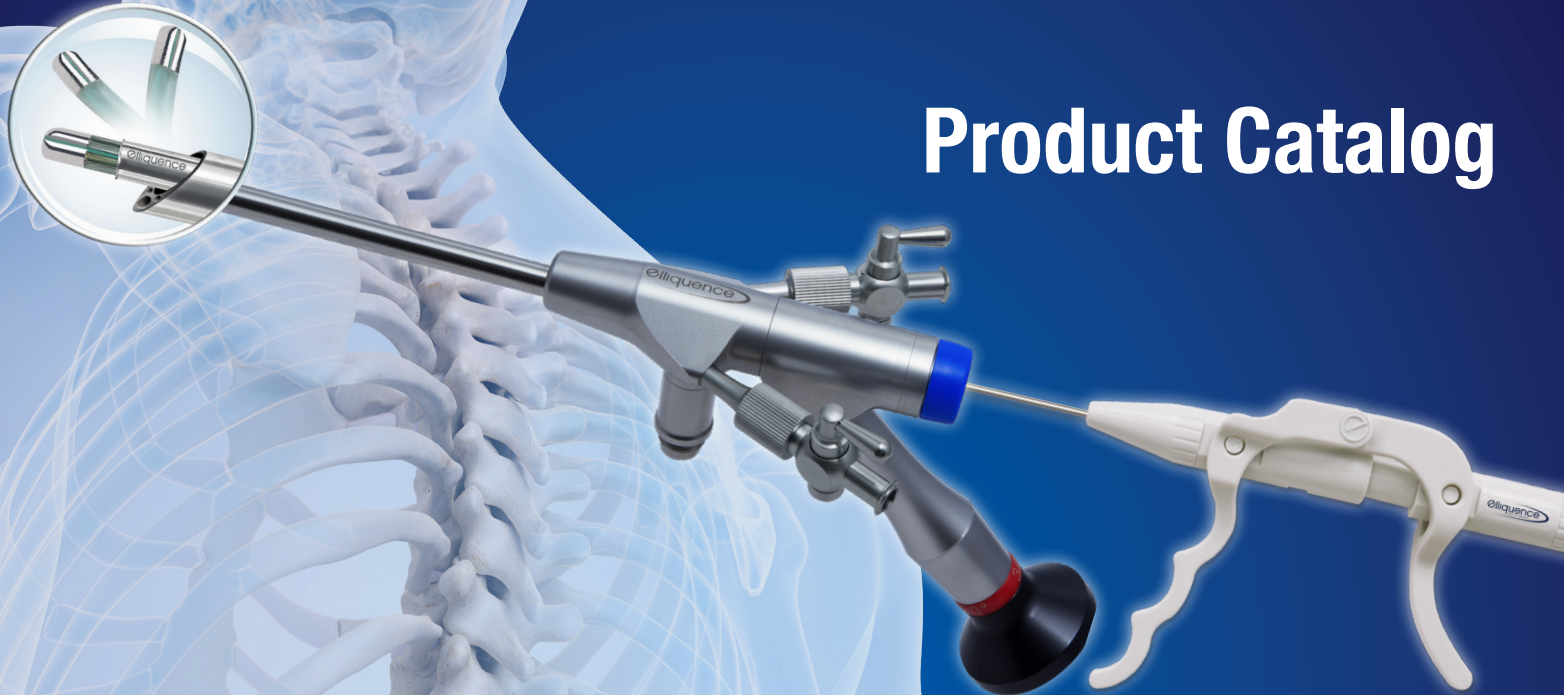


elliquence
Less Is More®

Product Catalog



www.elliquence.com

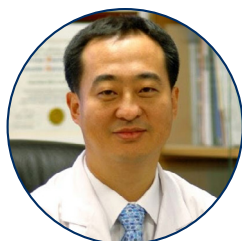


elliquence[®] has partnered with the Orthopedic, Neurosurgery, Endoscopic Spine, and Pain Management community to develop innovative high quality products which have been trusted and validated by doctors, medical facilities and patients worldwide. The elliquence[®] brand is recognized for providing healthy tissue preservation which results in less trauma, minimized scar tissue formation, reduced post-operative pain and an early return to a productive lifestyle.^{1, 2, 3}



Table of Contents

elliquence® Technology.....	1
Surgi-Max® Ultra.....	2
Trigger-Flex® Family.....	3-4
Bi-Tip®.....	4
Spine and Access Needles.....	5
Micro-Bipolar™.....	5
Disc-FX®.....	6
Disc-FX® Mini.....	7
3-Button Handpiece.....	8
Electrodes.....	8
Bipolar Forceps.....	9
Cables and Neutral Plates.....	9
Carrying Cases.....	9
Endoscopic Instruments.....	11-21
Surgi-Max® Drill.....	22
Master List of Endoscopic Instruments.....	23-26



Gun Choi, MD elliquence technology

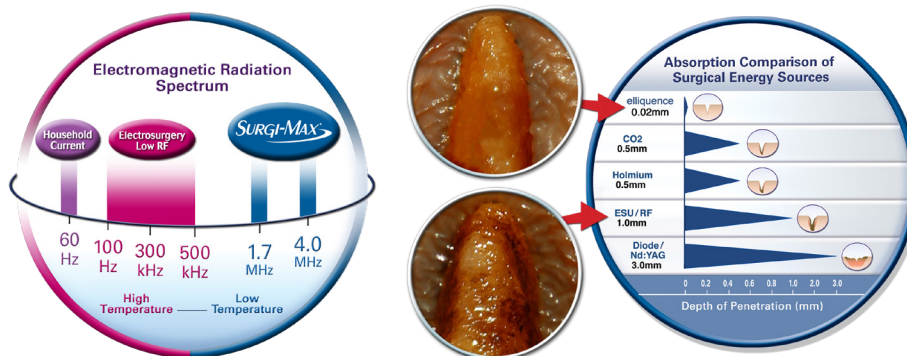


An important consideration for anyone doing endoscopic surgery is how to ablate tissue and create hemostasis. Not all methods are created equal and I have found over the last 15 plus years that elliquence's technology is trustworthy and performs better than other RF machines, allowing me to achieve better results. elliquence technology cleanly and efficiently ablates the tissue while controlling hemostasis very effectively, and as a result is a key component in obtaining excellent patient outcomes.

The elliquence Difference

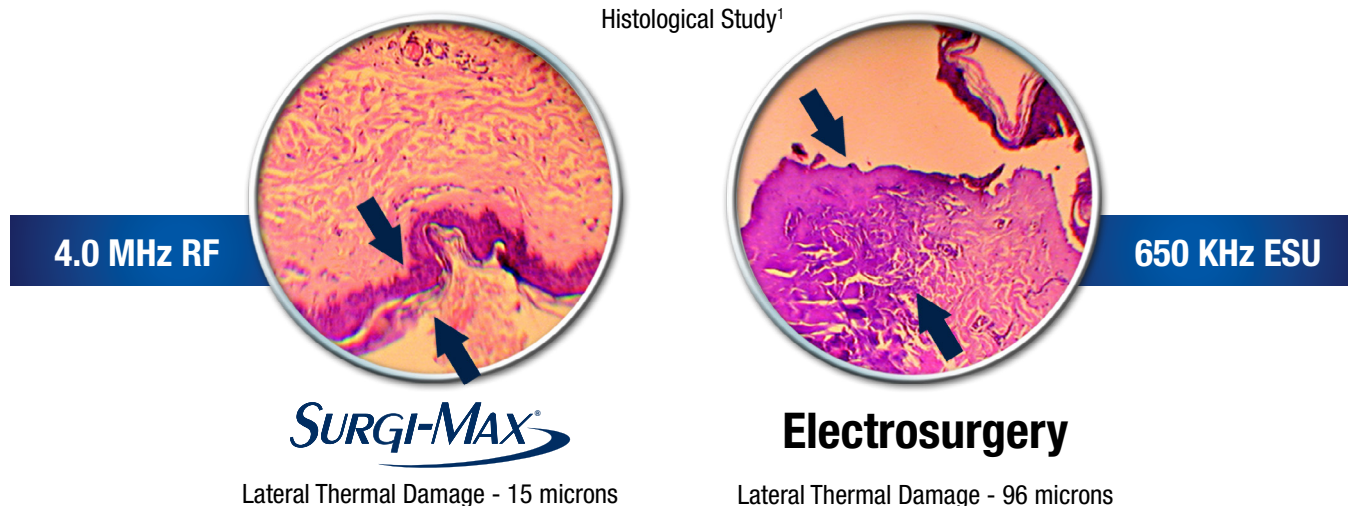
Frequency and Absorption

elliquence® technology incorporates the patented Radio wave energy source (established in 1959) which utilizes high frequency, low temperature radio waves to perform traditional scalpel, scissor, electrosurgical and laser assisted procedures. The cell specific tissue effect affords unparalleled surgical precision while sparing healthy tissue. The low temperature emission results in non-adherent bipolar performance which minimizes tissue trauma and eliminates frequent cleaning and instrument irrigation.



Reduced Tissue Alteration

Comparative Analysis of Monopolar Brain Tissue Alteration
Results found 84% less thermal damage compared to electrosurgery
Histological Study¹



SURGI-MAX[®] ULTRA

elliquence
Less Is More[®]

Surgi-Max[®] Ultra IEC6-SU170

- Patented Radio Wave Monopolar/Bipolar Technology
- Unparalleled Precision, Versatility, Safety
- Monopolar Incision, Dissection, Resection
- Non-Stick Bipolar Performance



Patented Surgi-Max[®] emits high radiofrequency, low-temperature radio waves to perform delicate, minimally invasive surgery with unparalleled precision, versatility and safety.

The Surgi-Max[®] utilizes high radiofrequency, low-temperature radio waves to perform traditional scalpel, scissor, electrosurgical and laser-assisted procedures. The cell specific tissue effect affords unparalleled surgical precision while sparing healthy tissue. The low temperature emission results in non-adherent bipolar performance which minimizes tissue trauma and eliminates frequent tip cleaning and instrument irrigation. A, B, C, D, E.

Footswitches

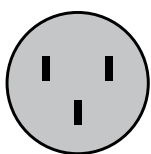


Dual Bipolar Footswitch.....BF-FSCB#
For Monopolar Hemo and Bipolar functions only

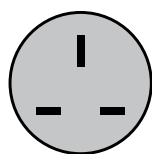


Triple Footswitch.....TF-FSCB#
For all Monopolar and Bipolar functions

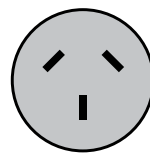
Power Cables



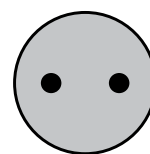
IEC-PC110
North America



IEC-PCUK
United Kingdom



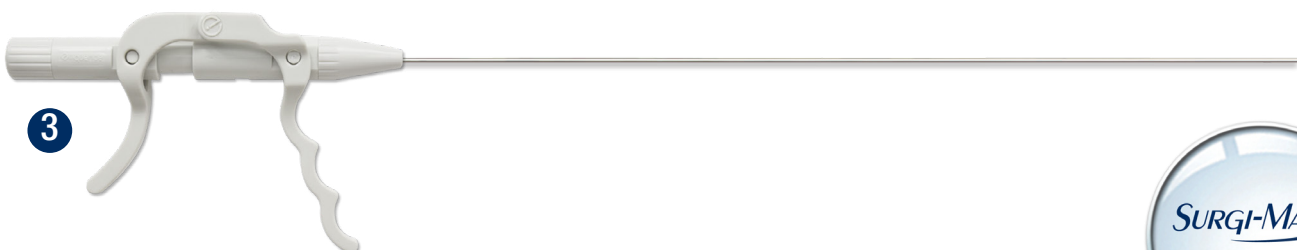
IEC-PCCHN
China



IEC-PCEU220
Continental Europe

Trigger•Flex®

BIPOLAR



Used exclusively with Surgi-Max®
Radio wave Technology



Articulated Surgical Precision
for targeted areas



Low Heat Temperatures allow minimal
damage to surrounding tissue

Trigger-Flex® Bipolar System (Sterile/Single Use)

- ① DTF-40: Working Length: 40cm Straight
- ② DTF-18: Working Length: 18cm Straight
- ③ DTF-38: Working Length: 38cm Straight
- ④ DTF-31: Working Length: 31cm Straight

Trigger•Flex[®] Dart[®]



Trigger-Flex[®] Dart (Sterile/Single Use)

DTFD-24: Working Length: 24cm (Compatible with 16 gauge Spine Needle)

DTFD-13: Working Length: 13cm (Compatible with 16 gauge Access Needle)

Trigger•Flex[®] Quad[®]



Trigger-Flex[®] Quad (Sterile/Single Use)

DTFQ-18: Working Length: 18cm, OD: 5.5mm x 3.5mm

DTFQ-24: Working Length: 26cm, OD: 5.5mm x 3.5mm

DTFQ-31: Working Length: 31cm, OD: 5.5mm x 3.5mm



Trigger-Flex[®] Quad Pro (Sterile/Single Use)

DTFQM-31: Working Length: 31cm, OD: 4.1mm x 2.7mm

Trigger•Flex[®] Mini[®]



Trigger-Flex[®] Mini (Sterile/Single Use)

DTFM-31: Working Length: 31cm, OD: 2.3mm

Bi-Tip[®]



Bi-Tip[®] (Sterile/Single Use)

BT-FT: Working Length: 25cm

Spine Needle (Sterile/Single Use)



16g

DFX-N6: Beveled Tip, Working Length: 8 inches - Pack of 10

DFX-N6/1: Beveled Tip, Working Length: 8 inches - Single Needle



18g

DFX-N8: Beveled Tip, Working Length: 8 inches - Pack of 10

DFX-N8/1: Beveled Tip, Working Length: 8 inches - Single Needle

Access Needle (Sterile/Single Use)



N6-D4: 16g, Beveled Tip, Working Length: 4 inches - Pack of 10

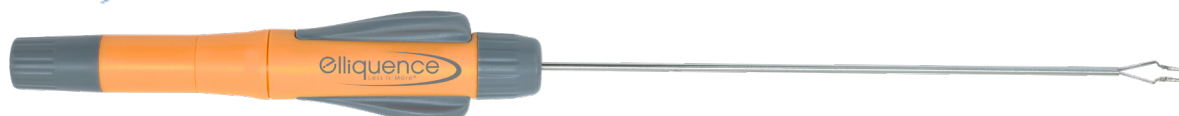
N6-D4/1: 16g, Beveled Tip, Working Length: 4 inches - Single Needle



N6-D5: 16g, Trocar Tip, Working Length: 5 inches - Pack of 10

N6-D5/1: 16g, Trocar Tip, Working Length: 5 inches - Single Needle

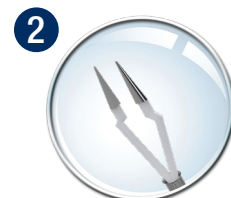
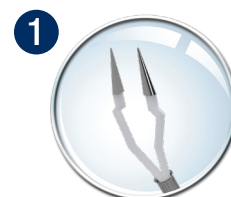
Micro Bipolar™



Micro Bipolar (Sterile/Single Use)

1 CBS-A: 45° Angled Tip, Working Length: 18cm

2 CBS-S: 15° Angled Tip, Working Length: 18cm



PATENTED

DISC-FX®

Get Back in Motion.

elliquence
Less Is More®

Disc-FX® System (Sterile/Single Use)

DFX



Trigger-Flex® Bipolar

Guidewires (2 pcs)



Depth Stop



Cannula, Beveled



Trepine



Cannula, Straight



Tapered Dilator

Available Separately from Disc-FX® System:



Grasping Forceps: Non Sterile, Reusable

DFX-G: Stainless Steel / Compatible with the Disc-FX® System



Spine Needle (Sterile/Single Use) 16g, 8in working length. Compatible with the Disc-FX® System

DFX-N6: Pack of 10

DFX-N6/1: Single Needle

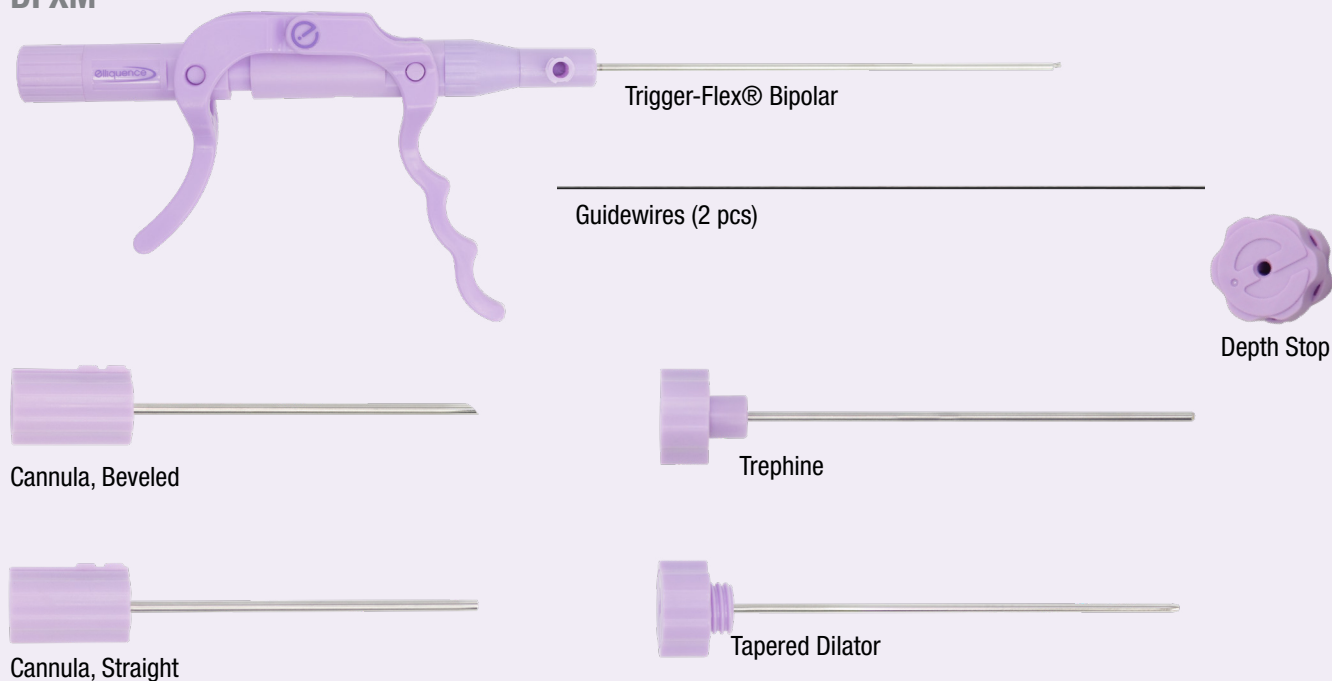
Surgical Guidewire: Sterile/Single Use

DFX-GW-S: Working Length: 40cm, Sold in Sets

(each set contains one 18g Nitinol Guidewire and one 20g Nitinol Guidewire) - 10 Sets

Disc-FX[®] Mini System (Sterile/Single Use)

DFXM



Available Separately from Disc-FX[®] Mini System:



Grasping Forceps: Non Sterile, Reusable

DFX-GS: Stainless Steel / Compatible with the Disc-FX[®] Mini System



Beveled Tip

Access Needle (Sterile/Single Use) 16g

N6-D4: WL: 4in. Beveled Tip - Pack of 10

N6-D4/1: WL: 4in. Beveled Tip - Single Needle

Surgical Guidewire: Sterile/Single Use

DFX-GW-S: Working Length: 40cm, Sold in Sets

(each set contains one 18g Nitinol Guidewire and one 20g Nitinol Guidewire) - 10 Sets



3-Button Fingerswitch Handpiece (Sterile, Single Use)

IEC-3FHPB/D: (10 pcs)

Empire Microincision™ Needle Electrodes

Various selections available upon request



TEE301: Straight, Sterile (1 pc)



TEE305: 45° Angle, Sterile (1 pc)



TEE328: 1" cvd Sleeve, Sterile (1 pc)

5mm Needle Length



Flextrode® Malleable Electrodes (Sterile / 1pc)

Available in 6cm and 18cm



FT-B2/S
2mm Ball



FT-W
Fine Wire

Clear-Vu™ Bayonet Electrodes (Sterile / 1pc)

Available in 9cm and 11cm



CV-L5/S
5mm Loop



CV-S
Spatula

Various Electrode Tips

Flextrode™ (6cm): ●

Flextrode™ (18cm): ●

Clear-Vu™ Short (9cm): ●

Clear-Vu™ Long (11cm): ●

1mm Ball



FT-B1/S
FT-B1
CV-B1/S
CV-B1

2mm Ball



FT-B2/S
FT-B2
CV-B2/S
CV-B2

3mm Ball



FT-B3/S
FT-B3
CV-B3/S
CV-B3

Fine Wire



FT-W/S
FT-W
CV-W/S
CV-W

3mm Loop



FT-L3/S
FT-L3
CV-L3/S
CV-L3

5mm Loop



FT-L5/S
FT-L5
CV-L5/S
CV-L5

7mm Loop



FT-L7/S
FT-L7
CV-L7/S
CV-L7

Spatula

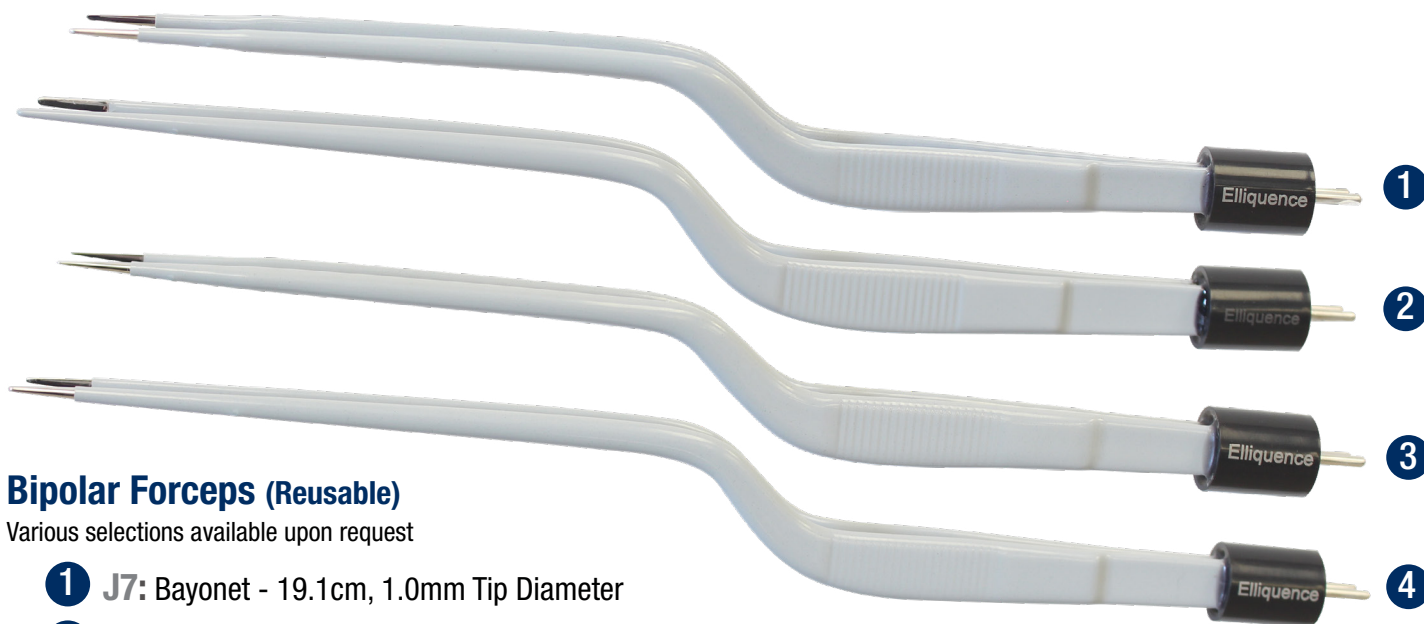


FT-S/S
FT-S
CV-S/S
CV-S

Needle



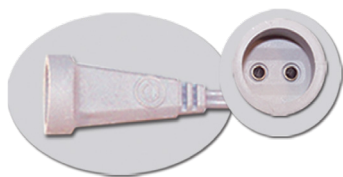
FT-N/S
FT-N
CV-N/S
CV-N



Bipolar Forceps (Reusable)

Various selections available upon request

- 1 **J7:** Bayonet - 19.1cm, 1.0mm Tip Diameter
- 2 **J17:** Bayonet - 20.3cm, 1.0mm Tip Diameter, Insulated external tip
- 3 **J18:** Micro-Tip Bayonet - 19.1cm, 0.5mm Tip Diameter
- 4 **J21:** Bayonet - 20.3cm, 1.0mm Tip Diameter



Bipolar Cable (2 pin) Sterile/Single Use

IEC-DJX: 10 Pieces



Bipolar Cable (2 Flat Prong), Sterile/Single Use

BCD-FP: 10 Pieces



Neutral Plate Single Use

IEC-NPD: 25 Pieces



Surgi-Max® Carrying Case

IEC6-CASE: Fits Surgi-Max® Ultra Machine, Footswitch and Power Cord



Tony Yeung, MD

Introduction to endoscopy

Over the years, traditional laminectomy and discectomy procedures have undergone modifications. First through smaller openings in the form of a laminotomy/laminectomy and discectomy. This process was done minimally invasive by microdiscectomy utilizing magnification and smaller incisions.

The next significant alternative to develop was chymopapain, but a few devastating complications from allergic reactions, transverse myelitis and cauda equina syndrome secondary to intrathecal injection led to its abandonment in the United States. However, in place of chymopapain there have been technologies developed aiming to decompress, ablate and irrigate the disc through even smaller incisions.

Arthroscopic Microdiscectomy, aided by Spinal Endoscopy, gave spine surgeons the ability to visualize spinal structures and the patho-anatomy of pain generators not previously possible with open surgery. The use of local anesthesia also helped the endoscopic surgeon correlate pain generation and pain relief reported by the patient during the surgical procedure.

The use of a multichannel flow integrated spinescope originally developed by myself, Anthony Yeung, as the YESS system and technique made visualization inside the disc an integral part of visualized intradiscal therapy.

Other Endoscopes and competing pioneering surgeons with their own techniques have evolved endoscopic spine surgery concomitant with different techniques, aided by evolving instrumentation. This has allowed the surgeon to address the full spectrum of painful degenerative and traumatic conditions on the spine, including spine tumors.

Advanced endoscopic surgeons can now not only remove herniated disc material, but clearly visualize, probe, document and correlate painful spinal conditions with its response to various stimulation. The surgeon can treat painful conditions further by utilizing, as I do, the elliquence radiofrequency generator and accessories.

The ability to perform these visualized minimally invasive procedures gives surgeons a method to evaluate and treat a variety of painful conditions when their patients have not responded well to more traditional conservative and non-invasive techniques. The ability to evaluate the area in and around the foramen and nerves opens a whole new dimension for the evaluation and treatment of common and complex back pain. Access to spinal pathology may vary in individual patients, and special techniques may need to be utilized to gain access to the pathologic lesion and to avoid injury to spinal structures. Radiologic considerations in each patient and anatomic variations will determine whether the disc space and / or spinal canal is accessible.

The learning curve is steep, and a fellowship or preceptorship with experienced endoscopic spine surgeons is recommended for surgeons who want to take advantage of all the capabilities of Spinal Endoscopy.



Jim Yue, MD

Approach on Transforaminal



Patient selection is critical to the success of any surgical approach; the herniated disc tissue must be accessible through the foramen. Patient is positioned in the prone position on either bolsters or a Wilson frame to open up the foraminal space. AP and lateral radiographs are used to identify the targeted foraminal levels. If an intradiscal approach is elected, an 18 gauge spinal needle is initially introduced not past the medial edge of the pedicle AP view, and in the posterior 3rd of the disc space in the lateral view with care being taken to avoid the exiting nerve root. The guide wire is transferred through the needle and a stab incision is performed along the guidewire. The dilator is introduced over the guide wire to the level of the annulus; again care should be taken to avoid the exiting nerve. The beveled cannula is introduced over the dilator creating a working portal for the introduction of the endoscope for direct visualization, light, irrigation and working access to the previously identified pathology. Upon completion of the surgery, the small wound can be closed with either steri-strips or a single stitch.

elliquence Transforaminal Basic Set.....TR-100 and TR-200

Endoscope and accessories

	Included in TR-100 Spinal Endoscope OD: 7.0mm, WC: 4.3mm, Length: 181mm, 30° 10-2022 (includes 2 endoscopes)	Included in TR-200* Spinal Endoscope OD: 6.3mm, WC: 3.75mm, Length: 181mm, 30° 10-2020 (includes 2 endoscopes)
	Interchangeable Endoscope Available: Spinal Endoscope (Extra Long) OD: 7.0mm, WC: 4.3mm, Length: 210mm, 30° 10-2022L (includes 2 endoscopes)	*NOT COMPATIBLE with Surgi-Max Drill

Access Instruments

	Included in TR-100 Dilator, 2 Channel - Dia: 7.0mm, Length: 225mm 11-2311 (includes 2)	Included in TR-200 Dilator, 2 Channel - Dia: 6.3mm, Length: 225mm 11-2312 (includes 2)
	Working Tube, Beveled - OD: 8.0mm, ID: 7.2mm, Length: 178mm 11-2912	Working Tube, Beveled - OD: 7.5mm, ID: 6.5mm, Length: 178mm 11-2911
	Interchangeable Instruments Available for Extra Long Scope: Working Tube, Beveled - OD: 8.0mm, ID: 7.2mm, Length: 210mm 11-2912L	
	Working Tube, Elevated Tip - OD: 8.0mm, ID: 7.2mm, Length: 178mm 11-2916	Working Tube, Elevated Tip OD: 7.5mm, ID: 6.5mm, Length: 178mm 11-2914
	Driver - OD: 8.0mm, ID: 7.2mm, Length: 120mm 11-2514	Driver - OD: 7.5mm, ID: 6.5mm, Length: 120mm 11-2513
	Mallet.....11-2511	

Guidewires

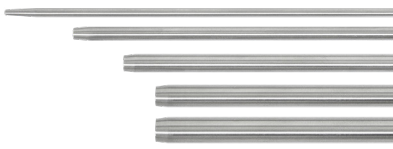
	Nitinol Guidewire OD: 0.8mm, Working Length: 400mm, Compatible with 18g Needle (individual / reusable)11-2301
--	--

Working Instruments

Auxiliary Instruments - Atraumatic

	Hook Probe Dia: 2.5mm, Length: 330mm11-2415
	Endo-Flexprobe, Suction 3.5mm11-3012
	Interchangeable Instrument Available: Nitinol Ball Probe, Length: 330mm11-2413

elliquence Transforaminal Basic Set

Auxiliary Instruments	
	Coaxial Step Dilator, Conical Tube - OD: 4.1mm, ID: 2.8mm, Length: 210mm.....11-2314 Coaxial Step Dilator, Conical Tube - OD: 5.1mm, ID: 4.2mm, Length: 195mm.....11-2315 Coaxial Step Dilator, Conical Tube - OD: 6.0mm, ID: 5.2mm, Length: 185mm 11-2316 Coaxial Step Dilator, Conical Tube - OD: 2.5mm, ID: 1.0mm, Length: 230mm.....11-2317 *Coaxial Step Dilator, Conical Tube - OD: 7.1mm, ID: 6.1mm, Length: 185mm.....*11-2307 NOT INCLUDED IN TR-200
	Interchangeable Instruments Available for Extra Long Scope: Coaxial Step Dilator, Conical Tube - OD:4.1mm, ID: 2.8mm, Length: 235mm 11-2314L Coaxial Step Dilator, Conical Tube - OD:5.1mm, ID: 4.2mm, Length: 225mm 11-2315L Coaxial Step Dilator, Conical Tube - OD:6.0mm, ID: 5.2mm, Length: 215mm 11-2316L Coaxial Step Dilator, Conical Tube - OD:2.5mm, ID: 1.0mm, Length: 250mm 11-2317L
	Pusher / Extender #1 - OD: 2.5mm, ID: 1.5mm, L: 250mm,11-2337 Pusher / Extender #2 - OD: 4mm, ID: 1.5mm, L: 250mm,11-2334 Pusher / Extender #3 - OD: 5mm, ID: 1.5mm, L: 250mm,11-2335
	Trephine - OD: 5.1mm, ID: 4.1mm, Length: 225mm11-2611 Trephine - OD: 6.6mm, ID: 5.6mm, Length: 225mm11-2612 Trephine - OD: 7.6mm, ID: 6.6mm, Length: 225mm11-2613 Trephine - OD: 3.55mm, ID: 2.55mm, Length: 350mm11-2614
	Trephine Handle.....11-2512

Rongeurs, Grasping Forceps and Punches	
	Cupped Grasper, Straight Jaw, Atraumatic serration, Overload Protection with Irrigation Dia: 3.5mm, Length: 330mm12-1520
	Cup Forceps, Overload Protection with Irrigation Dia: 2.5mm, Length: 330mm12-1624 Dia: 3.5mm, Length: 330mm12-1625
	Semi-flexible Grasper, Overload Protection With Irrigation Upward Jaw - Dia: 2.5mm, Length: 330mm.....12-1730 Double Action - Dia: 3.0mm, Length: 330mm.....12-1733
	Scissors Punch, Overload Protection and irrigation Straight Jaw, Dia: 2.5mm, Length: 330mm12-1213 Upward Angled Jaw, Dia: 2.5mm, Length: 330mm*12-1214 NOT INCLUDED IN TR-200

Kerrison Punch	
	Endoscopic Kerrison Angled, Dia: 3.5mm, Length: 360mm, Ceramic Coating.....12-1938 *Angled, Dia: 4.0mm, Length: 360mm, Ceramic Coating*12-1940 NOT INCLUDED IN TR-200
	Endoscopic Kerrison Handle.....12-1947

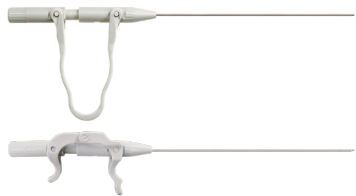
elliquence Transforaminal Basic Set

Surgical Tray	
	Surgical Tray 14-1000
	Individual Scope Tray 14-2000

Endoscopic Instrument Case	
	Endoscopic Instrument Case 14-1000PEL

Compatible elliquence accessories not included with elliquence Transforaminal Basic Set

Instrument Holder	
	e-Arm 10-8000 Rail Clamp for e-Arm 10-8002

elliquence RF accessories	
	Trigger-Flex, Sterile, Single Use Length: 40cm DTF-40 Length: 31cm DTF-31
	Spinal Needles, Sterile, Single Use 16g, 8in (individual) DFX-N6/1 18g, 8in (individual) DFX-N8/1

Surgi-Max® Generator	
	Surgi-Max® Ultra IEC6-SU170
	Dual Footswitch BF-FSCB#



Nicolas Prada, MD

Approach on Interlaminar

The interlaminar window at L5-S1 is easily accessed through a direct posterior approach, visualized using both AP and Lateral radiographs. The lateral facet is located and the stab incision is made directly medial to the facet to the level of the fascial layer. The dilator is introduced to the level of the ligamentum flavum, confirming AP and Lateral radiographs. The cannula is introduced over the dilator with the bevel open medially and the endoscope is introduced. Various instruments including the Trigger-Flex® RF probe are used to expose the ligamentum flavum. Punches and kerrisons can now be used to perforate the ligamentum for access to the spinal canal. The nerves are visualized and mobilized using a dissector. The cannula is rotated to further mobilize, retract and protect the nerves exposing the herniation. A variety of instruments along with the Trigger-Flex® RF probe can now be utilized to remove disc material. The small wound site can be closed with minimal suture or steri-strips.

elliquence Interlaminar Basic Set.....IL-200

Endoscope and accessories



Spinal Endoscope

Dia: 7.0mm, WC: 4.3mm, Length: 130mm, 30°10-2023

Access Instruments



Dilator, 2 Channel

OD: 7.0mm, Length: 225mm (includes 2)11-2311



Working Tube, Beveled

OD: 8.0mm, ID: 7.2mm, Length: 125mm (Includes 2)11-2913

Guidewires

Nitinol Guidewire

OD: 0.8mm, Working Length: 400mm, Compatible with 18g Needle (individual / reusable)11-2301

elliquance Interlaminar Basic Set

Working Instruments	
Auxiliary Instruments - Atraumatic	
	Blunt Dissector, Dia: 2.5mm, Length: 330mm11-2411
	Hook Probe Dia: 2.5mm, Length: 330mm11-2415
	Endo-Flexprobe, Suction 3.5mm11-3012
	Interchangeable Instrument Available: Nitinol Ball Probe, Length: 330mm11-2413
	Bone Curette (Articulating) Dia: 3.5m, Length: 330mm11-3011
	Rongeurs, Grasping Forceps and Punches
	Cup Forceps, Straight Jaw, Overload Protection with Irrigation Dia: 2.5mm, Length: 260mm12-1627
	Dia: 3.5mm, Length: 260mm12-1628
	Semi-flexible Grasper, Overload Protection with Irrigation Double Action, Straight - Dia: 3.0mm, Length: 260mm12-1734
	Scissors Punch Upward Angled, Dia: 2.5mm, Length: 330mm12-1214
	Straight Jaw, Dia: 2.5mm, Length: 260mm12-1216
	Kerrison Punches
	Endoscopic Kerrison Angled, Dia: 3.5mm, Length: 260mm, Ceramic Coating.....12-1939
	Angled, Dia: 4.0mm, Length: 260mm, Ceramic Coating.....12-1941
	Endoscopic Kerrison Handle.....12-1947

elliquence Interlaminar Basic Set

Surgical Tray	
	Surgical Tray14-1000
	Individual Scope Tray14-2000

Endoscopic Instrument Case	
	Endoscopic Instrument Case 14-1000PEL

Compatible elliquence accessories not included with elliquence Interlaminar Basic Set

Instrument Holder	
	e-Arm10-8000 Rail Clamp for e-Arm10-8002

elliquence RF accessories	
	Trigger-Flex, Sterile, Single Use Length: 31cmDTF-31

Surgi-Max® Generator	
	Surgi-Max® Ultra IEC6-SU170
	Dual Footswitch BF-FSCB#

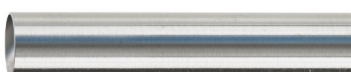


Jorge Ramirez, MD Approach on Rhizotomy

Endoscopic Dorsal Ramus Rhizotomy is a procedure that can provide patients with relief of pain associated with degenerative disease of the facet joints. Use of the spine endoscope provides visualization of the posterior spinal anatomy and nerves, while an endoscopic RF probe facilitates the ablation of the medial (and lateral) branches of the dorsal ramus and can lead to more complete ablation of the nerves and therefore better and longer lasting pain relief. Endoscopic Rhizotomy is most effective in those patients who have experienced greater than 50% relief of pain with medial branch blocks. The Endoscopic Dorsal Ramus Rhizotomy procedure offers an alternative for addressing axial back pain that is much less invasive than spinal fusion. A Rhizotomy is primarily done at the junction where the medial branch of the dorsal ramus nerve crosses over the transverse process of the vertebral body. However to make sure a complete ablation is accomplished rotating the RF probe through a full 360° ensures a complete evulsion of the nerves is achieved.

elliquence Rhizotomy Basic Set.....RZ-300

Endoscope and accessories	
	Spinal Endoscope OD: 6.3mm, WC: 3.75mm, Length: 130mm, 30°10-2021

Access Instruments	
	Dilator, 2 Channel Dia: 6.3mm, Length: 225mm (Includes 2).....11-2312
	Working Tube, Elevated OD: 7.5mm, ID: 6.5mm, Length: 125mm11-2915
	Working Tube, Flat OD: 7.5mm, ID: 6.5mm, Length: 125mm11-2927

Working Instruments	
	Rongeurs, Grasping Forceps and Punches
	Cup Forceps, Straight Jaw, Overload Protection with Irrigation Dia: 2.5mm, Length: 260mm12-1627

Guidewires	
	Nitinol Guidewire OD: 0.8mm, Working Length: 400mm, Compatible with 18g Needle (individual / reusable)11-2301

elliquence Rhizotomy Basic Set

Surgical Tray	
	General Purpose Tray14-3000
	Individual Scope Tray14-2000

Compatible elliquence accessories not included with elliquence Rhizotomy Basic Set

Instrument Holder	
	e-Arm10-8000 Rail Clamp for e-Arm10-8002

elliquence RF accessories	
	Trigger-Flex, Sterile, Single Use Length: 31cm DTF-31
	Bi-Tip, Sterile, Single Use Length: 25cmBT-FT
	Trigger-Flex Dart, Sterile, Single Use Length: 24cm DTFD-24
	Access Needles, Sterile, Single Use 16g, Beveled Tip, WL: 4inN6-D4/1 16g, Trocar Tip, WL: 5inN6-D5/1

Surgi-Max® Generator	
	Surgi-Max® Ultra IEC6-SU170
	Dual Footswitch BF-FSCB#



Stefan Hellinger, MD Approach on Stenosis

Lumbar spinal stenosis is a common cause of radicular and generalized back pain among older adults. Endoscopic minimally invasive surgery, in contrast to open decompression, may provide the opportunity for a less invasive surgical intervention. Visualization and illumination during the operation can be optimized. Since a more extensive bone or ligament resection is frequently necessary here, a larger diameter endoscope with a correspondingly larger endoscopic working channel and larger instruments and burrs are necessary. After the access has been created, the bony structures are exposed. It may be helpful to start decompression at the caudal end of the descending facet. Depending on the pathology, decompression is then commenced with resection of parts of the medial descending facet, the cranial and caudal lamina, and the ligamentum flavum. The extent of decompression generally continues cranially at least until the tip of the ascending facet and caudally to half of the pedicle. The medial portions of the ascending facet and the ligamentum flavum are then resected until sufficient decompression of the neural structures can be clearly seen. In the case of a central stenosis, the ligamentum flavum generally needs to be resected medially to the midline. If the patient experiences bilateral symptoms of stenosis, an “over the top” access using the undercutting technique to the opposite side is carried out.

elliquence Stenosis Basic Set.....ST-400

Endoscope and accessories	
	Spinal Endoscope, OD: 10mm, WC: 7.1mm, Length: 139mm, 15°10-3021
Access Instruments	
	Dilator, Single Hole Dia: 10mm, Length: 185mm (includes 2 dilators)11-2323
	Working Tube, Beveled OD: 11.2mm, ID: 10.2mm, Length: 134mm11-2924
	Working Tube, Flat OD: 11.0mm, ID: 10.2mm, Length: 134mm11-2926

Working Instruments
Auxiliary Instruments - Atraumatic

	Sharp Dissector Dia: 3.0mm, Length: 260mm11-2421
	Blunt Dissector, Dia: 2.5mm, Length: 330mm11-2411
	Hook Probe Dia: 2.5mm, Length: 260mm11-2420
	Bone Curette (Articulating) Dia: 3.5mm, Length: 330mm11-3011

	Rongeurs, Grasping Forceps and Punches
	Cup Forceps, overload protection with irrigation, Straight Jaw Dia: 3.5mm, Length: 260mm12-1628 Dia: 4.0mm, Length: 260mm12-1629
	Punch - Dia: 4.0mm, Straight, Length: 260mm12-1420
	Punch - Dia: 3.5mm, Angled, Length: 260mm12-1421

	Kerrison Punches
	SERGEJ Endoscopic Shaft bent upwards 26WL, 4mm, 40 degree, Foot 2.2mm12-1937
	Endoscopic Kerrison Punch Angled - Dia: 4mm, Length: 260mm12-1941 Straight - Dia: 4mm, Length: 260mm12-1945
	Stenosis Kerrison Punch, Angled Dia: 5mm, Length: 260mm12-1950 Dia: 6mm, Length: 260mm12-1960
	Stenosis Kerrison Punch, Straight Dia: 5mm, Length: 260mm12-1951 Dia: 6mm, Length: 260mm12-1961
	Kerrison Handle12-1947

elliquence Stenosis Basic Set

Surgical Tray	
	Surgical Tray14-1000
	Individual Scope Tray14-2000

Endoscopic Instrument Case	
	Endoscopic Instrument Case 14-1000PEL

Compatible elliquence accessories not included with elliquence Stenosis Basic Set

Instrument Holder	
	e-Arm10-8000 Rail Clamp for e-Arm10-8002

elliquence RF accessories	
	Trigger-Flex, Sterile, Single Use 31cm DTF-31
	Trigger-Flex Quad, Sterile, Single Use 31cm DTFQ-31

Surgi-Max® Generator	
	Surgi-Max® Ultra IEC6-SU170
	Dual Footswitch BF-FSCB#

Surgi-Max Drill

	Surgi-Max Drill Dual Motor Unit System* Includes: Surgi-Max Drill Console 16-0002 Footpedal..... 16-0003 Motor..... 16-0105 *NOT COMPATIBLE with TR-200
	Angled handpiece 16-0100
 Without Protection Distal Protection Beveled Protection	Support Tubes - One (1) Sterile, Single Use ★ ★ Without Protection, Working Length: 230mm..... 16-0103 ▲ Without Protection, Working Length: 315mm..... 16-0104 ■ Distal Protection, Working Length: 315mm..... 16-0110 ■ Beveled Protection, Working Length: 317mm 16-0112 ◆ ◆ Distal Protection, Working Length: 233mm..... 16-0111 ◆ ◆ Beveled Protection, Working Length: 233mm 16-0113
	★ ★ Burr Compatible with 16-0103 ■ Burr Compatible with 16-0110 & 16-0112 Transforaminal Support Tubes & Burrs ▲ Burr Compatible with 16-0104 ◆ ◆ Burr Compatible with 16-0111 & 16-0113 Interlaminar Support Tubes & Burrs Stenosis Support Tubes & Burrs Diamond Spinal Burr - One (1) Sterile, Single Use ▲ Dia: 3.7mm, Total Length: 355mm, Working Length in Handpiece: 317mm..... 16-0202 ★ ★ Dia: 3.7mm, Total Length: 270mm, Working Length in Handpiece: 231mm..... 16-0206 ★ Dia: 5.0mm, Total Length: 271mm, Working Length in Handpiece: 235mm..... 16-0212 ★ Dia: 6.0mm, Total Length: 272mm, Working Length in Handpiece: 235mm..... 16-0214 ■ Dia: 3.0mm, Total Length: 353mm, Working Length in Handpiece: 315mm..... 16-0216 ◆ ◆ Dia: 3.0mm, Total Length: 270mm, Working Length in Handpiece: 232mm..... 16-0218
	Tungsten Carbide Burr, One (1) Sterile, Single Use ▲ Dia: 3.5mm, Total Length: 355mm, Working Length in Handpiece: 316mm..... 16-0203 ★ ★ Dia: 3.5mm, Total Length: 270mm, Working Length in Handpiece: 233mm..... 16-0207 ★ Dia: 5.0mm, Total Length: 271mm, Working Length in Handpiece: 235mm..... 16-0209 ■ Dia: 3.0mm, Total Length: 353mm, Working Length in Handpiece: 315mm..... 16-0215 ◆ ◆ Dia: 3.0mm, Total Length: 270mm, Working Length in Handpiece: 232mm..... 16-0217
	Oval "Cylindrical" Burr, One (1) Sterile, Single Use ★ Dia: 4.4mm, Total Length: 279mm, Working Length in Handpiece: 239mm..... 16-0211
	Oval "Egg" Burr, One (1) Sterile, Single Use ★ Dia: 6.0mm, Total Length: 277mm, Working Length in Handpiece: 239mm..... 16-0213
	Surgi-Max® Drill Cleaning Spray 16-0300 Surgi-Max® Drill Lubricant Spray 16-0305 Nozzle for Motor 16-0303
	General purpose tray 14-3000
	Surgi-Max® Drill Carrying Case 14-3000PEL
	Surgi-Max Drill® Accessories Bundle* Recommended for Multiple Procedures Includes: Angled handpiece 16-0100 Motor..... 16-0105 General purpose tray 14-3000

Item Description	Item Number
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Scopes

● Spinal Endoscope - Dia: 6.3mm, WC: 3.75mm, Length: 181mm, 30°	10-2020
● Spinal Endoscope - Dia: 6.3mm, WC: 3.75mm, Length: 130mm, 30°	10-2021
● Spinal Endoscope - Dia: 7.0mm, WC: 4.3mm, Length: 181mm, 30°	10-2022
● Spinal Endoscope - Dia: 7.0mm, WC: 4.3mm, Length: 210mm, 30°	10-2022L
● Spinal Endoscope - Dia: 7.0mm, WC: 4.3mm, Length: 130mm, 30°	10-2023
● Spinal Endoscope - Dia: 10mm, WC: 7.1mm, Length: 139mm, 15°	10-3021

Dilators

● ● Dilator, 2 Channel - Dia: 7.0mm, Length: 225mm	11-2311
● ● Dilator, 2 Channel - Dia: 6.3mm, Length: 225mm	11-2312
● ● Coaxial Step Dilator, Conical Tube - OD: 4.1mm, ID: 2.8mm, Length: 210mm	11-2314
● ● Coaxial Step Dilator, Conical Tube - OD: 5.1mm, ID: 4.2mm, Length: 195mm	11-2315
● ● Coaxial Step Dilator, Conical Tube - OD: 6.0mm, ID: 5.2mm, Length: 185mm	11-2316
● ● Coaxial Step Dilator, Conical Tube - OD: 2.5mm, ID: 1.0mm, Length: 230mm	11-2317
● Coaxial Step Dilator, Conical Tube - OD: 7.1mm, ID: 6.1mm, Length: 185mm	11-2307
● Coaxial Step Dilator, Conical Tube - OD: 4.1mm, ID: 2.8mm, Length: 235mm	11-2314L
● Coaxial Step Dilator, Conical Tube - OD: 5.1mm, ID: 4.2mm, Length: 225mm	11-2315L
● Coaxial Step Dilator, Conical Tube - OD: 6.0mm, ID: 5.2mm, Length: 215mm	11-2316L
● Coaxial Step Dilator, Conical Tube - OD: 2.5mm, ID: 1.0mm, Length: 250mm	11-2317L
● Dilator, Single Hole - Dia: 10mm, Length: 185mm	11-2323

Working Tubes

● Working Tube, Beveled - OD: 7.5mm, ID: 6.5mm, Length: 178mm	11-2911
● Working Tube, Beveled - OD: 8.0, ID: 7.2mm, Length: 178mm	11-2912
● Working Tube, Beveled - OD: 8.0mm, ID: 7.2mm, Length: 125mm	11-2913
● Working Tube, Elevated - OD: 7.5mm, ID: 6.5mm, Length: 178mm	11-2914
● Working Tube, Elevated - OD: 7.5mm, ID: 6.5mm, Length: 125mm	11-2915
● Working Tube, Elevated - OD: 8.0mm, ID: 7.2mm, Length: 178mm	11-2916
● Working Tube, Beveled - OD: 11.2mm, ID: 10.2mm, Length: 134mm	11-2924
● Working Tube, Flat - OD: 11.0mm, ID: 10.2, Length: 134mm	11-2926
● Working Tube, Flat - OD: 7.5mm, ID: 6.5mm, Length: 125mm	11-2927
Working Tube, Elevator - OD: 7.5mm, ID: 6.5mm, Length: 178mm	11-2909
Working Tube, Elevator - OD: 8.0mm, ID: 7.2mm, Length: 178mm	11-2910
Working Tube, Open - OD: 8.0mm, ID: 7.2mm, Length: 178mm	11-2918
Working Tube, Open - OD: 7.5mm, ID: 6.5mm, Length: 178mm	11-2919
Working Tube, Elevated - OD: 8.0mm, ID: 7.2mm, Length: 125mm	11-2917
Working Tube, Beveled - OD: 8.0mm, ID: 7.2mm, Length: 210mm	11-2912L



Beveled



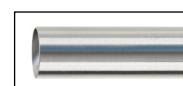
Elevated



Open



Elevator



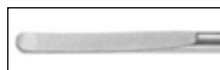
Flat

Pushers / Extenders

● ● Pusher / Extender #1 - OD: 2.5mm, ID: 1.5mm, Length: 250mm	11-2337
● ● Pusher / Extender #2 - OD: 4mm, ID: 1.5mm, Length: 250mm	11-2334
● ● Pusher / Extender #3 - OD: 5mm, ID: 1.5mm, Length: 250mm	11-2335

Chisels, Probes and Curettes

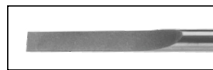
● ● Blunt Dissector - Dia: 2.5mm, Length: 330mm.....	11-2411
● ● ● Hook Probe - Dia: 2.5mm, Length: 330mm	11-2415
● Hook Probe - Dia: 2.5mm, Length: 260mm	11-2420
● Sharp Dissector - Dia: 3.0mm, Length: 260mm.....	11-2421
● ● ● Endo-Flexprobe, Suction 3.5mm	11-3012
Nitinol Ball Probe, Length: 330mm.....	11-2413
Blunt Dissector - Dia:3.0mm, Length: 330mm	11-2416
● ● Bone Curette (Articulating)- OD: 3.5mm, Length: 330mm.....	11-3011



Blunt Dissector



Hook



Sharp Dissector



Endo-Flexprobe



Nitinol Ball Probe



Bone Curette

Punches and Scissors

● ● Scissors Punch, Straight Jaw - Dia: 2.5mm, Length: 330mm	12-1213
● ● ● Scissors Punch, Upward Angled Jaw - Dia: 2.5mm, Length: 330mm	12-1214
● Scissors Punch, Straight Jaw - Dia: 2.5mm, Length: 260mm	12-1216
● Punch, Straight - Dia: 4.0mm, Length: 260mm	12-1420
● Punch, Angled - Dia: 3.5mm, Length: 260mm	12-1421
Duckling Punch, Straight Jaw - Dia: 3.5mm, Length 330mm.....	12-1418
Hook Scissor, Straight Jaw - Dia: 2.5mm, Length: 330mm	12-1317



Straight Jaw



Upward Angle



Hook Scissors



Duckling Punch

Forceps and Graspers

● ● Cupped Grasper - Atraumatic Serrations, Overload Protection With Irrigation, Dia: 3.5mm, Length: 330mm.....	12-1520
● ● Cup Forceps - Overload Protection And Irrigation, Dia: 2.5mm, Length: 330mm	12-1624
● ● Cup Forceps - Overload Protection And Irrigation, Dia: 3.5mm, Length: 330mm	12-1625
● ● Cup Forceps - Overload Protection And Irrigation, Dia: 2.5mm, Length: 260mm	12-1627
● ● Cup Forceps - Overload Protection And Irrigation, Dia: 3.5mm, Length: 260mm	12-1628
● Cup Forceps - Overload Protection And Irrigation, Dia: 4.0mm, Length: 260mm	12-1629
● ● Semi-Flexible Grasper, Overload Protection With Irrigation, Upward Jaw - Dia: 2.5mm, Length: 330mm.....	12-1730
● ● Semi-Flexible Grasper, Overload Protection With Irrigation, Double Action - Dia: 3.0mm, Length: 330mm	12-1733
● Semi-Flexible Grasper, Overload Protection With Irrigation, Double Action, Straight - Dia: 3.0mm, Length: 260mm.....	12-1734
Micro Cup Forceps, Overload Protection With Irrigation, Upward Angled Jaw, Dia: 2.0mm, Length: 330mm	12-1834



Cup Grasper



Cup Forcep

Semi-Flexible Grasper
Upward JawSemi-Flexible Grasper
Double Action

Micro Cup Forcep

Trephine and Trephine Tubes

● ● Trephine - OD: 5.1mm, ID: 4.1mm, Length: 225mm	11-2611
● ● Trephine - OD: 6.6mm, ID: 5.6mm, Length: 225mm	11-2612
● ● Trephine - OD: 7.6mm, ID: 6.6mm, Length: 225mm	11-2613
● ● Trephine - OD: 3.5mm, ID: 2.5mm, Length: 350mm	11-2614
● ● Trephine Handle.....	11-2512

Kerrisons

	Endoscopic Kerrison - Angled, Dia: 3.5mm, Length: 360mm	12-1938
	Endoscopic Kerrison - Angled - Dia: 3.5mm, Length: 260mm	12-1939
	SERGEJ Endoscopic Shaft bent upwards 40°, 2.2mm Foot, Dia: 4.0mm, Length: 260mm	12-1937
	Endoscopic Kerrison - Angled, Dia: 4.0mm, Length: 360mm	12-1940
	Endoscopic Kerrison - Angled, Dia: 4.0mm, Length: 260mm	12-1941
	Endoscopic Kerrison - Straight, Dia: 4.0mm, Length: 260mm	12-1945
	Endoscopic Kerrison Handle	12-1947
	Stenosis Kerrison Punch, Angled - Dia: 5.0mm, Length: 260mm	12-1950
	Stenosis Kerrison Punch, Straight - Dia: 5.0mm, Length: 260mm	12-1951
	Stenosis Kerrison Punch, Angled - Dia: 6.0mm, Length: 260mm	12-1960
	Stenosis Kerrison Punch, Straight - Dia: 6.0mm, Length: 260mm	12-1961

Needles and Guidewires

	16g Spine Needle, WL: 8in., Beveled Tip (individual)	DFX-N6/1
	16g Spine Needle, WL: 8in., Beveled Tip (pack of 10)	DFX-N6
	18g Spine Needle, WL: 8in., Beveled Tip (individual)	DFX-N8/1
	18g Spine Needle, WL: 8in., Beveled Tip (pack of 10)	DFX-N8
	16g Access Needle, WL: 4in., Beveled Tip (individual)	N6-D4/1
	16g Access Needle, WL: 4in., Beveled Tip (pack of 10)	N6-D4
	16g Access Needle, WL: 5 in., Trocar Tip (individual)	N6-D5/1
	16g Access Needle, WL: 5 in., Trocar Tip (pack of 10)	N6-D5
	Nitinol Guidewire, OD: 1.2mm, Working Length: 385mm, Compatible with 16g Needle	11-2300
	Nitinol Guidewire, OD: 0.8mm, Working Length: 400mm, Compatible with 18g Needle	11-2301
	One 18 Gauge Nitinol Guidewire and one 20 Gauge Nitinol Guidewire - 10 Sets (Sterile / Single Use)	DFX-GW-S

Misc.

	Mallet	11-2511
	Driver - OD: 7.5mm, ID: 6.5mm, Length: 120mm	11-2513
	Driver - OD: 8.0mm, ID: 7.2mm, Length: 120mm	11-2514
	Blue Sealing Cap for Endoscope	11-2921
	Blue Sealing Cap for Working Tube	11-2922
	Stop Cocks (individual)	10-9000
	Light Cable Adapter (Storz) - Large	10-9001
	Light Cable Adapter (Wolf) - Small	10-9002
	Rod Forceps - Length: 200mm	11-3013
	e-Arm	10-8000
	Rail Clamp for e-arm	10-8002

Instrument Trays & Cases

	Surgical Tray	14-1000
	Individual Scope Tray	14-2000
	General Purpose Tray	14-3000
	Endoscopic Instrument Case	14-1000PEL
	Surgi-Max Drill Carrying Case	14-3000PEL

Surgi-Max® Drill

Surgi-Max® Drill Console	16-0002
Footpedal.....	16-0003
Angled Handpiece.....	16-0100
Motor.....	16-0105
 Without Protection  Distal Protection  Beveled Protection	
★ ★ Support Tube, without protector for WC 4.0mm	
★ ★ Without Protection, Working Length: 230mm	16-0103
▲ Without Protection, Working Length: 315mm	16-0104
■ Distal Protection, Working Length: 315mm	16-0110
■ Beveled Protection, Working Length: 317mm	16-0112
◆ ◆ Distal Protection, Working Length: 233mm	16-0111
◆ ◆ Beveled Protection, Working Length: 233mm	16-0113
	
Diamond Spinal Burrs - Sterile, Single Use	
▲ Dia: 3.7mm, Total Length: 355mm, Working Length in Handpiece: 317mm.....	16-0202
★ ★ Dia: 3.7mm, Total Length: 270mm, Working Length in Handpiece: 231mm.....	16-0206
★ Dia: 5.0mm, Total Length: 271mm, Working Length in Handpiece: 235mm.....	16-0212
★ Dia: 6.0mm, Total Length: 272mm, Working Length in Handpiece: 235mm.....	16-0214
■ Dia: 3.0mm, Total Length: 353mm, Working Length in Handpiece: 315mm.....	16-0216
◆ ◆ Dia: 3.0mm, Total Length: 270mm, Working Length in Handpiece: 232mm.....	16-0218
	
Tungsten Carbide Burrs - Sterile, Single Use	
▲ Dia: 3.5mm, Total Length: 355mm, Working Length in Handpiece: 316mm.....	16-0203
★ ★ Dia: 3.5mm, Total Length: 270mm, Working Length in Handpiece: 233mm.....	16-0207
★ Dia: 5.0mm, Total Length: 271mm, Working Length in Handpiece: 235mm.....	16-0209
■ Dia: 3.0mm, Total Length: 353mm, Working Length in Handpiece: 315mm.....	16-0215
◆ ◆ Dia: 3.0mm, Total Length: 270mm, Working Length in Handpiece: 232mm.....	16-0217
	
Oval "Cylindrical" Burr, One (1) Sterile, Single Use	
★ Dia: 4.4mm, Total Length: 279mm, Working Length in Handpiece: 239mm.....	16-0211
	
Oval "Egg" Burr, One (1) Sterile, Single Use	
★ Dia: 6.0mm, Total Length: 277mm, Working Length in Handpiece: 239mm.....	16-0213
Surgi-Max® Drill Cleaning Spray	16-0300
Surgi-Max® Drill Lubricant Spray	16-0305
Nozzle for Motor	16-0303
General purpose tray	14-3000
Surgi-Max® Drill Carrying Case	14-3000PEL



Notes

[illegible]



References:

1. Cohen, AJ. High Frequency Radiosurgery: Surgical Adjunct for Intracranial and Intraspinal Tumor Resection. 75th Annual Meeting of the American Association of Neurological Surgeons. Poster Session on Tumors #1874.
2. Paolo Cappabianca et al. (2010) Cranial, Craniofacial and Skull Base Surgery: Springer. Pg 12. Fig. 1.6.
3. Cohen Anders J. High Frequency Radiosurgery: Novel Energy Source for Intracranial and Intraspinal Neurosurgery with Monopolar Indications. The 65th Annual Meeting of Japan Neurosurgical Society. Poster Session – P02

Warning and precautions:

- A. Hazardous electrical output. This equipment is for use only by qualified personnel.
- B. Only elliquence supplied and/or approved accessories should be used to ensure proper operation. The elliquence generator and its accessories are identified with the manufacturer information and reference identification number for proper traceability.
- C. Read the instruction manual in detail before use.
- D. Use of accessories or cables other than elliquence specified, as replacement parts for internal components, may result in increased emissions or decreased immunity of the elliquence RF generator.
- E. The coupling of any non-elliquence manufactured product, with an elliquence manufactured product invalidates all elliquence product warranties and all elliquence legal liabilities associated with such use.



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