Creatine and exercise

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Abstract

Creatine (CR) is a popular supplement in the sports industry proposed as an ergogenic aid. CR is obtained exogenously through diet, synthesized in the human body in the liver, kidney and pancreas from 3 amino acids (Arg, Met, Gly) and dietary consumption of supplements containing CR. 95% of the total CR in the body is stored in the skeletal muscles as phosphocreatine (PCR) where it forms the phosphagen system together with ATP.

Oral CR monohydrate, pyruvate and citrate supplementation increases muscle mass, strength and power and improves contractile performance in sport and the resistance to contractile fatigue and reduces effort perception during exercise in the heat.

CR alone and in combination with amino acids and proteins, carbohydrates and phosphate salts may be more beneficial for repeated high-intensity exercise, associated with resistance exercise and training.

Key words: creatine, exercise, ATP, supplementation.