

## **Conditioning Concepts for Wrestlers**

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- I. ATP is a three-phosphate molecule that releases energy when it breaks down
  - A. The body is constantly breaking down ATP to make energy and rebuilding ATP
  - B. Three energy systems exist to rebuild ATP:
  
- II. The phosphagen system is also called the ATP-PC system
  - A. This can make energy without using oxygen (anaerobic)
  - B. This is active at the start of all exercise and it is very fast because it only takes two steps to complete
  - C. ATP is broken down rapidly in high-intensity exercise like sprinting and weight lifting
  - D. ATP is stored in limited amounts in muscle cells
  - E. Everyone has heard of creatine
    1. Creatine is part of creatine phosphate. The CP donates a phosphate so ATP can be rebuilt.
    2. Because of the limitations of the stores of ATP and CP in the cells, during intense sprint activity the intensity of the exercise must decrease if you are going to keep moving
    3. Most of the creatine phosphate in the cell will be used up in about 5 to 30 seconds of maximal work, so your energy must come from different sources.
    4. It usually takes about 3-5 minutes to fully replenish ATP and about 8 minutes to fully replenish CP.
    5. Weight training for multiple sets you need rest.
    6. Training for weight lifting or sprinting increases the size of the muscle fibers and so there is a greater store of ATP and CP
  - F. Training for ATP-PC system should be 1:6 (stand-up drilling, short sprints etc)
  
- III. Lactic Acid System
  - A. Involves breakdown of sugar, which can occur without oxygen
    1. This breakdown occurs so fast that the body cannot use available oxygen, and, in later stages of maximal exercise, the body is producing too much lactic acid for the muscles to have rapid contractions
    2. Again, the intensity must drop off so the lactic acid concentration can be cleared and contraction can occur.
  - B. The key is lactic acid amounts, when lactic acid is high, muscle contraction is not as easy.

- C. About 90% of the energy used in wrestling is thought to come from the lactic acid system (the body breaking down carbs for energy). The best way to get into shape for wrestling is by interval training
- D. Experts recommend 10-20 reps of a work: rest ratio of 1:2 or 1:3
- E. I recommend doing this twice a week for eight weeks before you want to get into peak condition

IV. Supplemental training: Aerobic exercise

- A. Remember maximal exercise was fueled totally by carbs, but during longer exercise that is less intense, fats become important for energy production.
- B. This is good if you want to decrease body fat
- C. Experts recommend a minimum of 20 minutes three times a week
- D. Go as hard as you can maintain for 20 minutes

VI. True Vision Training: My System

- A. Traditionally we wrestle longer as the season progresses instead of wrestling shorter and harder
- B. Early season build a technique foundation by continuous drilling for 20- or 30-minute repetitions as hard as you can go
- C. We know this isn't the lactic acid system or ATP-PC because we know they will only last about 2-3 minutes maximum
- D. As season progresses shift to more interval kinds of work with longer rest periods i.e. in one minute out two minutes
- E. End of season emphasize technique drilling and matches