



# ***Performance Testing Results***

***Joe Athlete***

***1/1/17***



***7700 Folsom-Auburn Rd. Suite 130  
Folsom, CA. 95630  
+01 (916) 932-0112***



# Athleticamps Performance Testing

## Body Composition Assessment

**Name:** Joe Athlete **Age:** 24

**Height:** 68 in **Weight:** 149 lbs  
172.7 cm 67.7 kilos

### Measurements (mm)

Chest	8.9
Abdominal	17.2
Thigh	17.5
Tricep	13.2
Scapula	7.9
Iliac Crest	15.2
Mid Auxillary	6.0

Method	RMR
Cunningham	1813
Harris Benedict	1689
Mifflin	1643
Katch McArdle	1660

### Results (Jackson et al., 1980)

Body Fat %	11.9
Desired Body Fat %	9.5
BMI	22.7
Lean Mass (lb)	131.3
Lean Mass (kg)	59.7
Fat Mass (lb)	17.7
Fat Mass (kg)	8.0
Ideal Body Weight (lb)	145.1
Ideal Body Weight (kg)	66.0

**Body composition** - Refers to the proportion of fat and fat-free mass in the body. A healthy body composition is one that includes a lower proportion of body fat and a higher proportion of fat-free mass. Body composition is one measurement that is used to assess your health and fitness level.

Ranges (per American Council on Exercise):

- Essential 2 - 4%
- Athlete 6 - 13%
- Fitness 14 - 17%
- Acceptable 18 - 25%
- Obese > 25%

**Resting Metabolic Rate (RMR)** - The energy required by your body to perform the most basic functions when your body is at rest. These essential functions include things like breathing, circulating blood and basic brain functions.

**Body Mass Index (BMI)** - A measure that uses your height and weight to determine whether your weight is healthy.

Ranges:

- Underweight < 18.5
- Normal 18.5 - 24.9
- Overweight 25.0 - 29.9
- Obese > 30

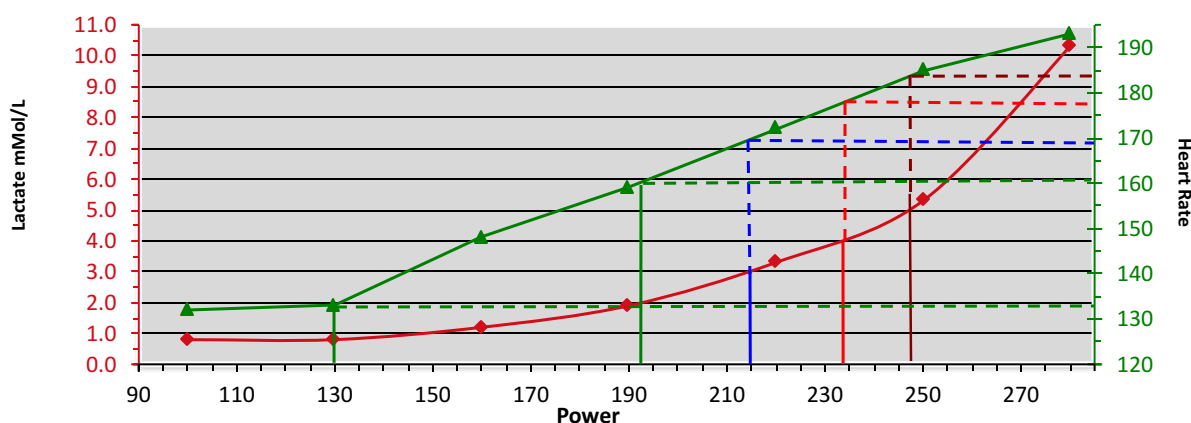


# AthletiCamps Performance Testing

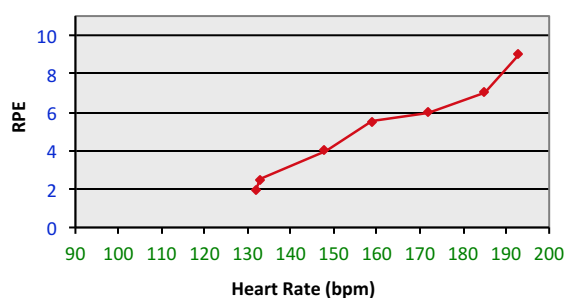
## Lactate Testing Results

Lactate Level	Power	Heart Rate	W/Kg
Lactate Threshold	130	133	1.9
Lactate 2 mMol	192	160	2.8
Lactate 3 mMol	215	169	3.2
Lactate 4 mMol	234	177	3.5
Lactate OBLA	247	184	3.6
Lactate Max	280	193	4.1

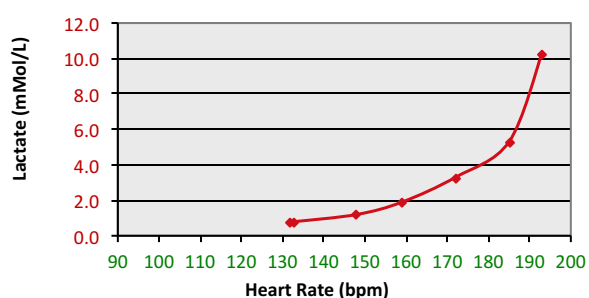
### Lactate vs Wattage vs Heart Rate



### RPE vs. Heart Rate



### Lactate vs. Heart Rate



#### What is blood lactate?

Lactate is a metabolic bi-product of your body's energy production process. It is produced in the muscle during exercise and can be measured in the blood by taking a small sample of blood from the ear lobe. The blood lactate level increases with exercise intensity and shows clearly the transition from oxygen dependent glycolysis to oxygen independent energy production.

#### Why measure blood lactate?

Blood lactate can be used by sport scientists, coaches and athletes to accurately determine appropriate training intensities, recovery periods, and tracking of progress

#### Why are the different levels of lactate reported?

We track five different levels of lactate during your test to help determine your training zones, level and fitness and tracking of progress from test to test



# Athleticamps Performance Testing

## *Lactate Response to Exercise Results*

### *Training Zones*

Training Level	Heart Rate		Power		RPE
	From	To	From	To	
<b>Z1 (Recovery)</b>	~	149	<	140	1-2
<b>Z2 (Aerobic)</b>	151	164	140	190	2-3
<b>Z3 (Medium Endurance)</b>	165	173	190	220	4-6
<b>Z4 (Sub Threshold)</b>	174	180	220	235	7-8
<b>Z5 (Threshold)</b>	181	190	235	260	7.5-8.5
<b>Z6 (Anaerobic Capacity)</b>	>	190	>	260	>9
<b>S.F.R.(Slow Frequency Repetitions)</b>	147	166	205	230	5-6

**Z1 (Recovery)** – Lowest effective training intensity. This zone is used for very easy warm up, and active recovery rides.

**Z2 (Aerobic)** – Mild cardiovascular training intensity. This zone is used for a significant portion of longer endurance rides, recovery rides, and when an athlete is new to the sport or coming back from injury or sickness. The zone is the first level of intensity that is used to improve cardiovascular fitness.

**Z3 (Medium Endurance)** – This zone is used for both fat burning and gaining significant cardiovascular fitness. Medium endurance is the training zone at which you can burn the most calories. It can also be referred to as your first aerobic breakpoint. This type of workout is the basis for your top-end sustainable speed. Doing a good amount of work in this zone helps reduce the recovery time between very intense efforts and helps to raise the lactate threshold from a lower level. Surprising enough, it is also a lot of times the “average” HR seen over races.

**Z4 (Sub-threshold)** –This is the training intensity that bridges the gap to your threshold training. You can think of Sub-threshold as your upper limit below threshold. Building your aerobic base (Z2/Z3) and then spending significant time in this zone will have the greatest impact improving your wattage at lactate threshold, which is the goal of any program. This is the highest intensity workout that will be a part of your regular routine for the majority of the training year. They can be done uphill or on the flats. The key to this workout is to be very conscious of staying below the upper limit of the zone. Training too much above the upper limit of this zone will trigger a greater recruitment of fast twitch fibers, limiting your endurance improvements.

**Z5 (Threshold)** - Training intensity to improve threshold or the highest level of aerobic fitness where you begin the transition to anaerobic processes. To improve this zone, you spend longer times just underneath it and shorter times just above it.

**Z6 (Anaerobic Capacity)** - Training intensity to improve VO2 Max and lactic capacity. Depends on the length of the repetition; usually associated with races or fast group rides, this intensity improves an athlete’s ability to bridge up to breaks, make (and stay away on) a break of one’s own, attack rolling hills, and attacks within the closing kilometers of a race.

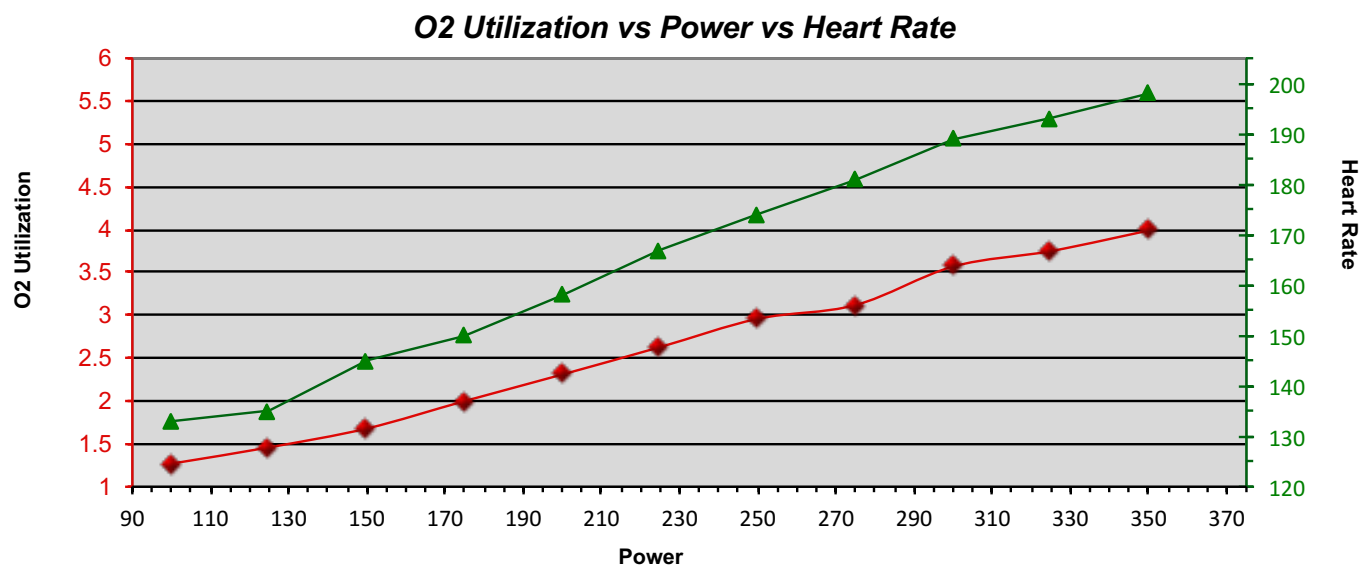




# AthletiCamps Performance Testing

## VO2max Testing Results

	Power	HR	W/Kg	L/Min	mL/kg/min
Vo2 Max	350	199	5.2	4.1	60.5
Vent Threshold	275	183	4.1	3.47	51.2
VT (% of Max)	85%				



### What is VO2 Max?

VO2 max (also maximal oxygen consumption, maximal oxygen uptake, or aerobic capacity) is the maximum capacity of an individual's body to transport and utilize oxygen during incremental exercise, which reflects the physical fitness of the individual. The name is derived from V - volume per time, O2 - oxygen, max - maximum. VO2 max is expressed either as an absolute rate in liters of oxygen per minute (l/min) or as a relative rate in milliliters of oxygen per kilogram of bodyweight per minute (ml/kg/min), the latter expression is often used to compare the performance of endurance sports athletes.

### Power at VO2 Max

The wattage reached at your maximal exertion in this particular test

### Power at Ventilatory Threshold (VT)

The wattage reached at your lactate threshold in this test. This is the point where you transition to more of your anaerobic energy system.

### Watts per kilo at Max

Watts at peak, divided by your weight in kilograms. An indicator of climbing ability at peak of power. This can be improved by lowering weight and increasing power.

### Watts per kilo at Ventilatory Threshold (VT)

Watts at threshold, divided by your weight in kilograms. An indicator of climbing ability at threshold. This can be improved by lowering weight and increasing power.



# Athleticamps Performance Testing

## Max VO2 Exercise Results Training Zones

Training Level	Heart Rate		RPE Scale
	From	To	
Z1 (Recovery)	~	148	1-2
Z2 (Aerobic)	150	163	2-3
Z3 (Medium Endurance)	164	172	4-6
Z4 (Sub Threshold)	173	179	7-8
Z5 (Threshold)	180	188	7.5-8.5
Z6 (Anaerobic Capacity)	>	188	>9
S.F.R.(Slow Frequency Repetitions)	146	165	5-6

## Training Zones Definitions

**Z1 (Recovery)** – Lowest effective training intensity. This zone is used for very easy warm up, and active recovery rides.

**Z2 (Aerobic)** – Mild cardiovascular training intensity. This zone is used for a significant portion of longer endurance rides, recovery rides, and when an athlete is new to the sport or coming back from injury or sickness. The zone is the first level of intensity that is used to improve cardiovascular fitness.

**Z3 (Medium Endurance)** – This zone is used for both fat burning and gaining significant cardiovascular fitness. Medium endurance is the training zone at which you can burn the most calories. It can also be referred to as your first aerobic breakpoint. This type of workout is the basis for your top-end sustainable speed. Doing a good amount of work in this zone helps reduce the recovery time between very intense efforts and helps to raise the lactate threshold from a lower level. Surprising enough, it is also a lot of times the “average” HR seen over races.

**Z4 (Sub-threshold)** – This is the training intensity that bridges the gap to your threshold training. You can think of Sub-threshold as your upper limit below threshold. Building your aerobic base (Z2/Z3) and then spending significant time in this zone will have the greatest impact improving your wattage at lactate threshold, which is the goal of any program. This is the highest intensity workout that will be a part of your regular routine for the majority of the training year. They can be done uphill or on the flats. The key to this workout is to be very conscious of staying below the upper limit of the zone. Training too much above the upper limit of this zone will trigger a greater recruitment of fast twitch fibers, limiting your endurance improvements.

**Z5 (Threshold)** - Training intensity to improve threshold or the highest level of aerobic fitness where you begin the transition to anaerobic processes. To improve this zone, you spend longer times just underneath it and shorter times just above it.

**Z6 (Anaerobic Capacity)** - Training intensity to improve VO2 Max and lactic capacity. Depends on the length of the repetition; usually associated with races or fast group rides, this intensity improves an athlete's ability to bridge up to breaks, make (and stay away on) a break of one's own, attack rolling hills, and attacks within the closing kilometers of a race.

**SFR (Slow Frequency Repetition)** - Muscular endurance training intensity.

