Endoscopic procedures in oral and maxillofacial surgery
KARL STORZ in oral and maxillofacial surgery

Follow us into a new age and discover the numerous applications of endoscopy in oral and maxillofacial surgery.

For more than 6 decades, the name KARL STORZ has stood for top quality endoscopes and instruments in human medicine. With our experience and know-how, we can support you as an expert partner in all conceivable applications in oral and maxillofacial surgery.

Arthroscopy of the temporomandibular joint

Page 4

TMJ arthroscopy is continuously growing in importance. TMJ pain can be examined and appropriate therapies conducted using minimally invasive procedures.

Endoscope-assisted treatment of condyloid process fractures

Page 5

In peri-TMJ fractures, endoscopy plays an increasingly important role as well. The endoscope-assisted treatment of condylar neck fractures is already an established, valuable alternative to open surgery.

Endoscope-assisted treatment of orbital floor fractures

Page 6

To prevent facial scars, an endoscopically controlled procedure is the method of choice, particularly in difficult-to-access orbital floor fractures.

It is recommended to check the suitability of the product for the intended procedure prior to use.
Sinuscopy and endonasal endoscopy

While TMJ endoscopy was initially only performed for diagnostic purposes, in chronic maxillary sinusitis, it now largely involves same-session maxillary sinus treatment.

Endoscopy in oral surgery and implantology

The endoscopic control of elevation and implantation ensures the safe, targeted, and optically-assisted sinus floor elevation. Endoscopically controlled root tip resection allows tissue-conserving resection, including in the distal molars.

Salivary gland endoscopy (sialendoscopy)

Sialendoscopy is a minimally invasive alternative to open salivary gland surgery. It allows examination and treatment of almost all submandibular and parotid glands.

Endoscopic face lift

Facial aesthetic surgery involves the correction of unattractive features that psychologically burden the affected individuals. Endoscopic face lifts support this process by ensuring minimal access scars and reducing pain.

Visualization solutions in open procedures

In open procedures, endoscopy offers the option of transmitting a brilliant surgical image to external monitors using exoscopes and special cameras for surgical microscopes. This setup allows visualization of the procedure for assistants and students as well.
**TMJ arthroscopy**

Fewer complications and shorter hospital stays render TMJ arthroscopy an important procedure in oral and maxillofacial surgery. In endoscopic arthrocentesis and lavage, aggressive protein compounds resulting from inflammatory effusion can first be washed out.

In cases where endoscopic arthrocentesis and lavage are insufficient and the patient continues to experience pain and jaw lock, micro-instruments can be inserted through a working channel for advanced TMJ treatment. These instruments can be used to remove further adhesions and loose bodies, to open cysts, to contour bones, to smoothen cartilage, and to treat the synovial membrane. As a result, pain can be eliminated and joint function restored.

The advantages of TMJ arthroscopy include direct visualization and the associated option of taking biopsies, removing osteoarthritic tissue, and administering intraoperative injections.
Endoscope-assisted treatment of condyloid process fractures

The endoscope-assisted transoral treatment of condylar neck fractures is considered the method of choice for repositioning TMJ fractures.

The minimally invasive technique has been shown to achieve good functional results while reducing the risk of damaging facial nerves or visible scarring. Additional advantages of the endoscope-assisted treatment of condyloid process fractures include reduced postoperative swelling and hence shorter recovery periods. In the transoral surgical repositioning of condyloid process fractures, an excellent view can be ensured with small incisions, typically by using 30° HOPKINS® endoscopes.

The endoscope-assisted treatment of condyloid process fractures has therefore become an established, important procedure in joint traumatology.
Endoscopy-assisted treatment of orbital floor fractures

Particularly in difficult-to-access situations such as orbital floor fractures, endoscope-assisted treatment represents a useful alternative to open surgery. Minimally invasive access can reduce visible scar formation, which is particularly important because in this region, every procedure strongly affects the patient’s appearance. With the aid of endoscopy, difficult-to-access regions can be more easily visualized, and fractures of the orbital floor, medial orbital wall, and orbital roof can be assessed and treated.

For the complex procedures in post-traumatic midfacial and orbital reconstruction, KARL STORZ offers an instrument set that is perfectly adapted to these situations. Miniaturized retractors and scaled orbital floor spatulas allow the surgeon to optimally implement the required surgical steps.
Sinuscopy and endonasal endoscopy

Maxillary sinus endoscopy is among the “classic” endoscopic procedures in oral and maxillofacial surgery. Rigid KARL STORZ endoscopes with various diameters and 0°, 30°, 45°, 70°, 90°, and 120° directions of view as well as the ENDOCAMELEON® provide insights into maxillary sinus anatomy and allow performance of more advanced surgical interventions. Oral and maxillofacial surgeons have the choice of three access routes for maxillary sinus surgery: via the supraturbinal or infraturbinal window or via the canine fossa route. Optical blind spots can only be avoided by taking advantage of all optical aids and in some cases by using a combination of access routes.

Given the increasing use of dental implants, the sinus lift was developed with new routes to reach the bony maxillary sinus in order to insert alloplastic or autologous materials into the alveolar recess of the maxillary sinus to augment the maxilla without injuring the mucosa.
Endoscopy in oral surgery and implantology

Endoscopy is gaining in importance in dental surgery as well. For instance, endoscope-assisted and endoscope-controlled surgical techniques are used in implantology and root tip resection. The endoscopic control of elevation and implantation allows safe, targeted, and optically assisted sinus floor elevation. Endoscopically controlled root tip resection permits tissue-conserving resection, including in distal molars.

In oral surgery, endoscopy is typically performed in a semi-open context. This requires the option of supporting the telescope in the area of the tooth-bearing bone. For this purpose, the telescope is used in combination with a support-and-irrigation sheath to ensure support near the object. This procedure allows removal of less bone when extracting the third molar, for instance.

In implantology, support immersion endoscopy offers greater control of the surgical field and allows a more precise assessment of the surrounding bony walls.

Endoscopes can be helpful in endodontology as well. Using a so-called miniature endoscope with a diameter of 0.5 mm, the entire root canal system of teeth, including molars, can be viewed and checked over its whole length to the apical foramen.
Salivary gland endoscopy (sialendoscopy)

As a minimally invasive alternative to open salivary gland surgery, sialendoscopy has become increasingly common in recent years. It allows examination and treatment of nearly the entire salivary gland system of the submandibular and parotid glands.

Under endoscopic view, a wide variety of obstructions can be treated and successfully removed with the aid of various instruments. KARL STORZ sialendoscopes feature an integrated working and irrigation channel that is equally suitable for diagnostic and therapeutic requirements.

As a full-range supplier, KARL STORZ offers very small-diameter sialendoscopes, perfectly fitting instruments, helpful disposable items as well as imaging systems and can even support OR integration. The individual components are optimally harmonized.
Endoscopic face lift

Rejuvenation of the midfacial and forehead region is now a standard treatment of the aging face. In this area as well, minimally invasive surgical techniques such as endoscopic midface and forehead lifting have become established.

Minimally invasive forehead and temple lifting results in less noticeable access scars and protects the supraorbital neurovascular bundle.

With the aid of the KARL STORZ elevators and dissectors, midface and periosteal attachments can be released even better and more precisely. Various fixation options ensure good long-term stability.

These advantages have led to endoscopes revolutionizing facial plastic surgery. The improved visualization and control of sensitive structures that are afforded by endoscopy make this procedure increasingly popular – among patients as well since they can expect less postoperative pain.
Visualization solutions in open procedures

In oral and maxillofacial surgery, procedures cannot always be performed endoscopically. However, KARL STORZ imaging solutions are not only useful in endoscopy but also in microsurgery and open surgical procedures.

This is made possible by the modular design and compatibility of the individual components.

For the visualization and documentation of microsurgical procedures, KARL STORZ offers the IMAGE1 S H3-M COVIEW® C-MOUNT camera head as well as the QUINTUS® TV adaptor. They can upgrade surgical microscopes produced by various manufacturers.

To optimally display open surgical procedures, the VITOM® system is used to complement in-light cameras and loupes.

KARL STORZ imaging solutions thereby allow documenting and visualizing the full range of procedures in oral and maxillofacial surgery, and as a positive side effect, they also make an important contribution to education and training.
...evolution continues

KARL STorz SE & Co. KG
Dr.-Karl-Storz-Straße 34, 78532 Tuttingen/Germany
Postbox 230, 78503 Tuttingen/Germany
Phone: +49 (0)7461 708-0
Fax: +49 (0)7461 708-105
E-Mail: info@karlstorz.com
www.karlstorz.com