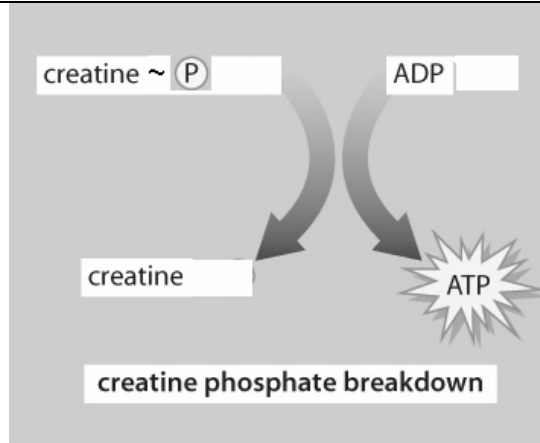


**CHAPTER 10****HANDOUT****The Role of Creatine Phosphate in Muscle Contraction****BLM 10.1.9**

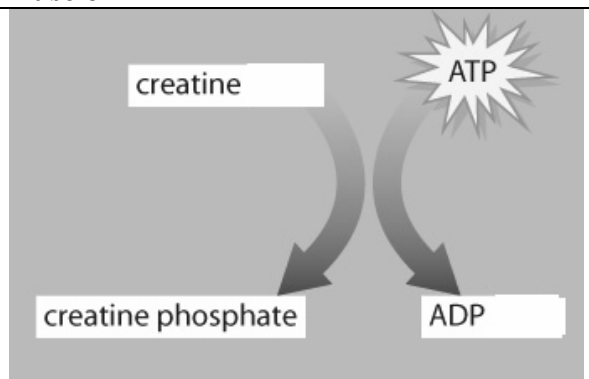
Creatine phosphate is a molecule stored in resting muscle. It is similar to ATP in that energy is stored in the bond between the phosphate and the rest of the molecule. ATP can be represented as ADP~P to show its high energy bond. Likewise, creatine phosphate can be shown as creatine~P.

**Contracting Muscle**

As the few molecules of stored ATP are spent in muscle contraction, the high energy P from the creatine~P is transferred to ADP, thereby creating more ATP. This transfer of ~P is shown opposite.

**Resting Muscle**

Once the muscle enters a resting phase, creatine~P supplies are restored in the muscle from ATP produced by aerobic respiration.



1. Supplies of creatine~P stored in muscle fibres are limited. How long can intense muscle activity be sustained from energy in stored creatine~P?

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2. Where does the transfer of high energy ~P from creatine phosphate to ADP take place?

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