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Stationary flow of a viscous liquid in a flat channel with permeable walls

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The article considers the problem of stationary blood flow in vessels with permeable walls. To determine the hydraulic resistance in an arterial vessel, the blood is considered Newtonian viscous fluid, and the flow is stationary. When solving problems, formulas were obtained for determining the corresponding hydrodynamic parameters, such as speed, fluid flow rate and pressure gradient. The impedance method is determined by the hydraulic resistance. In a stationary flow, the hydraulic resistance in the permeable vessel substantially depends on the permeability coefficient: with an increase in this coefficient, it decreases.

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