The diploma thesis examines the knowledge and experience of nurses with the handling and medical treatment of central venous catheter and the associated precautionary measures to prevent the occurrence of catheter sepsis. The theoretical part is dedicated to the definition of catheter sepsis, its treatment and prevention. Furthermore, it discusses the basic procedures in the care, handling of central venous catheter and hygienic rules. The research part interprets the information obtained from a questionnaire survey conducted in intensive care units and Departement of Anestesia and Intensive Care (ARO) in Regional hospital Liberec. The aim of this thesis was to investigate how the nurses in intensive care units provide care of central venous catheter, and what is their knowledge of catheter sepsis. The results reached in this research can be used as a guide for the care of central venous catheter, or may serve as a set of preventive measures against the emergence of catheter sepsis in patients.