REGIONAL ANESTHESIA & PAIN MANAGEMENT

The Clear Choice in Continuous *Nerve Blocks (CNB)*

Developed together with Dr. Ban Tsui, the E-Cath / E-Cath Plus combines the best from clinical experience and engineering expertise, resulting in a system that addresses the biggest catheter problems in CNBs: complexity, catheter kinking, anesthetic leakage and catheter dislocation and migration.[1,2,3,4]

→ The results are easier, faster and more reliable continuous nerve blocks and the reduction of workload during postoperative pain management.

Is your traditional catheter system giving you headaches?

LEAKAGE

MISSING AN EXTRA HAND

DIFFICULT TO PLACE

DISLOCATION

TOO MANY STEPS

MIGRATION

KINKING

E-CATH / E-CATH PLUS ADVANTAGES

- Makes catheter placement as easy as a single shot
- Reduces the chance of leakage
- Reduces the chance of dislocation and catheter migration[1]
- Reduces the chance of catheter kinking
- Offers an optimized local anesthetic spread
- Provides optimized ultrasound visiblility of needle tip, needle shaft, and catheter

E-Cath® & E-Cath® Plus

E-Cath

SonoPlex needle with facet tip, indwelling catheter and E-Catheter

Indwelling catheter working length	SonoPlex® needle	E-Catheter	Item no.	PU	FixoCath	Filter 0.2 µm
18G x 51 mm (2")	21G x 68 mm (2 2/3")	20G	201285-40E	10	•	•
18G x 75 mm (3")	21G x 94 mm (3 2/3")	20G	211285-40E	10	•	•
18G x 83 mm (3 1/4")	21G x 101 mm (4")	20G	241285-40E	10	•	•
18G x 100 mm (4")	21G x 118 mm (4 3/4")	20G	261285-40E	10	•	•
18G x 130 mm (5 2/5")	21G x 150 mm (6")	20G	251285-40E	10	•	•
18G x 150 mm (6")	21G x 168 mm (6 3/5")	20G	271285-40E	10	•	•

E-Cath Plus

SonoPlex needle with facet tip, indwelling catheter and E-Catheter with stylet (beginning 70 mm from tip) and 15 mm extended tip

Indwelling catheter working length	SonoPlex needle	E-Catheter	Item no.	PU	FixoCath	Filter 0.2 µm
18G x 51 mm (2")	21G x 68 mm (2 2/3")	20G	201285-41E	10	•	•
18G x 75 mm (3")	21G x 94 mm (3 2/3")	20G	211285-41E	10	•	•
18G x 83 mm (3 1/4")	21G x 101 mm (4")	20G	241285-41E	10	•	•
18G x 100 mm (4")	21G x 118 mm (4 3/4")	20G	261285-41E	10	•	•
18G x 130 mm (5 2/5")	21G x 150 mm (6")	20G	251285-41E	10	•	•
18G x 150 mm (6")	21G x 168 mm (6 3/5")	20G	271285-41E	10	•	•

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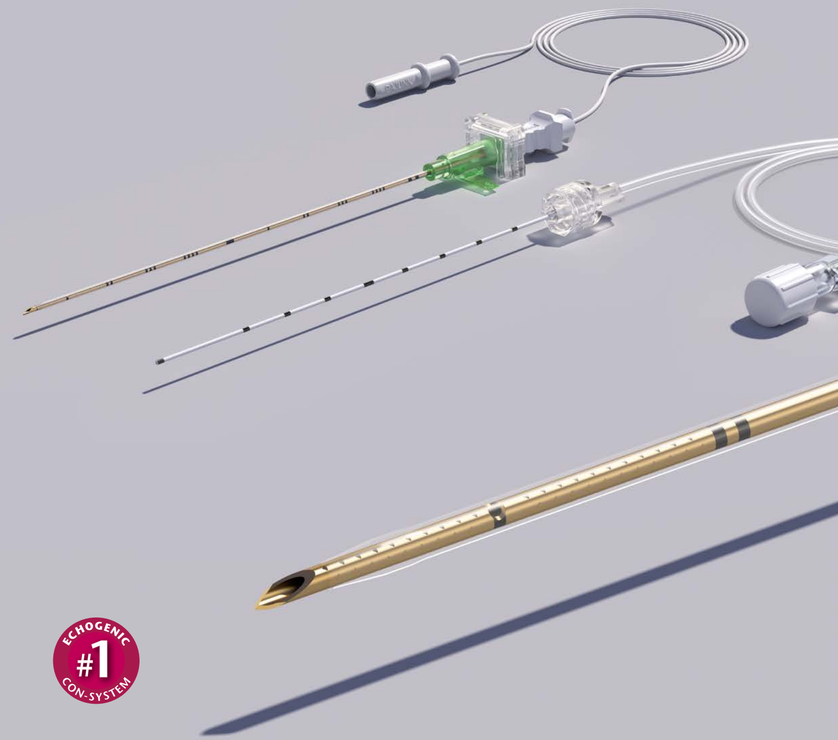
REGIONAL ANESTHESIA & PAIN MANAGEMENT

E-Cath® & E-Cath® Plus

Echogenic Catheter-Over-Needle CNB-System



ECHOGENIC #1 CON-SYSTEM

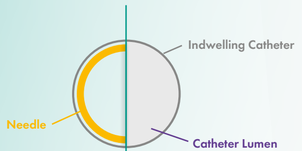
MADE IN GERMANY

Catheter-Over-Needle (CON)
Echogenic CNB-System

Making catheter placement as easy as a single shot.
→ The market leading echogenic CON system

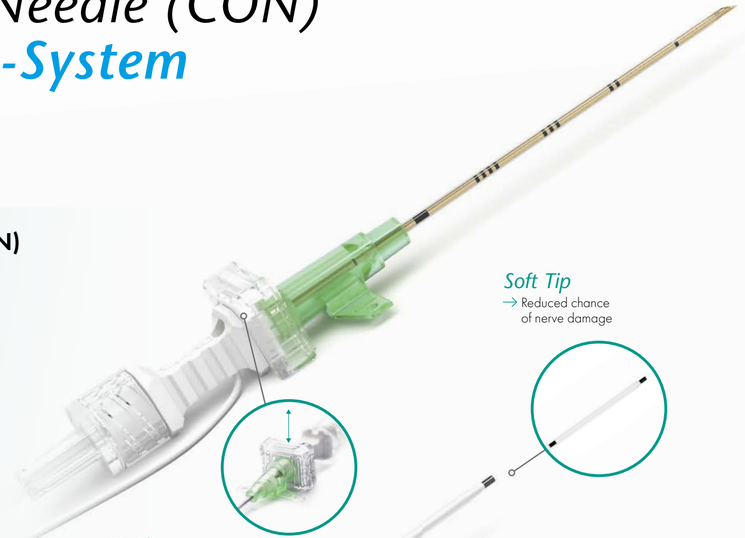
CATHETER-OVER-NEEDLE (CON) TECHNIQUE

▶ Significantly reduces the chance of anesthetic leakage and catheter dislocation or migration [4]



Before Needle Removal
Outer diameter of needle is **smaller** than the outer diameter of the indwelling catheter.

After Needle Removal
The puncture hole is **automatically sealed** reducing chance for leakage and dislocation.



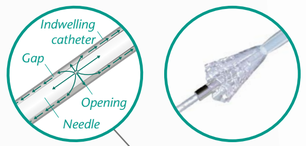
Soft Tip
→ Reduced chance of nerve damage

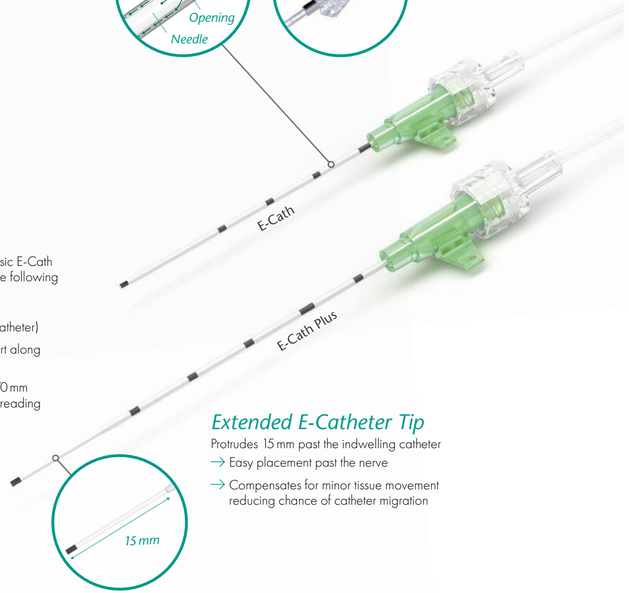
FixClip
→ Ensures a fixed connection between the needle and the indwelling catheter

Integrated Injection Tube
Reduction of procedural steps
→ Catheter adapter is pre-assembled to the catheter system

Double Layer Catheter Technology
→ Significantly reduces the chance of kinking
→ Allows for consistent anesthetic flow

Self Priming System
E-Catheter comes with a proximal opening which allows the anesthetic to flow, besides the open tip, also between the outer wall and the indwelling catheter
→ Creates 360 degree flow
→ Improves ultrasound visibility





E-Cath Plus
Brings all the benefits of the classic E-Cath system and offers additionally the following features:
→ Longer inner catheter tip (15 mm past the indwelling catheter)
→ Unique 360 degree side port along the 3 lateral openings
→ Integrated stylet beginning 70 mm from tip for easier catheter threading

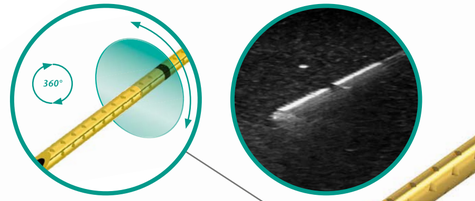
Extended E-Catheter Tip
Protrudes 15 mm past the indwelling catheter
→ Easy placement past the nerve
→ Compensates for minor tissue movement reducing chance of catheter migration

1. **Ip V. H. Y. et al.** The catheter-over-needle assembly offers greater stability and less leakage compared to the traditionalcounterpart in continuous interscalene nerve blocks: a randomized, patient-blinded study, Can. J. Anesth. 2013; 60: 1272–1273
2. **Ip V. H. Y. et al.** The safety of an interscalene catheter-over-needle technique, Anesth. 2013; 68: 774–775
3. **Herring A. A. et al.** Emergency department placement of perineural catheters for femoral fracture pain management, Am. J. Emerg. Med. 2014; 32(3), 287: 1–3
4. **Tsui B. C. H. et al.** Less leakage and dislodgement with a catheter-over-needle versus a catheter through-needle approach for peripheral nerve block, an ex vivo study, Can. J. Anesth. 2012; 59: 655–661 (E-Cath is called Multi-Set in this study)

SonoPlex Needle

All E-Cath systems are supplied with the SonoPlex needle, the leading echogenic nerve block needle globally. The SonoPlex includes the patented Cornerstone Reflectors for best needle echogenicity possible, irrespective of the insertion angle for placement under ultrasound and stimulation techniques (Dual Guidance).

Cornerstone Reflectors
360 degree graduations on the first 20 mm of the needle
→ Optimized ultrasound visibility of needle shaft [5]
→ Reliable and optimized needle visualization at any angle [6,7]



NanoLine® Coating
Very thin polymer film, smooth surface, accurate inner and outer diameter
→ Excellent puncture and gliding properties through smooth surface
→ Improves visibility under ultrasound [7]
→ Precise stimulation through the non-insulated needle tip

Depth Markings
→ Easy to read and identify

Self Priming System
Needle comes with a distal opening which allows the anesthetic to flow, besides the needle tip, also between the outer needle wall and the indwelling catheter
→ Improves ultrasound visibility

Echogenic Needle Tip
Facet tip with two inclination angles
→ Improves needle tip visibility under ultrasound

5. **Fuzier R. et al.** The echogenicity of nerve blockade needles, Anesth. 2015; 70: 462–466
6. **Uppal V. et al.** Effect of beam steering on the visibility of echogenic and non-echogenic needles: a laboratory study, Can. J. Anesth. 2014 Oct; 61(10): 909–915
7. **Hebard S., Hocking G.** Echogenic technology can improve needle visibility during ultrasound-guided regional anesthesia, Reg. Anesth. Pain Med. 2011 March–April; 36(2): 185–189