more aware of the benefits made of protein consumption as a nutritional supplement. In addition, A. Heather (2018, in S. Moloughney 2018) indicates that the consumer is indeed more informed and has a proactive approach regarding his well-being and health.

Attentive to a healthier lifestyle, the consumer pays much more attention to the quality of the goods consumed, thus opting for products, including a protein supplement, GMO-free, natural, without additives, gluten or allergens. These selection criteria determine, according to J. Chaudhari (2018, in S. Moloughney 2018), the purchasing behaviour of the consumer.

WHAT IS THE REAL CONTENT OF A PROTEIN SUPPLEMENT ? QUALITY FIRST

A very controversial topic today concerns the « purity » of the products we consume.

In this sense, S. Moloughney (2018) showcases a 2018 report from the well-known « Clean Label Project » (non-profit organisation) defending, among other things, health and transparency for the consumer. This study, testing more than 130 toxins and 100 pesticides, was performed on 134 protein powder supplements of 52 different brands. It is reported that several analyses show a high content of heavy metals as well as BPA (biphenyl A, chemical compound used in the composition of plastic), but also mercury and arsenic, substances known to be cancerous and affecting reproduction.

PROTEIN IN ELEDERLY

CONTEXT

This non-exhaustive literary review is intended to report various recommendations for protein intake, collected by various researchers and authors, discussing around protein intake and two diseases related to aging : osteoporosis and sarcopenia.

Protein is a nutritional supplement whose ingestion should not be neglected in order to support and promote an optimal functioning of the metabolism.

ROLE OF THE PROTEIN

The Division of Bone Diseases, a WHO collaborating Centre for Osteoporosis and Bone Diseases in the Department of Internal Medicine in Geneva, emphasizes the importance of protein intake in the elderly.

An appropriate protein nutrition helps maintain the muscle mass and reduces bone fragility. On the opposite, when protein malnutrition influences the risk of osteoporotic fractures and thus negatively impacts muscle mass and strength, we then speak of pathologies linked to aging. I. Hayashida *et al* 2014 (in Lonnie *et al* 2018), raise a loss of strength and muscle mass from the age of 50.

In addition, R. Rizzoli *et al* (2001) present the protein intake as a positive impact (as well as calcium and vitamin D) on the elderly person whom has suffered a hip fracture. It would contribute to a better clinical state of the patient.

M. Delmi (1990) states that this contribution allows to reduce the length of stay in the hospital and/or rehabilitation centre.

PROTEIN DEFICIENCY IN THE ELDERLY AND ITS ISSUES

Many studies show that the nutritional need of the elderly is greater than that of an adult. Therefore, the prevalence of a nutritional deficiency can be stronger. This, especially due to aging and functional decline, decrease in energy expenditure and therefore consequent contributions, would lead to another diminution of protein intake. This chain appears to be harmful to the conservation of bone and muscle systems of the human body.

OSTEOPOROSIS

R. Rizzoli *and al* (2001) as well as Grisso JA *et al* (1991), state that a protein intake lower than the « *recommended daily allowance* » considerably disturbs bone capital, coordination, movement, reaction time and muscle strength. This would increase the risk of falling and osteoporosis.

Nowadays, one of the major complications of osteoporosis is hip fracture, which is characterized by femoral neck rupture. In 2015, the Swiss Health Observatory recorded 10'662 hospitalization cases for a hip fracture. It highlights that the quality of life that follows is greatly diminished and, at the same time, the risk of death following the first year of hospitalization is significantly increased.

R. Rizzoli *et al* (2001) note in his report « Protein intake and bone pathology of the elderly » the demonstrated importance of adequate protein intake to ensure and maintain bone integrity. In the process of rehabilitation, R. Rizzoli et al (2001) observe an improvement of the clinical state by the additional supply of protein.

SARCOPENIA

In general, protein intake contained in a standard meal should be sufficient. However, F. Landi *et al* (2013), tells us that for the elderly, theses contributions appear to be insufficient to prevent sarcopenia, particularly due to the decrease in muscle mass following aging.

It is thus suggested that an additional protein intake should stimulate protein synthesis in the elderly.

JE. Marley *et al* (2010) as well as D. Paddon-Jones *et al* (2008), agree on the optimal amount to be ingested per day and per kilogram. It should indeed go from 1,0 to 1,3 grams for the elderly

CONCLUSION

Many are the scientists that intervene to promote the musculoskeletal functioning of the elderly by recommending complementary protein intake to a balanced diet. Despite the need to continue research in this area, it is important to value an adequate and personalized protein intake to take care of the elderly.

PROTEIN IN ATHLETES

CONTEXT

This non-exhaustive literature review is intended to provide an overview of the energy needs and contribution recommended in athletes. Protein intake being a support to a proper functioning of the metabolism, it is reported below the different points of view and recommendations from authors and specialists in this field.

Recommendations made here mainly concern the enduring athlete.

ENERGY EXPENDITURES

In order to ensure an energy balance, it is important to maintain an adequate supply of nutrients in relation to the expenses incurred.

It is known that an adult today spend between 2'200 and 2'600 Kcal a day. According to X. Bigard (2017), sport practice increases the energy requirement between 500 and 1'500 calories an hour, therefore increasing food intake.

Reasons for this variation can be explained by various factors :

- The energy cost of a physical test
- Persistent energy expenditure after exercise.
- The increase of metabolism

A difference between the sexes is also suggested, men would have a higher energy expenditure than women.

ENERGY INTAKES

According to X. Bigard (2017), protein metabolism is « deeply affected by exercise ». Protein synthesis ensures development, growth and maintenance of muscle mass. Protein intake must then overcome this increased need. Following MA. Tarnopolsky *et a*l (2004), the minimum protein intake should be estimated at 1,2-1,4 grams per kilos per day.

Today, X. Bigard (2017) recommends, for individual tolerance and digestive questions, a daily intake ranging between 1.5 and 1.7 grams per kilo. In general, this protein intake should be equivalent to 12-16% of total energy intake. Yet, an important thing is that this percentage is increased when the energy intake is reduced.

Again, a difference between sex is observable, recommended intake for women varies from 15 to 20% compared to men's.

ENERGY INTAKES AND OPTIMIZATION

Regarding the muscular reshaping by weight training sessions, KR. Howarth *et al* (2009) and S. Lunn WR *et al* (2012) agree to recommend a protein intake at the end of physical exercise so that it is assimilated more effectively by the body, thus increasing the synthesis flow of muscle proteins. Ideal time suggested is 30 to 60 minutes after stopping physical activity. From his researches, X. Bigard (2017) found out that, despite the numerous studies carried out to date, the result of protein intake before or during physical exercise is not significant.

CONCLUSION

In order to promote muscular intake but also a right functioning of the metabolism during sport activities, protein intake is indeed essential to the maintenance of the structural and functional proteins already present in the organism, with however a fair control over the intake.

RECOMMENDED TYPE OF PROTEIN

X. Bigard (2017), suggests that the amino acid composition of a protein plays an important part in the quality of muscle protein synthesis but also in the rate of protein digestion and amino acid absorption. Lonnie M. *et al* (2018) also confirms these aspects as being a quality reference for the type of protein chosen. It's more, the FAO (Food and Agricultural Organisation) suggests that animal origin protein is of higher quality due to its digestion rate, higher than 90%, but also thanks to its high content of amino acids and would thus be more easily synthesized by the body.

L. Breen (2011) offers to consume a quality protein, allowing a fast digestion and rich in leucine to support a faster synthesis of muscular protein.

GENERAL WARNING

Following an excess of meat-derived and / or purified protein, X. Bigard (2017) indicates that the organism seems to react by an increase of the acid excretion of the kidneys, the bones reacting as buffers to this rise of acidity and thus allowing the stabilization of acid charges. Nevertheless, a loss of calcium can be observed following this phenomenon (even more importantly in women), thus then increasing fragility and a probable increase in the risk of fracture. We must therefore thoroughly monitor the fluid intake of people consuming protein supplements but also calcium intake.

CONCLUSION

Despite many aspects, arguments and reports gathered here, more research is needed to complete the various current scientific approaches and to explore how the protein intake could potentially be modified in the face of an increasing life expectancy.

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