

INTRAVENTRICULAR NEUROENDOSCOPY

MINOP[®]

Intraventricular Neuroendoscopic System

Minimally Invasive Neuroendoscopic Operation



The genesis of endoscopic surgery within the ventricular compartment can be attributed to the development of small caliber rod lens optics, fiberoptic light transmission and dedicated instrumentation. Since the advent of intraventricular endoscopic surgery, neurosurgeons have applied the technology to treat a number of disorders. While the enthusiasm has been great and the full potential not yet realized, a major benefit to the patient has been proven for selected conditions. Most notably the treatment of non-communicating hydrocephalus, management of patients with pineal region tumors, fenestration of intracranial cysts, and removal of colloid cysts have all been shown to provide significant benefit and reduced morbidity compared with conventional treatment strategies.

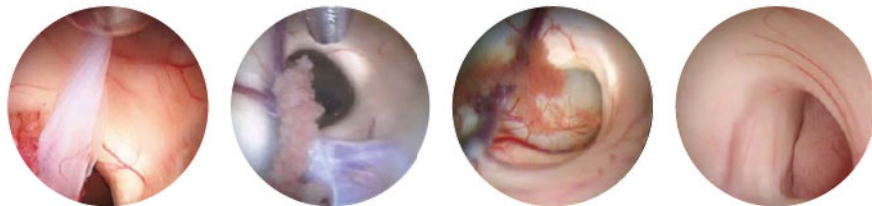
The benefit in minimally invasive endoscopic procedures is analogous to that of any endoscopic procedure, namely minimal tissue disruption, enhanced visualization, improved cosmetic results, shorter hospital stay, and less surgical morbidity. The surgeon willing to utilize intraventricular endoscopic surgery is first responsible for attaining a considerable degree of familiarity with the technology, relevant anatomy, and the surgical procedures. Given the relative nascence of the field, the discipline is only now being commonly implemented in training programs. Hence, for those that have not had the opportunity to have endoscopic surgery as part of their formal training, it is strongly recommended that the surgeon participates in established practical courses in endoscopic neurosurgery, such as the courses from the Aesculap Academy.

Once fluent with the endoscopic equipment, more advanced procedures can be performed with greater familiarity and experience. It is anticipated with future generations of neurosurgeons that the endoscope will be an indispensable part of the neurosurgeon's armamentarium given the unmatched image resolution and minimally invasive qualities.

This foreseeable integration will expectantly be paralleled with continued evolution in compatible equipment to suit the needs of an expanding repertoire.

Few neurosurgical procedures demand a degree of familiarity with equipment as do neuroendoscopic techniques. This feature is somewhat explained by the recent introduction of the neuroendoscope as well as the delicate nature of the equipment. The basic components of any neuroendoscopic procedure include the endoscope and trocar, a camera with light source and monitor, as well as compatible instrumentation.

Charles Teo
Mark Souweidane



Charles Teo
Sydney, Australia

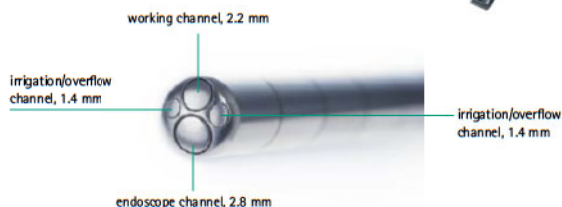
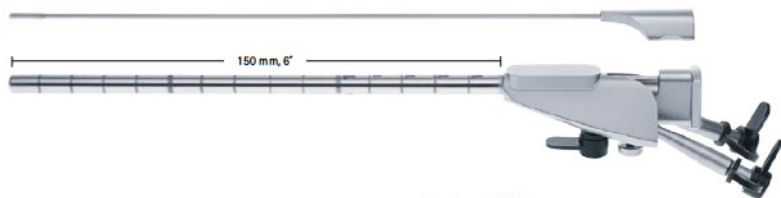


Mark Souweidane
New York, USA

MINOP®

Intraventricular Neuroendoscopic System - MINOP® Trocars

- Rounded tip for less traumatic insertion into the brain
- Single obturator for working channel enables insertion of the trocar under visual control, with the 0° endoscope
- Large depth scale on the outer shaft of the trocar
- Conical entry of the working channel supporting the insertion of instruments into the trocar
- Attachment on top of the trocar for connection of peripheral devices



FF399R

MINOP® trocar

Outer diam. 6 mm

4 channels:

- Endoscope channel, diam. 2.8 mm
- Working channel, diam. 2.2 mm
- Irrigation channel, diam. 1.4 mm
- Overflow channel, diam. 1.4 mm

Including:

- 3 obturators for all channels and 1 single obturator for the working channel
- 3 sealing caps for Luer-Lock connector
- Cleaning brush

"I had used the Aesculap MINOP® system for all intraventricular cases and was mostly pleased with its versatility and safety. However, I had some concerns regarding its user-friendliness and applicability when one needed to be a 2-handed surgeon. Both these issues have been addressed with the MINOP® trocar and I have been very pleased with its added safety and practicality. I honestly believe it is quite clearly the best scope on the market for intraventricular endoscopic procedures. I applaud Aesculap for listening to the people who count most... the surgeons!"



Charles Teo, Sydney, Australia



FF398R

MINOP® trocar

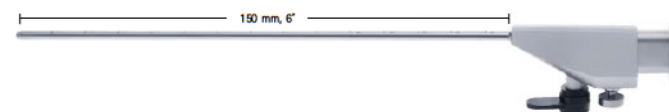
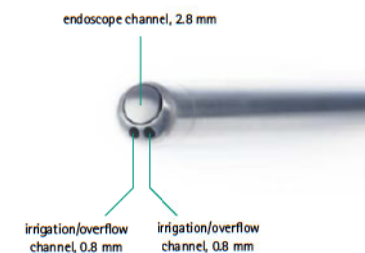
Outer diam. 4.6 mm

3 channels:

- Endoscope channel, diam. 2.8 mm
- Irrigation channel, diam. 0.8 mm
- Overflow channel, diam. 0.8 mm

Including:

- 1 obturator for the endoscope channel
- 3 sealing caps for Luer-Lock connector
- Cleaning brush



FF397R

MINOP® trocar

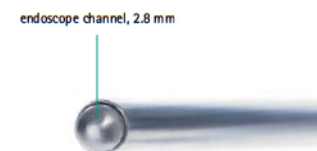
Outer diam. 3.2 mm

1 channel:

- Endoscope channel: diam. 2.8 mm

Including:

- 1 obturator for endoscope channel
- 1 sealing cap for Luer-Lock connector



MINOP®

Intraventricular Neuroendoscopic System – Spare Parts for Trocars



PF893800

Cleaning brush for MINOP® trocars
FF398R and FF399R



EJ751251

Sealing cap for Luer-Lock connector
Sales unit:
PAK = Package of 20 pieces

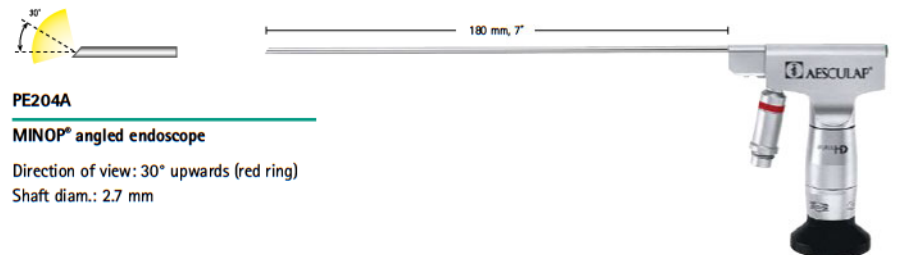
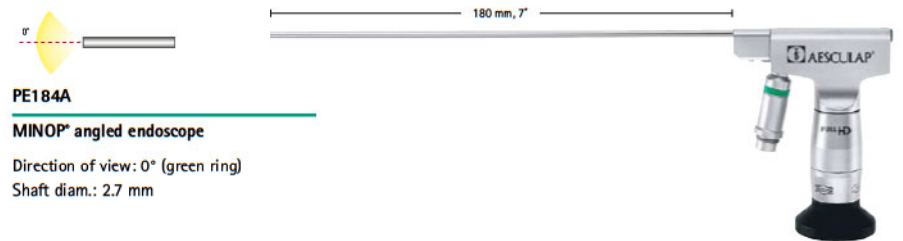
EJ751200

Sealing cap for Luer-Lock connector
Sales unit:
ST = Package of 1 piece

MINOP®

Intraventricular Neuroendoscopic System – MINOP® Endoscopes

- Full HD compatible
- Optimized optical components leading to an enlarged image area, higher image quality, brightness and contrast
- Angled endoscope design for enhanced instrument maneuverability
- Autoclavable / Sterrad®



MINOP[®]

Intraventricular Neuroendoscopic System – Tube Shaft Instruments

Instruments

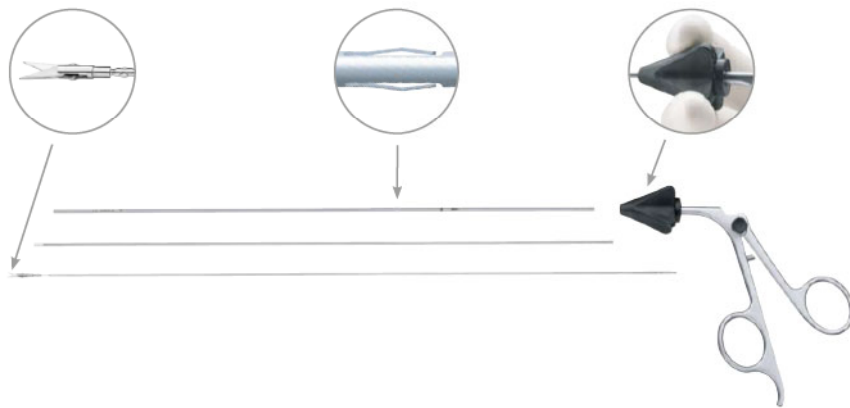
- Working length 265 mm, 10 1/2"
- Shaft diameter 2 mm
- Detachable for reprocessing

Tactile Feedback

- Improved control during instrument insertion thanks to the integrated tactile feedback which delivers a noticeable resistance indicating that the instrument tip is emerging from the trocar

Rotating Knob

- Smooth rotation of the instrument tip by turning the knob with the index finger leading to enhanced handling and precision during neuroendoscopic surgery



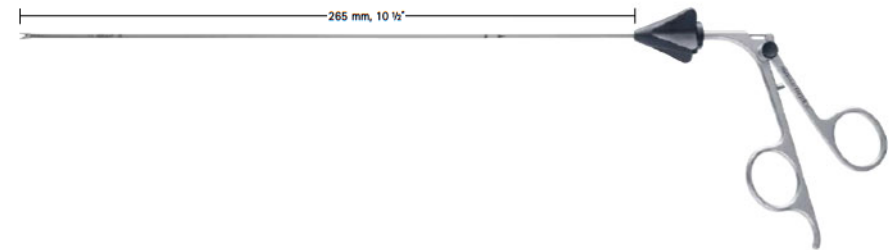
"A very appealing feature of the MINOP tube shaft instruments is a rotational capability of the instrument tip through a coaxial system thus eliminating the need for hand rotation and reducing excessive movement of the endoscope. Irrespective of the instrument, graduated markings or precalibrated indicators on the shaft are important in providing the surgeon knowledge as to when the instrument will enter the endoscopic field. Even more safety is provided by the tactile feedback of the MINOP instruments. A small spring delivers a tactile resistance "telling" the surgeon that the instrument tip is exiting the trocar."

Mark Souweidane, New York, USA

MINOP[®]

Intraventricular Neuroendoscopic System – Tube Shaft Instruments

● 2 mm **Instrument complete:** Handle · outer tube · jaw part with inner tube, detachable, including cleaning brush



FF385R

MINOP[®] scissors
sharp/sharp



FF387R

MINOP[®] biopsy forceps



FF386R

MINOP[®] scissors
blunt/blunt



FF388R

MINOP[®] grasping and dissecting forceps



FF389R


MINOP[®] surgical forceps, 1 x 2 teeth

The very delicate MINOP[®] instruments should be carefully and completely detached and pre-cleaned manually at the end of the operation. Keeping them in dedicated baskets for sterilization protects the super-fine instrument tips. A careful handling by trained operating & CSSD staff is highly recommended and can reduce the wear and tear of these sensitive but highly necessary neuro-endoscopic tools.


MINOP®

Intraventricular Neuroendoscopic System - Spare Parts for Tube Shaft Instruments


FF432R
MINOP® instrument handle, only




FF433R
MINOP® outer tube, only




FF435R
Scissors, jaw part with inner tube sharp/sharp




FF436R
Scissors, jaw part with inner tube blunt/blunt




FF437R
Biopsy forceps, jaw part with inner tube sharp/sharp



FF438R
Grasping and dissecting forceps, jaw part with inner tube



FF439R
Surgical forceps, jaw part with inner tube, 1 x 2 teeth



TA012889
Cleaning brush for tube shaft instruments without illustration



■ For disassembly and assembly of MINOP® tube shaft instruments see poster no. C60911.

MINOP®

Intraventricular Neuroendoscopic System - Flexible Instruments

● 1 mm Instruments with irrigation port for cleaning and reprocessing, non-detachable

250 mm, 9 3/4"

- For bi-instrumental neuroendoscopic surgery, e.g. grasping and cutting, grasping and coagulating, grasping and fenestrating
- Insertion through irrigation/overflow channel of the MINOP® trocar FF399R

FF373R
Micro scissors

FF374R
Micro grasping and dissecting forceps

FF378R
Micro biopsy forceps

"The MINOP® system is providing bi-instrumental endoscopic work. For example in cyst removal or endoscopic tumor surgery the surgeon has the opportunity to grasp and cut or grasp and coagulate at the same time. One can utilize flexible instruments or electrodes in one of the side-channels and rigid tube shaft instruments in the working channel. The design of the side-channels of the MINOP® trocar makes sure that both instruments do not interfere with each other."

Michael Fritsch, Neubrandenburg, Germany



MINOP®

Intraventricular Neuroendoscopic System - Electrodes

MONOPOLAR

1.1 mm Monopolar straight electrodes, for bi-instrumental work through the irrigation/overflow channel of the MINOP® trocar FF399R

GK361R
Blunt electrode 2:1 255 mm, 10"




GK363R
Needle electrode 2:1 255 mm, 10"



1.1 mm Monopolar hook electrodes, tip width 2.2 mm

GK364R
Hook electrode, 45° 1:1 255 mm, 10"



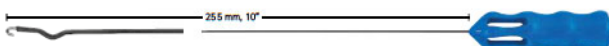
GK365R
Hook electrode, 70° 1:1 255 mm, 10"



GK362R
Hook electrode, 90° 1:1 255 mm, 10"



GK366R
Hook electrode, 180° 1:1 255 mm, 10"



GN202
Monopolar cable, 3.5 m length suitable for GN300, GN640 4 mm Socket



BIPOLAR

2.1 mm Bipolar fork electrode

GK360R
Fork electrode, 0° 1:1 255 mm, 10"



GN130
Bipolar cable, 4 m length suitable for GN060, GN160, GN300, GN640




■ For further details about AESCULAP® HF units and accessories see brochures no. C46702 and C30402.

MINOP®

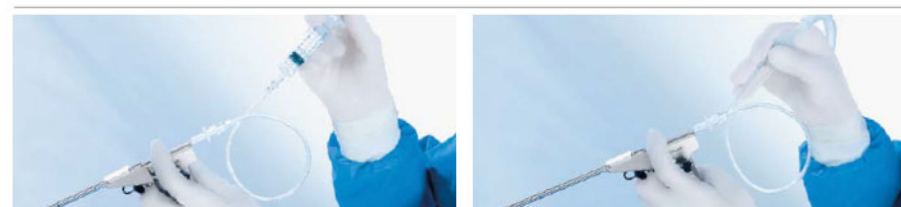
Intraventricular Neuroendoscopic System - Single-use Suction Cannulas

- For the aspiration of tissue and fluids during surgery of the ventricular system (e.g. removal of cystic intraventricular lesions or puncturing the floor of the 3rd ventricle)
- Available with blunt or sharp tip
- Optional control of suction
 - via thumb plate or
 - via syringe
- Single-use, sterile packed



2 mm
FH606SU
MINOP® single-use suction cannula blunt tip 0°

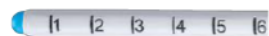
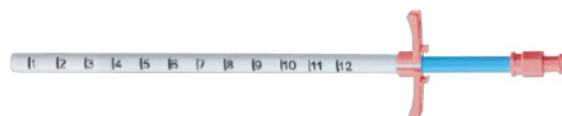
FH607SU
MINOP® single-use suction cannula sharp tip 45°



MINOP®

Intraventricular Neuroendoscopic System - Single-use Introducer

- 19 Fr. disposable introducer set including obturator and sheath
- Especially for MINOP® trocar FF399R
- Preserves the brain in case of repeated intraparenchymal back- and forth movements of the trocar during the procedure
- Round Et blunt obturator tip for less traumatic insertion into the ventricles
- Large depth scale
- Easy to peel with side handles
- Single-use, sterile packed



FH604SU

MINOP® single-use introducer

19 Fr.

Sales unit:

PAK = Package of 5 pieces

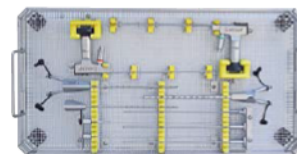
3 Fr. = 1 mm

The MINOP® suction cannula and the MINOP® disposable introducer are designed for intraventricular neuroendoscopic surgery. The suction cannula can be used e.g. for the removal of intraventricular soft tumors or colloid cysts with its sharp cannula tip or even for the opening of the floor of the 3rd ventricle. The disposable introducer (also called peel-away sheath) acts as a temporary pathway to the ventricles, reducing tissue trauma when repeated intraparenchymal back and forth movements of the trocar are necessary.

MINOP®

Intraventricular Neuroendoscopic System - Sterilization and Storage

- Basket for MINOP® trocars and endoscopes



FF358R Dimensions (L/W/H) 485 x 253 x 56 mm

Basket with instrument racks with silicone and lid (instruments not included)

- Basket for MINOP® instruments and electrodes



FF359R Dimensions (L/W/H) 485 x 253 x 120 mm

Basket with silicone mat and instrument racks with silicone, without lid (lid not necessary) (instruments not included)

- 1/1 Sterile container (basic version) for baskets FF358R and FF359R



consisting of:

JK440

Bottom 1/1 for FF358R
without base perforation
Outside/Inside dimensions with inner lid:
L/W/H 592 x 285 x 108 mm
L/W/H 544 x 258 x 75 mm

JK444

Bottom 1/1 for FF359R
without base perforation
Outside/Inside dimensions with inner lid:
L/W/H 592 x 285 x 205 mm
L/W/H 544 x 258 x 172 mm

JK486

Inner lid 1/1
blue

A special-designed storage concept keeps the scopes and instruments protected during the sterilization process, transport and storage.



- For further details about the AESCULAP® Sterile Container System see brochure no. C40402.



- For more information on intraventricular neuroendoscopy see our Practical Atlas no. C29202.