

BRINER Bipolar Coagulation Suction Cannula



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Hemostasis in operations in the paranasal sinuses and on the anterior skull base

Advances in endoscopic surgical procedures now allow the performance of extensive interventions in the region of all of the paranasal sinuses and the anterior skull base. The prerequisite for safe working is an operating field with as little blood as possible. This allows precise visualization of the anatomic landmarks and thus safe 'navigation' in this anatomically complex region.

Precise surgical procedures which preserve tissue, such as the use of cutting instruments, allow the creation of an operating field with as little blood as possible. However, the monitoring of the large blood vessels in the anatomic region, in particular the branches of the sphenopalatine artery and the anterior ethmoidal artery, is also indispensable. One effective method of stilling hemorrhaging from these arteries is the monopolar or bipolar coagulation of these vessels using high frequency current.

Nevertheless, the coagulation of large arteries in the region of the paranasal sinuses and the anterior skull base represents a challenge: on the one hand, because of the small available space resulting from the anatomic conditions and, on the other hand, because of the immediate vicinity to the delicate adjacent organs, the orbit, and the brain. There is a risk here of damaging the neighboring structures, for example via flowing current during monopolar coagulation or via heat during imprecise bipolar coagulation.

Where possible, bipolar coagulation techniques should be used for hemostasis in the region of the paranasal sinuses and the anterior skull base. In contrast to the monopolar technique, in this technique the high frequency current only flows between the poles of the bipolar coagulation instrument, rather than through the entire surrounding anatomy between the electrode on the body and the pole of the monopolar instrument. Bipolar coagulation thus allows more precise application of the energy and reduces the risk of damaging the surrounding tissue.

The most commonly used bipolar coagulation instruments are bipolar forceps.



Fig. 1: The electrodes of the conventional bipolar coagulation forceps are compressed by the narrow anatomic conditions in the region of the anterior wall of the sphenoidal sinus. This renders the use of this instrument for bipolar coagulation difficult or impossible.

However, as a result of the anatomically narrow conditions, their usage can sometimes be restricted or completely impossible. For example, the use of bipolar coagulation forceps to coagulate the septal branch of the sphenopalatine artery on the anterior wall of the sphenoid bone often proves impossible, as the two tips of the forceps are compressed by the nasal septum and the middle turbinate. Coagulation of the anterior ethmoidal artery on the roof of the ethmoid bone using bipolar forceps also often proves impossible.

The requirement for effective bipolar coagulation even in narrow conditions led to the development of an instrument with a fixed distance between the electrodes and integrated suction tube: the 'BRINER bipolar coagulation suction cannula'.

BRINER bipolar coagulation suction cannula

The functional principle of the BRINER bipolar coagulation suction cannula is coagulation using high frequency current via two electrodes which are a fixed distance apart. These cannot be compressed by the surrounding anatomy and thus also function in narrow conditions, for example on the anterior wall of the sphenoid bone. The electrodes are of sufficiently large dimensions to allow coagulation of larger vessels. The integrated suction tube allows the suctioning of the blood between the electrodes. This leads to improved vision of the site to be coagulated and increases the efficiency of the coagulation. The design of the BRINER bipolar coagulation suction cannula largely reflects the design of conventional suction tubes in paranasal sinus surgery. Consequently, the surgeon will not require any additional familiarization phase.

The BRINER bipolar coagulation suction cannula has no moving parts, which ensures reliability and facilitates its cleaning and care.

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Use of the BRINER bipolar coagulation suction cannula

Case 1

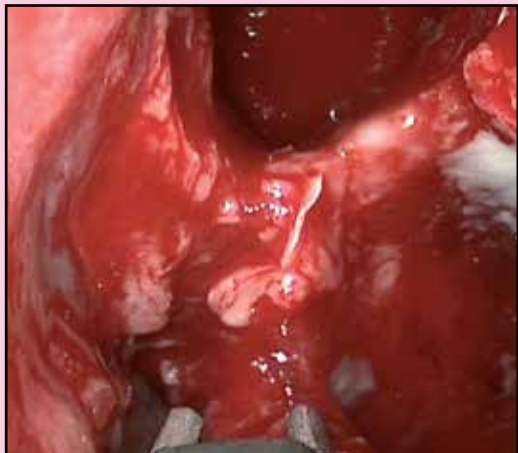


Fig. 2: Hemorrhaging of the branch of the sphenopalatine artery at the dorsal margin of the sinusotomy of the left maxillary sinus



Fig. 3: Coagulation using bipolar suction coagulator



Fig. 4: View after bipolar coagulation

Case 2

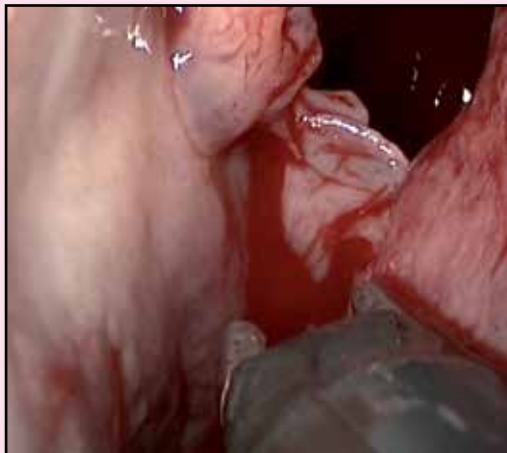


Fig. 5: Hemorrhaging of the septal branch of the sphenopalatine artery on the anterior wall of the left sphenoidal sinus



Fig. 6: Bipolar coagulation of the septal branch of the sphenopalatine artery



Fig. 7: Status after bipolar coagulation

Special features:

- Precise bipolar coagulation
- Fixed distance of electrodes allows coagulation even in narrow anatomic conditions
- Integrated suction tube leads to better vision and more effective coagulation
- Ergonomically optimal design similar to conventional suction tubes
- Simple instrument without moving parts

Application area:

- Hemostasis during interventions in the region of the paranasal sinuses and the anterior skull base
- Particularly suitable for hemorrhaging of the large arterial vessels: Branches of the sphenopalatine artery and anterior ethmoidal artery
- Outstanding for use in narrow anatomic conditions



Instruments



- 839330 BRINER **Bipolar Suction Cannula**, angular, insulated, length of electrodes 3.5 mm, with cut-off hole, outer diameter 4.5 mm, working length 11 cm, for use with Bipolar High Frequency Cords 847000 or 847000 A/E/M/V

Bipolar High Frequency Cord

- 847000 E **Bipolar High Frequency Cord** to KARL STORZ Coagulator 26021 B/C/D, 860021 B/C/D, 27810 B/C/D, 28810 B/C/D, AUTOCON® system (50, 200, 350) and Erbe Coagulator; for KARL STORZ bipolar coagulation forceps; length 300 cm
- 847000 **Bipolar High Frequency Cord** with 2 x 4 mm banana-plug to KARL STORZ Coagulator 26020 XA/XB; for KARL STORZ bipolar coagulation forceps; length 300 cm
- 847000 A **Bipolar High Frequency Cord** to KARL STORZ Coagulator 26020 XA/XB, Bircher, Bovie, Keymend, Mallis, Valleylab, Neomed and Bard; for KARL STORZ bipolar coagulation forceps; length 300 cm
- 847000 M **Bipolar High Frequency Cord** to KARL STORZ AUTOCON® II system (50, 200, 400), Martin Coagulator, Berchtold Coagulator and Aesculap Coagulator (newest model); for KARL STORZ bipolar coagulation forceps; length 300 cm
- 847000 V **Bipolar High Frequency Cord** to Valleylab and Bovie Coagulator; for KARL STORZ bipolar coagulation forceps; length 300 cm

Notes



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