

## **ABSTRACT** *(v AJ)*

The aim of this diploma thesis was namely to find out whether the saline solution, intended for the continuous flushing of arterial catheters, is as effective in preventing arterial blockage as compared to saline solution with heparin. In this diploma thesis I also deal with the comparison of material consumption by using both methods of flushing arterial sets and the financial costs associated with them.

Patients with diagnosis of sepsis or septic shock were included in the study. Pseudorandomization was used to group 52 patients into either experimental and control group. The testing was performed using a non-parametric Wilcoxon two-assay test and Fisher precision test.

Based on the results of my study, regard to the occurrence of complications (catheter closure) an arterial catheter flushing by saline solution is as effective as flushing by a saline solution with heparin. My research also confirmed that the use of saline solution as a flushing solution is less costly (regarding material) and therefore it is advisable to use saline solution for flushing arterial catheters.

Based on my study, saline solution is now used as a flushing solution of arterial catheters at an anesthesiology-resuscitation department, where only a saline solution with heparin was used for the flushing. Using saline solution instead of saline solution with heparin should avoid any further serious medical complications of patients with arterial catheter.

I also plan public an article in a professional journal describing the above results of my study could be a basis for the use of saline solution for flushing arterial catheters also in other hospitals.

**keywords:** Flushing arterial catheter, intensive care, saline, heparin, heparin induced thrombocytopenia.