

# 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, anaesthetic leakage and catheter dislocation and migration.<sup>1,2,3,4</sup>

→ The results are easier, faster, safer 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 3RD HAND**  
**DIFFICULT TO PLACE**  
**DISLOCATION**  
**TOO MANY STEPS**  
**MIGRATION**  
**KINKING**



## E-CATH / E-CATH PLUS ADVANTAGES

- ▶ Making catheter placement as easy as a single shot
- ▶ Reducing the chance of leakage
- ▶ Reducing the chance of dislocation and catheter migration<sup>1</sup>
- ▶ Reducing the chance of catheter kinking
- ▶ Offering an optimised local anaesthetic spread
- ▶ Providing optimised ultrasound visibility of needle tip, needle shaft, and catheter

### E-Cath® & E-Cath® Plus

E-Cath	Indwelling catheter working length	SonoPlex® needle	E-Catheter	Item no.	NRFit® Item no.	PU	Fixolong	Filter 0.2 µm
SonoPlex needle with facet tip, indwelling catheter and E-Catheter	18G x 51 mm (2")	21G x 68 mm (2 2/3")	20G	201185-40E	201165-40E	10	•	•
	18G x 75 mm (3")	21G x 94 mm (3 2/3")	20G	211185-40E	211165-40E	10	•	•
	18G x 83 mm (3 1/4")	21G x 101 mm (4")	20G	241185-40E	241165-40E	10	•	•
	18G x 100 mm (4")	21G x 118 mm (4 3/4")	20G	261185-40E		10	•	•
	18G x 130 mm (5 2/5")	21G x 150 mm (6")	20G	251185-40E	251165-40E	10	•	•
	18G x 150 mm (6")	21G x 168 mm (6 3/5")	20G	271185-40E		10	•	•

E-Cath Plus	Indwelling catheter working length	SonoPlex needle	E-Catheter	Item no.	NRFit Item no.	PU	Fixolong	Filter 0.2 µm
SonoPlex needle with facet tip, indwelling catheter and E-Catheter with stylet (beginning 70 mm from tip) and 15 mm extended tip	18G x 51 mm (2")	21G x 68 mm (2 2/3")	20G	201185-41E	201165-41E	10	•	•
	18G x 75 mm (3")	21G x 94 mm (3 2/3")	20G	211185-41E	211165-41E	10	•	•
	18G x 83 mm (3 1/4")	21G x 101 mm (4")	20G	241185-41E	241165-41E	10	•	•
	18G x 100 mm (4")	21G x 118 mm (4 3/4")	20G	261185-41E		10	•	•
	18G x 130 mm (5 2/5")	21G x 150 mm (6")	20G	251185-41E	251165-41E	10	•	•
	18G x 150 mm (6")	21G x 168 mm (6 3/5")	20G	271185-41E		10	•	•

NRFit sets with SonoPlex II needle

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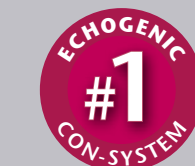
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## E-Cath® & E-Cath® Plus

Echogenic Catheter-Over-Needle CNB-System



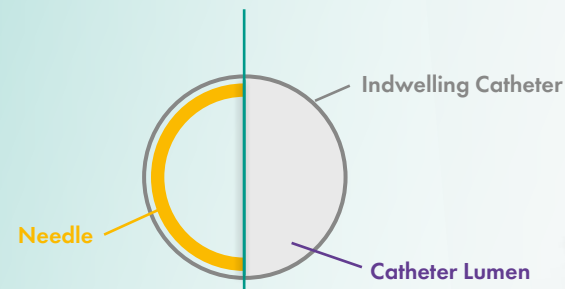
# Catheter-Over-Needle (CON) Echogenic CNB-System

Making catheter placement as easy as a single shot.



## CATHETER-OVER-NEEDLE (CON) TECHNIQUE

► Significantly reduces the chance of anaesthetic leakage and catheter dislocation or migration<sup>4</sup>



### 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.

## Integrated Injection Tube

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

## FixClip

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

## Double Layer Catheter Technology

→ Significantly reduces the chance of kinking  
→ Allows for consistent anaesthetic flow

## Soft Tip

→ Reduced chance of nerve damage

## Self Priming System

E-Catheter comes with a proximal opening which allows the anaesthetic to flow, besides the open tip, also between the outer wall and the indwelling catheter  
→ Creates 360 degree flow  
→ Improves the U/S-visibility

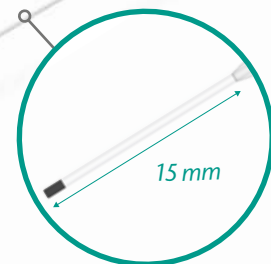
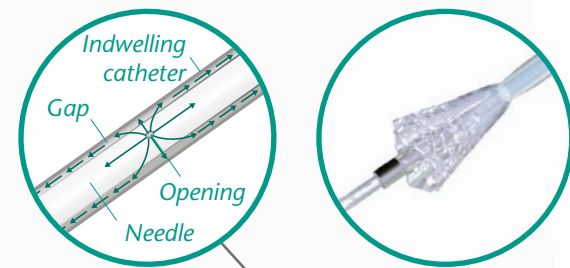
## E-Cath Plus

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

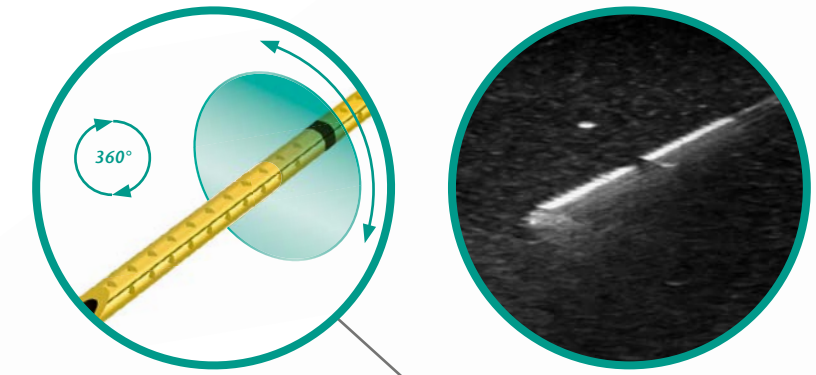
## Extended E-Catheter Tip

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



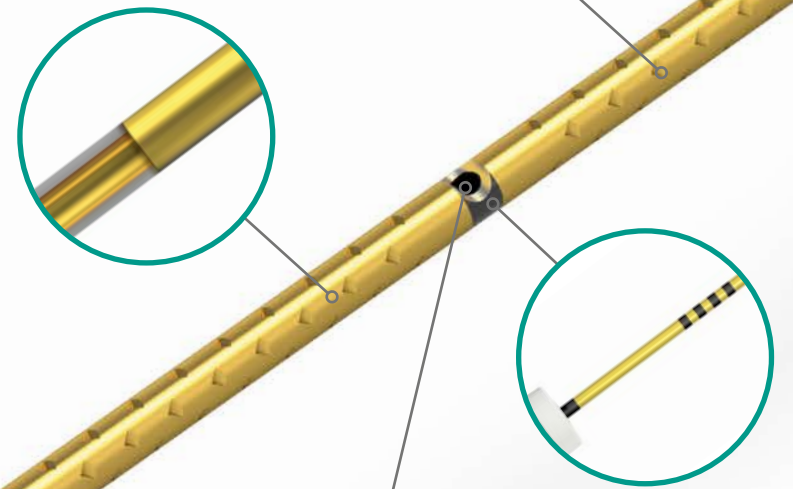
## Cornerstone Reflectors

360 degree graduations on the first 20 mm of the needle  
→ Optimised ultrasound visibility of needle shaft<sup>5</sup>  
→ Reliable and optimised needle visualisation at any angle<sup>6,7</sup>



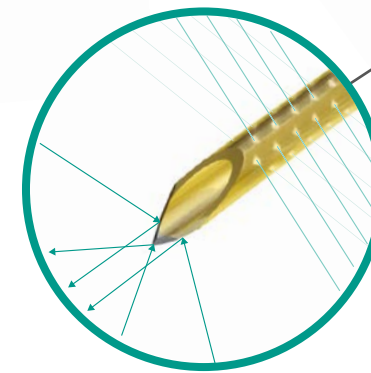
## NanoLine® Coating

Very thin polymer film, smooth surface, accurate inner and outer diameter  
→ Excellent puncture and gliding properties through smooth surface  
→ Improves visibility under ultrasound<sup>7</sup>  
→ Precise stimulation through the non-insulated needle tip



## Depth Markings

→ Easy to read and identify

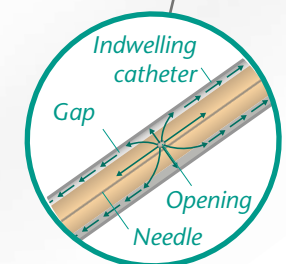


## Echogenic Needle Tip

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

## Self Priming System

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



1. Ip V. H. Y. et al. The catheter-over-needle assembly offers greater stability and less leakage compared to the traditional counterpart 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. Manning A. A. et al. Emergency department placement of peripheral 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].

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.



Also available in NRFit®