



## Modified Phosphate Decrement Test

Athletes line up at the start and sprint for 7 seconds Maximum Effort till whistle. They then have 23 seconds to return to start (Repeat total x20). As an additional task they athlete should keep their own score to check against the recorder as a test of cognitive endurance which is correlated with decision making under fatigue. Points are awarded for each row of cones passed as shown below.

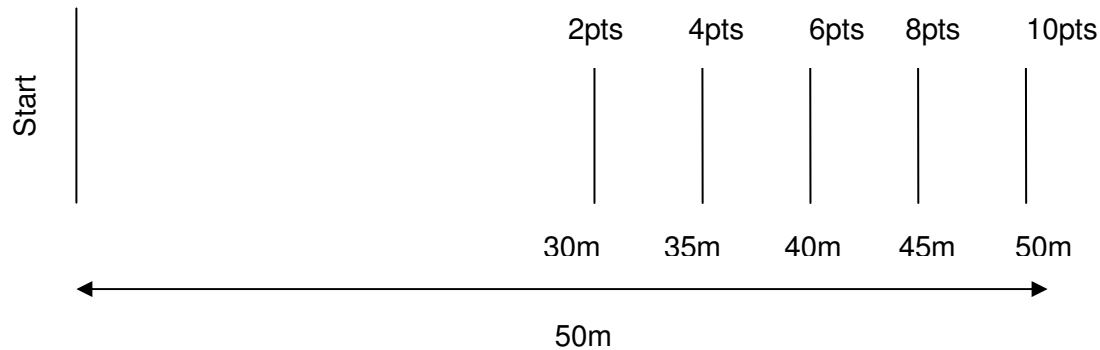
### Phase 1. 10 Minutes

Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	

*10 Minutes Recovery*

### Phase 2. 10 Minutes

Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	





## Anaerobic Endurance

Even the fastest and strongest person in the world will not be an effective player without the ability to repeat episodes of maximum effort several times throughout the duration of a game. A.T.P. (adenosine triphosphate), the body's primary energy source, however, lasts only about 30 seconds even in a trained athlete.

According to Ron Artingstall (USA Rugby fitness coach), the only way we can compensate for its loss and continue to perform efficiently is by cultivating the other two types of the anaerobic energy system, 1) lactic acid system, and 2) alactic system.

Lactic acid is a waste residue caused as glycogen (a type of sugar molecule) is broken down to form A.T.P. The whole process is called anaerobic glycolysis. Lactic acid, though, has a drawback that no doubt every rugby player has experienced: it puts pressure on nerve endings and makes arms and legs feel like lead. This anaerobic system supplies energy for all out work bouts lasting between 1-3 minutes.

Following such an intense work bout we continue to breathe fast and heavy even though the demand has ceased. The oxygen taken in at this time above resting consumption is used to replenish our A.T.P. levels. This is the alactic portion of the system, also referred to as oxygen debt.

In 20 seconds, 50% of A.T.P. is replenished.

In 40 seconds, 75% of A.T.P. is replenished.

In 60 seconds, 87% of A.T.P. is replenished.

Within 3-4 minutes, A.T.P. is totally replenished.

So what we need to do is to condition ourselves so we can "push through" the fatigue associated with massive lactic acid build up, by building a tolerance to it. One method is by deliberately creating lactic acid build-up with short duration, high intensity activity (like the modified test as described above) and decreasing rest intervals, after an excellent aerobic level is established.

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