

Computernavigierte Endoskopie in der Chirurgie der Nasennebenhöhlen

Computer navigated multifunctional endoscopes in sinus surgery

Christopher Bohr¹; Wurm, J.²; Bumm, K.²; Zenk²; Iro, H.²

¹Klinik und Poliklinik für Hals-, Nasen-, Ohrenkrankheiten
Universität Erlangen-Nürnberg

²Klinik und Poliklinik für Hals-, Nasen-, Ohrenkrankheiten

Functional endoscopic sinus surgery (FESS) is known as the „gold-standard“ for sinus surgery. Development of new endoscopes is focused on increasing the resolution and minimizing the diameter. In order to improve safety and reduce the risk of complications during surgery, computer-assisted navigation has become increasingly used in sinus surgery. Most navigation systems are only able to use either the navigation function or the endoscope separately, therefore our group searched to improve microendoscopes by bringing these two functions together. In cooperation with Polydiagnost, we developed an endoscope with a working channel that can be navigated. The tip of the endoscope serves as the pointer for the navigation system and the working channel can be used for sinus surgery instruments, such as a drill or forceps in real-time navigation. This setup was used for navigated drilling to the frontal sinus ostium and the sphenoid sinus in patients undergoing paranasal sinus surgery. Results from these studies indicated a great benefit from navigated endoscopy in terms of drilling supervision close to sensitive structures such as the frontal skull base and sphenoid anterior wall. We conclude, that the combination of navigation and multifunctional microendoscopes has the potential to minimise the surgical risk in sinus surgery.