

# NORBERT NÉMETH



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## RESEARCH AREA

Hemorheological, microcirculatory and histomorphological investigations of tissue/organ ischemia-reperfusion related to surgical interventions, with comparative analysis of the detectable injuries and their preventive/therapeutic possibilities. Complex investigation of the pathomechanism of sepsis with special regard to the hemodynamic and microcirculatory changes. Examination of regeneration of micro-vascular anastomoses, setting the optimal geometry of anastomoses and shunts with the usage of agents having a positive effect on the maturation processes.

## TECHNIQUES AVAILABLE IN THE LAB

Experimental surgical and microsurgical methods and basic concepts. Microsurgical techniques. Hemorheological laboratory techniques (capillary viscosimetry, conventional and osmotic gradient ektacytometry, light transmission and -reflection aggregometry), special intravital video-microscopy (incident darkfield, IDF, CytoCam), hemodynamical measurement methods.

## SELECTED PUBLICATIONS

Varga, Á., Mátrai, Á., Baráth, B., Deák, Á., Horváth, L., **Németh, N.** (2022) Interspecies diversity of osmotic gradient deformability of red blood cells in human and seven vertebrate animal species. **Cells** **11**: 1-15.

**Németh, N.**, Pető, K., Magyar, Z., Klárik, Z., Varga, G., Oltean, M., Mantas, A., Czigány, Z., Tolba, R. (2021) Hemorheological and microcirculatory factors in liver ischemia-reperfusion injury - An update on pathophysiology, molecular mechanisms and protective strategies. **Int. J. Mol. Sci.** **22**: 1-24.

Szabó, B., Fazekas, L., Ghanem, S., Godó, Z., Madar, J., Apró, A., **Németh, N.** (2020) Biomechanical comparison of microvascular anastomoses prepared by various suturing techniques. **Injury-Int. J. Care Inj.** **51**: 2866-2873.

Berhész, M., **Németh, N.**, Pető, K., Deák, Á., Hajdu, E., Molnár, Á., Árkosy, P., Szabó, J., Fülesdi, B. (2019) Hemodynamic consequences of intravenously given E. coli suspension: observations in a fulminant sepsis model in pigs, a descriptive case-control study. **Eur. J. Med. Res.** **24**: 1-6.

Mester, A., Magyar, Z., Molnár, Á., Somogyi, V., Tánczos, B., Pető, K., **Németh, N.** (2018) Age- and gender-related hemorheological alterations in intestinal ischemia-reperfusion in the rat. **J. Surg. Res.** **225**: 68-75.

Ghanem, S., Tánczos, B., Deák, Á., Bidiga, L., **Németh, N.** (2018) Carotid-jugular fistula model to study systemic effects and fistula-related microcirculatory changes. **J. Vasc. Res.** **55**: 268-277.