

MODELING OF THE CARDIO-PULMONARY SYSTEM ASSISTED BY ECMO

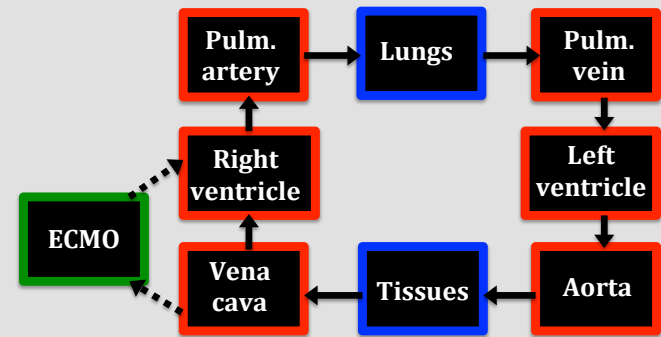


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Methods

- Lumped parameter model:
 - 6 “boxes” for the cardio-vascular system
 - 2 “boxes” for the respiratory system
 - 1 “boxes” for the ECMO
- Pulmonary shunt, the acid-base chemistry of $\text{CO}_2/\text{HCO}_3^-$ and Bohr effect are considered



Results

- Simulation of a patient with pulmonary insufficiency assisted by ECMO.
- ECMO allows to decrease the CO_2 partial pressure and to increase the blood pH to physiological values.

