


# Triatlonda Antrenman Eşiklerine Güncel Yaklaşımlar



4770 gönderi

# Medicine & Science in Sports & Exercise has a new look!



Medicine & Science in Sports & Exercise

@MSSeonline

Medicine & Science in Sports & Exercise is the flagship journal of the American College of Sports Medicine (@ACSMNews).

Bilim ve Teknoloji Indianapolis, IN acsm-msse.org Eylül 2010 tarihinde katıldı

53 Takip edilen 34,5 B Takipçi

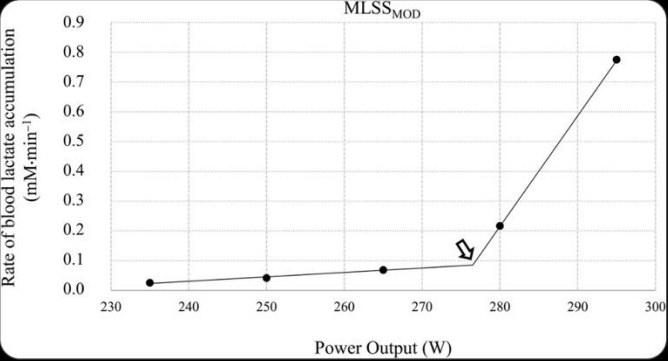
Arda Peker, Kristopher Mendes de Souza ve takip ettiğin diğer 48 kişi tarafından takip ediliyor

Gönderiler Yanıtlar Medya

Medicine & Science in Sports & Exercise @MSSeonline · 14 Oca

Resolving Differences between MLSS and CP by Considering Rates of Change of Blood Lactate during Endurance Exercise

From Ozkaya and colleagues: [brnw.ch/21wQ0hx](https://brnw.ch/21wQ0hx)



Rate of blood lactate accumulation (mM·min<sup>-1</sup>)

Power Output (W)

MLSS<sub>MOD</sub>

5 11 1B



Andrew Jones

university of Exeter  
awexer.ac.uk Üzerinde doğrulanmış e-posta adresine sahip  
exercise physiology nitrate endurance fatigue

BAŞLIK ALINTI YAPANLAR YIL

BAŞLIK	ALINTI YAPANLAR	YIL
The effect of endurance training on parameters of aerobic fitness	1417	2000
A 1% treadmill grade most accurately reflects the energetic cost of outdoor running	1201	1996
Dietary nitrate supplementation reduces the O <sub>2</sub> cost of low-intensity exercise and enhances tolerance to high-intensity exercise in humans	1099	2009
Dietary nitrate supplementation enhances muscle contractile efficiency during knee-extensor exercise in humans	820	2010

ALINTI YAPANLAR TÜMÜNÜ GÖRÜNTÜLE

Hepsi 2020 yılından bugüne

Alıntılar	44050	16696
h-endeksi	113	65
i10-endeksi	320	236

Genel erişim TÜMÜNÜ GÖRÜNTÜLE

1 makale 39 makale

genel erişime açık olmayanlar genel erişime açık olanlar



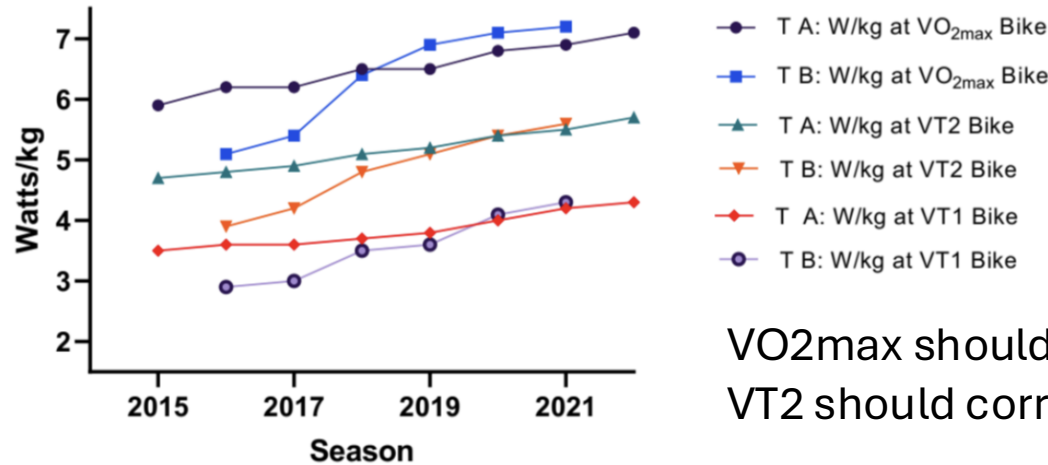
**Figure 19.1** The position of the triathlete (International Triathlon Union; ITU and Iron-distance) on the three axes illustrates the relative importance of the three main physical capacities of importance for elite participation, acknowledging this varies slightly between triathlon race and across exercise modes. Outside of critical psychological aspects, which are difficult to quantify, the pie chart shows the general relative importance of skills (15%), tactical awareness (5%), and physical capacities (80%) for triathlon success.

Adapted from G.A. Nader, "Concurrent Strength and Endurance Training: From Molecules to Man," *Medicine & Science in Sports & Exercise* 38, no. 11 (2006): 1965-1970.



## Training characteristics and performance of two male elite short-distance triathletes: From junior to “world-class”

Roberto Cejuela  | Sergio Selles-Perez 

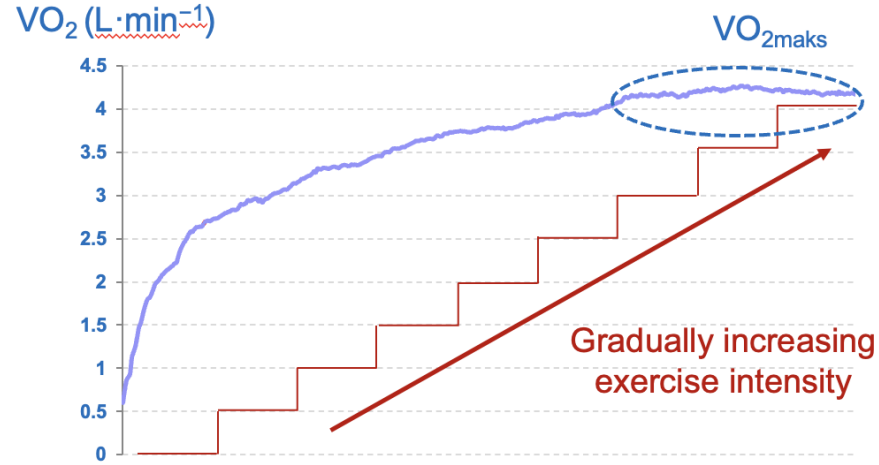


**FIGURE 2** Power values relative to body weight of cycling over the seasons. TA, Triathlete A; TB, Triathlete B; VO<sub>2</sub>max, maximum oxygen uptake; VT1, first ventilatory threshold; VT2, second ventilatory threshold; W, watts; W/kg, watts relative to body weight.

VO<sub>2</sub>max should be greater than 80 ml/kg/min and VT2 should correspond to at least 90% of VO<sub>2</sub>max

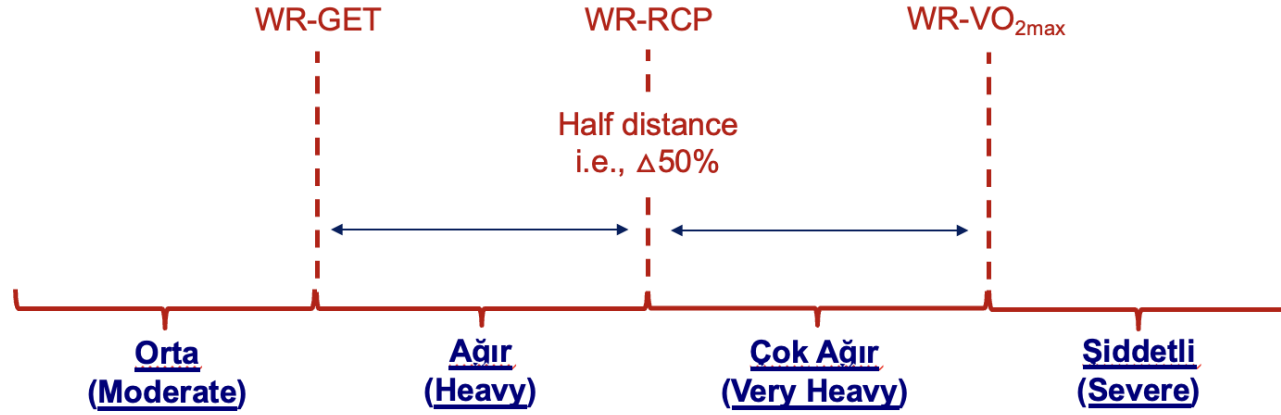
# VO<sub>2</sub>maks

Maksimal O<sub>2</sub> kullanım hacmi (VO<sub>2max</sub>) ilk kez Hill ve Lupton (1923) tarafından “kademeli bir egzersiz testinde iş yükü artışına rağmen arttırılamayan en yüksek VO<sub>2</sub> düzeyi” (VO<sub>2</sub> L·min<sup>-1</sup>) olarak tanımlandı.



Hill and Lupton, 1923

## Exercise domain classification based on classical view



*Journal of Physiology* (2001), 533.3, pp.891–902

**Influence of exercise intensity on the on- and off-transient kinetics of pulmonary oxygen uptake in humans**

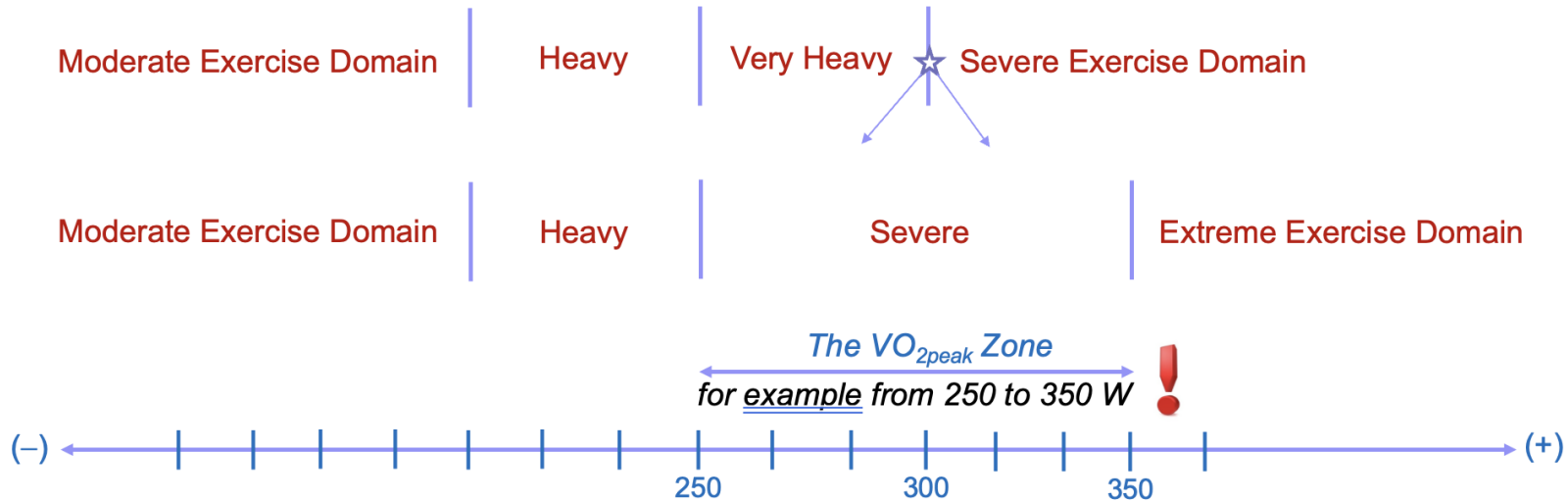
F. Özyener\*†, H. B. Rossiter\*, S. A. Ward‡ and B. J. Whipp\*

\*Department of Physiology, St George's Hospital Medical School, Cranmer Terrace, Tooting, London, UK, †Department of Physiology, Uludağ University Medical School, Bursa, Turkey and ‡Centre for Exercise Science and Medicine, University of Glasgow, Glasgow, UK

This domain classification based on a unique work rate that is provided a unique VO<sub>2max</sub>

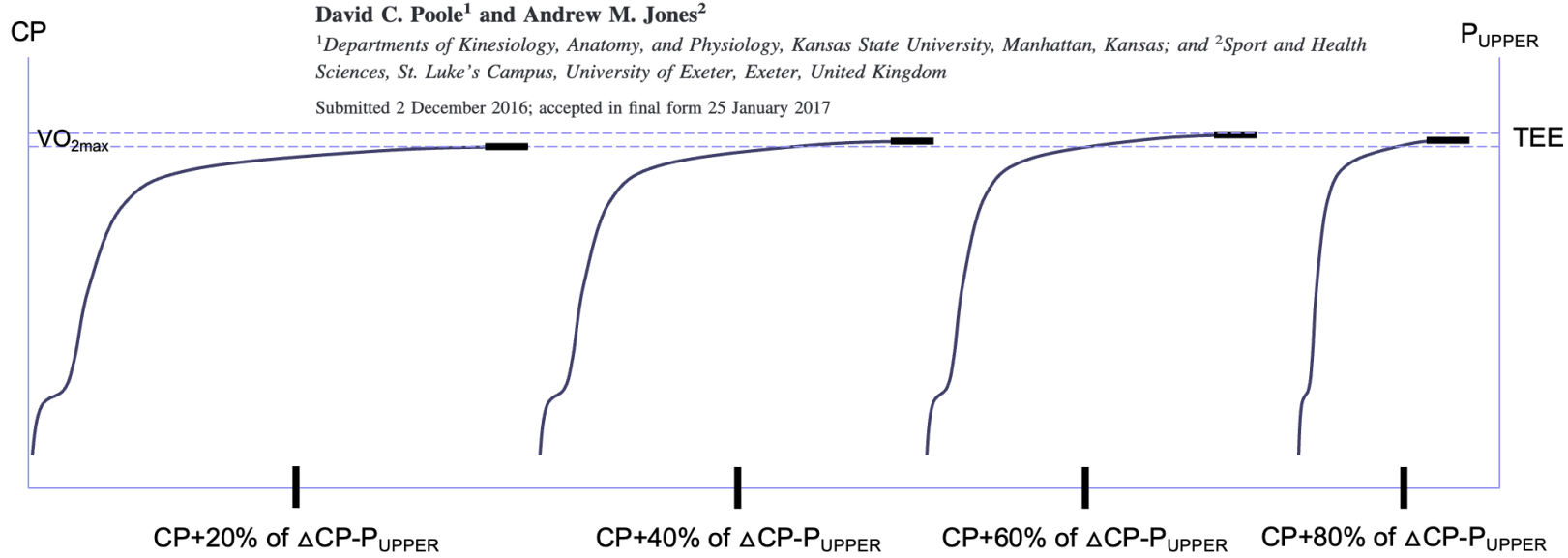
Peak  $VO_2$  values greater than 95% of the  $VO_{2max}$  (i.e.,  $VO_{2peak}$ ) are considered as the  $VO_{2max}$

It is possible to obtain e.g., 96% of  $VO_{2max}$  (i.e., the  $VO_{2peak}$ ) from **CONSTANT** exercise intensities corresponding to both slightly below and above the work rate of the  $VO_{2max}$



Measurement of the maximum oxygen uptake  $\dot{V}O_{2max}$ :  $\dot{V}O_{2peak}$  is no longer acceptable

No unique work rate and a unique  $VO_{2max}$

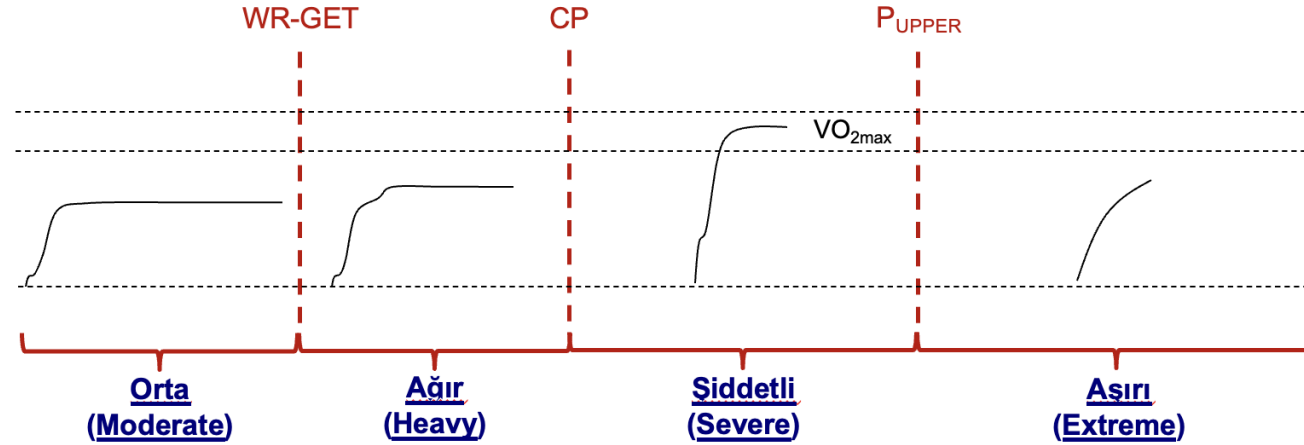


Son söz: Bitkinlikle sonlanan tüm 'şiddetli' egzersizlerde egzersiz  $VO_2$ 'si  $VO_{2maks}$ 'a ulaşır

Poole and Jones, 2017



## Exercise domain classification based on time dependent $VO_2$ responses during constant work rate exercises

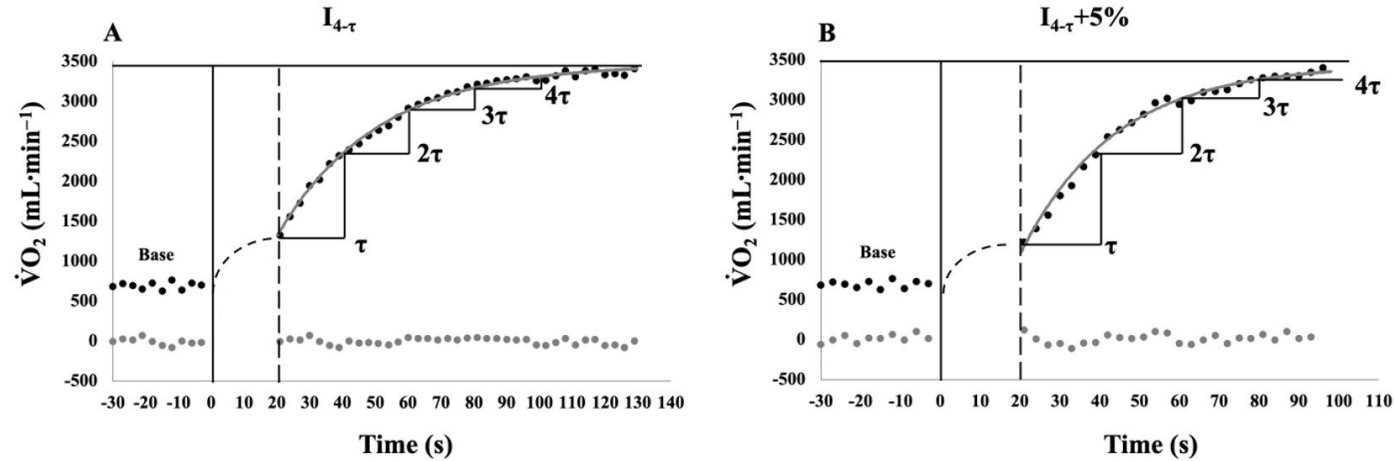


Burnley and Jones, 2007; Poole and Jones, 2012

Aslında elimizde yeni bir oyuncak var 😊

# Pupper = Exercise duration given 4 x tau

Estimation of the highest exercise intensity at which 4- $\tau$  exercise duration can be attained



For each constant work rate test, the 4  $\times$   $\tau$  was calculated using multiple equations as follows:

$$1 \times \tau; 0.63 \text{ (i.e., } 1 - e^{-1}) \Rightarrow 63\% \Delta$$

$$2 \times \tau; [1 - 0.63 = 0.37; (0.37 \times 0.63) + 0.63 = 0.86] \text{ (i.e., } 1 - e^{-2}) \Rightarrow 86\% \Delta$$

$$3 \times \tau; [1 - 0.86 = 0.14; (0.14 \times 0.63) + 0.86 = 0.95] \text{ (i.e., } 1 - e^{-3}) \Rightarrow 95\% \Delta$$

$$4 \times \tau; [1 - 0.95 = 0.05; (0.05 \times 0.63) + 0.95 = 0.98] \text{ (i.e., } 1 - e^{-4}) \Rightarrow 98\% \Delta$$

Ozkaya et al., 2024

Teşekkürler...