



# Suction Device with Integrated Nerve Stimulator

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The intraoperative tool change under a microscope or magnifying glasses leads to undisreable secondary side-effects

This leads to the idea of using one instrument for suction of the wound secretion and nerve stimulation simultaneously for further reduction of potentially nerve injury during the entire surgery.

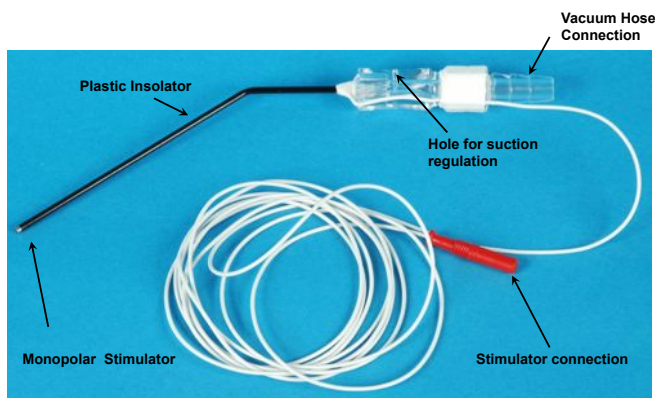


Fig. 1: Combined Instrument  
Consisting of a wound exudate suction device and integrated monopolar nerve stimulator

## Application

The bipolar stimulation of the facial nerve in the area was replaced with the advanced monopolar stimulation.

This was due to the possibility of distance estimation by signal bursts with increased signal strength, the greater reliability of stimulation during deeper penetration and the simpler design feasibility.

The monopolar stimulation tip of the combined instrument serves as a stimulator.

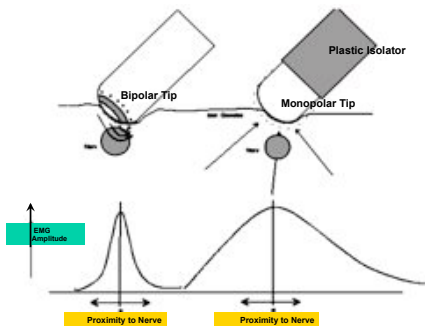


Fig. 3: Differences between monopolar and bipolar stimulation with respect to EMG amplitude

## Operative Findings at left lateral Parotidectomy

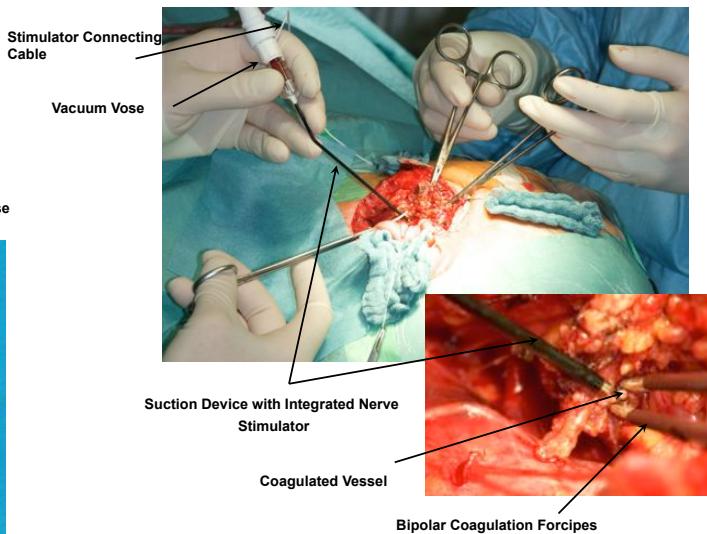


Fig. 2: Safe nerve identification before coagulation of a vessel

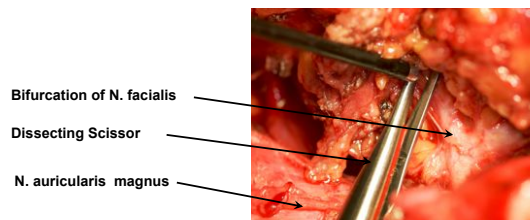


Fig. 3: Identification and preparation of N. facialis

## Result

This application shows significant intraoperative advantages:

1. Reliable detection of N. facial by continuous nerve stimulation
2. Combined Instrument can be used for dissection
3. Safe coagulation of blood vessels

## Conclusion

The newly developed wound secretion suction plus nerve stimulator shows promising advantages:

1. Shorter operation time
2. Reducing the risk of nerve injury
3. Facilitates teamwork

### Literature

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