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**A three component model of human bioenergetics.** (English) Zbl 0602.92005  
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The model described in this article is a generalised three component hydraulic model, proposed to represent net whole body bioenergetic processes during human exercise and recovery.

During exercise, fluid flows from the three interconnected vessels in the system represent the breakdown of high energy phosphates (phosphagens), oxygen consumption and lactic acid production. During recovery, replenishment of the fluids represents the repayment of oxygen debt.

The model is quantified and solved mathematically, and the solution compared with observed experimental data. Since currently known physiological facts are consistent with four configurations of this model, further experimentation is necessary.

**MSC:**

**92Cxx** Physiological, cellular and medical topics

Cited in **2** Documents

**Keywords:**

anaerobic threshold; energy metabolism; generalised three component hydraulic model; bioenergetic processes during human exercise and recovery; phosphagens; oxygen consumption; lactic acid production

**Software:**

**BMDP**

**Full Text:** [DOI](#)

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