**Wbal Model**

**CP – W’ Model**

CP is arguably the “best” measure of a maximum steady state of predominantly aerobic metabolism

W′ remains uncertain. Originally the parameter was described as a fixed energy reserve [2], or anaerobic work capacity [15], dependent upon oxygen stores within the muscle, high energy phosphates and anaerobic glycolysis [3,16]. That W′ is entirely anaerobic and independent of external oxygen availability is questionable following evidence of a reduction in W′ at high altitude [17], and a reduction in W′ in hypoxia, with the latter being ... correlated to a reduced delta between VO2 at CP and VO2max

**VO2 “slow component” within the severe intensity domain have been shown to be determinants of W′**

WHY we can’t deplete all the W’ during short term efforts?

delay between the imposition of a work-rate and the increase in O2 utilisation. It can take approximately 5-15-s for the V̇O2 to respond to the work-rate and 15-40-s to progress through the phase II kinetics, after which the V̇O2 continues to progress towards maximum through the slow component phase (Berger & Jones, 2007; Koppo et al., 2004). This may be a reason the work completed above CP in the 1-min TT was significantly less than the W’ (14.7 ± 3.8 vs 20.5 ± 5.3 kJ, *p*=0.0008) in the current study.

CONCLUSION

CP model is overly simplistic with regards to energy system utilisation and should be used as a tool to monitor power performance capability, but not as a method of estimating physiological performance measures

Wbal – Part