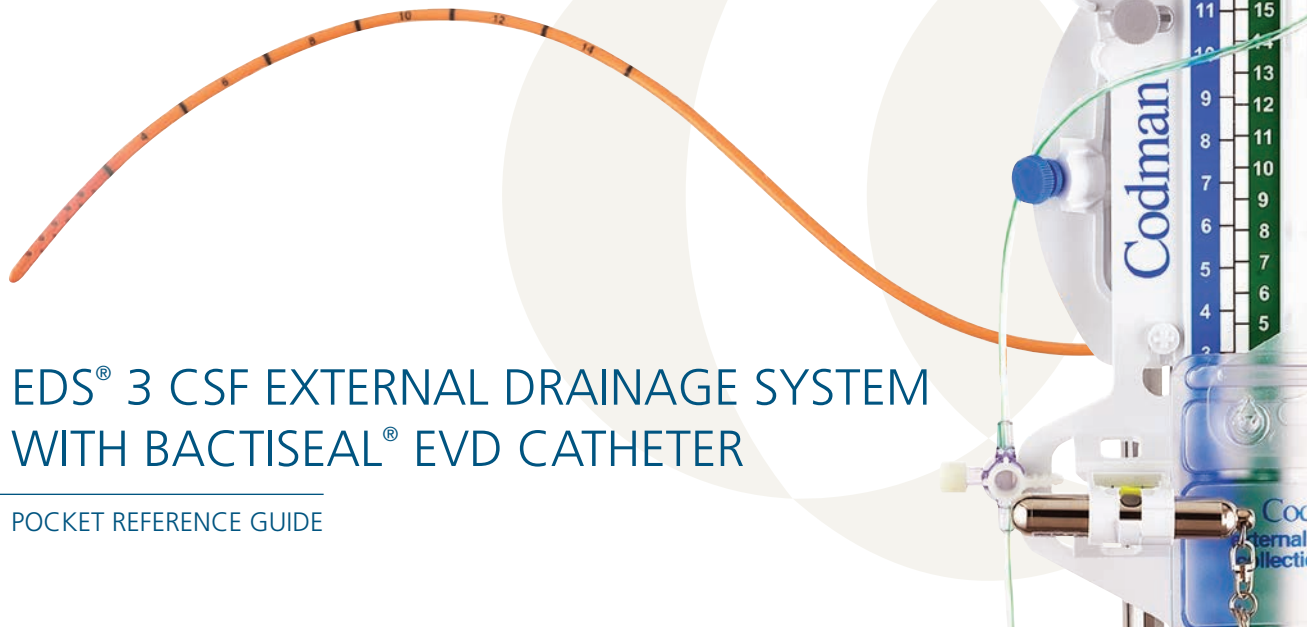


CODMAN NEURO



EDS[®] 3 CSF EXTERNAL DRAINAGE SYSTEM WITH BACTISEAL[®] EVD CATHETER

POCKET REFERENCE GUIDE



Our Commitment to Developing Neuro Critical Care Solutions:

At *Codman Neuro*, we are committed to the physicians and nurses we serve and the patients they treat. We strive to make this commitment apparent in our dedicated service, the clinical education and resources we provide our clinicians, and in our full line of Neuro Critical Care Solutions (NCC) products. We are committed to developing comprehensive solutions for Neuro Critical Care. *Codman Neuro* is an excellent choice in the ICU – and for your patients' well-being. Our portfolio of Neuro Critical Care Solutions facilitates neurosurgery and neurointensive care, from the access and monitoring phase through post-op and therapy. Just as care has been inherent in the Codman name for more than a century, so it is today – and we will strive to continue this commitment into the next century.

EDS 3[®]

CSF External Drainage System


BACTISEAL[®]

EVD CATHETER



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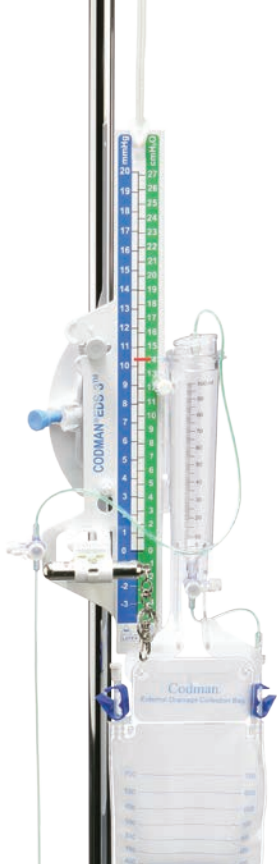
The background of the page is a solid light beige color. Overlaid on this background are three large, semi-transparent circles of a slightly darker beige shade. These circles overlap each other in the center and right portions of the page, creating a subtle geometric pattern.

This instructional document has been prepared to assist you with the proper operation and maintenance of the *Codman Neuro* EDS 3 External Ventricular System. This guide is not intended to replace the product inserts. Rather it is to be used with the product inserts as a training aid. Please refer to the product inserts and, in particular, read the sections on contraindications, warnings and cautions.

BACTISEAL CATHETER + EDS 3 = CONFIDENCE

OUR PLEDGE TO YOU: Purchase a BACTISEAL EVD Antimicrobial Impregnated Catheter with the EDS 3 External Drainage System. If any part of the system requires a revision due to gram positive infection or component failure, **Codman Neuro will replace the components free of charge.**

The EDS 3 CSF Drainage System, with pinpoint hydrostatic leveling, provides clinicians with an easy-to-use, MRI-safe device. Combine it with the BACTISEAL EVD Catheter to **create an effective barrier to gram positive bacterial colonization** on catheter surfaces, and you'll have a winning combination. We hope you never need to use our BACTISEAL Catheter Pledge, and judging by our track record, you probably NEVER WILL.

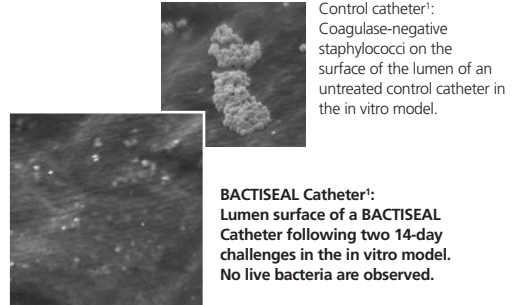
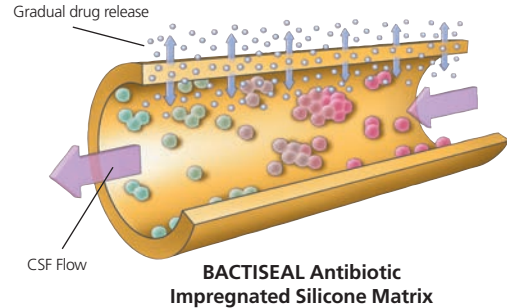


BACTISEAL CATHETER TECHNOLOGY

Gradual and consistent drug release. Patented Antimicrobial Impregnation Process (AIP) impregnates the silicon matrix with Rifampin and Clindamycin.

Prevent bacterial colonization on all catheter surfaces for up to 28 days². Rifampin and Clindamycin work like a “one-two punch” with TK100 (Total Time to Kill 100% of all adhere bacteria) < 52 hours³.

Clear BACTISEAL Catheter Advantage: Providing confidence in placement and visualization. With translucent silicone and numeric depth markings, the Clear BACTISEAL EVD Catheter (product code 82-1750) is designed for improved CSF visualization and accurate placement.



VENTRICULOSTOMY PROCEDURE

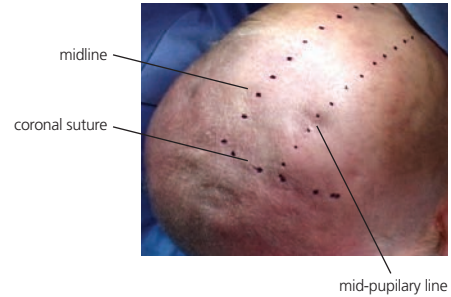
Cranial Access Kit

The CODMAN® Cranial Access Kits and Ghajar Guide Ventriculostomy Kit include all the necessary components to create the initial access hole for CSF drainage procedures.

- 1 Position the patient supine with head of bed slightly elevated, and the neck in a neutral position. Prep and drape the patient in the usual sterile practice. Administer local anesthetics accordingly.



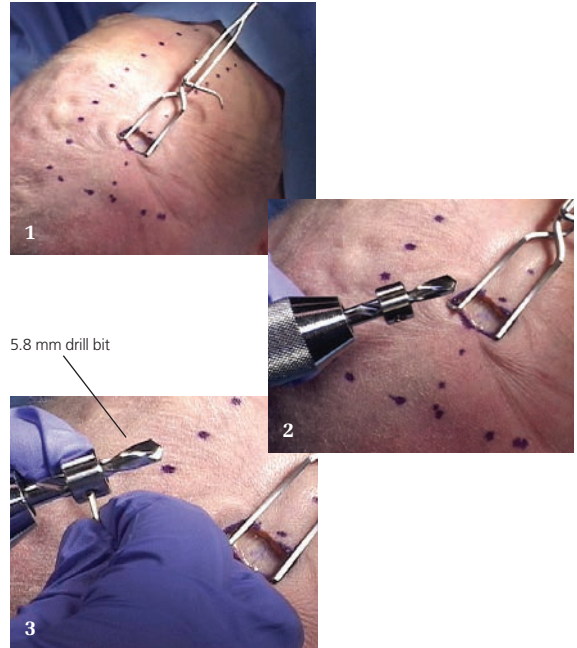
- 2 Identify midline, palpate for coronal suture, identify mid-pupillary line (2.5 to 3 cm lateral to midline). Mark the incision site.



- 3 1 cm incision is made with surgical scalpel.



- 4 Retract the incision site.
- 5 A 5.8 mm drill bit should be used for the ventriculostomy procedure. Place the bit into the chuck, then hold the drill handle in place and turn the chuck counter-clockwise to tighten the bit. Next, loosen the drill guide with the appropriate hex wrench, and carefully slide the drill guide towards the tip of the bit until the desired skull depth is reached. Note that the drill guide will not stop the drill. It is designed only to provide the neurosurgeon with a marker for drilling depth.



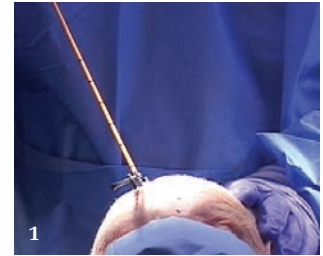
- 6 Tighten the drill guide in place with a hex wrench and twist, drill is held perpendicular to the skull to make a hole in the skull. Puncture the dura with an obturator.



VENTRICULOSTOMY PROCEDURE

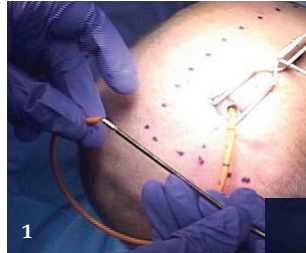
BACTISEAL EVD (BEVD) Catheter

- 7 Remove sterile packed BEVD Catheter from its original package. BEVD Catheter with stylet is inserted perpendicular to the brain surface, with the catheter trajectory pointed at the glabella in the sagittal plane; in the coronal plane, the target is approximately 2 cm anterior to the ipsilateral tragus. This ensures the terminal portion of the catheter will lie in the frontal horn of the lateral ventricle with its tip near the foramen of Monro⁴. Insert the BEVD Catheter.
- 8 Remove the stylet, and check for CSF flow through the BEVD Catheter.



9 Connect the distal end of the catheter to the trochar needle; tunnel the catheter under the skin away from the incision site, at least 5 cm distant from the entry site. Confirm CSF flow after the catheter is pulled through under the scalp.

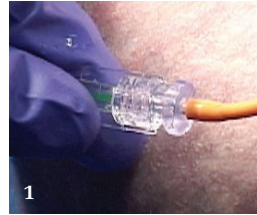
10 Cap the BEVD Catheter with male lur cap. Suture the incision site and secure the catheter to the scalp in at least 3 places. Apply sterile dressing as needed. Connect the BEVD Catheter with EDS 3 System when appropriate.



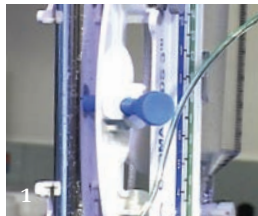
VENTRICULOSTOMY PROCEDURE

EDS 3 Set Up

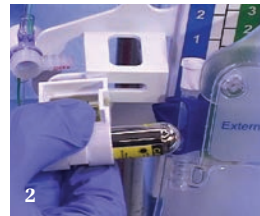
- 11 Prime the EDS 3 System using sterile saline. Prime both distal and proximal end of the EDS 3 System.



12 Attach EDS 3 Drain System to IV pole.



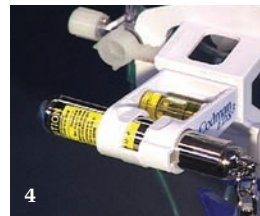
13 Insert Laser Leveling Device.



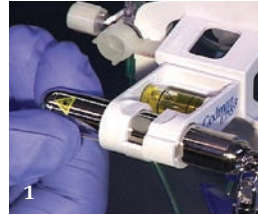
14 Level EDS 3 System to the floor using the gray knob.



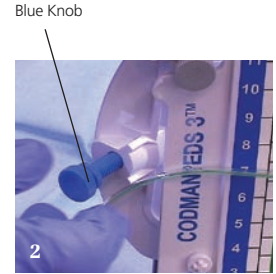
Gray Knob



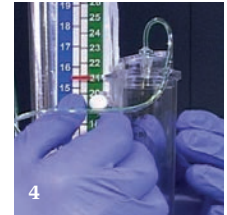
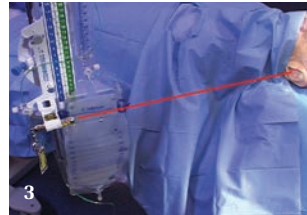
15 Rotate Laser Leveler to engage laser.



16 Adjust EDS 3 System height on the IV pole with blue knob.



17 Adjust drip chamber height.



PRODUCT LISTING

External Ventricular Drainage Catheters

BACTISEAL EVD Catheters



82-1745 BACTISEAL EVD Catheter Set, 35 cm Depth Markings
3 cm to 15 cm Inner Lumen Diameter **1.5 mm**



82-1749 BACTISEAL EVD Catheter Set, 35 cm Depth Markings
3 cm to 15 cm Inner Lumen Diameter **1.9 mm**



82-1750 BACTISEAL Catheter **CLEAR** EVD Catheter Set (with Barium Stripe),
35 cm Depth Markings 3 cm to 15 cm Inner Lumen Diameter **1.9 mm**



NS0344 EVD Molded Tip 1 mm Stylet, **20 cm** Catheter Diameter .060" x .120"



NS5091 EVD Molded Tip 1 mm Stylet, **35 cm** Catheter Diameter .060" x .120"

Regular External Ventricular Catheters

- 82-1735 Clear Ventricular Catheter Set, 35 cm Depth Markings 3 cm to 15 cm Inner Lumen Diameter **1.5 mm**
-
- 82-1739 Clear Ventricular Catheter with Large Inner Lumen, 35 cm Depth Markings 3 cm to 15 cm, Inner Lumen Diameter **1.9 mm**
-
- 82-6653 CODMAN® MICROSENSOR® Ventricular Catheter Kit, 38 cm clear ventricular catheter with integrated miniature strain gauge ICP transducer
-

Cranial Access Kits

- 82-6612 CODMAN Cranial Access Kit razor-free (contains 1 unit of Xylocaine 1% with Epinephrine 30 ml and 2 units of Sodium Chloride 0.9% 10 cc ampoule)
-
- 82-6614 CODMAN Cranial Access Kit (contains 1 unit of Xylocaine 1% with Epinephrine 30 ml and 2 units of Sodium Chloride 0.9% 10 cc ampoule)
-
- 82-6616 CODMAN Cranial Access kit without drugs
-
- 80-1185 GHAJAR GUIDE Ventriculostomy Kit
-



EDS 3 System

82-1730 EDS 3 – Complete (Sterile) with Clear Ventricular Catheter

82-1731 EDS 3 – Complete (Sterile) without Clear Ventricular Catheter

82-1738 EDS 3 with CODMAN Lumbar Catheter Kit II

82-1732 EDS 3 Collection Bags (5 units)

82-1733 EDS 3 Laser Leveling Device (Class 2 laser product)

16-1057 Disposable ICP Luer Lock Connector



CONTACT INFORMATION

For any questions, please contact your local *Codman Neuro* representative or visit www.depuysynthes.com. For USA customers, *Codman Neuro* Customer Service is available at 800-225-0460.

Codman Neuro Neurospecialist Information:

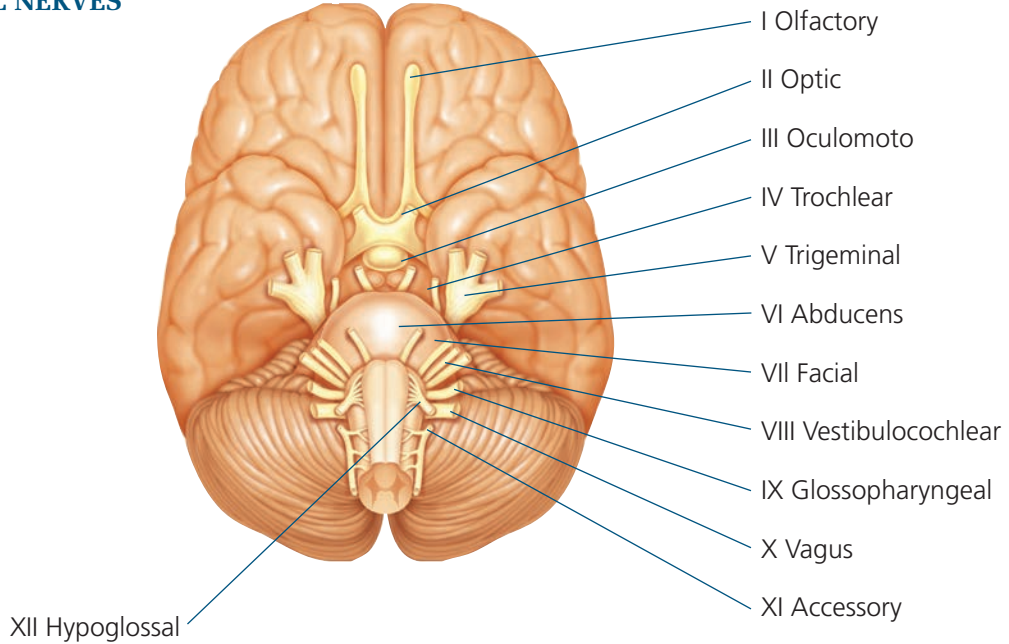
NEURO ESSENTIALS

Glasgow Coma Scale¹

	1	2	3	4	5	6
EYES	Does not open eyes	Opens eyes in response to painful stimuli	Opens eyes in response to voice	Opens eyes spontaneously	N/A	N/A
VERBAL	Makes no sounds	Incomprehensible sounds	Utters inappropriate words	Confused, disoriented	Oriented, converses normally	N/A
MOTOR	Makes no movements	Extension to painful stimuli	Abnormal flexion to painful stimuli	Flexion/Withdrawal to painful stimuli	Localizes painful stimuli	Obeys commands

1. <http://www.bt.cdc.gov/masscasualties/pdf/glasgow-coma-scale.pdf>

CRANIAL NERVES



INDICATIONS:

BACTISEAL CATHETER

The CODMAN BACTISEAL EVD Catheter and CODMAN BACTISEAL Clear EVD Catheter Sets (BACTISEAL EVD Catheters), are indicated for gaining access to the ventricles of the brain and can be used with dimensionally compatible devices for draining cerebrospinal fluid (CSF) and other fluids of similar physical characteristics as a means of reducing intracranial pressure and CSF volume.

CAK KIT

The CODMAN(R) Cranial Access Kit is indicated when a craniotomy is required for placement of an intracranial pressure (ICP) monitoring device and/or cerebrospinal fluid drainage procedures.

EDS 3 SYSTEM

Use of the CODMAN EDS 3 CSF External Drainage System (EDS 3) is indicated for draining cerebrospinal fluid (CSF) and other fluids of similar physical characteristics as a means of reducing intracranial pressure and CSF volume when the insertion of a permanent, internal shunt is not indicated.¹⁻⁴

References:

1. Ingraham FD and Campbell JB: An apparatus for closed drainage of the ventricular system. *Ann Surg* 114: 1096–1098, 1941.
2. Bering EA: A simplified apparatus for constant ventricular drainage. *J Neurosurg* 8: 450–452, 1951.
3. White RJ, Dakers J, Young H, et al: continuous control of CSF volume and pressure with an externalized valve-drainage system. *Trans Am Soc Artif Intern Organs* 13: 332–333, 1967.
4. White RK, Dakers JG, et al: Temporary control of cerebrospinal fluid volume and pressure by means of an externalized valve-drainage system. *J Neurosurg* 30: 264–269, 1969.

Committed to Advancing Patient Care

CODMAN ICP EXPRESS SYSTEM

BACTISEAL EVD Catheters | EDS 3 CSF External Drainage

CODMAN Cranial Access Kits

ADDITIONAL RESOURCES

- ICP EXPRESS Monitoring System and CODMAN MICROSENSOR ICP Transducer Pocket Reference Guide
- NCC Solutions In-Service DVD
- Nursing Matters Education Days

REFERENCES

1. Pattavilakom, A, Kotasnas, D, Korman, T. M. Duration of In Vivo Antimicrobial Activity of Antibiotic-Impregnated Cerebrospinal Fluid Catheters. *Neurosurgery*, Vol 58, Number 5, May 06.
2. Bayston R, Lambert E. Duration of protective activity of cerebrospinal fluid shunt catheters impregnated with antimicrobial catheter related infection. *J Neurosurgery* 87:247-251, 1997.
3. Bayston R, Ashraf W, Bhundia C. Mode of action of an antimicrobial biomaterial for use in hydrocephalus shunts. *J. Antimicrobial Chemotherapy* vol. 53, 778-782, March 2004.
4. Greenberg, M. *Handbook of Neurosurgery*, 5th Edition. Thieme 2001.

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WARNING: In the USA, this product has labeling limitations. See package insert for complete information.

CAUTION: USA Law restricts these devices to sale by or on the order of a physician.

To order in the U.S. call, Johnson & Johnson Health Care Systems Inc. Customer Support Services at 800-255-2500.

Not all products are currently available in all markets.

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