

In the thesis the author deals with the surgical technique of the genioglossus advancement and hyoid myotomy (GAHM) in the obstructive sleep apnoea syndrome (OSAS) therapy. He focuses in particular on methods used to widen the upper airway by surgical modification of facial bones. Following the definition of the research objective in Chapter 1 and the general introduction in Chapter 2, we can find in Chapter 3 the description and definition of OSAS as well as physiological, pathophysiological and epidemiological notes on sleep, ventilation in sleep and OSAS. In Chapter 4 the author recommends some new methods of examining the upper airway that can be applied in an ordinary dental surgery to predict the risk of development or occurrence of OSAS in some patients. Chapter 5 includes an overview of therapeutic options for OSAS and a detailed description of different GAHM techniques. In accordance with the research objectives and the methodology described in Chapter 6, the results in Chapter 7 show, for a large sample of examined patients, the dependence of obesity (as expressed by the BMI) on the severity of OSAS, along with some cephalometric values in which such dependence has not been published so far. Then the chapter documents a high success rate of GAHM treatment of OSAS in operated patients. This is so, however, only if stricter indication criteria with respect to the BMI are applied. Radiographs of long-term patient observation show that the changes in the upper airway after GAHM surgery are stable. The comparison of the nature of these changes with the changes in the upper airway resulting from mandibular advancement in case of mandibular hypoplasia is unique. Based on the monitoring of complications, we can declare that GAHM is a safe method. Chapters 8 and 9 discuss and evaluate the results of the research.