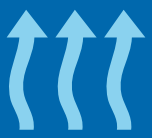
FMwand®

A precise hemostatic dissection instrument that cuts and coagulates soft tissue without passing electrical current through the patient.

Domain® SURGICAL
An OmniGuide Company

PRECISE DISSECTION

FMwand produces a precise, surface-only thermal effect with tactile control and minimal tissue drag, even through dense adhesions and tumors. The clean dissection results in clear margins for reliable pathology specimens.



MINIMAL THERMAL INJURY

FMwand imparts as little as 1/10th the thermal injury compared to monopolar electrosurgery, with as few as 80 microns (0.08 mm) of thermal spread in some tissue types.[1,2]

ELECTRICAL SILENCE

No electrical current passes through tissue. No grounding pad is used, and no spark, arcing, or stray current is produced. Surgeons using the FMwand report no generation of cardiac dysrhythmia, and no interference with electrophysiological monitoring, ultrasound imaging, cochlear implants, or CIEDs.[1,3]

IMPROVED PATIENT OUTCOMES

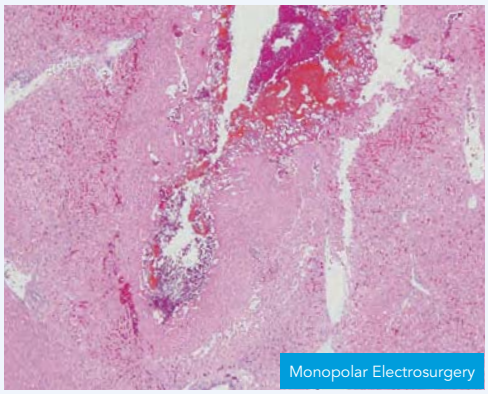
- Reduction of injury to nerves[4]
- Less unintended damage to tissue[2] – leading to reduced use of blood products during surgery[5]
- Less post-operative edema and drainage[5,7]

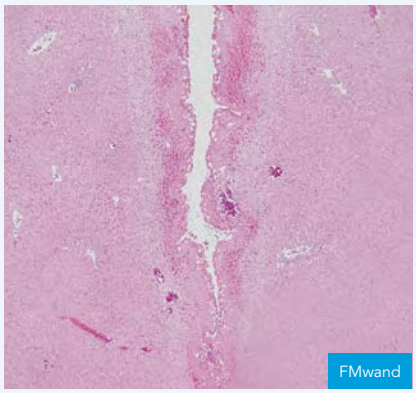
FMwand is an intelligent thermal dissection device that precisely cuts and coagulates with a fraction of the tissue injury compared to monopolar electrosurgery[1,2], without passing any electrical current through the patient.[1,3]

FMwand is a component of the **FMX**™ Ferromagnetic Surgical System.

PRECISE DISSECTION

- Tactile control with minimal tissue drag
- Predictable, char-free layer-by-layer dissection with optimal visualization of tissue planes
- Precise dissection in all soft tissues, including muscle and adipose, even in wet environments
- Effective dissection through dense adhesions and tumors





Incision Margins: Histologic analysis of comparative incisions in rabbit liver using monopolar electrosurgery (left - Coag 40 Watts) and FMwand (right - 60 Watts).

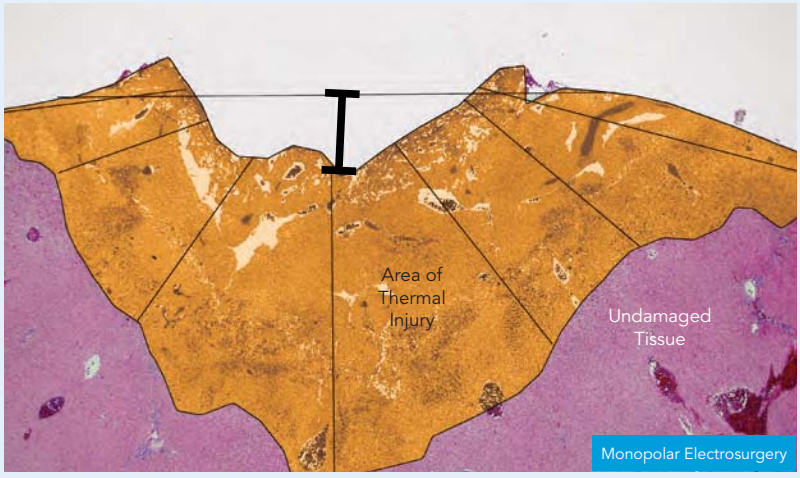
Incisions made with monopolar electrosurgery produce extreme variability, while the FMwand produces consistently uniform margins.[2]

MINIMAL THERMAL INJURY

- Imparts as little as 1/10th the thermal injury compared to monopolar electrosurgery[1]
- As few as 80 microns (0.08 mm) of thermal spread in some tissue types[2]
- Clear margins for reliable pathology specimens

Surgeons note less unintended damage to tissue, leading to reduced use of blood products during surgery, and less post-operative edema and drainage[5,7]

Breadth of Thermal Injury: Comparative incisions were made in pig liver at equal depth using both monopolar electrosurgery (left - Coag 40 Watts) and the FMwand (right - 60 Watts). Histology data were analyzed to measure the exact depth of incision (thick black line), the area of collateral thermal injury (orange area), and lateral thermal spread shown in the table below.



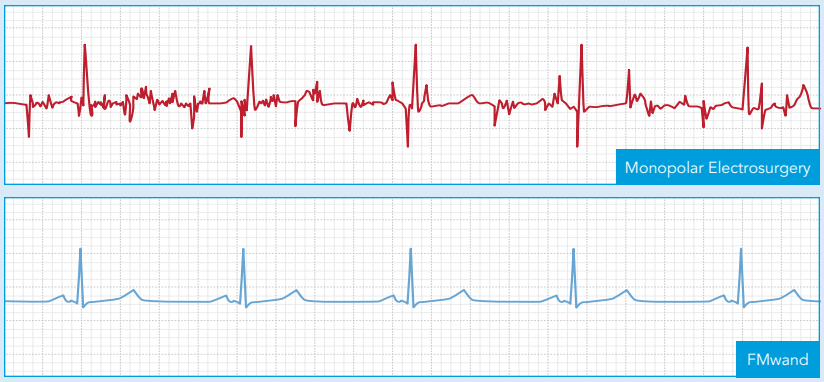
FMwand Lateral Thermal Spread[2]

Brain:	80 microns (0.08 mm)
Liver:	100 microns (0.10 mm)
Muscle:	200 microns (0.20 mm)

Monopolar electrosurgery routinely imparts over 1,500 microns (1.5 mm) of lateral thermal spread in various tissue types.

ELECTRICAL SILENCE

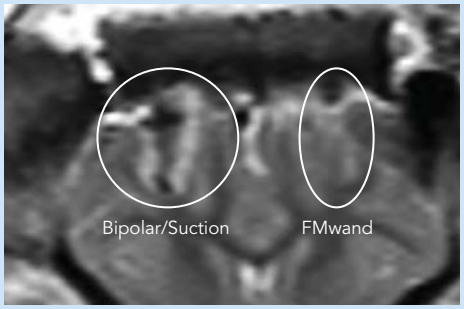
- No potentially dangerous electrical current passes through tissue
- No grounding pad is used
- No spark, arcing, or stray current produced



Electromagnetic Interference: The ECG chart to the left shows electromagnetic interference caused when using monopolar electrosurgery (top), and no interference when using the FMwand (bottom) during the same surgery.[1]

Surgeons and anesthesiologists report no generation of dysrhythmia, and no interference with electrophysiological monitoring, ultrasound imaging, cochlear implants, or CIEDs[1,2]

IMPROVED PATIENT OUTCOMES

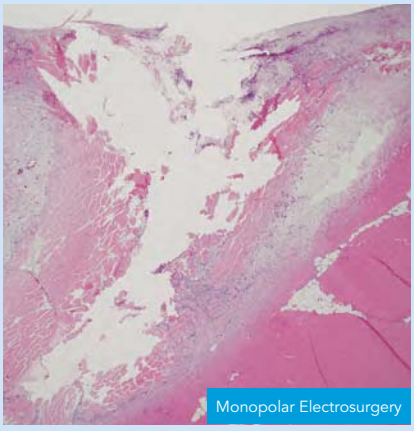


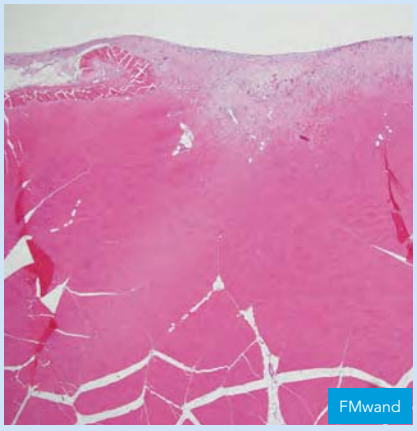
Post-Operative Indicators: To test the impact of minimized collateral tissue damage on a body's natural healing response, 3 pigs underwent bifrontalparietal craniotomies with 2 cm linear incisions through cortex into white matter at a depth of 8 mm using both the traditional bipolar forcep/suction dissection method (left) and the FMwand (right). MR imaging was completed 1.5 hours post procedure to measure the edema depth surrounding the incision.

The incision made by the FMwand demonstrated about 1/2 the edema depth in brain tissue compared to the incision made with bipolar/suction.[7]

Healing Studies: Incisions were made in rabbit paraspinous muscle using monopolar electrosurgery (left) and the FMwand (right) to compare healing characteristics. Histologic analysis was performed 14 days later.

After 14 days, the incision made with the FMwand exhibited evidence of markedly superior healing compared to the incision made with monopolar electrosurgery.[6]





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