

TO THE EDITOR: This is a rather unbalanced debate because it has been demonstrated with several experimental approaches that in health $\dot{V}O_{2\max}$ is limited by oxygen delivery (5). In contrast, the central governor model (CGM) is mostly supported by sophistic reasoning, used to re-elaborate some obviation. For example, if the central nervous system does not receive sufficient oxygen then a number of physiological functions will be affected (1). Maximal exercise capacity may be limited by insufficient brain oxygenation during exercise in extreme hypoxia (2). However, even in the latter situation we do not have irrefutable evidence for central mechanisms of fatigue. It is not true that the CGM impedes “to reach a truly maximal cardiac output to prevent myocardial ischemia by limiting peripheral blood flow” (6), because maximal vasodilation at peak exercise, increases cardiac output without changing peak leg blood flow or $\dot{V}O_{2\max}$ in humans (4). Actually, experimental evidence indicates that the work of the heart, i.e., the variable determining myocardial oxygen demand, increases continuously during a gradual exercise to exhaustion without signs of reaching a plateau (3). Moreover, despite the ongoing discussions regarding the need of the central governor to protect the heart by blunting central command, it has been shown that the heart can protect itself very well (without need of a CGM). If the CGM was true, and is acting to prevent myocardial ischemia, then subjects with coronary syndrome would never have angina

during exercise, since the CGM would cause “protective fatigue” reducing exercise intensity and ultimately preventing an infarct.

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