



B.BRAUN REGIONAL ANAESTHESIA PORTFOLIO PRODUCT CATALOGUE

Reach your Targets quicker

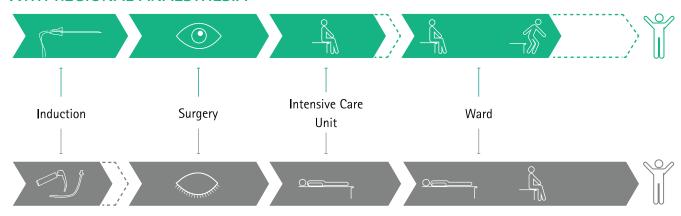
Thanks to Regional Anaesthesia

OPTIMIZE PROCESSES

Regional anaesthesia is an essential part of pain therapy. Across several interventions, it offers dear advantages when compared to general anaesthesia. ¹ For regional anaesthesia to become an important part of the peri-operative process, there are some prerequisites to consider, like the relevant indications, skilled personnel and the necessary internal processes at the hospital.

The rapid growth of use of regional anaesthesia and the numerous publications on the topic are a testament to how regional anaesthesia can have a positive impact on patient outcome as well as on efficiencies for the hospital.^{2,3}

WITH REGIONAL ANAESTHESIA

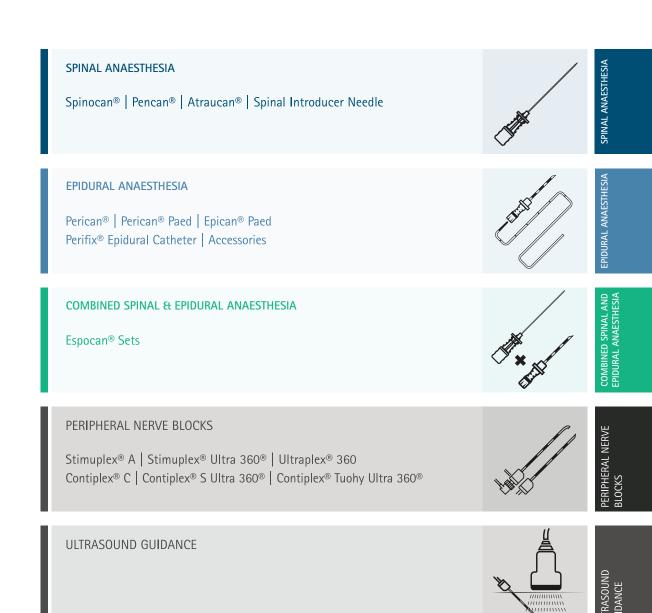


WITHOUT REGIONAL ANAESTHESIA

COMPARING TWO POTENTIAL INTERVENTIONS WITH AND WITHOUT REGIONAL ANAESTHESIA:

Looking holistically across the patient pathway, the establishment of regional anaesthesia processes appears to be a favourable investment When regional anaesthesia is used, patients see better outcomes, faster mobilization and consequently earlier discharge.^{4 5}

Content



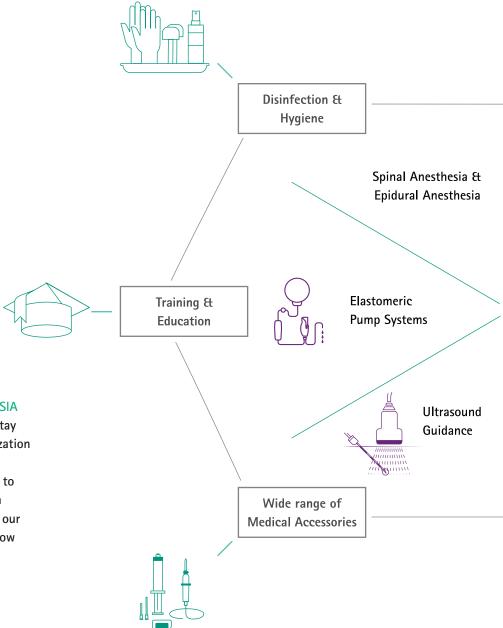
Pain Therapy with Regional Anaesthesia

Supported by B. Braun's Product Portfolio

B. BRAUN - A COMPETENT PARTNER

As one of the world's major providers in the area of regional anesthesia, B. Braun supports its customers with innovative products and services.

We strive to accompany our customers through the entire patient pathway helping to optimize their processes and providing products adapted to day-to-day clinical needs.



SYSTEM PARTNER IN REGIONAL ANAESTHESIA

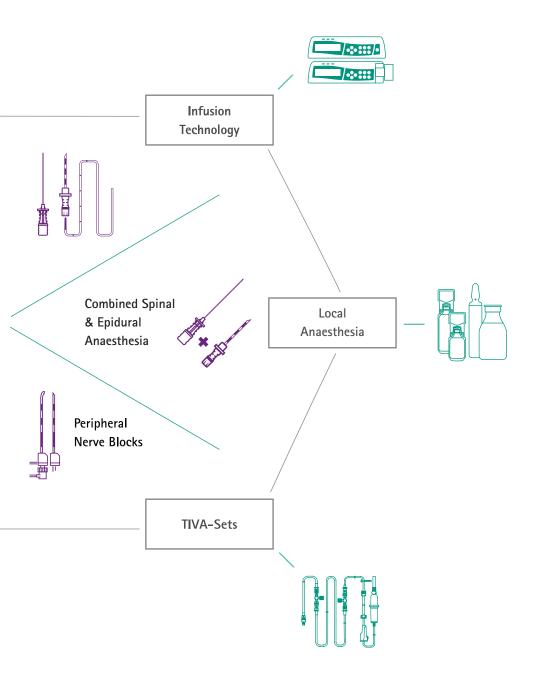
B.Braun, as a true system partner, helps to stay on top of evolving standards and their realization across multiple stakeholders, e. g. nurses, pharmacists and anaesthetists. With access to our comprehensive product portfolio in pain therapy, and through constructive dialogue, our partners can benefit from B.Braun's know-how and expertise.



Introduction Surgery



Recovery Room





Due to the combination of different procedures, a broad regional anaesthesia spectrum is created which covers all patient areas.

Ward

SPINAL ANAESTHESIA



A comprehensive portfolio of needles in different bevel types for spinal anaesthesia.















Products for Spinal Anaesthesia

Quality and Practicality



Ergonomic hub design for an individual and safe handling position, better control of the needle and easy verification of bevel eye orientation.⁷

Thanks to our years of

EXPERIENCE

in the field, B.Braun offers spinal needles with a range of bevel types.

Spinocan® and Pencan® are well accepted for their

INNOVATIVE

needle tip designs.











- Sharp bevel for low puncture force⁷
- Fitted stylet: to reduce the risk of tissue coring and potential epidermoid tumor development
- The spinal needle hub supports identifiction of CSF flashback

Pencan® with Pencil Point Bevel

- Pencil point tip and opening design allows avoidance of incomplete blocks and helps reduce PDPH⁸
- Minimal intrathecal penetration depth⁷
- Identification of tissue structures due to detectable dura click 7,9
- The spinal needle hub supports identification of CSF flashback





Atraucan® with Two-Zone Bevel

- Low puncture force as well as minimal puncture trauma ¹⁰
- Reduced risk of postdural puncture headache (PDPH) 10



Spinal Introducer Needle

 Introducer needles providing needle guidance for the spinal needle during puncture⁷

SPINAL NEEDLES

Spinocan®	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF)
A		29 x 3 ½"	0.35 x 88*		4501900
9		27 x 3 ½"	0.40 x 88		4503902
		26 x 3 ½"	0.45 x 88		4502906
		25 x 3"	0.55 x 75		4505751
		25 x 3 ½"	0.55 x 88		4505905
		22 x 1 ½"	0.70 x 40		4507401
		22 x 3"	0.70 x 75	25	4507754
		22 x 3 ½"	0.70 x 88		4507908
		20 x 3"	0.90 x 75		4509757
		20 x 3 ½"	0.90 x 88		4509900
A		19 x 1 ½"	1.10 x 40		4501144
		19 x 3 ½"	1.10 x 88		4501195
国		18 x 3"	1.30 x 75		4501373
		18 x 3 ½"	1.30 x 88		4501390
	Long Le	ıgth			
		26 x 4 ³ / ₄ "	0.45 x 120		4504917
		25 x 4 ³ / ₄ "	0.55 x 120		4505913
		22 x 4 ³ / ₄ "	0.70 x 120		4506090
Atraucan®	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF)
	Couc	Length (men)	(11111)	per oox	
		26 x 3 ½"	0.47 x 88	25	4504739
	Atrauca	n® Paed			
	•	26 x 2"	0.47 x 50	25	4504763

SPINAL NEEDLES

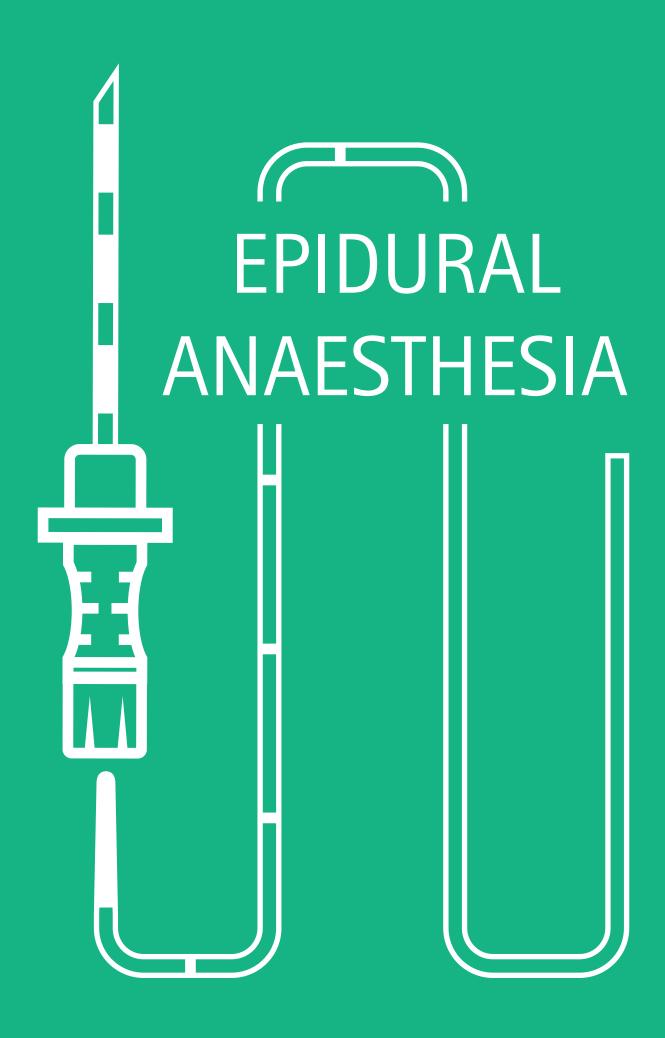
Pencan®	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF)
		27 x 3 ½"	0.40 x 88		4502027
					4502051*
Ψ		25 x 3 ½"	0.50 x 88	25	4502019
					4502043*
		22 x 3 ½"	0.70 x 88		4502035
	Long Le	ngth			
		27 x 4"	0.40 x 103		4502124*
		27 x 4 ³ / ₄ "	0.40 x 120		4502132
		25 x 4"	0.50 x 103	25	4502116*
士 宝	Pencan [®]	Paed			
		27 x 2"	0.40 x 50		4502175
		25 x 1"	0.50 x 25	25	4502167
		25 x 2"	0.50 x 50		4502159

^{*}with Spinal Introducer Needle (Luer)

INTRODUCER

Spinal Introducer Needles (for Spinocan® and Pencan®)	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF)
1	For Spir	ial Needles 29 G	and 27 G		
		22 x 1 ³ /8"	0.70 x 35	25	4500059*
<u> </u>	For Spir	al Needles 26 G	and 25 G		
The state of the s	_	20 x 1 ³ /8"	0.90 x 35	25	4505000*

^{*}Introducer in Luer





To meet individual preferences, B. Braun offers a broad range of epidural cannulas, catheters and accessories for epidural anaesthesia.













Products for Epidural Anaesthesia

Quality and Practicality





To adapt to the unique anatomical challenges of each patient, it is important to use the appropriate needle and accessories.

B. Braun focuses on

QUALITY & PRACTICALITY.





Perican® Tuohy Needles

- For both continuous and single-shot techniques
- Different needle sizes (16 G, 18 G, 20 G)
- Polished inner bevel edge to reduce the risk of catheter shearing

USER BENEFITS:

- 1 cm marking to control the insertion depth
- High bending stiffness for good control during needle advancement
- Fitted stylet: to reduce the risk of tissue coring and potential epidermoid tumor development

Perifix® Catheters: Available with different characteristics – Soft-Tip and ONE





Perifix® ONE

- Epidural catheter with a relatively stiff but flexible shaft and a soft, atraumatic tip
- Length 1000 mm
- Six micro-holes enhance the spread of anesthetic drug
- Three yellow barium sulphate stripes allowing x-ray control
- Does not contain latex, DEHP or PVC
- MRI suitable

Perifix® Soft-Tip Catheter

- Soft-Tip catheter with a superimposed tip
- Length 1000 mm
- Three micro-holes enhance the spread of anesthetic drug
- Clear blue length markings embedded in catheter material
- Does not contain latex, DEHP or PVC
- MRI suitable

Products for Epidural Anaesthesia

Perifix® Accessories



Perifix® LOR-Syringe

- Easy-gliding plunger with good gliding characteristics and safety stop
- Parabolic graduation to differentiate it from conventional syringes
- Suitable for air and saline applications
- Lock or slip connection



Perifix® Catheter Connector

- Available in two sizes (19 G and 20 / 24 G)
- Tactile and acoustic feedback upon closure
- Viewing window allows for catheter insertion control to ensure a successful connection





Perifix® Filter with PinPad

- Filter fixation on patient in combination with self-adhesive PinPad
- 0.2 micron filter reduces the risk of bacterial infection
- Pressure resistant up to 7 bar



Perifix® Catheter Fixation

- Catheter fixation, consisting of fixation ring and non-woven cover foil
- Easy examination of puncture site due to exchangeable cover foils

Products for Epidural Anaesthesia

Epidural Anaesthesia for the smallest patients



Perican® Paed Epidural Needles

- Tuohy bevel
- For continuous or single-shot techniques
- Three different needle sizes (18 G, 20 G, 22 G)
- 5 mm markings to control the insertion depth
- Fitted stylets: to reduce the risk of tissue coring and potential epidermoid tumor development



Perifix® ONE Paed Epidural Sets

Perifix® ONE Paed epidural sets in 24 G for newborns and infants.

- Catheters with distance markings for pediatric use
- For safe catheter insertion and position control
- Catheter with markings every cm in the space between
 2 and 20 cm from the needle tip



Epican® Paed - Caudal Needles

- 45° Crawford type bevel for caudal pediatric anesthesia
- Three different needle sizes (20 G, 22 G, 25 G)
- Special length (30 mm, 35 mm, 50 mm)
- 5 mm markings to control the insertion depth
- Fitted stylets: to reduce the risk of tissue coring and potential epidermoid tumor development

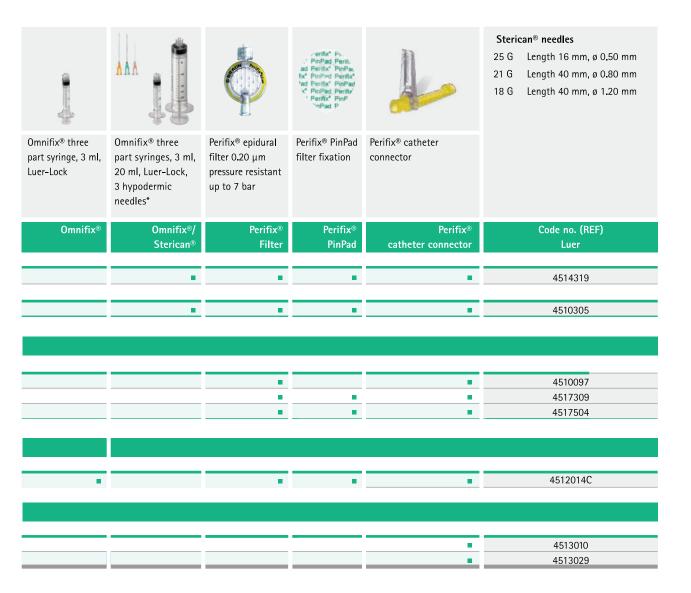
EPIDURAL NEEDLES

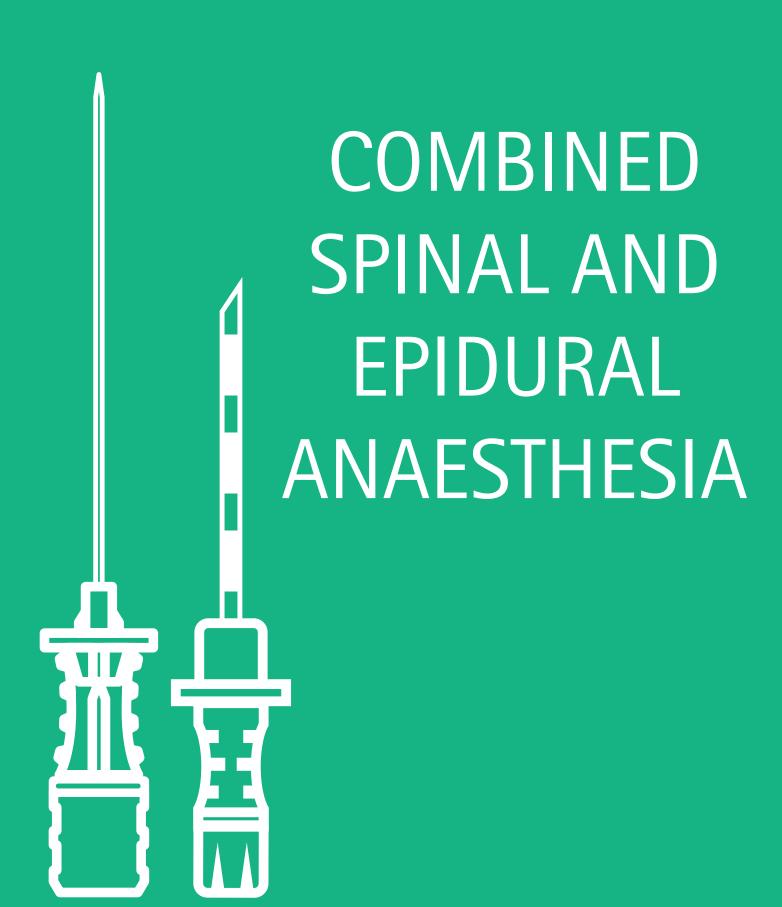
Perican®	Color code	Size (G)/Length (inch)	ø/Length (mm)	Code no. (REF) Luer
		18 x 3 ½"	1.30 x 80	4512383
		16 x 3 ½"	1.70 x 80	4512782
	Long Leng	th		
Ü		18 x 6"	1.30 x 150	4512200
Perican® Paed	Color code	Size (G)/Length (inch)	ø/Length (mm)	Code no. (REF) Luer
		22 x 2"	0.73 x 50	4502078
		20 x 2"	0.90 x 50	4502094
i				
Epican® Paed Caudal	Color code	Size (G)/Length (inch)	ø/Length (mm)	Code no. (REF) Luer
	Couc	(inch)	(11111)	Luci
		25 x 1 ½"	0.53 x 30	4502400
		22 x 1 ³ / ₈ "	0.73 x 35	4502418
		20 x 2"	0.90 x 50	4502426

Perifix® Loss-of-Resistance (LOR) Syringe	Description	Code no. (REF) Luer
	Perifix® LOR Syringe, Luer–Lock	4638107

SETS FOR EPIDURAL ANAESTHESIA (LUER)

Perican® Tuohy epidural needles 20 G Ø 0.90 mm / Length 50 mm 18 G Ø 1.30 mm / Length 80 mm 18 G Ø 1.30 mm / Length 50 mm (Paed Set) 16 G Ø 1.70 mm / Length 80 mm		Perican® Tuohy epidural needle	Perifix® ONE epidural catheter,		rifix® epidu catheter,		3 lateral eyes	Perifix® Loss-of- Resistance (LOR)
			6 lateral eyes	Ş	lateral eye	S		syringe, Luer-Slip
		50/80 mm	24 G	20 G	19 G	20 G	20 G	
Complete Sets	Туре	Perican®	Perifix® ONE	Per	ifix® Stand	ard	Perifix® Soft Tip	Perifix® LOR
	Perifix® Standard cath							
	Perifix® 431				•			•
	Perifix® Soft Tip cathe							
	Perifix® 901						•	•
Filter Sets								
	Perifix® Soft Tip cathe	ter						
	Perifix® 701						-	
	Perifix® 730						•	•
	Perifix® 750	-						
Paediatric Set								
	Perifix® ONE Paed							
	Perifix® ONE Paed 20		•					
Mini Sets								
	Perifix® Standard cath	neter						
	Perifix® 301							•
	Perifix® 302							







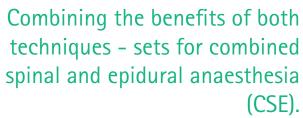




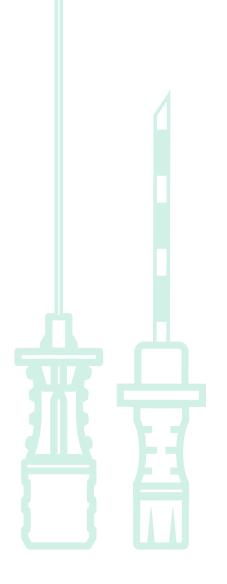




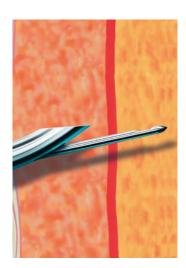


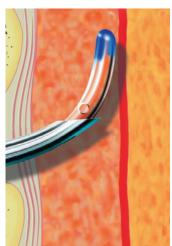






Products for Combined Spinal and Epidural Anaesthesia





Combined Spinal-Epidural Anaesthesia (CSE):

THE BENEFITS

of Spinal and Epidural Anaesthesia in the Espocan® Sets

Special Tuohy Needle with a back-eye in the curved tip and a Spinal Needle with a plastic centering sleeve

- Back-eye in tuohy needle for insertion of spinal needle
- Docking system to fixate the spinal needle
- Sleeved spinal needle for smooth exit through the back-eye

The ideal overlap of the spinal needle is by

Pencil Point Needle 15 mm





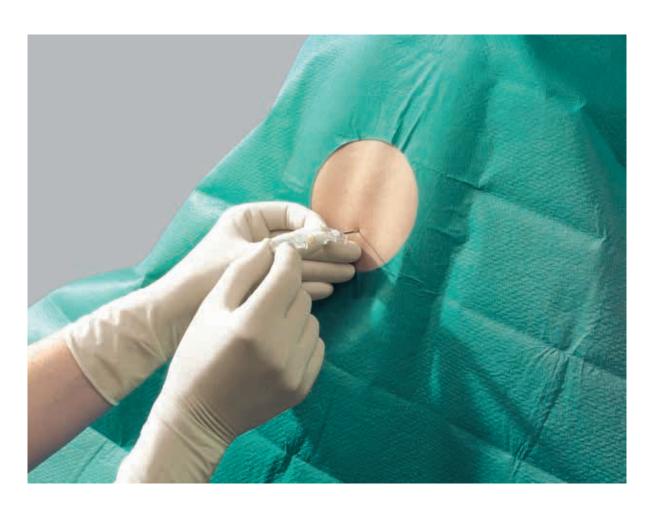


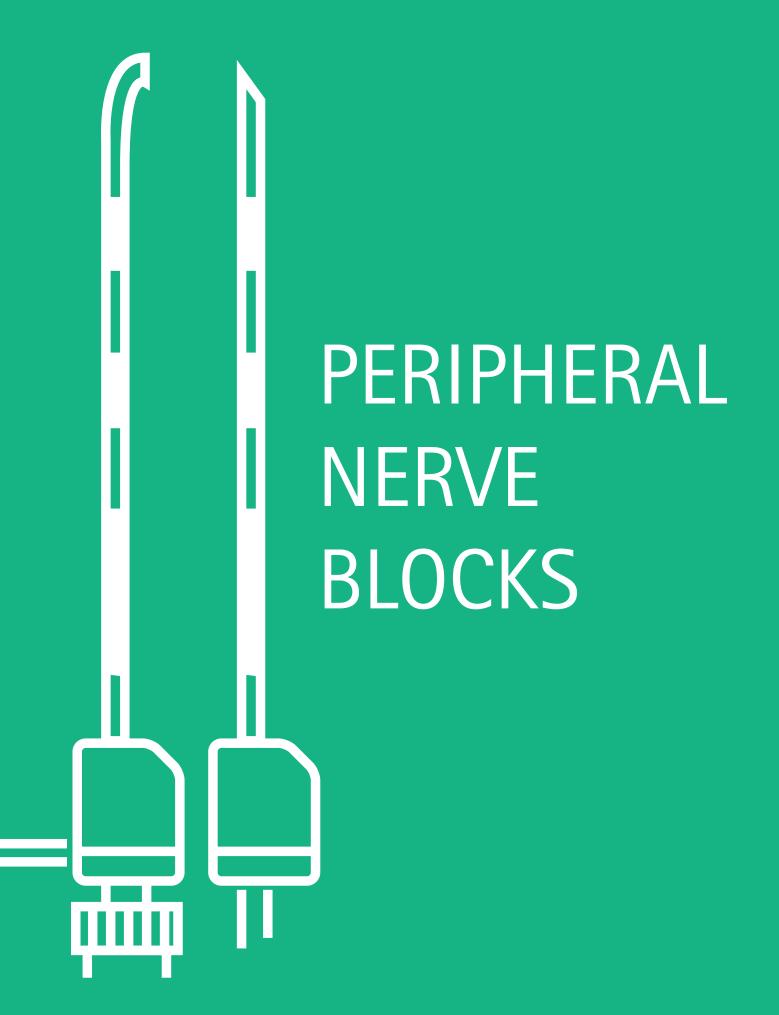
Markings on the Spinal Needle 1

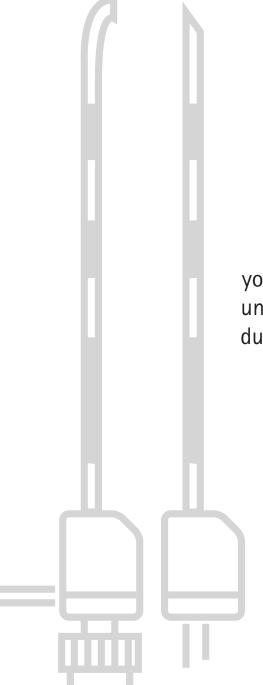
The markings on the spinal needle show when the tip leaves the back-eye.

- The docking system allows rotation of the spinal needle even in the fixed position. Avoids the difficult and uncomfortable finger grip required to steady and fix the spinal needle in position
- The docking system ensures fixation of the spinal needle inside the tuohy needle after successful dura puncture and injection of the local anesthetic

Espocan® and Perifix® Standard with Docking System	Size (G)/ Length (inch)	ø/ Length (mm)	Code no. (REF) Luer
	Pencil-Point Cannula: Pencan® 27 x 5 3/8"	0.42 x 138.5*	4556763
	All sets contain		
	 Perifix® Soft-Tip catheter, 3 lateral Docking system Perican® Epidural Cannula 18G x 90 Perifix® LOR-syringe, Luer-Slip 		
	 Perifix® epidural flat filter 0.20 μm Perifix® PinPad Perifix® catheter connector 		







Whether you prefer to perform your blocks with nerve stimulation, under ultrasound guidance, or with dual guidance; we have the perfect product for you.







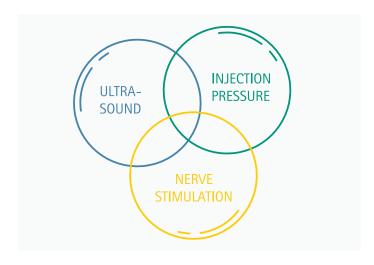






Peripheral Nerve Block Portfolio

Quality and functionality without compromise



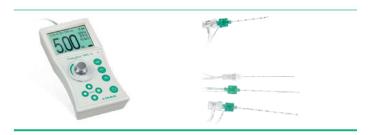
When performing a peripheral nerve block, there is no such thing as being too safe. Peripheral nerve blocks can be performed using different techniques and approaches. Electrical nerve stimulation, Ultrasound guidance and injection pressure monitoring can be used alone or in combination.

B. Braun's broad peripheral nerve block portfolio offers solutions for procedures that require ultrasound-only, nerve stimulation or dual guidance.



ULTRASOUND

B. Braun offers a large product range of echogenic needles and catheters. Ultraline 360 is the latest generation of Ultrasound needles that combines enhanced Ultrasound visibility with smooth gliding properties and a good puncture quality. ¹¹



NERVE STIMULATION

For electrical nerve stimulation B. Braun provides a wide range of stimulating needle and catheter systems that address the users' needs. The well established nerve stimulator Stimuplex® HNS 12 completes the offer.

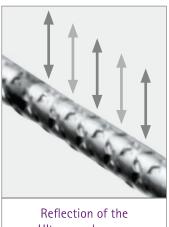
INJECTION PRESSURE MONITORING

The disposable BSmart™ pressure monitor device objectively indicates the opening injection pressure in real time and allows for a more informed decision on how to proceed with an injec – tion regardless of who performs the block. Using this technique can prevent injection into poorly compliant tissue (e. g. nerve fascicles).

Ultraline 360

Visibility without compromise – the next generation of Echogenic Nerve Block Needles



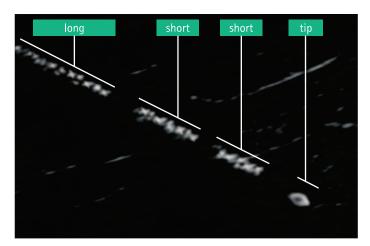


Ultrasound waves

B. BRAUN ULTRASOUND NEEDLES - ULTRALINE 360:

The Ultraline 360 is B. Braun's latest generation of echogenic nerve block needles, featuring B. Braun's new echogenic 360° X-pattern. The 'X' is a unique shape, which when combined with a clear coating, is intended to reflect more Ultrasound waves back to the probe than previous designs. 11

The X-pattern is applied as a segmented safety-code (longshort-short-tip) and facilitates needle tip identification. The Ultraline 360 portfolio combines increased Ultrasound visibility with excellent tactile feedback and puncture characteristics.



NAVIGATION

For easy identification of the needle tip, the X-pattern is strategically applied on the first 20 mm of the needle shaft to create the segmented code "long-short-short-tip". This enables distinction between the needle tip and the upper needle shaft. 11

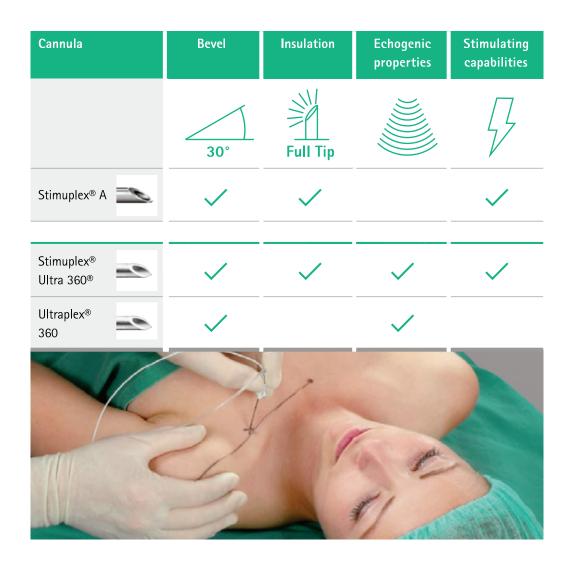
- Navigation: Safety code for identification of the needle and needle tip position
- Visibility: 360° X-pattern and clear coating result in better Ultrasound visualization and tip identification compared to previous designs
- Tactile Feedback: designed for consistent puncture same 30° back-cut bevel as previous Stimuplex® Ultra and Ultraplex® needles

Single Shot Needles



Stimuplex® and Ultraplex® single shot needles offer precision and ergonomy and are designed for high success rates.

- Excellent puncture and gliding characteristics
- Broad portfolio of needle lengths from 50 to 150 mm and G 22 to G 20
- Ergonomic needle hub design for enhanced tactile feedback



Sets for Continuous Peripheral Nerve Blocks



Contiplex® Continuous Nerve Block Sets

Continuous peripheral nerve blocks provide pain relief during and after surgical procedures, for improved patient recovery. 12

- Wide range of catheter sets
- Harmonized set components
- Good Ultrasound visibility of Perifix® ONE catheter

Set		Bevel	Echogenic properties	Catheter
	15° 20°	Tuohy		ONE
Catheter through the r	eedle techniqı e			
Contiplex® S Ultra 360®			/	/
Contiplex® Tuohy Ultra 360®			/	✓
Catheter over the need	le			
Contiplex® C	<u> </u>		/	_

Nerve Stimulation with the Stimuplex® HNS 12







2 Stimuplex® Pen for cutaneous nerve mapping

B. Braun Nerve Stimulator – Stimuplex® HNS 12 with SENSe What is SENSe?

In practice, marginal needle movements often lead to lead to a loss of muscle twitch. The SENSe technology (Sequential electrical Nerve Stimulation) is a sequence of two fixed impulse durations of 0.1 ms along with a third longer impulse duration.\(^{13}\) Most traditional nerve stimulators emit two very short pulses every second. That's because short pulses improve accuracy when closer to the nerve. The downside is that sensitivity, or the ability to elicit visual feedback at a distance from the nerve, is lost. SENSe technology increases both sensitivity and accuracy by adding a third, longer pulse. This results in eliciting a motor response even when the needle is far from, or not aimed directly at the nerve, and requires less adjustment to the amperage control while retaining the visual feedback.

USER BENEFITS

- Stimulation with SENSe-technology designed for more efficient nerve stimulation ¹³
- Menus designed for easy control of sound and other settings
- Acoustic signals inform the user of any relevant deviations



pulse. From the alternating sequence of three impulses, the third longer impulse stimulates the nerve from a distance. One muscle twitch is visible and indicates that the needle is directed to the nerve.

As the needle is advanced, SENSe generates two short and one long



The stimulation needle is further advanced towards the nerve while SENSe maintains the motor response. Current strength adjustments lead to definite reductions of the third impulse.



At the threshold level of approximately 0.5 mA three muscle twitches are visible as all three impulses stimulate the nerve.

Injection Pressure Monitoring with BSmart™



Injection Pressure Monitoring

Accidental injection of local anesthetic into fascicles of peripheral nerves can result in permanent nerve injury.¹ Research has shown that high opening injection pressure (> 15 psi) indicates needle-nerve contact or intrafascicular injection. ^{14, 15, 16, 17, 18}

USER BENEFITS

- Objectively measures and displays injection pressure
- Color coding visualizes the pressure information
- Allows consistent monitoring of resistance to injection regardless of who performs the actual injection ¹⁹
- Allows for standardized and objective documentation of injection pressure information during nerve block procedures









The pressure information is conveniently displayed by the colour-coded pressure ranges on the BSmart™ piston.

BSmart™ Injection Pressure Monitor

The BSmart™ Injection Pressure Monitor is an easy-to-use in-line injection pressure monitoring device providing clinicians with objective pressure information. This happens through a coloured piston which climbs depending on the pressure.

BSmart™ Injection Pressure Monitor does not interfere with the tactile feedback of the syringe which has been traditionally used to assess the resistance of injection during nerve block procedures.

SINGLE-SHOT BLOCK NEEDLES

Stimuplex® A	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer			
	Needles with 30° be	Needles with 30° bevel					
	24 x 1"	0.55 x 25 mm		4894251			
	22 x 2"	0.70 x 50 mm	25	4894502			
	21 x 4"	0.80 x 100 mm		4894260			
	20 x 6"	0.90 x 150 mm		4894278			

Stimuplex® Ultra 360®	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer
× × ×	Insulated Echogenic	Needles with 30	° Bevel	
	22 x 2"	0.70 x 50 mm		4892505-01
	22 x 3 ½'	0.70 x 80 mm	25	4892508-01
	20 x 4"	0.90 x 100 mm		4892510-01
	20 x 6"	0.90 x 150 mm		4892515-01

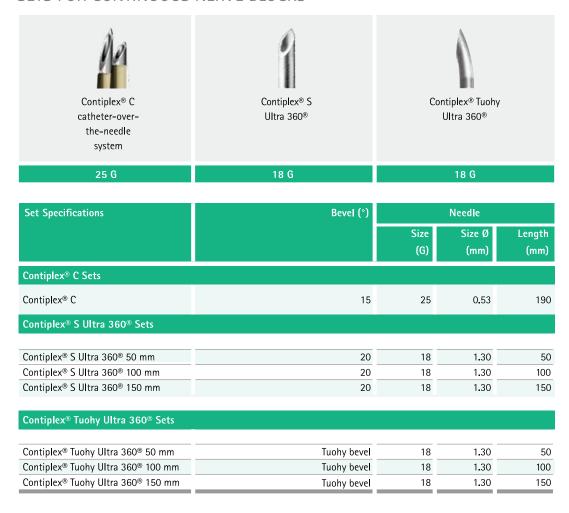
Ultraplex® 360	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer
	Non-Insulated Echo	ogenic Needles w	ith 30° Bevel	
	22 x 2"	0.70 x 50 mm		4892605-01
	22 x 3 ½g"	0.70 x 80 mm	25	4892608-01
	20 x 4"	0.90 x 100 mm		4892610-01
	20 x 6"	0.90 x 150 mm		4892615-01

BSmart™	Description	Code no. (REF)
	BSmart ™ Injection Pressure Monitor	4894000-01
Nerve Stimulation	Description	Code no. (REF)
500	Stimuplex® HNS 12 Nerve Stimulator for Stimuplex®, Contiplex® needles	4892098

Nerve Stimulator Accessories and Spare Parts	Code no. (REF)
Stimuplex® Pen for cutaneous nerve mapping	4892099
Electrode cable for Stimuplex® HNS 11/12	4892070
Battery cover for Stimuplex® HNS 12	4892094
Carrying Case for Stimuplex® HNS 12	4892095
Test resistor for Stimuplex® HNS 12	4892096
Knob for special handling	4892283

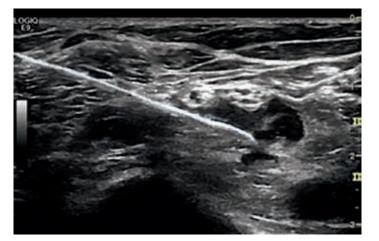
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SETS FOR CONTINUOUS NERVE BLOCKS









Contiplex® C catheter with cannula as seen under ultrasound



Contiplex® C catheter with cannula removed as seen under ultrasound

LITERATURE

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