Cardiovascular Modeling: Orthostatic stress and Hemorrhage

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We present a compartment model for the cardiovascular system which emphasizes the basic regulatory mechanisms. Originally this model has been developed in order to describe the reaction of the cardiovascular system to an ergometric workload. Recently the model has been modified in order to cover orthostatic stress situations and reactions of the cardiovascular system to hypovolemia as a consequence of hemorrhage. In the talk we shall give an overview of the basic mechanisms included in the model, discuss mathematical problems in connection with parameter identification and present some simulation results.