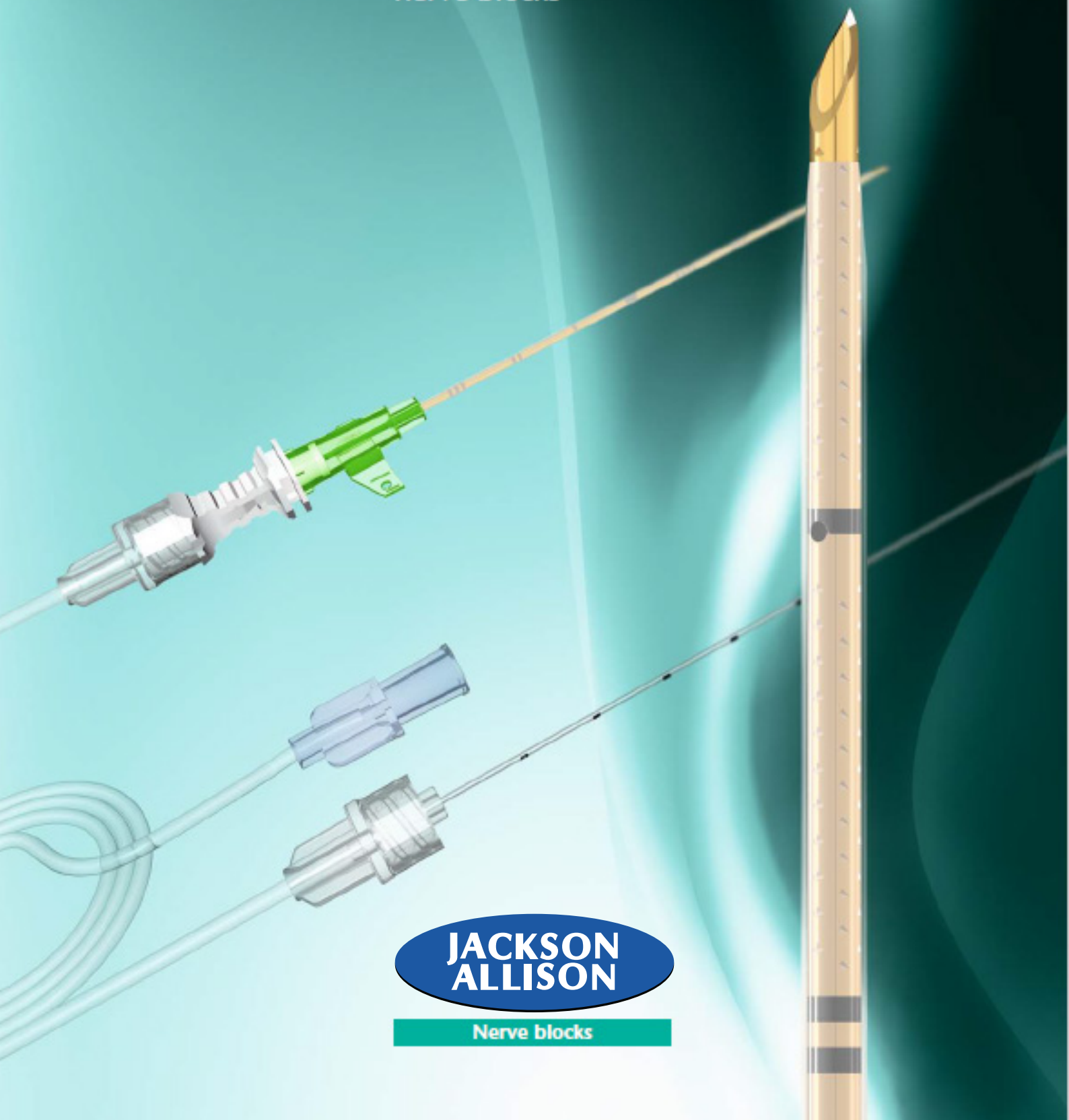
PAJUNK®

E-Cath according to Tsui

The revolutionary technique for continuous peripheral nerve blocks



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Nerve blocks

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E-Cath

Simple, safe, quick [1]

Continuous peripheral regional anaesthesia with E-Cath

E-Cath, a joint development from Dr. Ban Tsui and PAJUNK ®, gives new impulses for regional anaesthesia. This set is as easy to use as the single shot technique and the positioning of the catheter can be carried out by one person in a few work steps.[2] In addition the outstanding visibility of cannula and catheter under ultrasound monitoring as well as the option for combining with electrical stimulation (dual guidance) increases the safety of precise nerve localization.[3]

1 Shakespeare, Tsui, Catheter-over-needle method ..., 2013; 60: 948–949
2 Ip, Tsui, The catheter-over-needle assembly ..., 2013; 693
3 Ip, Tsui, The Safety of an interscalene ..., 2013; 68: 774–775

Procedure

➡ Puncture with the SonoPlex Stim cannula and indwelling catheter

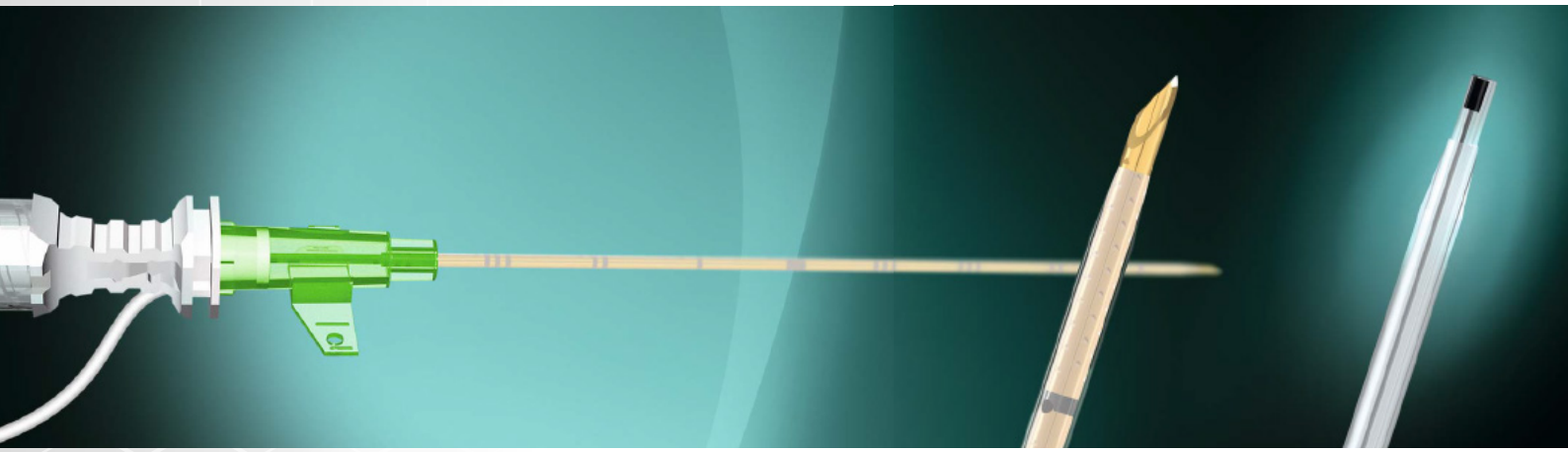
➡ The cannula is retracted

➡ The E-catheter is introduced over the indwelling catheter

➡ and fixed in the indwelling catheter via the Luer lock connection

The advantages of E-Cath at a glance:

1. *Positioning is as easy as the single shot technique*
2. PATENT PENDING — ***Echogenicity of cannula and catheter:*** *The ultrasound visibility is increased due to the SelfPriming system*
3. ***Electrical stimulation*** *can optionally be used alone or in combination with ultrasound (dual guidance)*
4. ***Soft catheter tip*** *for more comfort and safety*
5. ***"Catheter over needle" technique*** *reduces the risk of leakage and dislocation to a minimum*
6. ***Double layered design of E-catheter and indwelling catheter*** *enables an unhindered flow of the anaesthetic*
7. *The combination of a* ***lateral and central opening of the E-catheter*** *also ensures the continuous flow*
8. PATENT PENDING — ***E-catheter with integrated injection tube and Luer lock connection*** *replaces the clamping adapter*



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E-Cath

As easy as the single shot

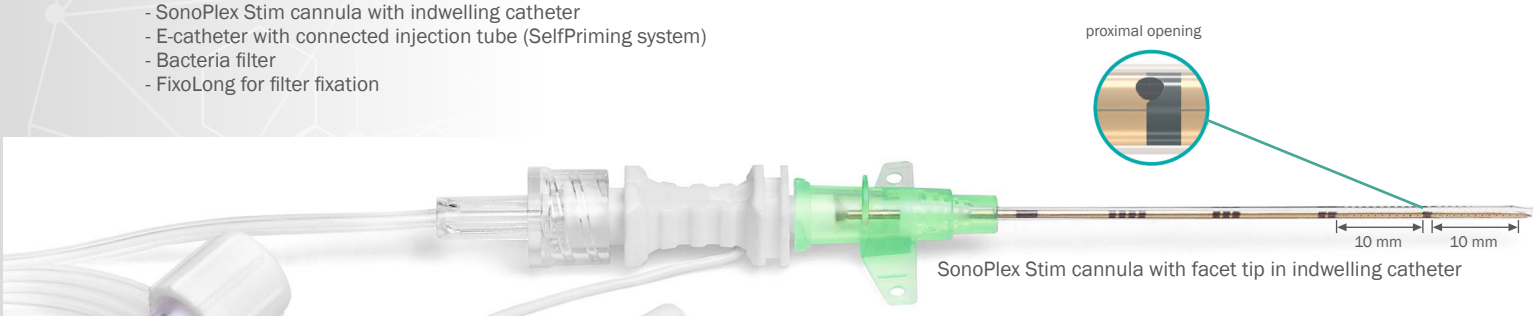
The E-Cath puncture technique

The main advantage of the single shot technique is that its performance is simple but not time-consuming.4 It is exactly these benefits that the E-Cath combines together with simple access for the catheter in a set.

4 Tsui, Tsui, Less leakage and dislodgement ..., 2012; 59: 656–659

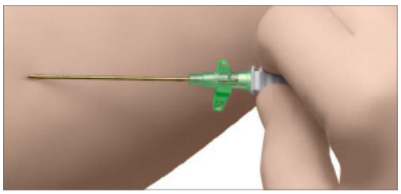
The E-Cath set consists of the following components:

- SonoPlex Stim cannula with indwelling catheter
- E-catheter with connected injection tube (SelfPriming system)
- Bacteria filter
- FixoLong for filter fixation

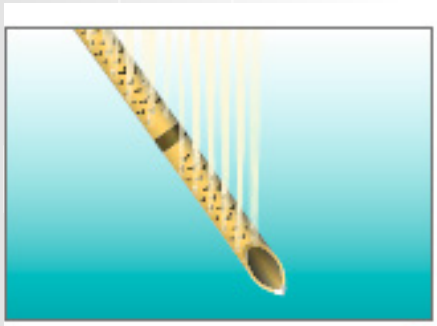


SonoPlex Stim cannula with facet tip in indwelling catheter

- As easy as the single shot technique
- Outstanding reflection properties due to “Cornerstone” reflectors and SelfPriming system
- Double safety thanks to “dual guidance”
- Few work steps – third hand problem solved

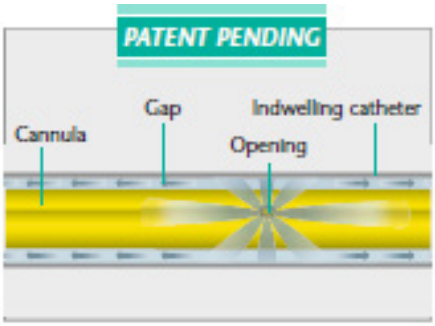


The SonoPlex Stim cannula is introduced with the indwelling catheter and an appropriate solution is injected. The localization of the cannula takes place under ultrasound monitoring and can be combined optionally with electric stimulation. The indwelling catheter is subsequently used as an access system for the E-catheter.



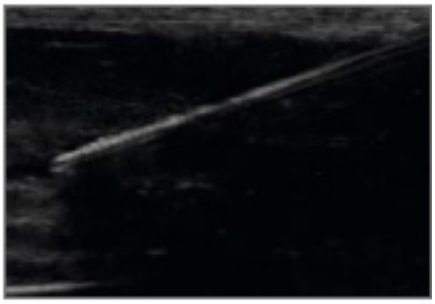
“Cornerstone” reflectors

The distal end of the SonoPlex Stim cannula has two embossed sections of 10 mm length each. Accordingly, the ultrasonic waves are refl ected over a total length of 20 mm.



SelfPriming system

The SonoPlex Stim cannula has a lateral opening. When a solution is injected, it does not only flow through the central opening but also laterally between the cannula outer wall and indwelling catheter. A patent is pending for this SelfPriming system.



Perfect ultrasound visibility

A glance at the ultrasound image clarifies: Thanks to the liquid layer, the “Cornerstone” reflectors can fully exploit their echogenic properties.

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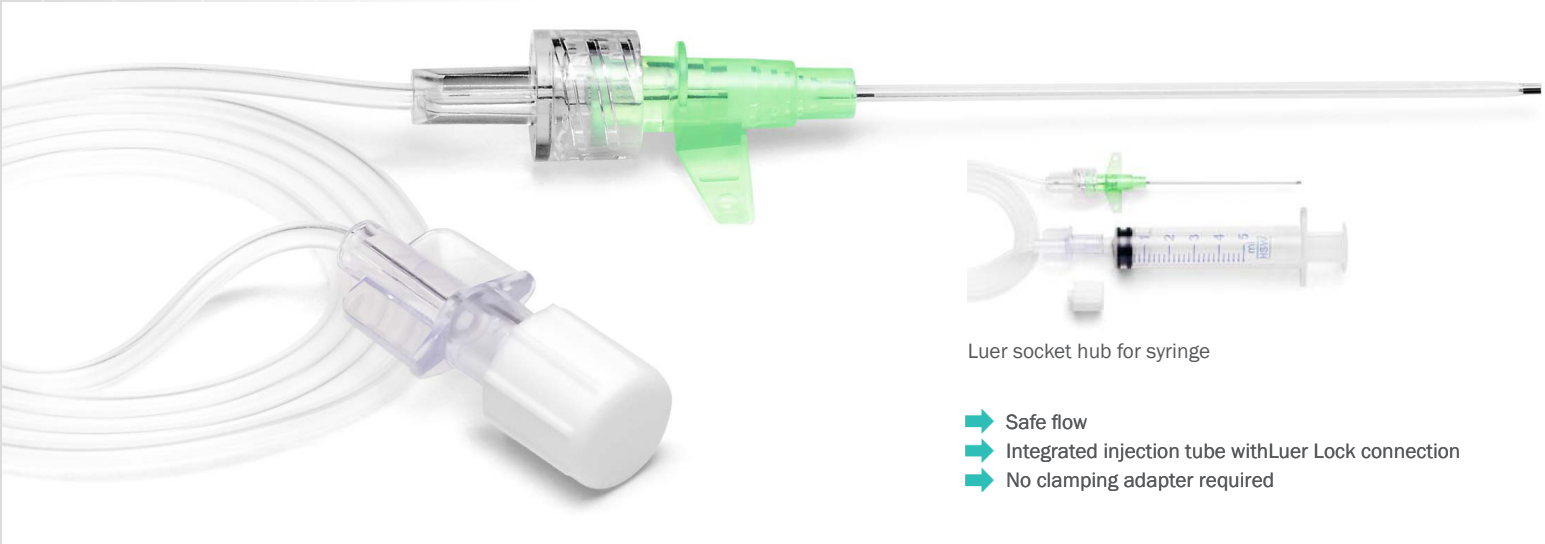
E-Cath

Quickly positioned and safely anchored

The positioning of the E-catheter

The E-catheter is positioned through the indwelling cannula in a few work steps.[5] This ultrasound-guided "Catheter over Needle" (CON) technique can be performed by the anaesthetist alone.[6] As the cannula diameter is smaller than the catheter diameter, the diameter of the insertion point is also smaller.[7] This involves another positive aspect of this CON technique – namely the minimization of the risk of leaks and dislocation.[8]

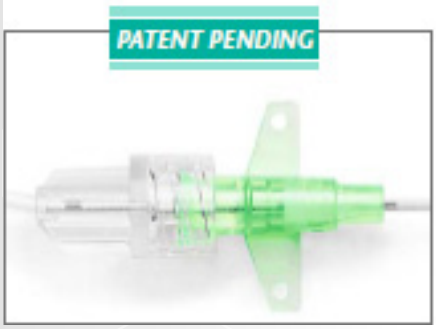
5 Ip, Tsui, The Safety of an interscalene ..., 2013; 68: 774–775
6 Tsui, Tsui, Less leakage and dislodgement ..., 2012; 59: 656–659
7 Ip, Boulaine, Tsui, Potential contamination of ..., 2012; 59: 1125 ff.
8 Shakespeare, Tsui, Catheter-over-needle method ..., 2013; 60: 948–949



Luer socket hub for syringe

- Safe flow
- Integrated injection tube withLuer Lock connection
- No clamping adapter required

In the second step, the E-catheter is introduced in the indwelling catheter. Its position is fixed with the aid of the Luer lock connection.

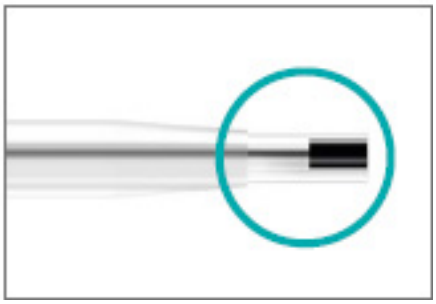


Integrated injection tube with Luer Lock connection
The E-Cath system with Luer Lock connection (patent pending) enables a direct injection of the anaesthetic through the injection tube.

- The SelfPriming system is therefore set up.
- The connection of a clamping adapter is not necessary.

Safe flow
The stable design of the E-catheter is enhanced by the indwelling catheter and increases the flow safety.

- The catheter has a high degree of flexibility during infusion. The unhindered flow of anaesthetic is simultaneously guaranteed.



Soft tip
The catheter has a soft tip.

- This means an increase in comfort and safety for the user and patient.

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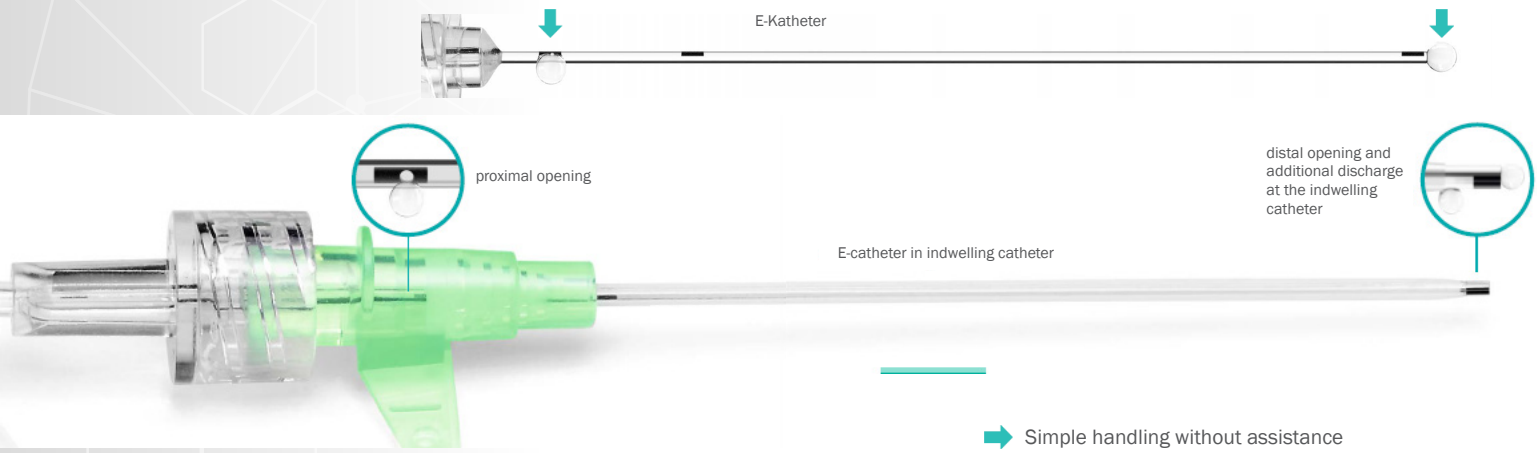
E-Cath

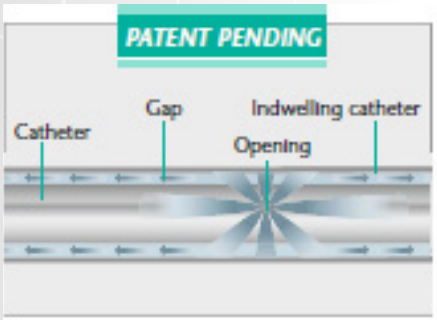
Echogenic and reliable

Continuous blocks with the E-catheter

What applies for the SonoPlex Stim cannula also applies for the E-catheter. Its outstanding visibility under ultrasound monitoring means an increase in safety for the anaesthetist during position control. The SelfPriming system (patent pending) is also responsible for this.

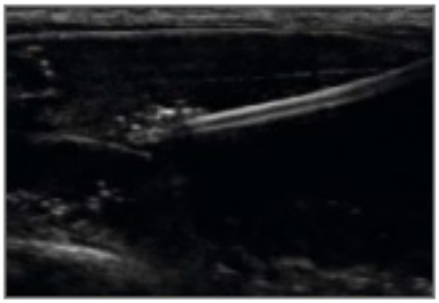


- Simple handling without assistance
- Ultrasound visibility due to SelfPriming system (patent pending)
- Continuous flow due to central and lateral discharge of anaesthetic



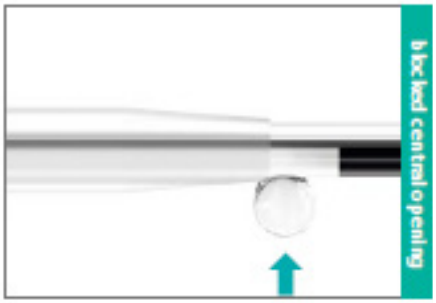
SelfPriming system

In addition to the central opening, the E-catheter also has a lateral opening, i.e. when injecting the anaesthetic; it also flows between the outer wall of the catheter and the inner wall of the indwelling catheter.
The E-catheter has outstanding echogenic properties as a result of this SelfPriming system (patent pending).



Perfect ultrasound visibility

A glance at the ultrasound image clarifies: Thanks to the liquid layer between the catheter and indwelling catheter, the E-catheter also develops optimum echogenic properties so that its position can be clearly identified.



Continuity of the nerve block

As a result of the additional lateral opening, the discharge of anaesthetic is then also guaranteed when the central opening of the catheter is blocked with tissue, for example.

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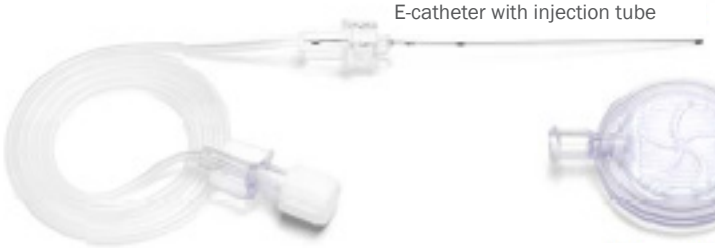
E-Cath

E-Cath according to Tsui

SonoPlex Stim cannula

FixoLong

E-catheter with injection tube



Bacteria filter

FixoLong filter fixation
With FixoLong, the filter near the catheter exit is fixated, which guarantees the patients maximum freedom of movement during all continual applications.

Bacteria filter
The 0.2 µm bacteria filter prevents the passage of particles.

E-Cath

Set consisting of SonoPlex Stim cannula with facet tip, E-catheter and indwelling catheter

Product Number	Size	E-catheter	Indwelling catheter	QTY	0.2 µm bacteria filter	FixoLong
201185-40E	21 G	20 G	18 G x 51 mm	10	•	•
211185-40E	21 G	20 G	18 G x 75 mm	10	•	•
241185-40E	21 G	20 G	18 G x 83 mm	10	•	•

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