PERIPHERAL ANESTHESIA

SonoLong SoftSecure

Intuitive Method of Catheter Placement for Peripheral Nerve Blocks

Made in Germany

PAJUNK®

Clinical Requirements

Precision in Catheter Placement

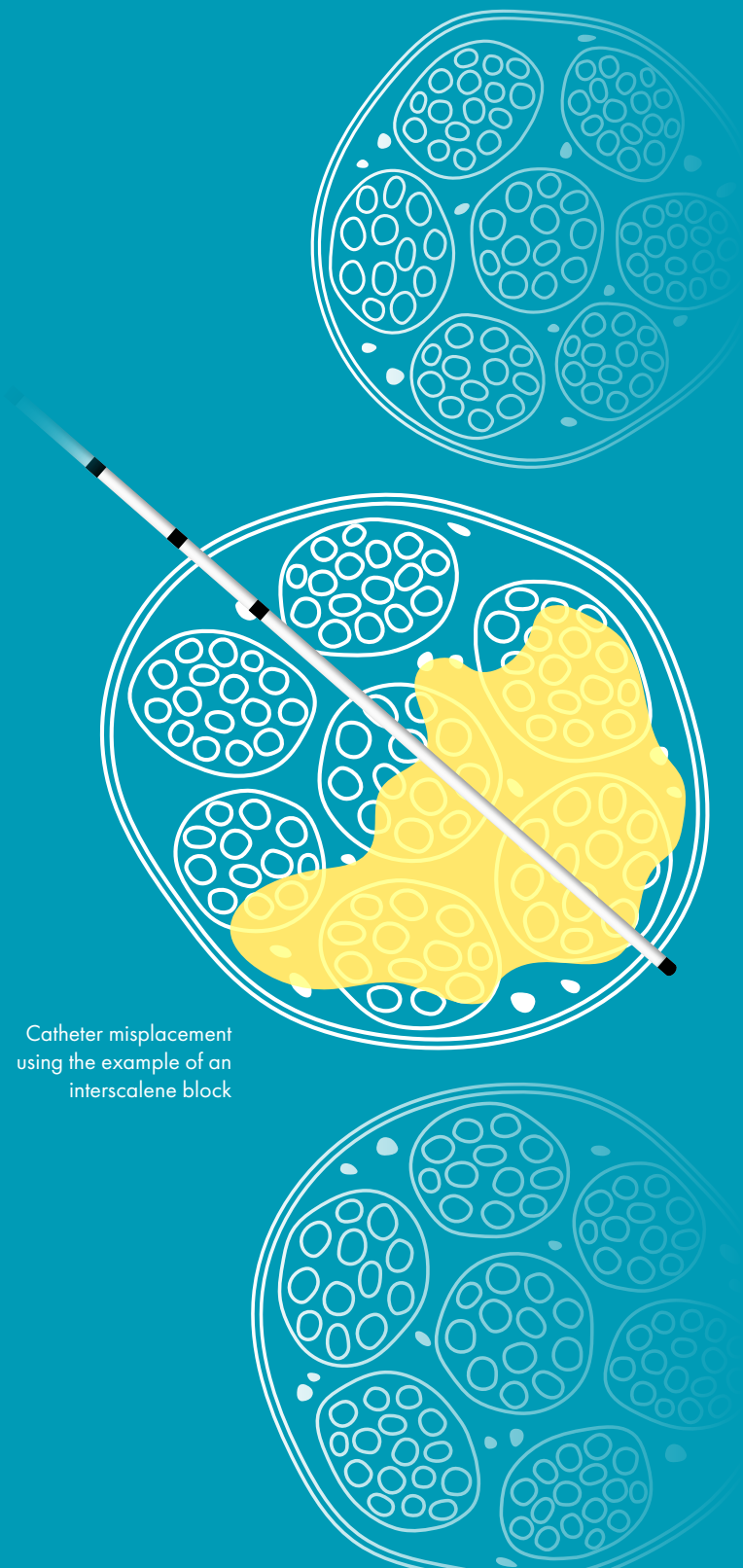
Precise and permanent placement of the catheter is of crucial importance for reliable performance of peripheral nerve blocks. Marhofer et al.[1] have analyzed the causes and consequences of catheter misplacement in detail. Among other things, they found a highly significant correlation between the dwell time and the dislocation rate of the catheter for interscalene and femoral nerves.

Primary dislocation

If the catheter is pushed further through the nerve, the anesthetic not only misses its target area, but serious complications such as injury to nerve structures and blood vessels can also occur.

Secondary dislocation

Early mobilization of patients also carries the risk of catheter migration. This can damage vessels or nerves and the efficacy of the regional anesthetic cannot be safely guaranteed.



Catheter misplacement using the example of an interscalene block

1. **Marhofer D. et al.** (2013). Dislocation rates of perineural catheters: a volunteer study. *British Journal of Anaesthesia,* 111: 800–806.

Relevance of the catheter material

An important starting point for reducing the dislocation rate is the quality of the catheter tip. In 2012, Shih et al. found a direct correlation between the stiffness of the catheter material and the dislocation rate during epidural block.[2]

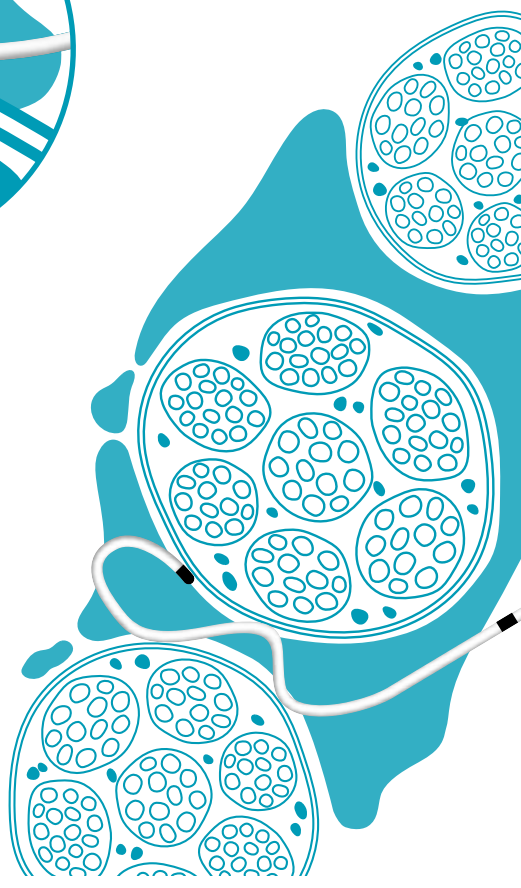
This is exactly where the PAJUNK® development started off from. The result is the SonoLong SoftSecure catheter which is characterized by a soft catheter material and is equipped with a stylet, a stainless steel spiral, and three lateral openings.

"With this combination of atraumatic, flexible catheter material, and a stable architecture, Pajunk has established a new generation of catheters that virtually eliminate dislocation."

Frederik Lehn, Head of Development at Pajunk

The soft tip of the SonoLong SoftSecure catheter ensures precise placement, as the tip is deflected away from the nerve wall due to the wall's resistance.

For the same reason, the catheter is also held back by the surrounding, firmer structures of the fascia and rolls up in the immediate vicinity. Further advancement of the catheter and subsequent dislocation during patient mobilization should be avoided.



2. **Shih C.-K. et al.** (2012). Soft catheters reduce the risk of intravascular cannulation during epidural block. *Koahsiung Journal of Medical Science*, 28: 373–376.

SonoLong SoftSecure Catheter

Soft Tip – Solid Core

Atraumatic Catheter Placement

Soft Catheter Material

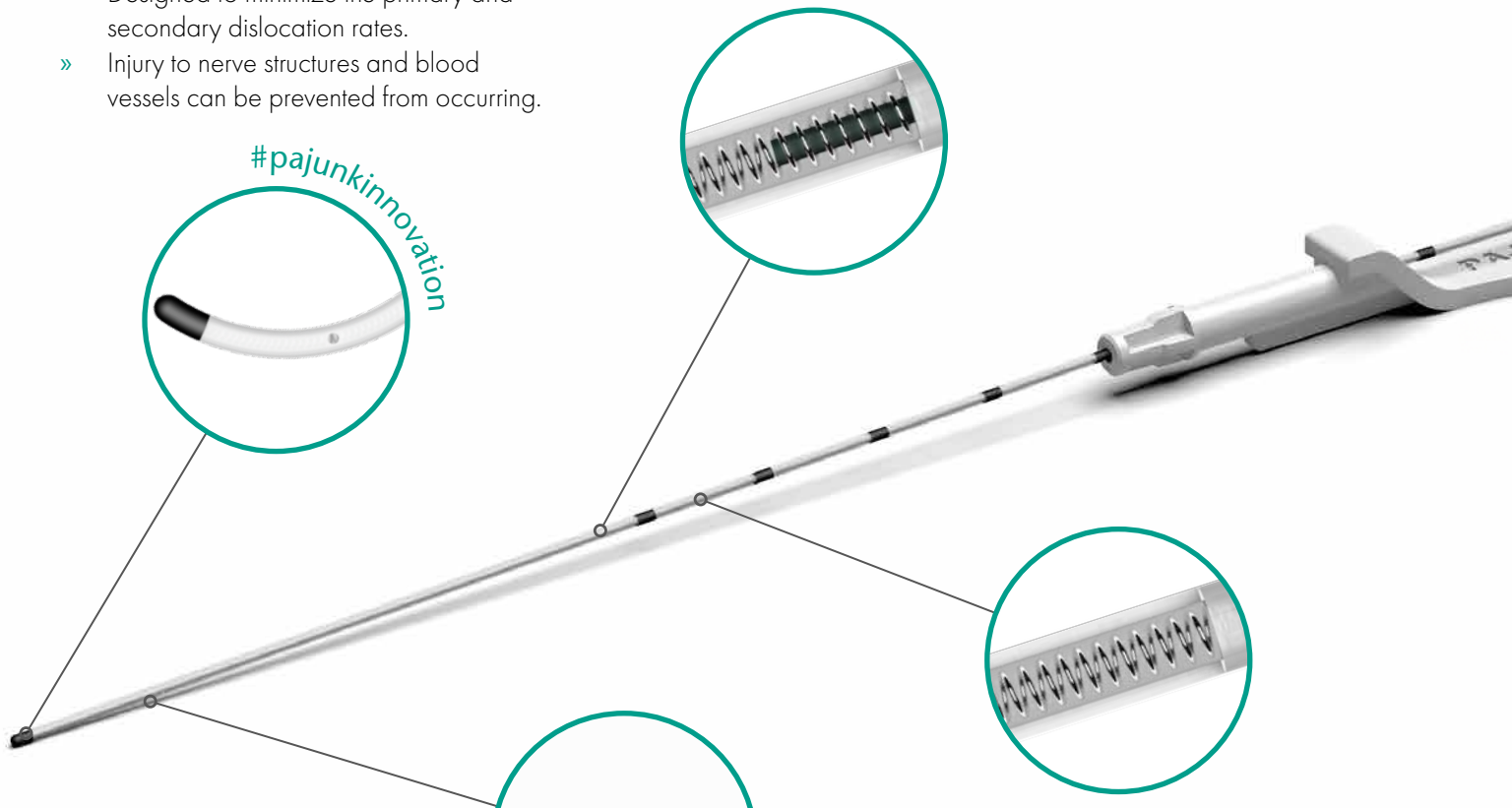
Makes the tip soft and flexible:

- Designed to minimize the primary and secondary dislocation rates.
- Injury to nerve structures and blood vessels can be prevented from occurring.

Stylet Ensures Stability

Stylet is set back 5 cm from the distal end:

- Supports convenient and secure placement.
- The soft catheter tip maintains its atraumatic properties.



Optimized Flow Rate and Distribution of the Anesthetic

Three Lateral Openings

Arranged around the first 1.1 cm, the tip is closed:

- Optimize even distribution of the anesthetic.

Integrated Stainless Steel Helical Coil

Ensures kink resistance and flexibility, and a stable inner lumen[3]:

- Enables a high anesthetic flow rate
- and a smooth connection to the injection pump.

3. **Toledano, R. D. et al.** (2014). Epidural Catheter Design – Histroy, Innovations and Clinical Implications. *Anesthesiology*, V 121, No 1.

Insertion and Orientation Aid

Markings and Graduations

Outlet markings for the SonoLong needle 50 mm, 100 mm, 150 mm and six ascending 360° markings in 5-cm increments up to 30 cm:

- Indicate where the catheter tip exits the needle.
- Support easy control of catheter position.

Catheter Container with Integrated Insertion Aid

Supports one-handed catheter insertion through the needle and tactile perception:

- Catheter placement is possible under sterile conditions since the catheter is protected by the catheter container.
- Memory effect can be avoided.

SonoLong NanoLine® Needle

Gold Standard for CTN Technique

Optimized Ultrasound Visibility and Stimulation

NanoLine Coating

Ultra-thin polymer layer in the inner and outer lumen:

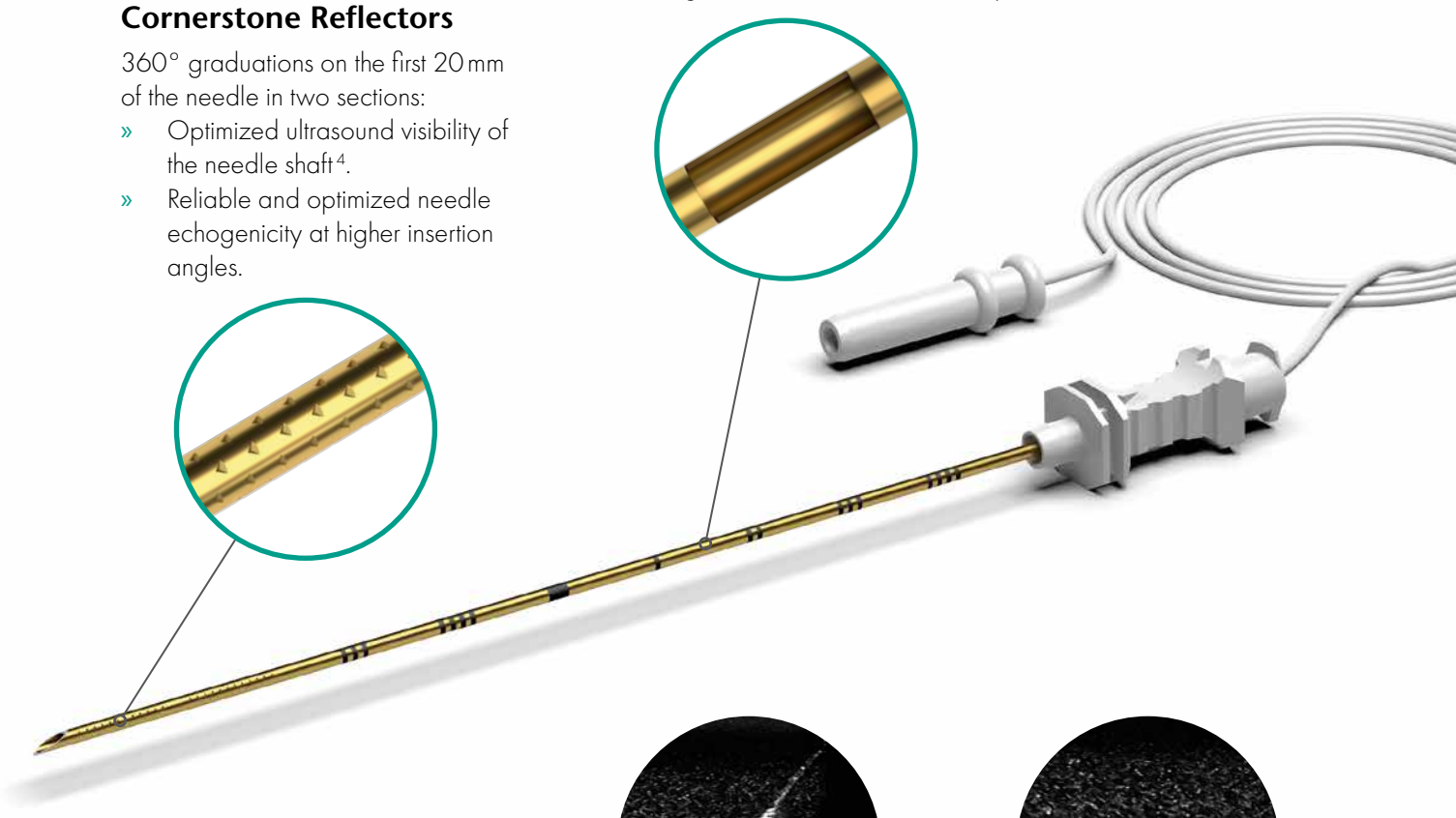
» Increased stimulation precision only through the non-insulated needle tip.

Cornerstone Reflectors

360° graduations on the first 20 mm of the needle in two sections:

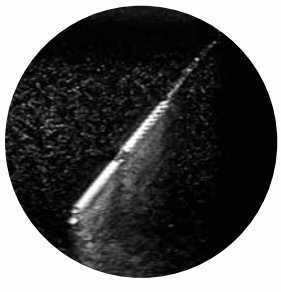
» Optimized ultrasound visibility of the needle shaft[4].

» Reliable and optimized needle echogenicity at higher insertion angles.

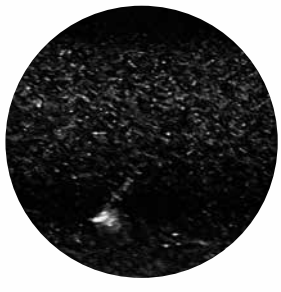


Comparison of Ultrasound Visibility with Cornerstone and NanoLine Technology*

*The following PAJUNK® products have been compared at an insertion angle of 50° using Blue Phantom: SonoPlex 22G with Cornerstone and NanoLine technology and Chiba 22G.



With Cornerstone and NanoLine Technology

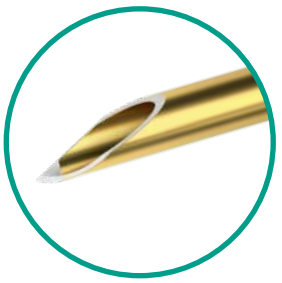


Without Cornerstone and NanoLine Technology

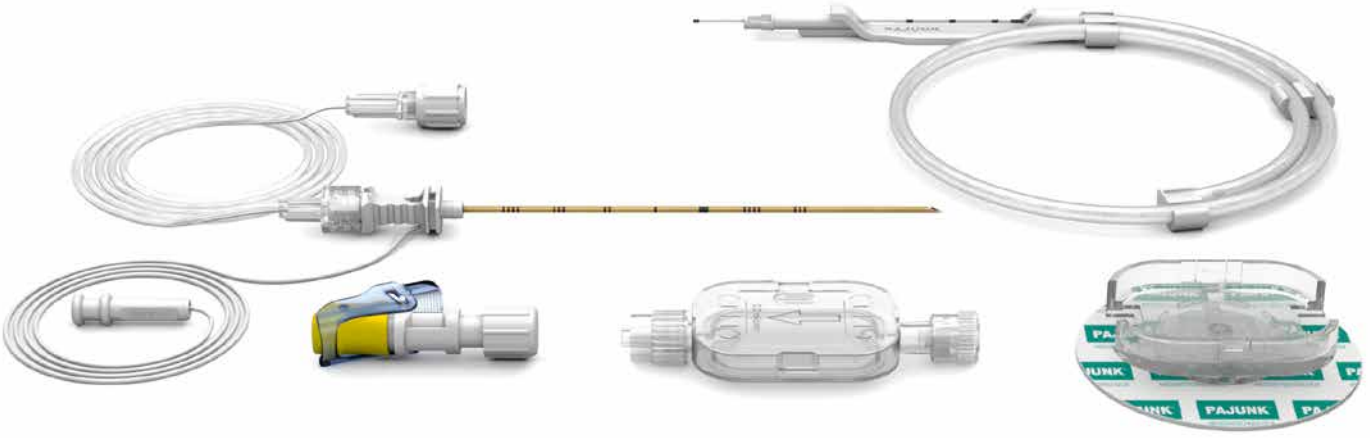
4. **Fuzier R. et al.** (2015). The echogenicity of nerve blockade needles. *Anesth.*, 70: 462–466.

SonoLong NanoLine Needles with Alternative Tip Geometries

Tuohy Tip



Facet Tip S



SonoLong SoftSecure

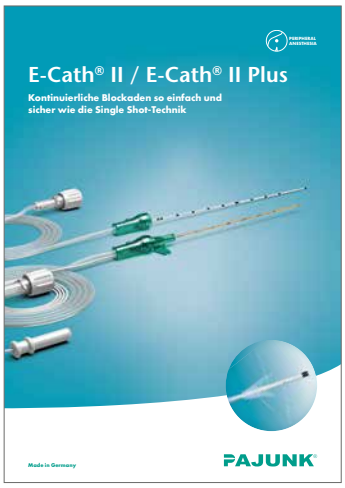
SonoLong SoftSecure With facet tip S	Needle size	Catheter size Closed tip and 3 lateral openings	Item no.	NRFit® item no.	PU	FixoLong + filter	Clamping adapter
	19G x 50 mm (2")	20G x 50 cm (20")	531189-31A	531169-31A	10	•	•
	19G x 100 mm (4")	20G x 50 cm (20")	521189-31A	521169-31A	10	•	•
	19G x 150 mm (6")	20G x 50 cm (20")	511189-31A	511169-31A	10	•	•

SonoLong SoftSecure With Tuohy tip	Needle size	Catheter size Closed tip and 3 lateral openings	Item no.	NRFit item no.	PU	FixoLong + filter	Clamping adapter
	18G x 50 mm (2")	20G x 50 cm (20")	531189-31C	531169-31C	10	•	•
	18G x 100 mm (4")	20G x 50 cm (20")	521189-31C	521169-31C	10	•	•

ISO LUER ISO NRFit®

Also available in NRFit®

Further PAJUNK® products from our portfolio for the application area of peripheral nerve blocks:



More information on
SonoLong SoftSecure

Not all devices are registered and approved for sale in all countries or regions. Even the instructions for use may differ depending on the country or region.
Please contact our representative in your country to get information on the availability of the devices.

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