Percutaneous tracheotomy (PT) in patients at the ICU is an invasive method of airway providing. It is requiring prolonged mechanical ventilation. PT as a method has proven to be simpler than surgical tracheosomy (ST), because it is performed in hospital bed without transporting the patient to the operating room, which is important in cases of hemodynamically unstable patients. Original kits, quick training and ability to perform in patient’s bed, have imposed PT as the method of choice for ICU patients.

Methods:
In a one-year retrospective study, we have followed 161 patients in 2 groups, at ICU II, Clinical for Anesthesia and ICU and Pain Therapy, Clinical Centre of Vojvodina. Patients in ICU underwent PT with assistance of fiberoptic bronchoscop, or ST in the operating room, due to the need for prolonged mechanical ventilation. Ultrasound Doppler examination of the blood vessels in the neck and their relationship with trachea determined the indication for PT or ST. In PT group were 110 patients, in ST 51. We have observed early and late complications and length of mechanical ventilation after the tracheostomy was performed.

Results:
On most patients (110) we have made PT assisted by fiberoptic bronchoscope. 51 patients underwent ST. Early complications in PT in terms of minor bleeding (<100ml) from the smaller vein blood vessels of the skin and subcutaneous tissue of the neck were 3.6% during the performance. Serious complication, false route, subcutaneous cannula placement, with subcutaneous emphysema was 0.9%. The late complications of PT in the form of tracheal stenosis are still being monitored, and no reports have been reported so far. Early complications in ST (bleeding, twisting cannula as well as malposition) were 20%.

Conclusion:
PT with assistance of fiberoptic bronchoscop has proven to be a safe and rapid invasive method, with no more complication than ST, in the ICU performed by ICU doctors on patients, in bed without transport to the operating room and as a safe alternative to ST.