CUSA

Subpial resection using a suction tube or Cavitron Ultrasonic Surgical Aspirator(CUSA)is often effective in glioma surgery, not only for achieving better resection, but also for the preservation of passing vessels. Using these techniques, excessively small vessels, such as perforating arteries, can be finely exposed and preserved during tumor resection [1)].

Integra CUSA EXcel®+ Ultrasonic Tissue Ablation System

CUSA EXcel

Market leading performance from the intraoperative ultrasonic tissue ablation market leader

CUSA® brand systems have led the ultrasonic surgical aspiration market for over 30 years. Since the introduction of the CUSA NS100 in 1977, the CUSA name has been associated with premium quality and technological sophistication in ultrasonic surgical aspiration. The CUSA EXcel®+ system is evidence of Integra's continued commitment to the advancement of ultrasonic tissue ablation technology and our goal to enable surgeons to Operate with Confidence™.

The CUSA EXcel+ system builds upon the market-leading features of the CUSA EXcel System with the addition of several performance enhancing elements. The CUSA EXcel+ system supports a broad selection of handpieces and surgical tips, allowing the surgeon to select the most appropriate combination based on the surgical procedure.

The user-friendly console, color coded tubing, and tubing paths enable easy system set-up. The CUSA EXcel+ system offers a simple user interface, the widest variety of handpieces and tip combinations, and advanced features that make it the most powerful ultrasonic tissue ablation system available.

Quiet, Cool Operation The CUSA EXcel+ system is engineered to run 50% quieter than the previous model, which can contribute significantly to the goal of reducing overall OR noise levels. Minimizing mechanical vibrations also helped reduce heat generation and cooling fan noise.

Advanced Performance A robust power supply and re-engineered aspiration pump assembly enable reliable performance under all operating conditions and make the CUSA EXcel+ aspiration system the most powerful on the market.

Durability Reliability and durability have been the driving forces behind the engineering of the CUSA EXcel+ system. From the smallest components to the system housing and handpieces, the CUSA EXcel+ System is designed to ensure that it will continue to provide reliable service for years to come.

Additional advanced features include: Exclusive TissueSelect® Function Unique CEM™ Model for Hemostasis Tissue Release Function Completely Disposable Suction Path User-friendly Control and Set-up TipSelect™ Design Pre-aspiration Holes Unrivaled Service and Product Support

Integra CUSA EXcel+ Intended Use

You can use the CUSA EXcel+ Ultrasonic Surgical Aspirator in surgical procedures where

fragmentation, emulsification, and aspiration of tissue is desirable. They include the following areas: Neurosurgery Gastrointestinal and affiliated organ surgery Urological surgery Plastic and reconstructive surgery General surgery Orthopedic surgery Gynecological surgery Thoracic surgery Laparoscopic surgery Thoracoscopic surgery

You can also combine the CUSA EXcel+ system with electrosurgery using the optional CUSA Electrosurgical Module (CEM).

Integra CUSA EXcel+ Warnings

When not in use, keep active accessories away from the patient. Place the handpiece on a flat, clean, dry, nonconductive, and highly visible surface.

To avoid inadvertent activation of the CEM™ nosecone when not in use, place the assembled handpiece so that the weight of the handpiece does not rest on the nosecone activation buttons. Do not place other objects on the handpiece.

Inadvertent contact between handpiece accessories and the patient may result in burns.

Electric Shock Hazard - When simultaneously using an electrosurgical generator with a standard monopolar pencil and an activated ultrasonic handpiece, contact between the pencil blade and the vibrating tip creates sparking and possible tip fracture. The sparking and tip fracture result in product damage. The sparking and tip fracture can also result in injury to the patient, surgeon, or operating room staff. To avoid the effects of contact between the electrosurgical pencil blade and the ultrasonic tip: Ensure that the electrosurgical generator is at its lowest effective power setting. Do not allow the pencil blade to contact the exposed end of the ultrasonic tip or the pre-aspiration holes at any time.

For greater safety when both electrosurgery and ultrasonics are necessary, use the CEM system. The reduced voltage from CEM provides hemostasis without damage to the ultrasonic tip

Electric Shock Hazard - Always unplug the CUSA EXcel system before cleaning.

Do not activate vibration or the CEM handswitching nosecone while using the tip cleaner. Tip damage, user injury, electrical shock, or any combination of these effects may occur.

Explosion Hazard - Do not use the CUSA EXcel system in the presence of flammable anesthetics or any potentially explosive or flammable atmosphere.

If you are changing tips on the sterile field, do not attach any tip or nosecone to the handpiece before sterilizing it. Patient injury may result.

Before use, sterilize the sterilizable torque base in the sterilizer tray with the handpiece.

Electric Shock Hazard - When using a CEM nosecone, be sure to dry all CEM surfaces before reassembling the nosecone to the handpiece. Wet surfaces may result in electric shock to the patient, the surgeon, or the operating room staff.

Integra CUSA EXcel+ Cautions

Federal (USA) law restricts this device to sale by or on the order of a physician.

Read the instructions, cautions, and warnings provided with the CUSA EXcel system before using it. Otherwise injury to the patient, injury to surgical personnel, or equipment damage may result.

To avoid injury to surgical personnel, keep fingers away from the suction pinch valve.

While testing, do not allow the handpiece tip to contact anyone or anything during tip activation. Contact may result in patient injury, user injury, or handpiece tip damage.

Do not put a nosecone of any type onto the handpiece before sterilization. Surfaces covered by the nosecone may not be sterile.

To avoid injury to surgical personnel, keep fingers away from the suction pinch valve while powering the unit on or off, activating vibration, or using fast flush.

Application of CUSA Excel ultrasonic aspiration system in resection of skull base meningiomas

Has the advantage of preserving vital brain arteries and cranial nerves during skull base meningioma resection, which is very important for skull base tumor operations. This key step would ensure a well prognosis for patients [2].

1)
Saito K. [Glioma Surgery and Surgical Supporting Technology]. No Shinkei Geka. 2021 May;49(3):536-548. Japanese. doi: 10.11477/mf.1436204427. PMID: 34092559.
2)
Tang H, Zhang H, Xie Q, Gong Y, Zheng M, Wang D, Zhu H, Chen X, Zhou L. Application of CUSA Excel ultrasonic aspiration system in resection of skull base meningiomas. Chin J Cancer Res. 2014 Dec;26(6):653-7. doi: 10.3978/j.issn.1000-9604.2014.12.10. PubMed PMID: 25561762; PubMed Central PMCID: PMC4279210.