Cardiovascular and Cardiorespiratory Interactions – From Physiological Mechanisms to Clinical Applications
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Cerebrovascular Interactions in Relation to Orthostatic Syncope

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Cerebrovascular regulation maintains stable cerebral blood flow (CBF) via cerebral autoregulation (CA) during mean arterial pressure (MAP) fluctuations. This closed-loop interaction between MAP and mean CBF velocity (MCBFV, measured via transcranial Doppler) is widely investigated using time-domain and spectral Granger causality. Crucially, postural challenge impairs CA in subjects prone to orthostatic syncope, thus underscoring the need for efficient predictors of fainting and more severe cardiovascular events in pathological cohorts.