A REVOLUTIONARY INSTRUMENT DESIGNED FOR PROCEDURES REQUIRING CRITICALLY PRECISE TEMPERATURE CONTROL TO REDUCE STICKING AND CHARRING WHILE COAGULATING.
RESPECTING THE NEEDS OF THE SURGEON

Through our long-standing worldwide partnerships with the neurosurgical community, we learned that excess heat at the tips of bipolar forceps causes a number of concerns. Most evident is sticking and charring which can tear delicate tissue. What’s more, excess heat also causes inadvertent peripheral tissue damage as well as necrosis of valuable tissue in the surrounding area. As a result, surgeons have had to adjust their techniques.

At Codman, we knew a revolutionary solution was required. And what we developed is proving to be a milestone in Bipolar Forceps use.
LEADING EDGE ELECTROSURGERY
THE ORIGIN OF ACTIVE HEAT TRANSFER

Surgeons identified sticking and charring as a major problem during electrosurgical procedures. This is caused by excess heat buildup at the tips of traditional bipolar forceps, regardless of the metals used or amount of irrigation added to the site. Together we began to focus on proprietary heat pipe technology that could effectively control the heat output at the tips while allowing effective tissue coagulation temperatures to be achieved.

Our solution is Active Heat Transfer (AHT) Technology. It continuously transfers excess heat away from the tips and allows effective coagulation temperatures to be achieved. The ISOCOOL Bipolar Forceps from Codman virtually eliminates sticking and charring of delicate tissue, minimizing the need to remove the forceps from the surgical site, clean them, and then reorient. The result? Surgeons can perform more efficiently and benefit from minimal tip contact temperature and thermal spread in the surrounding tissue.

THE SCIENCE OF CONTROLLED HEAT
INFRARED PHOTOGRAPHY OF TRADITIONAL BIPOLAR FORCEPS AND THE ISOCOOL BIPOLAR FORCEPS

VIRTUALLY NO STICKING.
With minimal tissue adhesion, ISOCOOL significantly reduces the need to clean during the procedure.

COMPETITIVE BIPOLAR FORCEPS SHOWS EXCESS HEAT
With the bipolar generator set to 35 Malis units, the tissue temperature escalated to well over 75 degrees C and heat was visibly dispersed well beyond the tips of the forceps.

ISOCOOL BIPOLAR FORCEPS STAY COOL AND CONTROLLED
AHT allows ISOCOOL Bipolar Forceps to achieve effective coagulation temperatures. At 35 Malis Units, the ISOCOOL forceps maintained temperatures of approximately 55-65 degrees C.
THE SCIENCE BEHIND ACTIVE HEAT TRANSFER

AHT technology actively draws excess heat away from the tips allowing for effective coagulation temperatures to be achieved.

Inside the heat pipe, AHT enables a continuous cycle of vaporization, transport, condensation, and return.

Here’s how it works:
- The heat pipe consists of a vacuum-sealed tube injected with a small amount of two-phase working fluid.
- The heat generated at the distal end of the tip is immediately drawn into the tube’s fluid and vaporized at the point of heat input.
- The vapor travels due to the positive pressure gradient created by the vaporization to the proximal end of the tube, where the vapor condenses into the wicking structure.
- The wicking structure allows the cooled, condensed working fluid to return to the distal end of the tip by capillary action, even working against gravity.
In the most delicate procedures, there is no room for error - instrumentation must be of the highest quality. ISOCOOL doesn’t compromise. By incorporating the Active Heat Transfer Technology along with our gold plated tips, surgeons now have an instrument that enhances their ability to coagulate tissue.
SIX REASONS WHY ISOCOOL IS AN EXTREMELY VALUABLE INSTRUMENT FOR TISSUE COAGULATION.

THE ISOCOOL ADVANTAGES:

1. Continuous coagulation virtually eliminates interruptions
2. Enhances ability to coagulate delicate tissue in fine detail
3. Reduces surgeon frustration and fatigue, leading to increased efficiency
4. Can eliminate vessel rebleeding
5. Can reduce inadvertent collateral and peripheral tissue damage
6. Shorter procedures are a benefit to surgeons, hospitals and ultimately the patient
CONFIRMING THE SURGICAL NEED FOR ISOCOOL TECHNOLOGY:


“The bipolar electrocoagulator has become fundamental to neurosurgery because it allows accurate fine coagulation of small vessels, minimizing the dangerous spread of current to adjacent neural and vascular structures. It allows coagulation in areas where unipolar coagulation would be hazardous, such as near the cranial nerves, brainstem, cerebellar arteries, or fourth ventricle.

To avoid sticking after coagulation, the points of the forceps should be cleaned after each application to the tissue. If charred blood coats the tips, it should be removed by wiping with a damp cloth rather than by scraping with a scalpel blade, because the blade may scratch the tips.

Shortening of exposure times tends to reduce the buildup of heat and thermal effects on tissues adjacent to the target.”

THE ISOCOOL BIPOLAR FORCEPS

ISOCOOL ADDRESSES THE MOST CRITICAL REQUIREMENTS OF NEUROSURGERY.

The ISOCOOL Bipolar Forceps from Codman virtually eliminate sticking and charring of delicate tissue, minimizing the need to remove forceps from the surgical site, clean them, and then reorient.

Surgeons can perform more efficiently and benefit from minimal tip contact temperature and thermal spread in the surrounding tissue.
ISOCOOL PRODUCT INFORMATION
FORCEPS HANDLE AND SINGLE-USE GOLD TIPS

ISOCOOL BIPOLAR FORCEPS HANDLE

ISOCOOL TIP SIZES

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ORDERING & LENGTH
ISOCOOL BIPOLAR FORCEPS TOTAL LENGTH AND WORKING LENGTH FORCEPS

SINGLE-USE TIPS

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For more information, contact your Codman Sales Representative
Raynham, MA 02767
325 Paramount Drive
80 10 010H ISOCOOL Bipolar Forceps Handle – Flat and Insulated
INDICATIONS:
The ISOCOOL Bipolar Forceps (handles and tips) when used as part of a system including 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. Indications for use in OB/GYN Surgery exclude contraceptive coagulation of fallopian tube tissue. Data on file.