

2014 CrossFit Open Assessment Insights

The Arsenal, Home of *Muncie CrossFit*

Assessment; 2 days, 4 energy systems, 6 tests, 21 insights.

The Gist of the Tests and the CNS

These tests assess the capacity and efficiency of the energy systems you use for exercise and the central nervous system, or CNS (the brain and spinal cord.) They also provide insight into the ability of each of these systems to recover after or between exercise bouts and your ability to recognize when recovery is sufficient to continue exercising or increase exercise intensity. For this assessment to make sense, it is useful to have a background understanding of the energy systems.

The Energy Systems

ATP-CP; also called the phosphogen system, this system is used for very short durations of up to 10 seconds regardless of intensity. The ATP-CP system does not use oxygen and is the primary system behind very short, powerful movements like a 100 m sprint or weightlifting.

Anaerobic Glycolysis; or fast glycolysis is the dominant energy system for high-intensity exertion lasting from about 10 to 30 seconds. When using this system you feel muscle burn due to the production of lactic acid but it is not generally a significant cause for delayed onset muscle soreness. Acidity in the muscle is what causes the anaerobic glycolytic system to fatigue. The use of this system as a dominant source of energy is called "above the threshold," "supra-threshold" or simply "threshold."

Aerobic Glycolysis; or slow glycolysis, is exactly the same series of reactions as anaerobic (fast) glycolysis, except it just has a different outcome because sufficient oxygen is present to continue breaking down pyruvic acid (the point in the reaction where fast and slow glycolysis split) into pyruvate which can be converted into acetyl coenzyme-A that is used by the oxidative system. Slow glycolysis is the dominant energy system in high-intensity exercise between 30 and 90-120 seconds. The use of this system as a dominant source of energy is also called "threshold" or "near-threshold."

Oxidative System; or the aerobic system, uses oxygen in the slowest but longest lasting and highest-yielding energy system. This system provides energy for exercise lasting from 2 minutes up to 2-3 hours. The efficiency of this system dramatically effects how quickly your body can eliminate the fatigue inducing by-products of the glycolytic systems. Thus, aerobic fitness directly impacts recovery times near, at or above threshold.

Test 1

Insight 1; Power Production:

Test 2

Insight 2; Near-Maximal Work Capacity

Insight 3; ATP-CP Attrition

Insight 4; ATP-CP System Recovery

Test 3

Insight 5; Sub-Maximal Work Capacity

Insight 6; ATP-CP/Anaerobic Glycolytic Attrition

Insight 7; ATP-CP/Anaerobic Glycolytic Recovery

Insight 8; Neuromuscular Efficiency

Insight 9; Global Fatigue Accumulation

Insight 10; Mechanical Technique

Test 4

Insight 11; Anaerobic Threshold Recovery

Insight 12; Supra-Threshold Tolerance

Insight 13; Aerobic Efficiency

Test 5

Insight 14; Overnight Recovery

Insight 15; Aerobic Glycolytic Attrition

Insight 16; Aerobic Glycolytic Recovery

Insight 17; Repeat Strategy

Test 6

Insight 18; Aerobic Capacity

Insight 19; Aerobic Attrition

Insight 20; Aerobic Recovery

Insight 21; CNS Damping

2-Day Assessment Battery: **\$20**

8-Week Tailored Programming & Coaching: **\$100**

