A Revolution in Transurethral Treatment Concepts
Bipolar Treatment Concepts from KARL STORZ
The Perfect Symbiosis with HF Surgery: Treatment, Safety, Technology and Economic Efficiency

Bipolar Standard TUR-P

e.g. prostate 30-80 ml
standard procedure for prostate resection

Bipolar En-Bloc Resection

Enhanced TUR-B thanks to new bipolar loops
Bipolar Enucleation

e.g. prostate > 80/100 ml
comparable efficiency to laser enucleation

Bipolar Vaporization

e.g. prostate < 30 ml
cost-effective alternative to laser vaporization
Bipolar Treatment Methods from KARL STORZ

Although technical progress has been made in recent years in the various non-ablative treatment options, transurethral resection (TUR) remains the gold standard in the treatment of benign prostatic syndrome (BPS) and in the resection of bladder tumors.

While unipolar resection can still be regarded as the standard in TUR, bipolar treatment techniques have also been developed in recent years.

The new bipolar concept from KARL STORZ sets new standards in terms of effectiveness, economic efficiency, patient safety, and system reliability. It thereby revolutionizes the treatment of BPS and/or bladder tumors.

Real bipolar system:
Current not returned via the sheath

Maximum efficiency with minimal, controlled current flow:
Minimal tissue penetration, significantly reduced obturator nerve stimulation

Precise cutting:
Thanks to precise centralization of the required current and free choice of loop diameter

Excellent initial cut:
Due to automatic HF current regulation

Self-cleaning loops:
Removal of tissue due to plasma formation

Use of saline solution:
Reduced risk of TUR syndrome, reduced time limitations during treatment, enhanced training possibilities without compromising patient safety

Improved hemostasis:
Resection of patients undergoing therapy with anticoagulants and/or platelet aggregation inhibitors

Additional techniques:
Bipolar enucleation and vaporization
A physician’s opinion on the bipolar vapo-enucleation electrode

The new HERRMANN bipolar vapo-enucleation electrode for mechanical anatomical enucleation of the prostate is a successful combination between a vaporization electrode and a mechanical dissection probe. The flat cuneiform probe allows detachment of the inner prostate gland (T1) from the outer gland (surgical capsule) through axial advancement of the electrode via the working element. This reduces the necessary mechanical stress on the urethra. Detachment of the interior prostate gland by means of mechanical ablation allows anatomically correct dissection under visual control. The excellent coagulation and vaporization properties of the electrode ensure good hemostasis and precise dissection in areas with adhesions between the interior and exterior prostate glands. In areas that require dissection, e.g. anterior fibromuscular stroma, the excellent vaporization properties of the electrode permit convenient smoothing of the wound base. Thanks to its mechanical stability, the probe can be used up to five times on medium-sized adenoma without compromising effectiveness.

Conclusion
The new HERRMANN electrode for bipolar vapo-enucleation is a convenient multi-use probe for the anatomical enucleation of the prostate. Experience to date shows that the electrode is just as effective for anatomical (mechanical) enucleation as laser enucleation (HoLEP, ThuLEP). The only difference is that the electrode uses bipolar energy as an energy source for dissection (cutting) and coagulation rather than laser. The new vapo-enucleation electrode has the potential to provide a global response to the trend towards transurethral, cost-effective enucleation.

Thomas R. W. Herrmann, M.D., Clinic for Urology and Urological Oncology, Medizinische Hochschule Hannover (MHH), Hanover, Germany

Development partner for KARL STORZ GmbH for the bipolar VapoEnucleation Electrode (27040 VE)
Physician Opinions on the Bipolar Resectoscope System

Everyone agrees that the initial cut in TURP corresponds to that in monopolar resection, and the loop remains free of tissue remnants thanks to the arc created by the loop in the bipolar ionized medium (quasi-plasma). As a result, the resection characteristics of the bipolar system are even better in some respects. In bladder resection, this is particularly noticeable and important for the histological preparations. Even the smallest biopsies can be precisely harvested without coagulation of the resected tissue, which is common in monopolar resection.

In addition to this advantage, all resections are performed in isotonic NaCl solution, thereby eliminating the risk of TUR syndrome, the risk of complications resulting from unexpected obturator reflex is much reduced, and patients with pacemakers can be treated without disabling the device. Together, these advantages render this system the ideal resection system with extensive safety buffer, which is desirable in the training of residents as well as in daily clinical practice.

Conclusion
While previous experiences with other bipolar resection systems (old bipolar system [KARL STORZ], TuRis [Olympus], Gryus [ACMI]) did not convince us to change our resection approach, the new KARL STORZ bipolar system features such impressive intraoperative handling and cutting and coagulation behavior that bipolar resection has become our standard procedure for specialists and senior physicians as well as in the training of residents and fellows.

Thomas R. W. Herrmann, M.D., Clinic for Urology and Urological Oncology, Medizinische Hochschule Hannover (MHH), Hanover, Germany

In bipolar TURB, the sharp cuts prevent tissue retraction. With the hook electrode, bladder tumors can be easily turned and completely removed together with the bladder wall (better staging).

In Bipolar TURP, even for large prostates, no carbonization was observed. In addition, the resectoscope does not need to be removed to clean the loop, which saves time.

Bipolar techniques result in better quality tissue samples because they are free of extensive coagulation or burnt edges, thereby enabling easier and more precise staging of superficial bladder tumors.

In bipolar systems, we observed less bleeding, fewer clots, and, as a result, better viewing conditions.

Conclusion
No learning curve, shorter operating time, less expensive irrigation solutions, reduced medical risk, and the possibility of treating patients on anticoagulants are only a few of the advantages of using bipolar TUR in all TUR procedures. Bipolar instruments ideally complement monopolar resectoscopes.

Prof. Pierre Conort, Department of Urology and Renal Transplantation, Groupe Hospitalier Pitié-Salpêtrière, Paris
A bipolar resectoscope system consists of two electrodes, isolated from each other, connected to the same support and close together, so constructed that, when energized, the HF current flows mainly between these electrodes. The system is supported by the new KARL STORZ HF Generator AUTOCON® III 400. The performance of bipolar applications has thus been further enhanced and optimized (endo-urology, bipolar vaporization, LAP, vessel sealing, SCB connection).

**Extremely Safe**

Active and return electrode are totally insulated against all conductive components of the resectoscope and therefore also primarily insulated against the urethra. The current flow through the patient's tissue is kept to a minimum.

**Convenient and Economical**

To convert an existing unipolar resectoscope system to a bipolar system, just exchange the working element, the respective loop and the connecting cable. Sheath, telescope and HF generator can be retained.

**HF Generator AUTOCON® III 400**

- **Automatic and optimized HF current regulation:** Maximum efficiency with minimal energy.
- **Ultimate user comfort:** High-resolution touch display, intuitive control, automatic parameter settings according to respective connecting cable (unipolar/bipolar resection; LAP), individual procedure programming.
- **New HF cord:** Registered use for optimal quality and functionality.
Bipolar Electrodes and Techniques from KARL STORZ

The wide range of electrodes for the bipolar resectoscopes from KARL STORZ allows individual instrument configurations tailored to the operative situation as well as to the surgeon’s personal preferences for best operative results. The KARL STORZ product portfolio includes loops for resection, incision, en-bloc resection as well as vaporization and enucleation electrodes for the prostate, bladder and urethra.

Bipolar Resection and En-bloc

- Dedicated electrodes for prostate and bladder resection for excellent cutting performance
- High level of patient safety due to automatic power regulation system during cutting
- Optimal bladder loop design for en-bloc resection
- Color-coded loops for prostate and bladder resection
- Self-cleaning loops due to plasma effect
- Reusable and cost-effective

Bipolar Enucleation

- Economic solution for enucleation of the prostate
- Efficiency comparable to Laser enucleation
- Convenient addition to your treatment portfolio
- Cost-effective entry into enucleation
- A powerful and cost-effective team – UNIDRIVE® S III and S-PILOT® for efficient morcellation: The S-PILOT® vacuum control unit offers the choice between using the KARL STORZ vacuum pump or the central suction system

Bipolar Vaporization

- Special design of the active electrode allows an extensive and fast vaporization with smooth, uniform movements across the prostate tissue
- Bifunctional for vaporization and coagulation
- Cost-effective alternative to greenlight Laser therapy
KARL STORZ Bipolar Resectoscope

HOPKINS® Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 30 cm, **autoclavable**, fiber optic light transmission incorporated, color code: red

HOPKINS® Telescope 12°, enlarged view, diameter 4 mm, length 30 cm, **autoclavable**, fiber optic light transmission incorporated, color code: black

Motion by means of a spring
Movable thumb ring
In rest position the electrode is inside the sheath.

Working Element, bipolar
including:
Working Element
2x Cutting Loops, bipolar
2x Coagulation Electrodes, bipolar
High Frequency Cord
Protection Tube

Motion by means of a finger grip
Movable thumb ring
In rest position, the electrode is outside the sheath.

Working Element, bipolar
including:
Working Element
2x Cutting Loops, bipolar
2x Coagulation Electrodes, bipolar
High Frequency Cord
Protection Tube
27050 SCK  **Resectoscope Sheath, quick-release lock**, including connecting tube for in- and outflow, 26 Fr., oblique beak, *rotating* inner sheath with ceramic insulation, color code: yellow

27050 LC  **Adaptor**, for use with bladder syringes in outer sheaths of Resectoscopes 27050 SC/SD and 27054 SC

27040 BOK  **Resectoscope Sheath, with Luer-Lock stopcock and obturator**, including connecting tube for inflow, 24 Fr., oblique beak, Obturator 27040 OC included in delivery, color code: yellow

27241 BOK  **Resectoscope Sheath, with central valve and obturator**, including connecting tube for in- and outflow, 24 Fr., oblique beak, Obturator 27040 OC included in delivery, color code: yellow

27040 OC  **Standard Obturator**, for 24/26 Fr. sheaths, 27050 SCK, 27040 BOK, 27241 BOK
Electrodes

Two-Stem Electrodes with Stabilizers, for Working Elements 27040 DB/EB

For use with 24/26 Fr. resectoscope sheaths

The cutting loops are delivered with a wire diameter of 0.35 mm. Loops with 30 or 40 as the last digit of the order number indicate a wire diameter of 0.30 mm or 0.40 mm.

27040 GP1

Cutting Loops

<table>
<thead>
<tr>
<th>Distal Tip</th>
<th>24/26 Fr. color code: yellow</th>
<th>Instrument Description</th>
<th>Bladder</th>
<th>Prostate</th>
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<tbody>
<tr>
<td>27040 GP1</td>
<td>Cutting Loop, bipolar</td>
<td>•</td>
<td>•</td>
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<tr>
<td>27040 GP140</td>
<td>Cutting Loop, bipolar</td>
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<tr>
<td>27040 GD1</td>
<td>Cutting Loop, bipolar, small</td>
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<td>27040 BL1</td>
<td>Cutting Loop, bipolar, pointed</td>
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Special Bladder Cutting Loops

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<th>Instrument Description</th>
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<tr>
<td>27040 GP130</td>
<td>Cutting Loop, bipolar, diameter 0.30 mm</td>
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<tr>
<td>27040 JB1</td>
<td>Cutting Loop, bipolar, longitudinal</td>
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<td>27040 JB130</td>
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<td>27040 JBE130</td>
<td>Cutting Loop, bipolar, rectangular, longitudinal, diameter 0.30 mm</td>
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HERRMANN VapoEnucleation Electrode

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<th>Instrument Description</th>
<th>Bladder</th>
<th>Prostate</th>
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<tbody>
<tr>
<td>27040 VE</td>
<td>HERRMANN VapoEnucleation Electrode, bipolar, hemispherical</td>
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Vaporization Electrodes

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<th>Prostate</th>
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<tr>
<td>27040 NB</td>
<td>AUTOCON® III 400 SCB</td>
<td>HALF MOON® Vaporization Electrode, bipolar, ball-shaped</td>
<td>⋅</td>
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280 Protection Tube, for sterilization and storage of electrodes, loops, curettes and knives

AUTOCON® III 400 SCB
High Frequency Surgery Unit

UH 400 AUTOCON® III 400 High-End, with KARL STORZ-SCB control NEO, power supply 220-240 VAC, 50/60 Hz, including mains cord

UH 400U AUTOCON® III 400 High-End, with KARL STORZ-SCB control NEO, power supply 100-127 VAC, 50/60 Hz, including mains cord

UH 801 Bipolar High Frequency Cord, length 400 cm, for KARL STORZ AUTOCON® III 400 SCB, for use with KARL STORZ bipolar resectoscopes
Morcellator System for Urology
Handpiece 27702050, for use with UNIDRIVE® S III SCB

Special Features
- Ergonomic handpiece design, fits comfortably in the hand
- Detachable handle – individual, ergonomic, flexible positioning
- Rapid coupling for blade fixation enables easy handling and rapid set-up
- Powerful motor
- Absolutely silent running
- Central, straight suction channel
- Easy hygienic processing, suitable for use in a cleaning machine and autoclavable at 134 °C
- Activation via the footswitch of the UNIDRIVE® S III motor system

For use with DRILLCUT-X® II Morcellator Handpiece URO
- Reusable
- Inner and outer blades can be cleaned separately
- Autoclavable
- With horizontal oscillation inner blade

Drillcut-X® II Morcellator Blade, straight, sterilizable, drop-shaped cutting window, outer window serrated, inner window double fenestrated and serrated, diameter 4 mm, length 40 cm, for use with DRILLCUT-X® II Morcellator Handpiece URO 27702050

Cleaning Adaptor, Luer-Lock, for cleaning DRILLCUT-X®/DRILLCUT-X® II handpieces
Morcellator System for Urology

UNIDRIVE® S III SCB, for use with DRILLCUT-X® II

Morcellator Handpiece URO 27702050

Special Features

- Maximum number of revolutions can be preset
- Consistently high motor performance over the entire range of revolutions
- Processor-controlled number of revolutions and motor torque
- Optimized user control
- Operating elements are simple and clear to read
- Automatic handpiece recognition
- Integrated control connection for KARL STORZ pump systems in combination mode
- For use with: DRILLCUT-X® II URO morcellator handpiece
- With connection possibilities to the KARL STORZ Communication Bus (KARL STORZ-SCB)

27701001-1 UNIDRIVE® S III SCB,
urology set, UNIDRIVE® S III motor system, with integrated SCB module, power supply 100-120/230-240 VAC, 50/60 Hz, for use with DRILLCUT-X® II Morcellator Handpiece URO 27702050 and Morcellator Blade 27056 LM

Specifications

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<tr>
<th>Operation mode</th>
<th>oscillating (morcellator)</th>
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<tr>
<td>Max. rpm</td>
<td>40,000 (rpm)</td>
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<td>Blade 500-5000 (rpm)</td>
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<tr>
<td>Power supply</td>
<td>100-120/230-240 VAC, 50/60 Hz</td>
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<tr>
<td>Dimensions w x h x d</td>
<td>305 x 165 x 233 mm</td>
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<tr>
<td>Weight</td>
<td>4 kg</td>
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<tr>
<td>Certified to</td>
<td>IEC 601-1, CE acc. to MDD</td>
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Morcellator System for Urology

S-PILOT®

UP 501 S2  S-PILOT® Set, incl. footswitch
including:
Connecting Cable
Tubing Set Suction, sterile, for single use,
package of 10

031457-10*  Tubing Set, for suction, for single use, sterile,
package of 10, for use with KARL STORZ S-PILOT®
Morcellator System for Urology

KARL STORZ UNIMAT® 30 in Urology

Special Features:
- Easy to use
- High suction performance of 30 l/min and maximum underpressure of 85 kPa.
- Low noise and vibration
- Hydrophobic bacterial filter provides effective protection against contamination and bacteria.

25 3200 01 KARL STORZ UNIMAT® 30, Suction Pump Set, power supply 230 VAC, 50/60 Hz
   including:
   Bacterial Filter
   Secretion Bottle, 2 l
   Bottle Cap, with grip
   Connecting Tube, short
   Patient Tube
   Overflow Case
   Mains Cord

25 3200 01C KARL STORZ UNIMAT® 30, Suction Pump Set, power supply 115 VAC, 50/60 Hz

Further product information is available in the UROLOGY catalog.
It is recommended to check the suitability of the product for the intended procedure prior to use.