Aspiration of gastric content, prolonged and failed intubation, and airway obstruction with subsequent hypoxia are the most common causes of anesthesia-related morbidity and mortality. The number of obese patients suffering these complications is disproportionately high. The aim of this doctoral thesis was therefore to see if the use of a videolaryngoscopic intubation technique could shorten the time required for intubation and reduce the incidence of failed intubation. Other aims were to see if the beta-receptor antagonist esmolol, affect the tone of the esophagogastric junction, if low-dose esmolol has an analgesic effect, and whether the intraoperative administration of esmolol instead of remifentanil can reduce the requirement of postoperative rescue treatment with morphine. With the information gained from the experimental and clinical studies in this thesis, new knowledge in this field has been contributed.