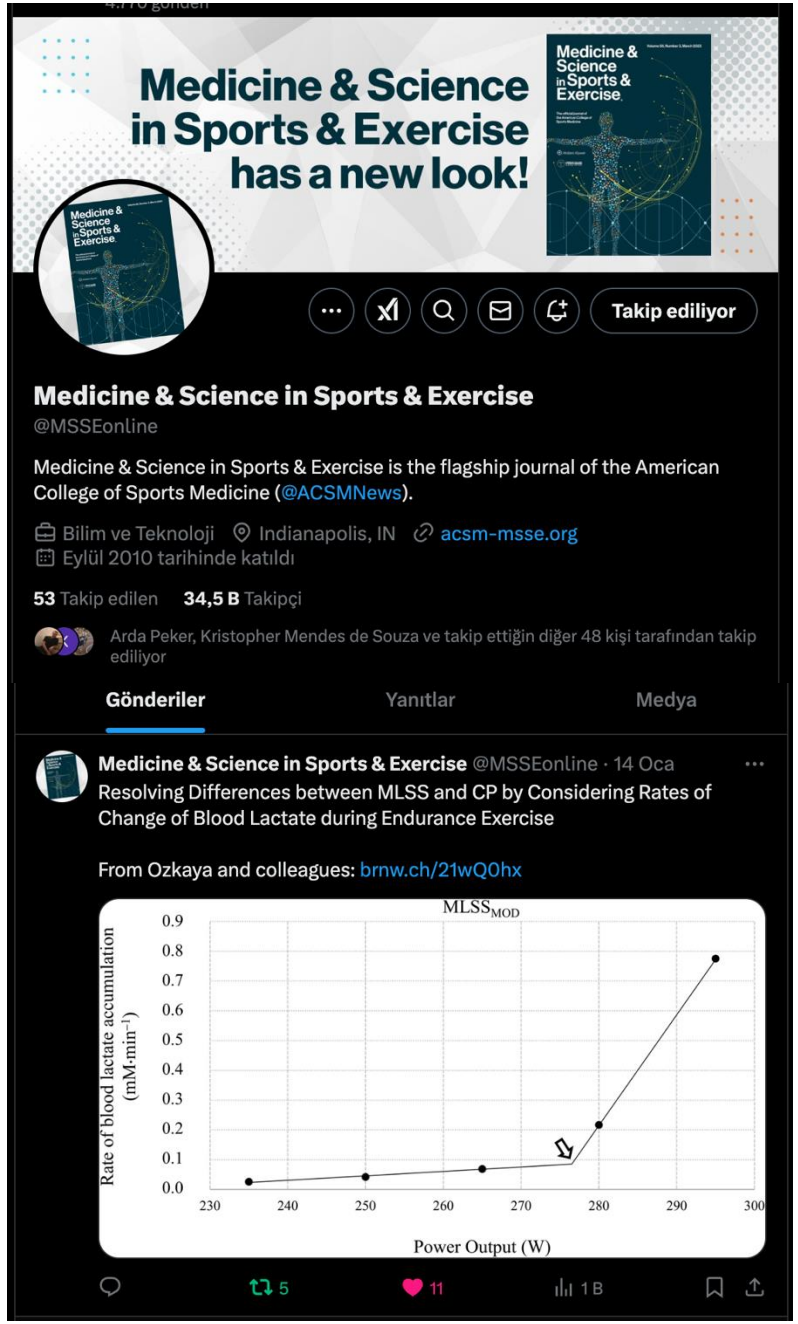
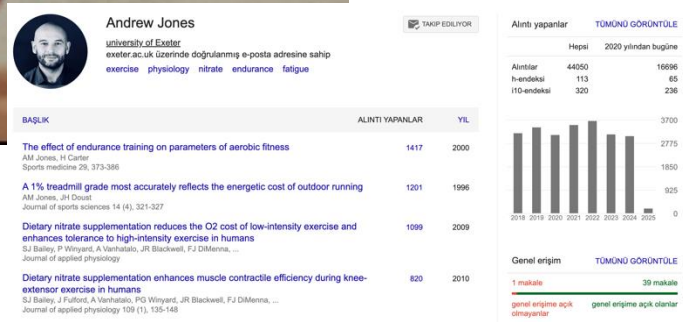
#hedeftriatlon triatlon.org.tr

Triatlonda Antrenman Eşiklerine Güncel Yaklaşımlar

TÜRKİYE TRİATLON FEDERASYONU





TÜRKİYE TRİATLON FEDERASYONU

Daniel Plews and Paul Laursen

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.

Received: 2 June 2023 | Revised: 10 July 2023 | Accepted: 11 August 2023

DOI: 10.1111/sms.14474

ORIGINAL ARTICLE

WILEY

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

Roberto Cejuela | Sergio Selles-Perez

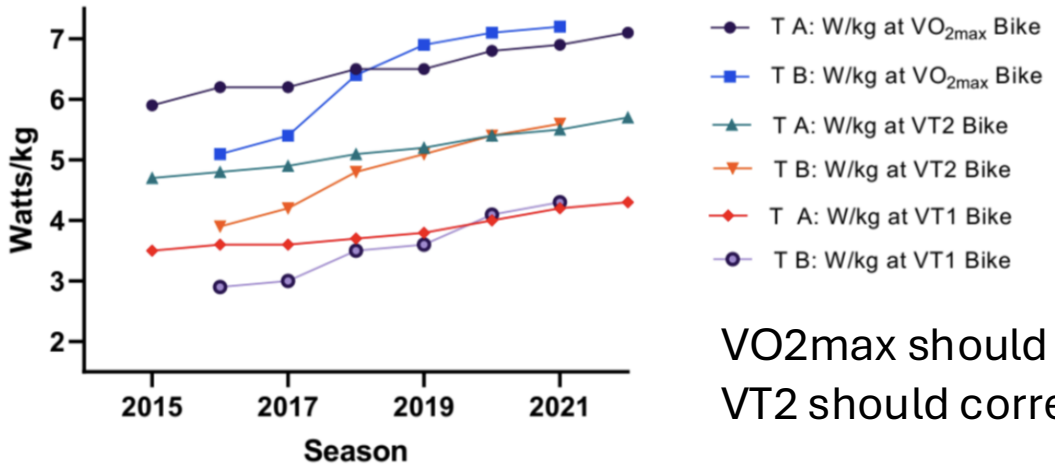


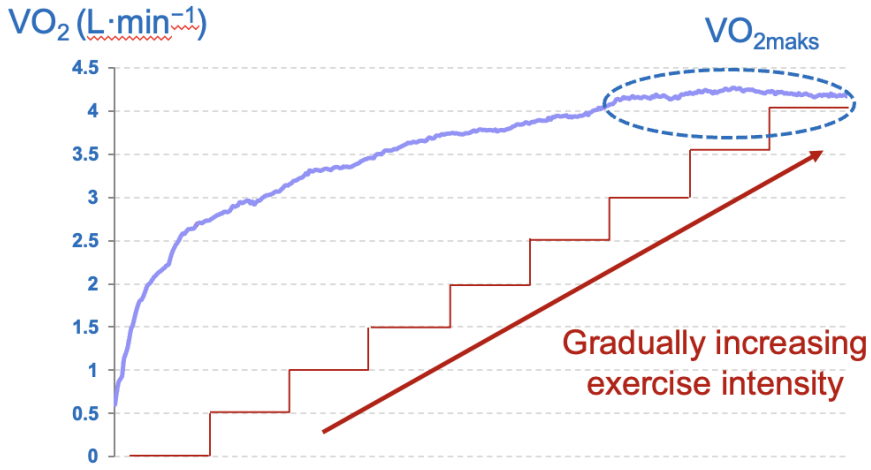
FIGURE 2 Power values relative to body weight of cycling over the seasons. TA, Triathlete A; TB, Triathlete B; VO_{2max}, maximum oxygen uptake; VT1, first ventilatory threshold; VT2, second ventilatory threshold; W, watts; W/kg, watts relative to body weight.

VO2max should be greater than 80 ml/kg/min and VT2 should correspond to at least 90% of VO2max

TÜRKİYE TRİATLON FEDERASYONU

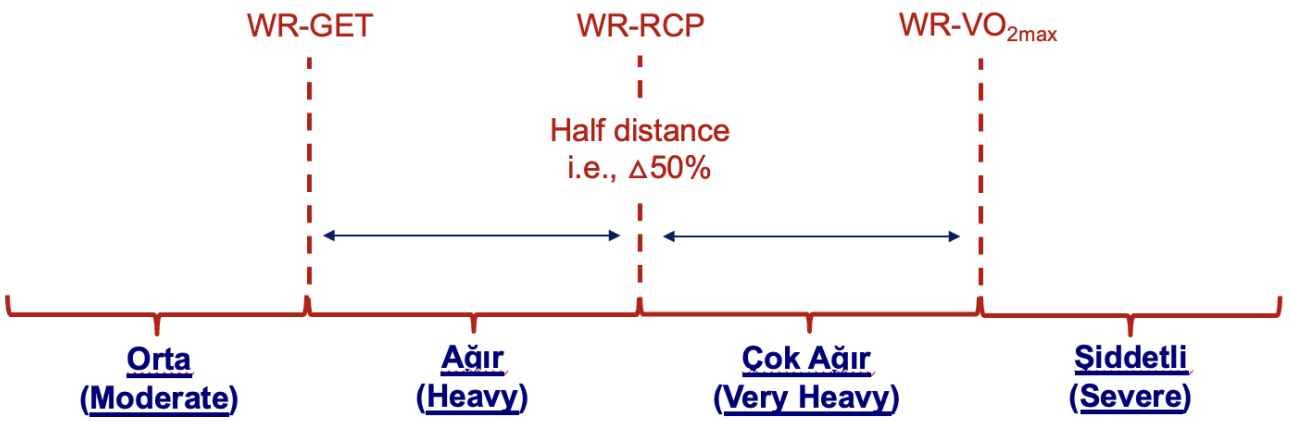
VO_{2maks}

Maksimal O_2 kullanım hacmi (VO_{2max}) ilk kez Hill ve Lupton (1923) tarafından "kademeli bir egzersiz testinde iş yükü artışına rağmen arttırılamayan en yüksek VO_2 düzeyi" (VO_2 L·min^{-1}) olarak tanımlandı.



Hill and Lupton, 1923

Exercise domain classification based on classical view



This domain classification based on a unique work rate that is provided a unique VO_{2max}

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

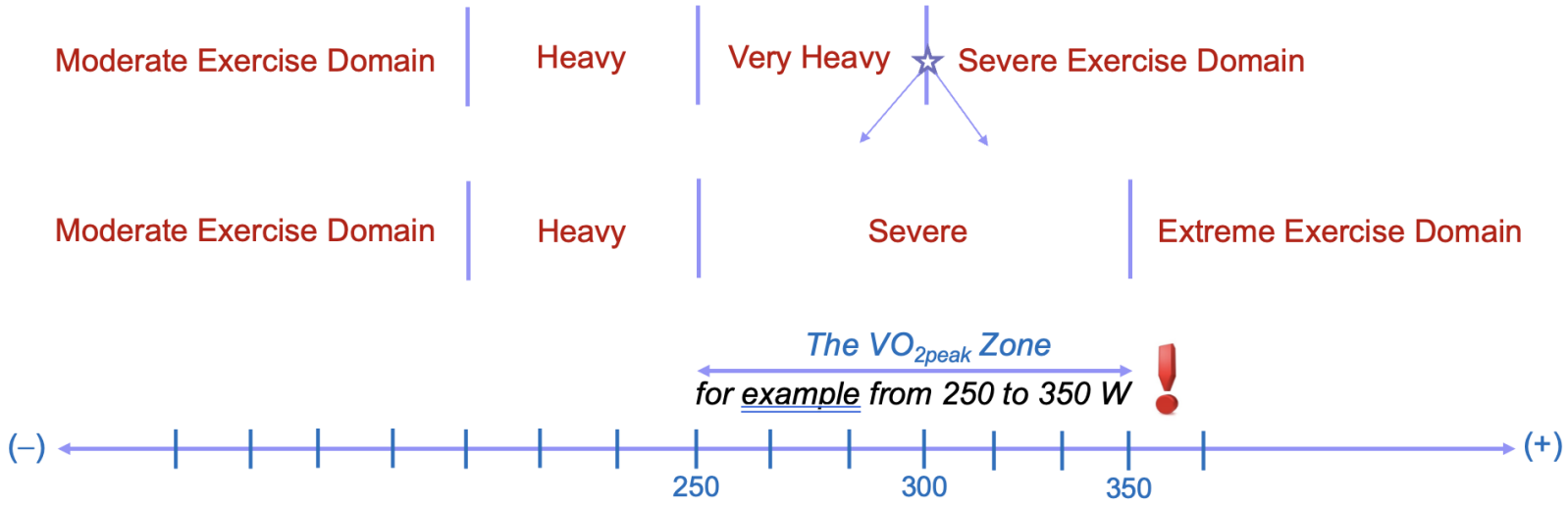
Influence of exercise intensity on the on- and off-transient kinetics of pulmonary oxygen uptake in humans

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, Uludag University Medical School, Bursa, Turkey and ‡ Centre for Exercise Science and Medicine, University of Glasgow, Glasgow, UK*

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}*



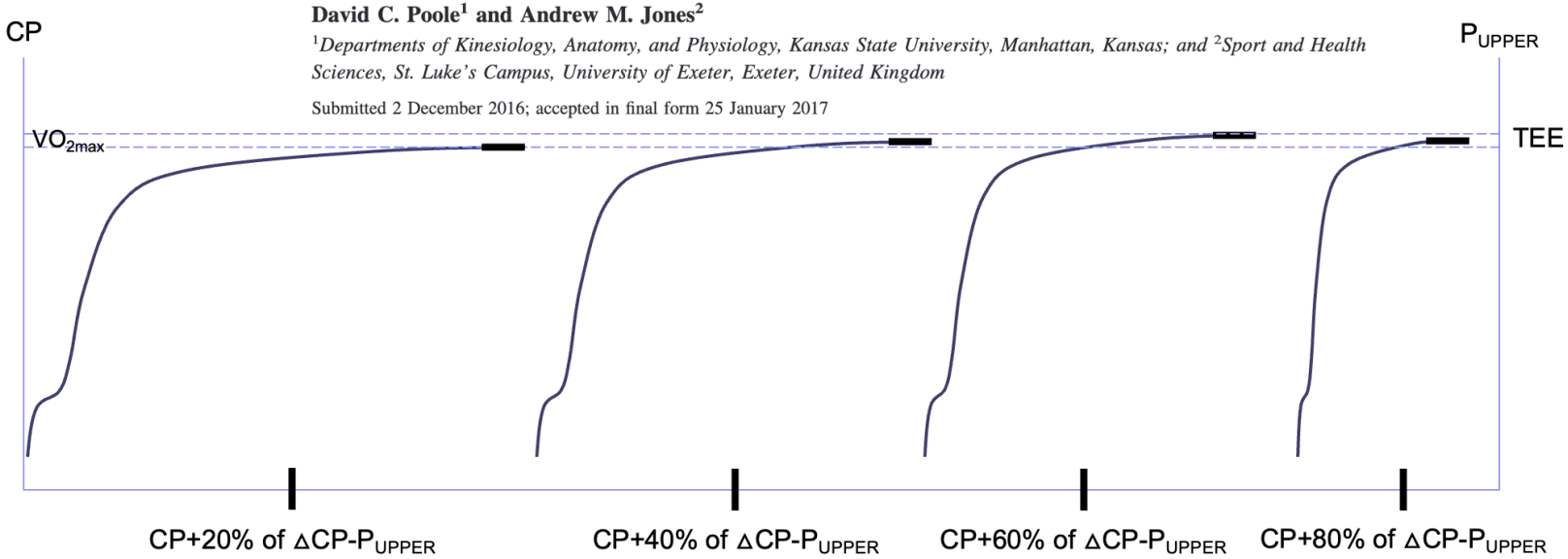
Measurement of the maximum oxygen uptake $\dot{V}O_{2max}$: $\dot{V}O_{2peak}$ is no longer acceptable

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

David C. Poole[1] and Andrew M. Jones[2]

[1]*Departments of Kinesiology, Anatomy, and Physiology, Kansas State University, Manhattan, Kansas; and* [2]*Sport and Health Sciences, St. Luke's Campus, University of Exeter, Exeter, United Kingdom*

Submitted 2 December 2016; accepted in final form 25 January 2017

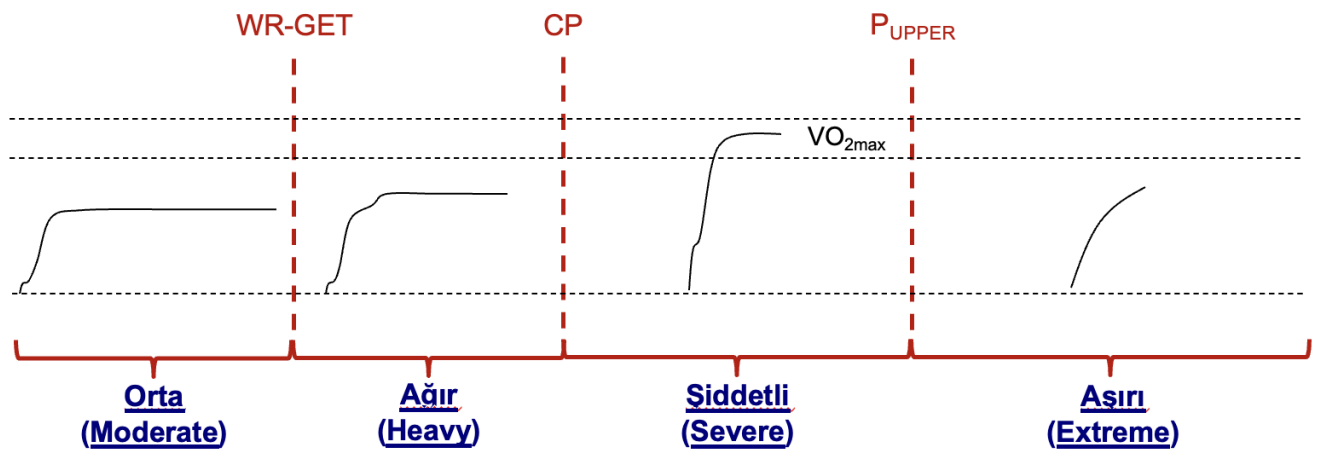


Son söz: Bitkinlikle sonlanan tüm 'şiddetli' egzersizlerde egzersiz VO_2'si VO_{2maks}'a ulaşır

Poole and Jones, 2017

TÜRKİYE TRİATLON FEDERASYONU

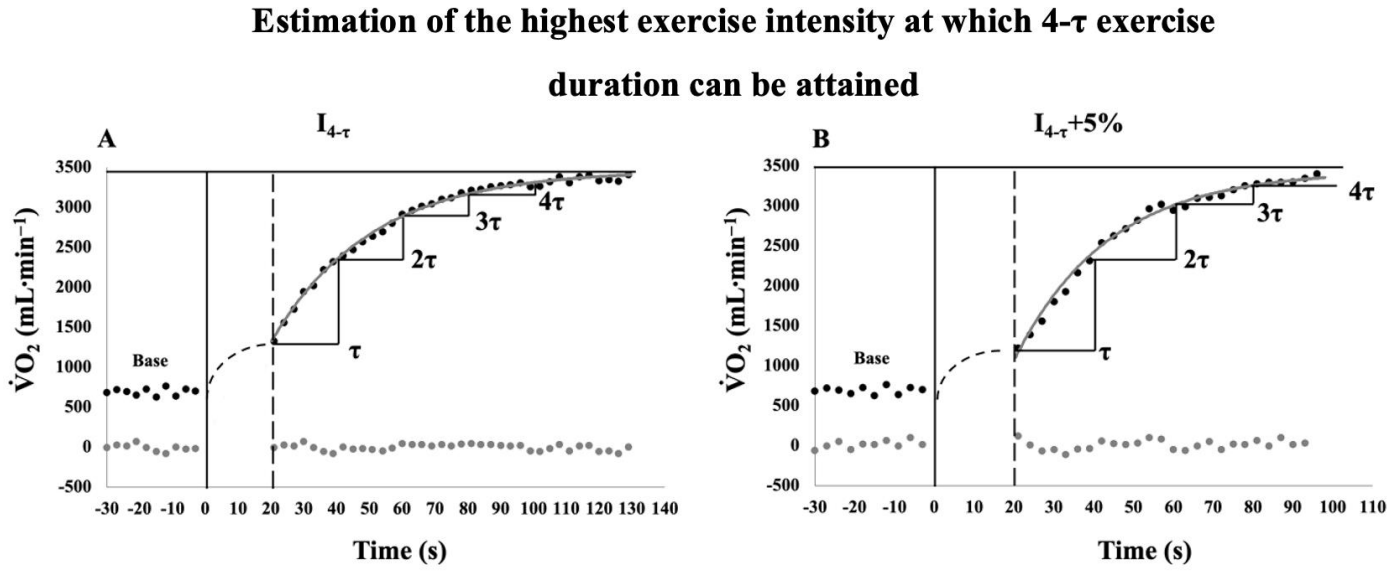
Exercise domain classification based on time dependent VO_2 responses during constant work rate exercises



Burnley and Jones, 2007; Poole and Jones, 2012

Aslında elimizde yeni bir oyuncak var ☺

Pupper = Exercise duration given 4 x tau



For each constant work rate test, the 4 × τ was calculated using multiple equations as follows:

1 × τ; 0.63 (i.e., $1 - e^{-1}$) => 63%Δ

2 × τ; [1 – 0.63 = 0.37; (0.37 × 0.63) + 0.63 = 0.86] (i.e., $1 - e^{-2}$) => 86%Δ

3 × τ; [1 – 0.86 = 0.14; (0.14 × 0.63) + 0.86 = 0.95] (i.e., $1 - e^{-3}$) => 95%Δ

4 × τ; [1 – 0.95 = 0.05; (0.05 × 0.63) + 0.95 = 0.98] (i.e., $1 - e^{-4}$) => 98%Δ

Ozkaya et al., 2024

TÜRKİYE TRİATLON FEDERASYONU

Teşekkürler…