THE ADVANTAGES OF ACTIVE HEAT TRANSFER (AHT) TECHNOLOGY

ISOCOOL® forceps with AHT can

- Help reduce inadvertent collateral tissue damage\(^1,2\)
- Enhance ability to coagulate delicate tissue in fine detail\(^1,2\)
- Control temperature continuously to minimize sticking and charring\(^1,2\)

The Science Behind Non-Stick Forceps

Active Heat Transfer Technology

**How It Works:** Fluid inside the vacuum tube vaporizes as it transfers heat from the tips of the forceps. Heated vapors move up the tube, through the wicking structure. Vapors condense, releasing heat away from the surgical site. Condensation returns the fluid to begin the cycle again.

Forceps Without AHT

**How It Works:** Heat passively dissipates around the tips. Without AHT technology, temperature at the tips of the forceps can exceed the temperature necessary for tissue coagulation.
When using bipolar forceps to coagulate delicate tissue, precision temperature management is critical to avoid collateral tissue damage. ISOCOOL forceps, using active heat transfer technology, were compared to Stryker SILVERGlide™ (SG) and Aesculap ROSE GOLD™ (RG) forceps, which do not utilize AHT. The devices were assessed using infrared thermography as well as ex vivo lesion analysis and in vivo histology.

**EVIDENCE: THERMAL IMAGING**

Active heat transfer technology allows ISOCOOL forceps to achieve and maintain lower temperatures during coagulation, minimizing sticking and charring.

**EVIDENCE: EX VIVO LESION ANALYSIS (CALF LIVER MODEL)**

Cross-sectional areas of lesions created by ISOCOOL forceps with AHT were as much as 3X smaller than forceps without AHT, minimizing inadvertent collateral tissue damage.

**EVIDENCE: IN VIVO HISTOLOGY (RODENT BRAIN MODEL)**

ISOCOOL forceps with AHT produced comparatively more precise coagulation with less collateral tissue damage than non-AHT devices. These representative slides demonstrate the extent of tissue damage (bound by tissue “halo”) at the point of the tip application (•).

**REFERENCES**


**INDICATIONS**

The ISOCOOL Bipolar Forceps (handles and tips) when used as part of a system including a bipolar electrosurgical generator are indicated for cauterizing, coagulating, grasping and manipulating tissue during general surgery, neurosurgery, ENT surgery, OB/GYN surgery, and maxillofacial/plastic surgery procedures. The ISOCOOL Forceps are also indicated for cauterizing, coagulating, grasping and manipulating soft tissue during spine surgery and orthopaedic surgery.

Indications for use in OB/GYN surgery exclude contraceptive coagulation of fallopian tube tissue.

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ELS-23-006 08/10 ADD/RP