

## STUDY OF SERUM CREATINE PHOSPHOKINASE ENZYME IN BODY BUILDERS AND ATHLETES

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### ABSTRACT

Serum level of creatine phosphokinase was measured in twenty three body builders and eighteen athletes, who were actively engaged in body building and athletic activities for at least two years. The results were compared with thirteen normal healthy controls. The serum level of the enzyme was closely related with the severity of muscle injury and the muscle mass development in body builders.

### INTRODUCTION

Creatine phosphokinase is an enzyme which catalyses the reversible transfer of phosphate group from ATP to creatine forming creatine phosphate. The greatest amount of this enzyme is found in skeletal muscles. The brain, thyroid and lungs also contain appreciable amounts. The liver and RBC however have very little enzyme activity. Normal values of serum CPK are related to the skeletal muscle mass. Some very muscular persons may have levels well beyond the usual normal range. Muscle enzyme is released after vigorous exercise and intramuscular injections [1]. Serum CPK activity increases after skeletal muscle trauma and strenuous exercise.

Since the greatest amount of the enzyme is found in skeletal muscles, it has mostly been used as diagnostic tool in skeletal muscle disorders. When there is muscle cell necrosis or increase in cell membrane permeability due to muscle trauma and exercise, serum level of the enzyme rises. The aim of this study is to correlate the enzyme level with injury to the skeletal muscles, due to exercise [2].