



REGIONAL ANESTHESIA

PRODUCT CATALOG

Reach your targets quicker

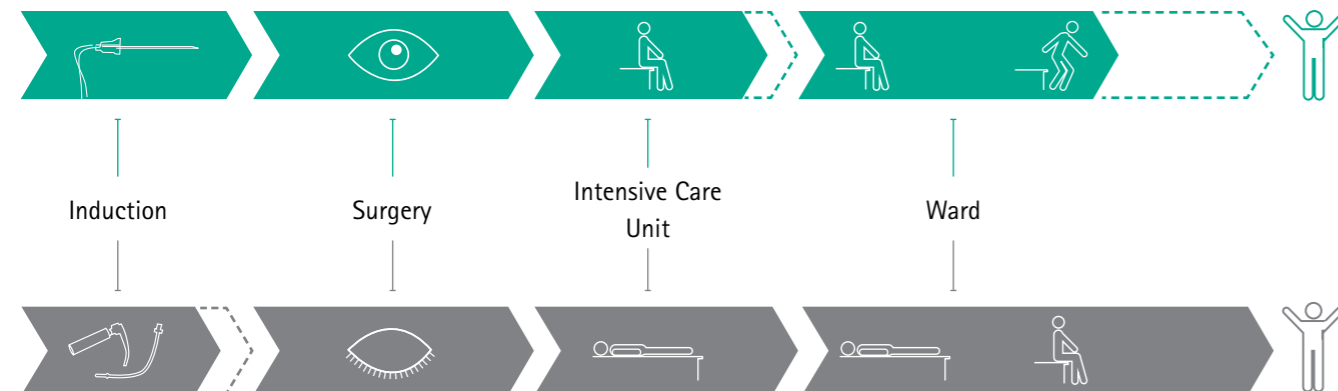
Thanks to regional anesthesia

OPTIMIZE PROCESSES

Regional anesthesia is an essential part of pain therapy, as across several interventions, it offers clear advantages when compared to general anesthesia.¹ For regional anesthesia 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 clinic.

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

WITH REGIONAL ANESTHESIA



WITHOUT REGIONAL ANESTHESIA

COMPARING TWO POTENTIAL INTERVENTIONS WITH AND WITHOUT REGIONAL ANESTHESIA:

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

Content

<p>REGIONAL ANESTHESIA</p> <p>NRFit® connecting what belongs together product highlights</p>		<p>REGIONAL ANESTHESIA WITH NRFIT®</p>
<p>SPINAL ANESTHESIA</p> <p>Spinocan® Pencan® Atraucan® Spinal Introducer Needle</p>		<p>SPINAL ANESTHESIA</p>
<p>EPIDURAL ANESTHESIA</p> <p>Perican® Perican® Paed Epican® Paed Perifix® Epidural Catheter Accessories</p>		<p>EPIDURAL ANESTHESIA</p>
<p>COMBINED SPINAL & EPIDURAL ANESTHESIA</p> <p>Espocan®-Sets</p>		<p>COMBINED SPINAL AND EPIDURAL ANESTHESIA</p>
<p>PERIPHERAL NERVE BLOCKS</p> <p>Stimuplex® A Stimuplex® Ultra 360 Ultraplex® 360 Contiplex® C Contiplex® S Ultra 360® Contiplex® Tuohy Ultra 360® Contiplex® D</p>		<p>PERIPHERAL NERVE BLOCKS</p>
<p>ULTRASOUND GUIDANCE</p> <p>EZCOVER®</p>		<p>ULTRASOUND GUIDANCE</p>

Pain therapy with Regional Anesthesia

Supported by B. Braun's product portfolio

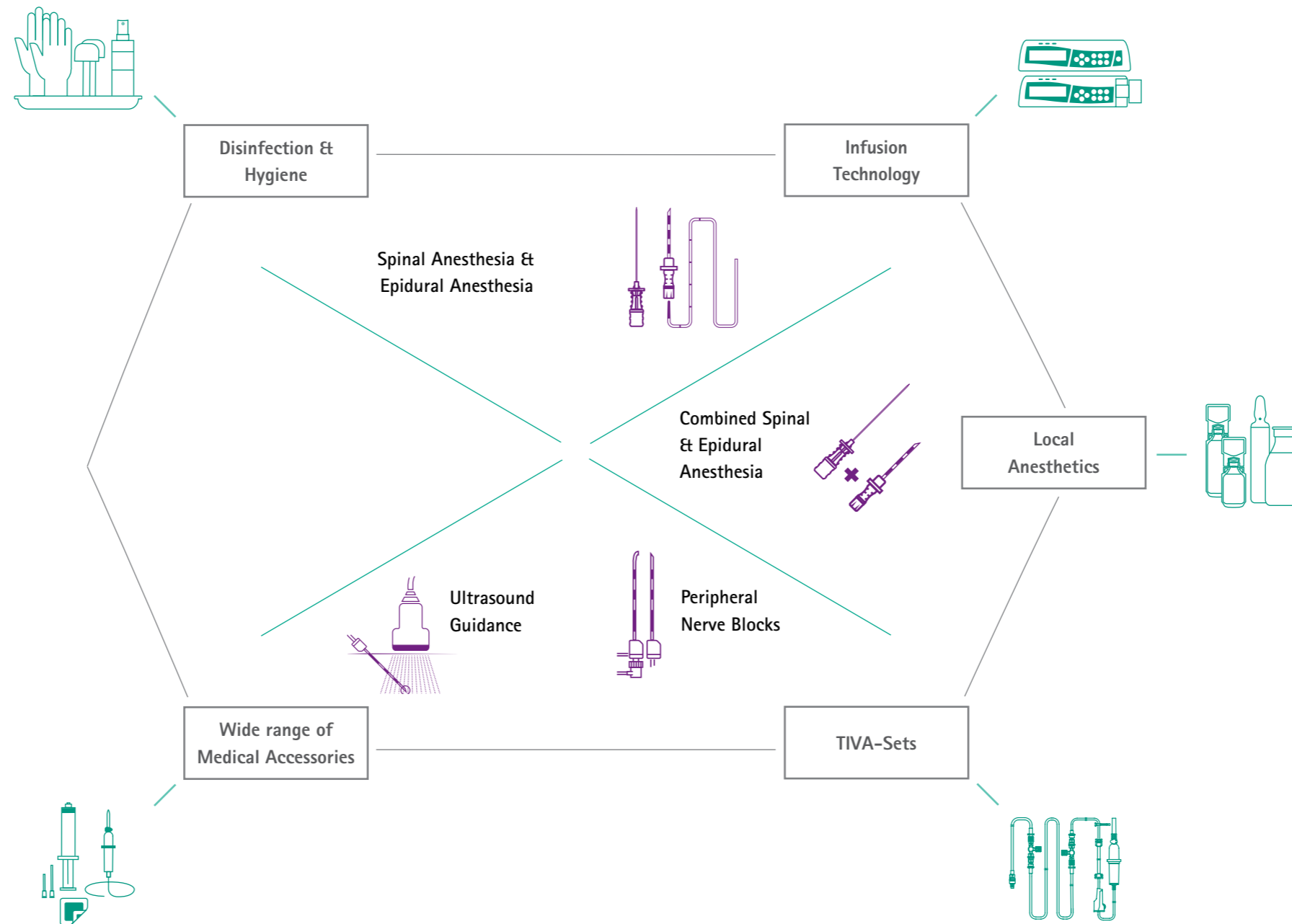
B. BRAUN – A COMPETENT PARTNER

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

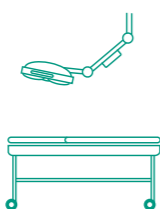
We strive to accompany our customers through the entire patient pathway helping to optimize their processes and to provide products adapted to day-to-day clinical needs.

SYSTEM PARTNER IN REGIONAL ANESTHESIA

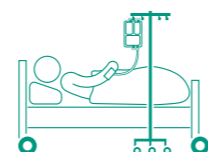
B. Braun, as a true system partner, helps to stay on top of evolving standards and their realization across multiple stakeholders, e.g. nurses, pharmacists and anesthetists. With access to our comprehensive product portfolio in pain therapy and through constructive dialog, our partners can benefit from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



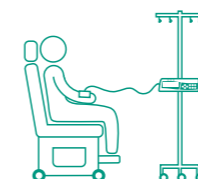
Introduction



Surgery



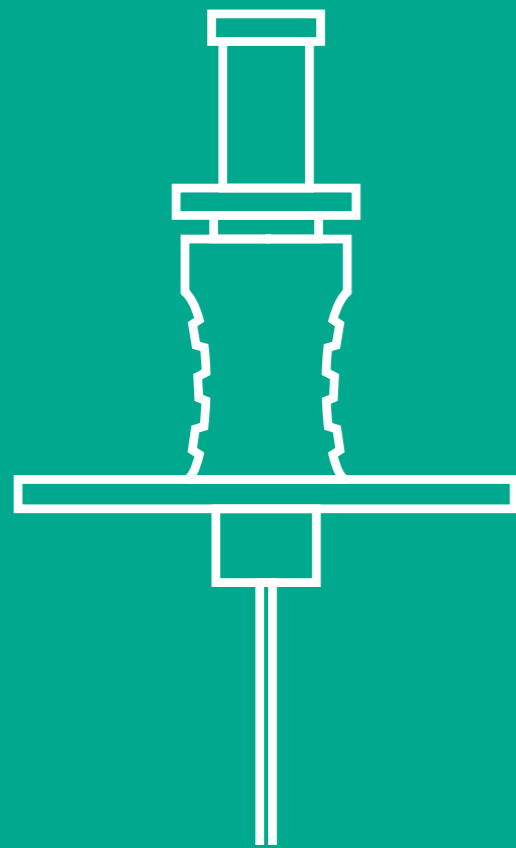
Recovery Room



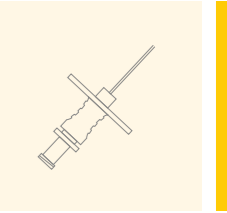
Ward

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

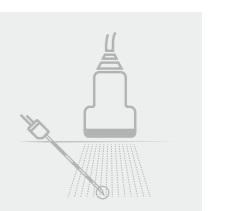
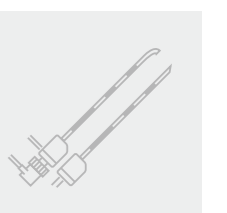
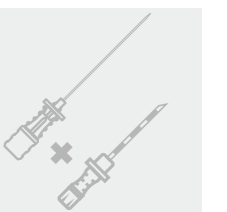
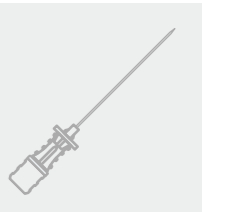
NRFit[®]



Reducing risks of misconnections in
Regional Anesthesia with NRFit[®]



REGIONAL ANESTHESIA
WITH NRFIT[®]



Reducing risks of misconnections in Regional Anesthesia with NRFit®

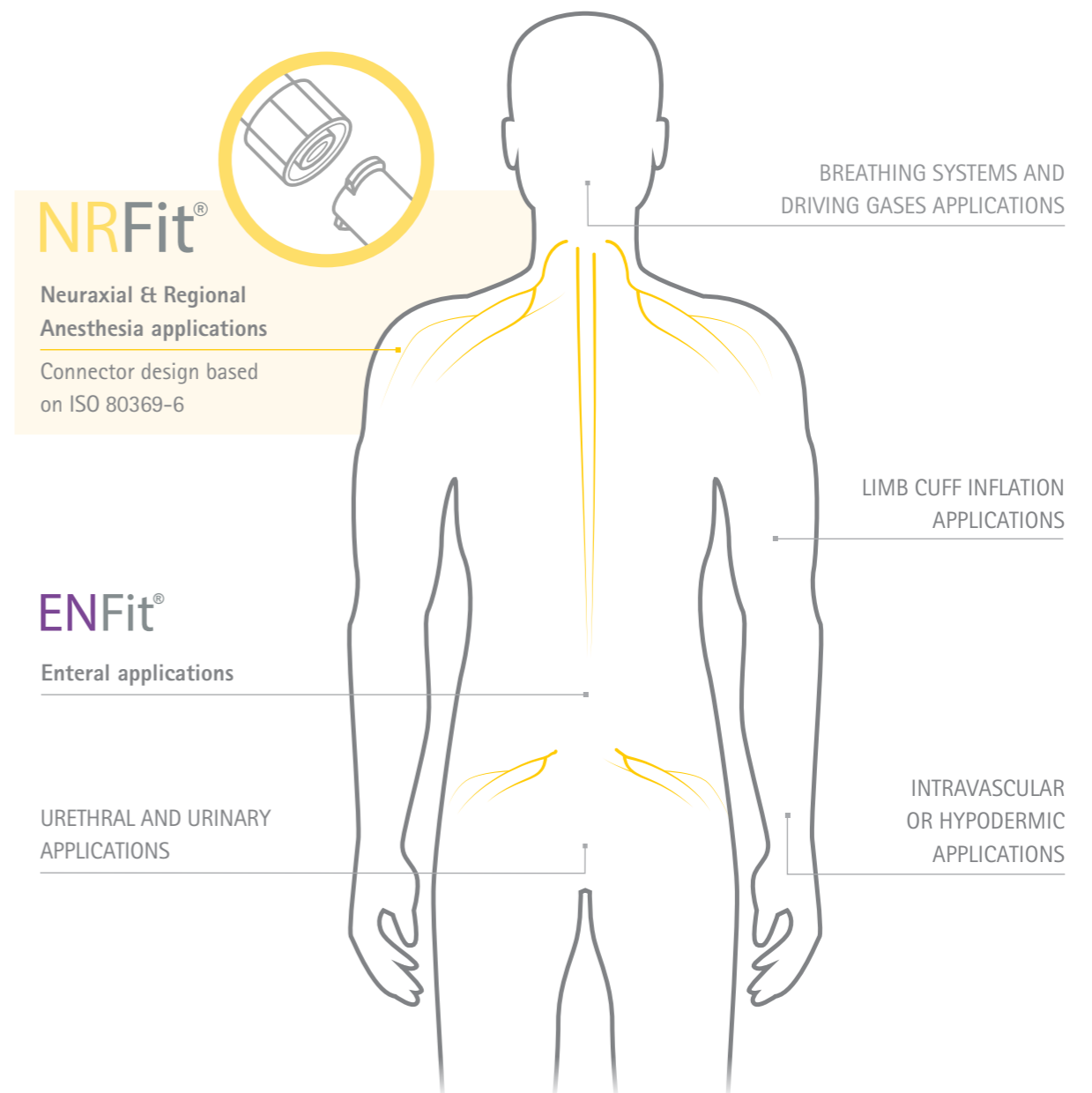
MEDICAL DEVICE CONNECTORS FOR NEURAXIAL
& REGIONAL ANESTHESIA APPLICATIONS
ARE CHANGING TO MEET INTERNATIONAL
DESIGN STANDARDS: ISO 80369-6.⁶

Regional Anesthesia products with NRFit® connector

In line with the ISO Standard (International Organization for Standardization) for neuraxial and regional anesthesia devices, B. Braun has developed a comprehensive portfolio with NRFit® connectors for the corresponding process steps.

Connecting what belongs together

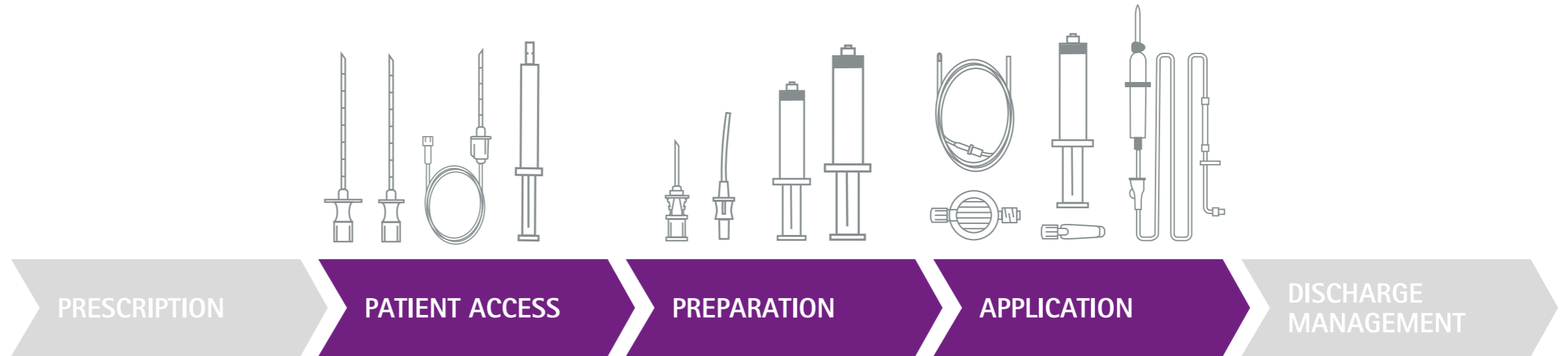
» The ISO has identified several medical application areas for which specific ISO standards have been developed. These standards are part of the ISO 80369 series. Each standard will provide design and performance specifications for these connectors.¹



Connector changes in Regional Anesthesia

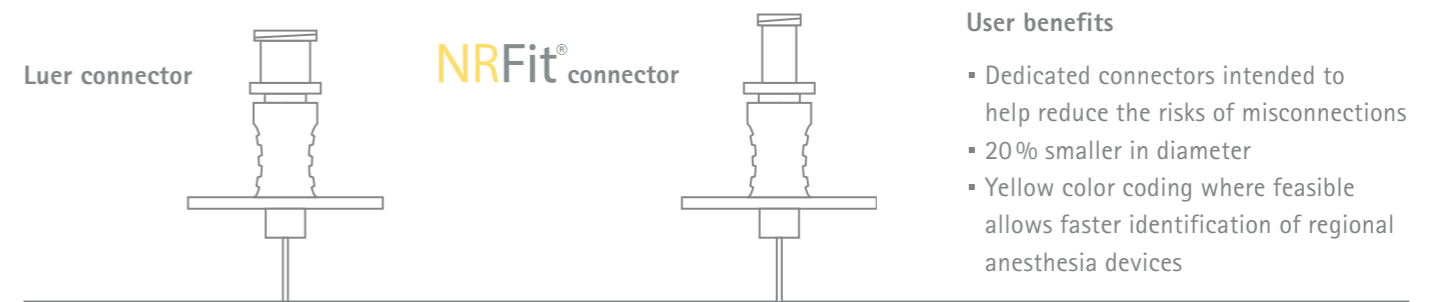
And how it impacts your working process

Observe. Listen. Understand. To find solutions that fit into everyday clinical life, B. Braun conducts a vivid dialog with customers. Learning the importance of clear structures, we identified five major steps that represent customary therapy processes. Each of these steps is mapped with aligned products that are dedicated towards improving comfort and achieving a higher level of safety for users and for patients.



Regional Anesthesia products with NRFit® connector
 In line with the ISO Standard for neuraxial and regional anesthesia devices, B. Braun has developed a comprehensive portfolio with NRFit® connectors for the corresponding process steps:

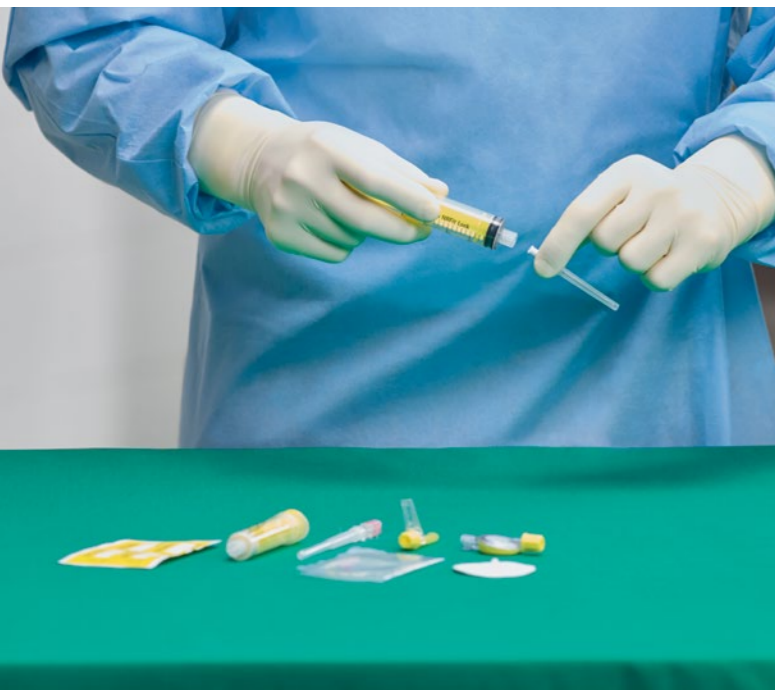
PATIENT ACCESS: Spinal, epidural and PNB needles and LOR syringes
 PREPARATION: Filter needles, straws and syringes
 APPLICATION: Catheter, syringes, filter, catheter connector, pump disposables



» 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 anesthetists. With access to our comprehensive product portfolio in Pain Therapy and through constructive dialogue, our partners benefit from B. Braun's know-how and expertise.

Regional Anesthesia accessories and complementary portfolio

Connecting what belongs together



Preparation is a fundamental and irreplaceable part of health care practices. B. Braun preparation devices with NRFit® connectors are designed to reduce risks of wrong route medication errors and particulate contamination from the very beginning in neuraxial and regional anesthesia procedures.



The method of drug application depends on the chosen technique of anesthesia and on the selected post-OP pain management approach. Different options require dedicated systems. Whether the chosen method of delivery is a bolus or a continuous application, the variety of B. Braun's portfolio ensures flexibility.



The yellow product color coding of syringes and lines helps to visually differentiate between regular and NRFit® dedicated equipment.

Dedicated pump disposables with NRFit® connectors are pressure resistant and suitable for use with compatible electronic pumps.

Products with NRFit® connector

PREPARATION: DRAWING-UP DEVICES, FILTER AND CONNECTOR



Sterifix® filter needle

Equipped with a 5 µm filter, Sterifix® filter needle allows for filtering particles during the injection or the withdrawal of medication for Regional Anesthesia.



Sterifix® filter straws

Sterifix® filter straws for Regional Anesthesia with a 5 µm integrated filter allow for the withdrawal of solutions whilst filtering particles.



Perifix® filter

Perifix® filters for Regional Anesthesia are pressure resistant up to 7 bar. In combination with Perifix® PinPad, a self-adhesive fixation device, they can easily be attached to the patient's skin.



Perifix® catheter connector

Perifix® catheter connectors are available in two sizes (19G and 20/24G). A viewing window allows for catheter insertion control to ensure successful connection.

PRESCRIPTION

PATIENT ACCESS

PREPARATION

APPLICATION

DISCHARGE MANAGEMENT

Products with NRFit® connector

APPLICATION: SYRINGES AND PUMP DISPOSABLES



NRFit® syringe caps and NRFit® stoppers

NRFit® syringe caps are a single sterile solution for storage and/or transport alongside our Omnifix® portfolio. NRFit® stoppers are there to close our NRFit® filter or Perifix® catheter connector.



Omnifix® 1-50 ml

Omnifix® 3-piece syringes are available in a broad portfolio NRFit® Slip and Lock. 3-20 ml Lock versions and 50 ml syringes with NRFit® Lock connector can be used in combination with compatible syringe pumps.



Original Perfusor® Line and Syringe 50 ml

The Original Perfusor® Line equipped with the NRFit® connector enables compatibility to NRFit® syringes for pump applications. The translucent yellow tubes help to visually differentiate from other lines.










Infusomat® Space Lines

Dedicated Infusomat® Space Lines have a piercing spike and an NRFit® patient connector. The translucent yellow tubes help to visually differentiate from other lines.




Complementary portfolio with NRFit®

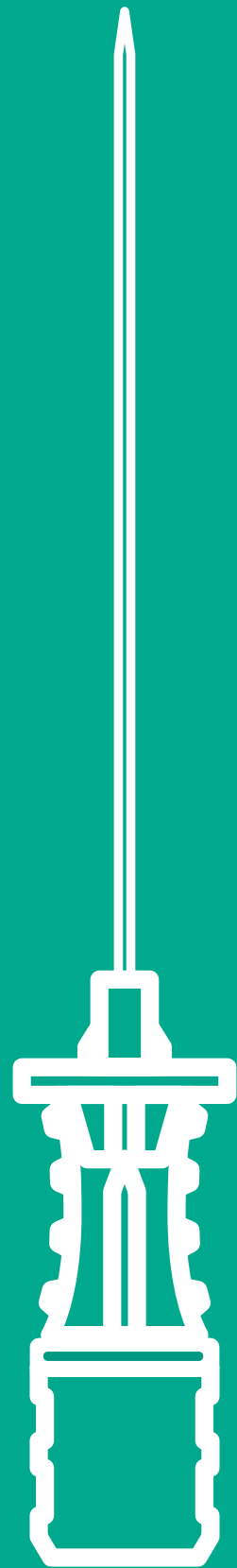
Product specifications

ACCESSORIES & COMPLEMENTARY PORTFOLIO

Sterifix® filter straws	Particle filter (µm)	Length (cm)	Units per box	Code no. (REF)	
	5	4.5	50	4550250N	
	5	10		4550200N	
Sterifix® filter needle	Size (G)	Particle filter (µm)	Length (cm)	Units per box	Code no. (REF)
	19	5	3.8	50	4550404N
Perifix® catheter connector	Size (G)	Units per box	Code no. (REF)		
	19	50	4513801N-01		
	20/24		4513800N-01		
Perifix® filter	Particle filter (µm)	Units per box	Code no. (REF)		
	0.2	25	4515501N-01		
Infusomat® Space Line	Length (cm)	Units per box	Code no. (REF)		
	300	100	8700132SP		
Original Perfusor®	Length (cm)	Filling volume (ml)	Units per box	Code no. (REF)	
	Original Perfusor® Line	200	--	25	8722865
	Original Perfusor® Syringe	--	50	100	8728845F-01

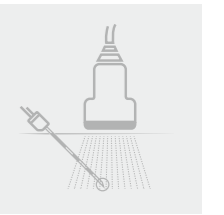
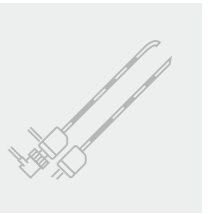
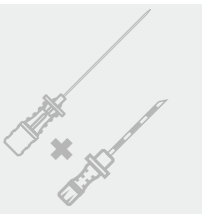
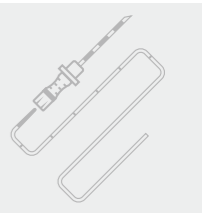
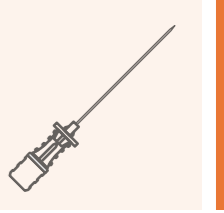
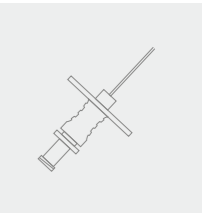
ACCESSORIES & COMPLEMENTARY PORTFOLIO

Omnifix®	Filling volume (ml)	Units per box	Code no. (REF)
	Slip NRFit®		
	1	100	9164001
	3		4616003
	5		4616005
	10		4616014
	20		4616021
	Lock NRFit®		
	3	100	4617003
	5		4617006
	10		4617014
20	4617021		
50	4617508F-01		
Perifix® LOR syringe	Units per box	Code no. (REF)	
	25	4637110	
Lock NRFit®		4638110	
NRFit® syringe caps NRFit® stoppers	Units per box	Code no. (REF)	
	Syringe cap with NRFit® connector		
	25	4517501N	
	Stopper with NRFit® connector		
25	4517502N		



SPINAL ANESTHESIA

A comprehensive portfolio of needles in different bevel types for spinal anesthesia



SPINAL ANESTHESIA

Products for Spinal Anesthesia

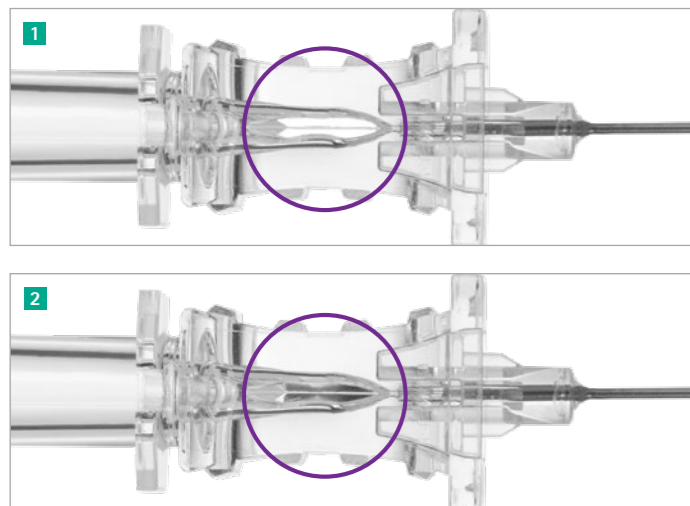
Quality and practicality



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.

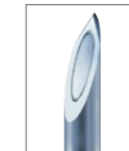
Ergonomic hub design for an individual and safe handling position, better control of the needle and easy verification of bevel eye orientation.⁷



CSF-flashback identification due to the incorporated prism effect.

CSF FLASHBACK IDENTIFICATION

- Prism has a silver shine before CSF enters the hub **1**
- Prism turns transparent once CSF is in the hub **2**



Spinocan® with Quincke bevel

- Sharp bevel for low puncture force⁷
- Fitted stylet: to reduce the risk of tissue coring and potential epidermoid tumor development
- Prism included in the spinal needle hub, supports identification 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}
- Prism included in the spinal needle hub, supports identification of CSF flashback



Atraucan® with two-zone bevel

- Low puncture force as well as minimal puncture trauma¹⁰
- Reduced risk of postdural puncture headache (PDPH)¹⁰



Spinal introducer needle

- Introducer needles providing needle guidance for the spinal needle during puncture⁷
 - Introducer OHD range (as shown on left side)
 - Introducer NHD range (as shown on right side)

Portfolio overview

SPINAL NEEDLES

Spinocan®	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF)	Code no. (REF)	Code no. (REF)		
					OHD Luer	NHD Luer	NRFit®		
		29 x 3 1/2"	0.33 x 88*	25	4501900	4501900-13	4506090-13		
		27 x 3 1/2"	0.4 x 88		4503902	4503902-01	4503902N-01		
		26 x 3 1/2"	0.45 x 88		4502906	4502906-01	4502906N-01		
		25 x 3"	0.55 x 75		4505751	4505751-01	4505751N-01		
		25 x 3 1/2"	0.55 x 88		4505905	4505905-01	4505751N-01		
		22 x 1 1/2"	0.70 x 40		4507401	4507401-13	4507401N-01		
		22 x 3"	0.70 x 75		4507754	4507754-13	4507754N-01		
		22 x 3 1/2"	0.70 x 88		4507908	4507908-01	4507908N-01		
		20 x 3"	0.90 x 75		4509757	4509757-13	4509757N-01		
		20 x 3 1/2"	0.90 x 88		4509900	4509900-01	4509900N-01		
		19 x 1 1/2"	1.10 x 40		4501144	4501144-13	4501144N-01		
		19 x 3 1/2"	1.10 x 88		4501195	4501195-13	4501195N-01		
		18 x 3"	1.30 x 75		4501373	4501373-13	4501373N-01		
		18 x 3 1/2"	1.30 x 88		4501390	4501390-01	4501390N-01		
	Long Length								
		29 x 4 3/4"	0.33 x 120			-	-	4501918N-01	
		27 x 4 3/4"	0.4 x 120			-	4501918-13	4502140N-01	
		26 x 4 3/4"	0.45 x 120			4502140	4502140-13	4504917N-01	
	25 x 4 3/4"	0.55 x 120		4504917	4504917-13	4505913N-01			
	22 x 4 3/4"	0.70 x 120		4505913	4505913-13	4506090N-01			
	22 x 6"	0.90 x 120		4506090	4506090-13	4506095N-01			

Atraucan®	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF)	Code no. (REF)	Code no. (REF)	
					OHD Luer	NHD Luer	NRFit®	
		26 x 3 1/2"	0.47 x 88	25	4504739	-	-	
	Atraucan® Paed							
		26 x 1"	0.47 x 25		4504771	-	-	
		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)	Code no. (REF)	Code no. (REF)		
					OHD Luer	NHD Luer	NRFit®		
		27 x 3 1/2"	0.4 x 88	25	4502027	4502027-01	4502027N-01		
					4502051*	4502051-13*	4502051N-01*		
		25 x 3 1/2"	0.5 x 88		4502019	4502019-01	4502019N-01		
		22 x 3 1/2"	0.7 x 88		4502043*	4502043-13*	4502043N-01*		
					4502035	4502035-13	4502035N-01		
	Long Length								
		27 x 4"	0.4 x 103			4502124*	4502124-13*	4502124N-01*	
		27 x 4 3/4"	0.4 x 120			4502132*	4502132-13*	4502132N-01	
		25 x 4"	0.5 x 103		25	4502116*	4502116-13*	4502116N-01*	
		25 x 4 3/4"	0.5 x 120			-	4502120-13	4502120N-01	
	25 x 6.1"	0.5 x 156		-	-	333877N-01			
Pencan® Paed									
	27 x 2"	0.4 x 50		4502175	4502175-13	4502175N-01			
	25 x 1"	0.5 x 25	25	4502167	4502167-13	4502167N-01			
	25 x 2"	0.5 x 50		4502159	4502159-13	4502159N-01			

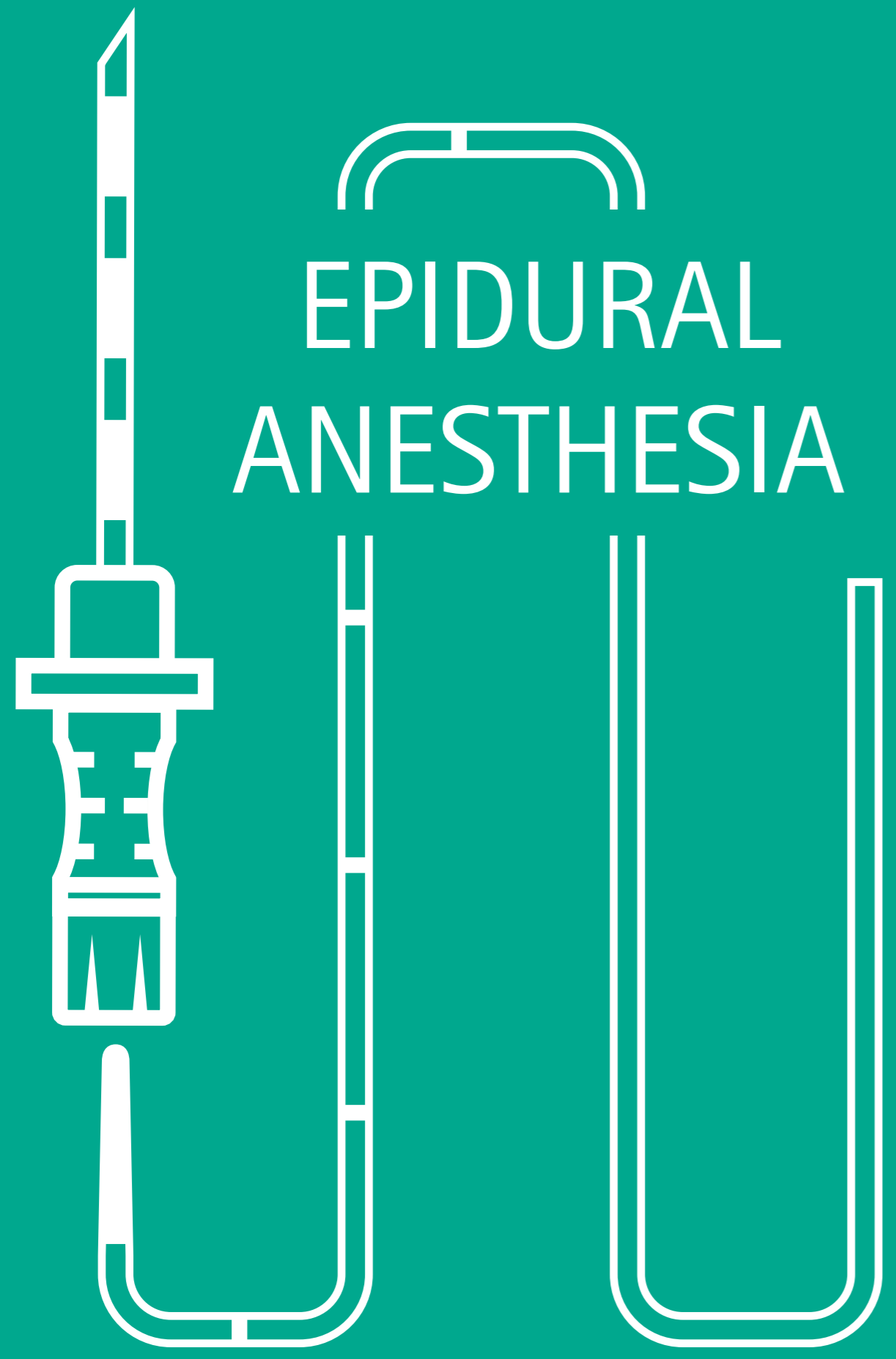
* with Spinal Introducer Needle (Luer)

INTRODUCER

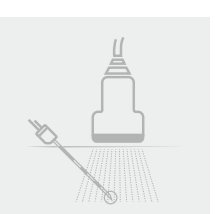
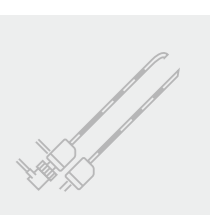
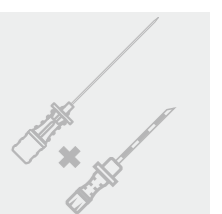
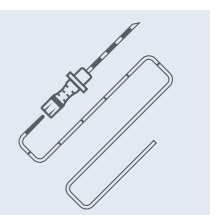
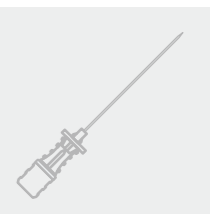
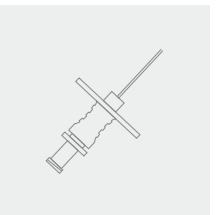
Spinal Introducer Needles (for Spinocan® and Pencan®)	Color code	Size (G)/ Length (inch)	ø/Length (mm)	Units per box	Code no. (REF) OHD Luer	Code no. (REF) NHD Luer	Code no. (REF) NRFit®
	For spinal needles 29 G and 27 G						
		22 x 1 3/8"	0.7 x 35	25	4500059*	4500059-13*	-
	For spinal needles 26 G and 25 G						
		20 x 1 3/8"	0.9 x 35	25	4505000*	4505000-13*	-

* Introducer in Luer

EPIDURAL ANESTHESIA



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



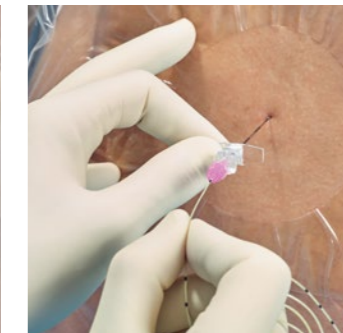
Epidural Anesthesia with NRFit®

Connecting what belongs together



Therapeutic and anesthetic decisions depend upon a number of factors, including the type and duration of the surgical intervention, patient status and selected postoperative patient management approaches.

Regional anesthesia can be divided into central and peripheral techniques. When a local anesthetic agent is used next to the spinal cord, this is referred to as neuraxial anesthesia. Neuraxial methods include spinal and epidural anesthesia.



EPIDURAL ANESTHESIA

Products with NRFit® connector

PATIENT ACCESS: EPIDURAL ANESTHESIA PRODUCTS

APPLICATION: EPIDURAL ANESTHESIA PRODUCTS



Perican®

Perican® epidural needles with Tuohy bevel are available in different sizes. Their polished inner bevel edge helps to reduce the risk of catheter shearing.



Epican® Paed Caudal

Epican® Paed Caudal needles with 45° Crawford type bevel for caudal Pediatric Anesthesia come in three different needle sizes with adjusted depth markings.



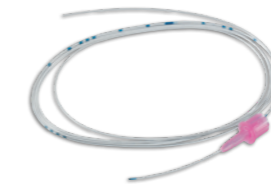
Perifix® LOR syringe

Perifix® LOR is a dedicated device for the loss of resistance technique in Epidural Anesthesia. Suitable for air and saline application. Its parabolic graduation helps to differentiate it from conventional syringes.



CSE Sets

Espocan® catheter sets for combined spinal-epidural anaesthesia (CSE). Available with or without docking system.



Perifix® catheters

Perifix® catheters for Epidural Anesthesia are available in different versions and types – Standard, Soft Tip and ONE.



Perifix® filter and Perifix® catheter connector

Filters provide an additional degree of safety and control to reduce the risk of bacterial infections. The design of the Perifix® catheter connector and its 'click and ready' mechanism ensure easy use in daily practice.

PRESCRIPTION

PATIENT ACCESS

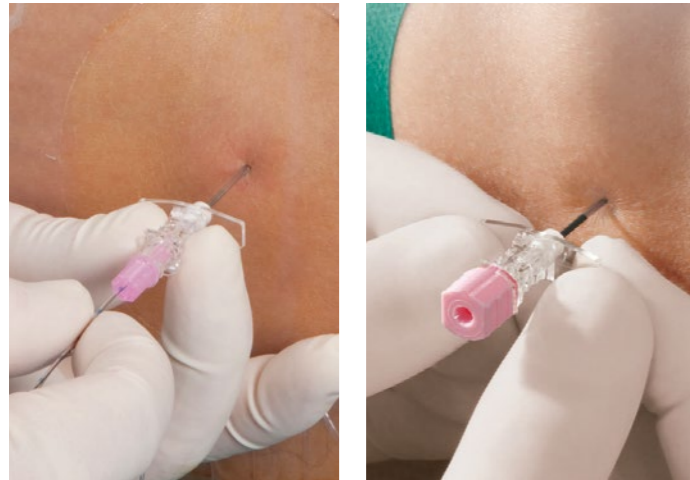
PREPARATION

APPLICATION

DISCHARGE MANAGEMENT

Products for Epidural Anesthesia

Quality and practicality



Adapting 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

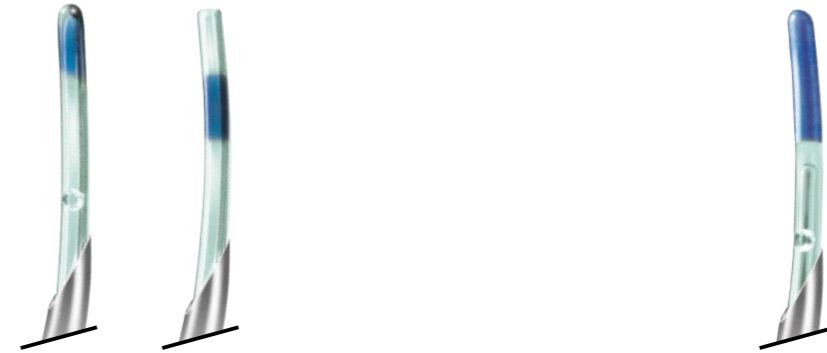
- For both continuous and single-shot techniques
- Different needle sizes (16 G, 18 G, 20 G)
- With 1 cm graduation in length
- Polished inner bevel edge to reduce the risk of catheter shearing

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

Products for Epidural Anesthesia

Perifix® catheters: available with different characteristics – standard, Soft-Tip and ONE



Perifix® standard catheter

- Relatively stiff catheter shaft for easy catheter insertion
- Length 1000 mm
- Standard catheter with a central opening or three micro-holes to enhance the spread
- Clear blue length markings embedded in catheter material
- 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



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

Products for Epidural Anesthesia

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® filter with PinPad

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



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® 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 Anesthesia

Epidural anesthesia 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

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



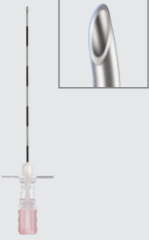





Perifix® ONE Paed epidural sets





Perifix® ONE Paed epidural sets in 20/24 G for newborns and infants, and 18/20 G for older children:





- Catheters with distance markings for pediatric use
- For safe catheter insertion and position control
- Catheter with markings each 1 cm in the space between 2 and 20 cm from the needle tip

Portfolio overview





EPIDURAL NEEDLES

Perican®	Color code	Size (G)/Length (inch)	ø/Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®	
		18 x 3¼"	1.3 x 80	25	4512383	4512383N-01	
		17 x 3¼"	1.5 x 80		4512588	-	
		16 x 3¼"	1.7 x 80		4512782	4512782N-01	
	Long Length						
		18 x 4¾"	1.3 x 120	25	4512453	4512453N-01	
	18 x 6"	1.3 x 150	4512200		4512200N-01		


Perican® Paed	Color code	Size (G)/Length (inch)	ø/Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
		22 x 2"	0.73 x 50	25	4502078	4502078N-01
		20 x 2"	0.9 x 50		4502094	4502094N-01
		18 x 2"	1.3 x 50		4502302	4502302N-01

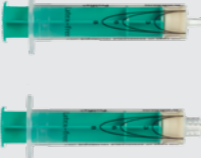
Epican® Paed Caudal	Color code	Size (G)/Length (inch)	ø/Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
		25 x 1½"	0.53 x 30	25	4502400	4502400N-01
		22 x 1¾"	0.73 x 35		4502418	4502418N-01
		20 x 2"	0.9 x 50		4502426	4502426N-01

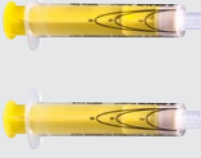
EPIDURAL CATHETERS


Perifix® catheter	Catheter ø outer/inner/Length (mm) (G)	Suitable for Perican® Size (G)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	Perifix® standard catheter (with 3 lateral eyes)				
	1.05/0.60/1000 (19)	16	25	4513258	4513258N-01
	0.85/0.45/1000 (20)	18		4513150	4513150N-01
	Perifix® standard catheter (with central opening)				
	0.85/0.45/1000 (20)	18	25	4513177	4513177N-01
	Perifix® Soft Tip catheter (with 3 lateral eyes)				
	0.85/0.45/1000 (20)	18	25	4515048	4515048N-01
	Perifix® ONE catheter (with 6 lateral eyes)				
	0.85/0.45/1000 (20)	18	25	4513150C	45131501N-01


EPIDURAL ANESTHESIA SETS


Perifix® catheter fixation	Description	Units per box	Code no. (REF)
	Perifix® catheter fixation, consisting of a fixation ring and a non-woven cover foil	25	4511200
	Perifix® non-woven replacement cover foil		4511201

Perifix® Loss-of-Resistance (LOR) syringe	Description	Units per box	Code no. (REF) Luer
	Perifix® LOR Syringe, Luer-Slip	25	4637100
	Perifix® LOR Syringe, Luer-Lock		4638107

Perifix® Loss-of-Resistance (LOR) syringe NRFit®	Description	Units per box	Code no. (REF) NRFit®
	Perifix® LOR Syringe, Slip NRFit®	25	4637110
	Perifix® LOR Syringe, Lock NRFit®		4638110

Perifix® catheter connector	Size (G)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	19	25	4513801	4513801N-01
	20/24		4513800	4513800N-01

Perifix® filter	Particle filter (µm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	0.2	25	4515501	4515501N-01

Perifix® PinPad	Description	Units per box	Code no. (REF)
	Perifix® PinPad Filter Fixation	25	4515510

Portfolio overview

SETS FOR EPIDURAL ANESTHESIA (LUER)

Perican® Tuohy epidural needles		Perican® Tuohy epidural needle		Perifix® ONE epidural catheter, 6 lateral eyes			Perifix® epidural catheter, 3 lateral eyes			central opening	3 lateral eyes	Perifix® Loss-of-Resistance (LOR) syringe, Luer-Slip
<input checked="" type="checkbox"/>	20G ø 0.9 mm/Length 50 mm		50/80 mm		24 G		20 G		19 G		20 G	
<input checked="" type="checkbox"/>	18G ø 1.3 mm/Length 80 mm		120 mm									
<input checked="" type="checkbox"/>	18G ø 1.3 mm/Length 50 mm (Paed Set)											
<input type="checkbox"/>	16G ø 1.7 mm/Length 80 mm											
Complete Sets	Type	Perican®		Perifix® ONE			Perifix® standard			Perifix® Soft-Tip	Perifix® LOR	
Perifix® standard catheter												
	Perifix® 420	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>					
	Perifix® 421	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>					
	Perifix® 430	<input type="checkbox"/>						<input checked="" type="checkbox"/>				
Perifix® Soft-Tip catheter												
	Perifix® 901	<input checked="" type="checkbox"/>									<input checked="" type="checkbox"/>	
Perifix® ONE catheter												
	Perifix® ONE431	<input type="checkbox"/>					<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>
Filter Sets												
Perifix® standard catheter												
	Perifix® 400	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 401	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 402	<input type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 451	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
Perifix® Soft Tip catheter												
	Perifix® 700	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 701	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 730	<input type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 750	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
Perifix® ONE catheter												
	Perifix® ONE400	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® ONE401	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® ONE402	<input type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® ONE418	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<input checked="" type="checkbox"/>
	Perifix® ONE451	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
Pediatric Filter Sets												
Perifix® ONE Paed												
	Perifix® ONE Paed 18	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® ONE Paed 20	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
Mini Sets												
Perifix® Standard catheter												
	Perifix® 100	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 300	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 301	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 302	<input type="checkbox"/>										<input checked="" type="checkbox"/>
	Perifix® 310	<input type="checkbox"/>										<input checked="" type="checkbox"/>

Omnifix® three part syringe, 3 ml, Luer-Lock	Omnifix® three part syringes, 3 ml, 20 ml, Luer-Lock, 3 hypodermic needles*	Omnifix® three part syringes, 3 ml, 10 ml, 20 ml, Luer-Lock, 3 hypodermic needles*	Perifix® epidural filter 0.2 µm pressure resistant up to 7 bar	Perifix® PinPad filter fixation	Perifix® catheter connector	* Sterican® needles	Sales unit/Pcs.	Code no. (REF) Luer
						25G Length 16 mm, ø 0.5 mm 21G Length 40 mm, ø 0.8 mm 18G Length 40 mm, ø 1.2 mm		
Omnifix®	Omnifix®/Sterican®	Omnifix®/Sterican®	Perifix® filter	Perifix® PinPad	Perifix® catheter connector			
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514203
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		10	4514211
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514300
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		10	4510305
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		10	4514319C
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514009
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		20	4514017
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514025
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514513
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4510216
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		20	4510097
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4517309
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4517504
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514009C
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		20	4514017C
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514025C
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514183C
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4514513C
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		10	4512006C
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			4512014C
								4511000
							20	4513002
								4513010
								4513029
								4513100

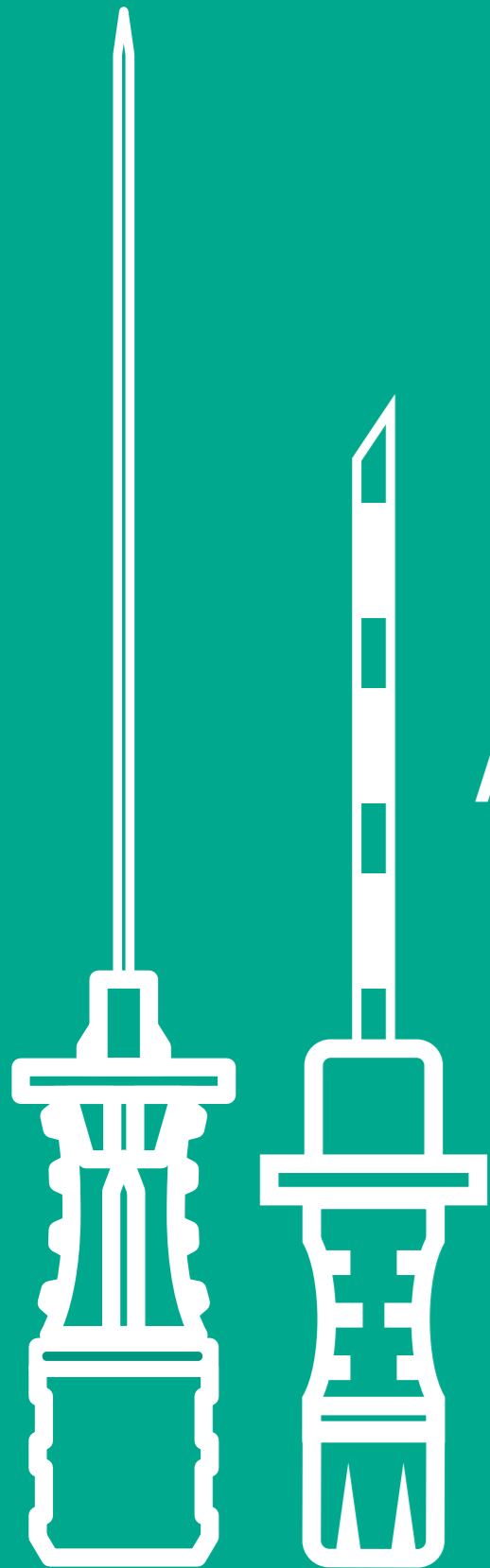
Portfolio overview

SETS FOR EPIDURAL ANESTHESIA (NRFit®)

Legend	Perican® Tuohy needle		Perifix® ONE epidural catheter, 6 lateral eyes			Perifix® epidural catheter, 3 lateral eyes		Perifix® Soft-Tip epidural catheter, 3 lateral eyes	Perifix® Loss of Resistance syringe
	50 mm	80 mm	24 G	20 G	19 G	20 G	19 G	20 G	
<p>■ 20 G x 2", ø 0.9 x 50 mm</p> <p>■ 18 G x 3 1/4", ø 1.3 x 80 mm,</p> <p>■ 18 G x 2", ø 1.3 x 50 mm (Paed Set)</p> <p>□ 16 G x 3 1/4", ø 1.7 x 80 mm</p>									
Set versions	Perican® with NRFit®		Perifix® ONE with NRFit®			Perifix® Standard with NRFit®		Perifix® Soft Tip with NRFit®	Perifix® LOR with NRFit®
Complete sets									
Perifix® Soft-Tip 901		■							■
Perifix® ONE 421		■		■					■
Filter sets									
Perifix® 400		■				■			■
Perifix® 401		■				■			■
Perifix® 402		□					■		■
Perifix® Soft Tip 701		■						■	■
Perifix® Soft Tip 730		□						■	■
Perifix® ONE 401		■		■					■
Perifix® ONE 402		□			■				■
Pediatric sets									
Perifix® ONE Paed 18		■			■				■
Perifix® ONE Paed 20	■			■					■
Mini set									
Perifix® 300		■				■			■

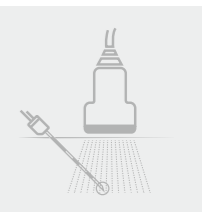
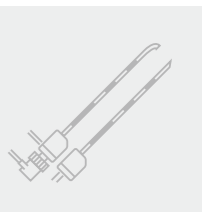
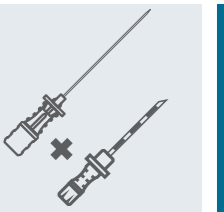
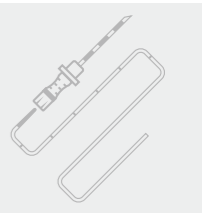
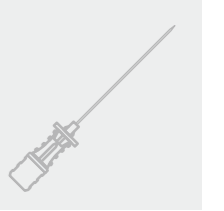
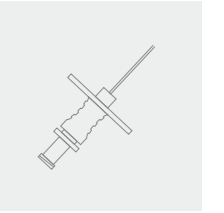
Omnifix® three part syringe, 20 ml, Lock, Sterifix® filter needle	Omnifix® three part syringe, 3 ml, Lock, Sterifix® filter needle	Perifix® filter 0.2 µm, pressure resistant up to 7 bar	Perifix® catheter connector 19 G or 20/24 G	Perifix® PinPad filter fixation	Omnifix® three part syringe, 3ml, Luer Lock, 3 hypodermic Luer needles*	* Sterican® needles 25 G, 16 mm, ø 0.5 mm 21 G, 40 mm, ø 0.8 mm 18 G, 40 mm, ø 1.2 mm	Units per box	Code no. (REF) NRFit®
■	■	■	■	■	■			4510305N-01
■	■	■	■	■	■			45142111N-01
		■	■	■	■			4514009N-01
		■	■	■	■			4514017N-01
		■	■	■	■			4514025N-01
		■	■	■	■		10	4510097N-01
		■	■	■	■			4517309N-01
		■	■	■	■			45140171N-01
		■	■	■	■			45140251N-01
		■	■	■	■		10	45120061N-01
		■	■	■	■			45120141N-01
		■	■	■	■		10	4513002N-01

Caution: Hypodermic needles (for skin infiltration) stay Luer



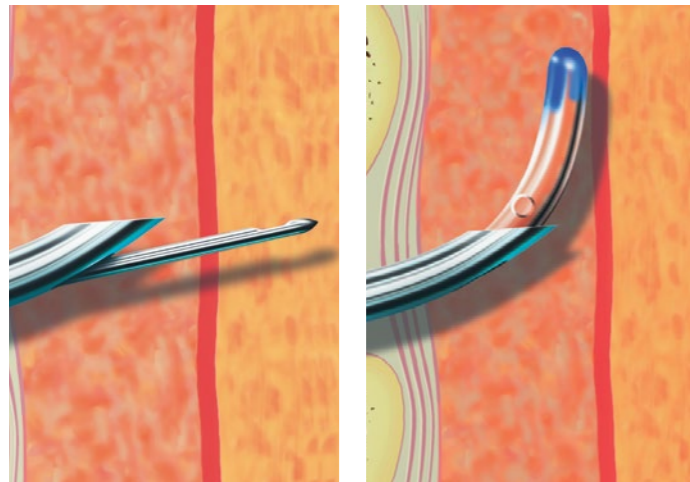
COMBINED SPINAL AND EPIDURAL ANESTHESIA

Combining the benefits of both techniques – sets for combined spinal and epidural anesthesia (CSE)



COMBINED SPINAL AND
EPIDURAL ANESTHESIA

Products for Combined Spinal and Epidural Anesthesia



Combined Spinal-Epidural Anesthesia (CSE):

THE BENEFITS

of spinal and epidural anesthesia 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



Markings on the Spinal Needle 1

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

USER BENEFITS 2

- The docking system allows rotation of the spinal needle even in the fixed position. Avoids the difficult and uncomfortable finger grip to steady 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

Portfolio overview

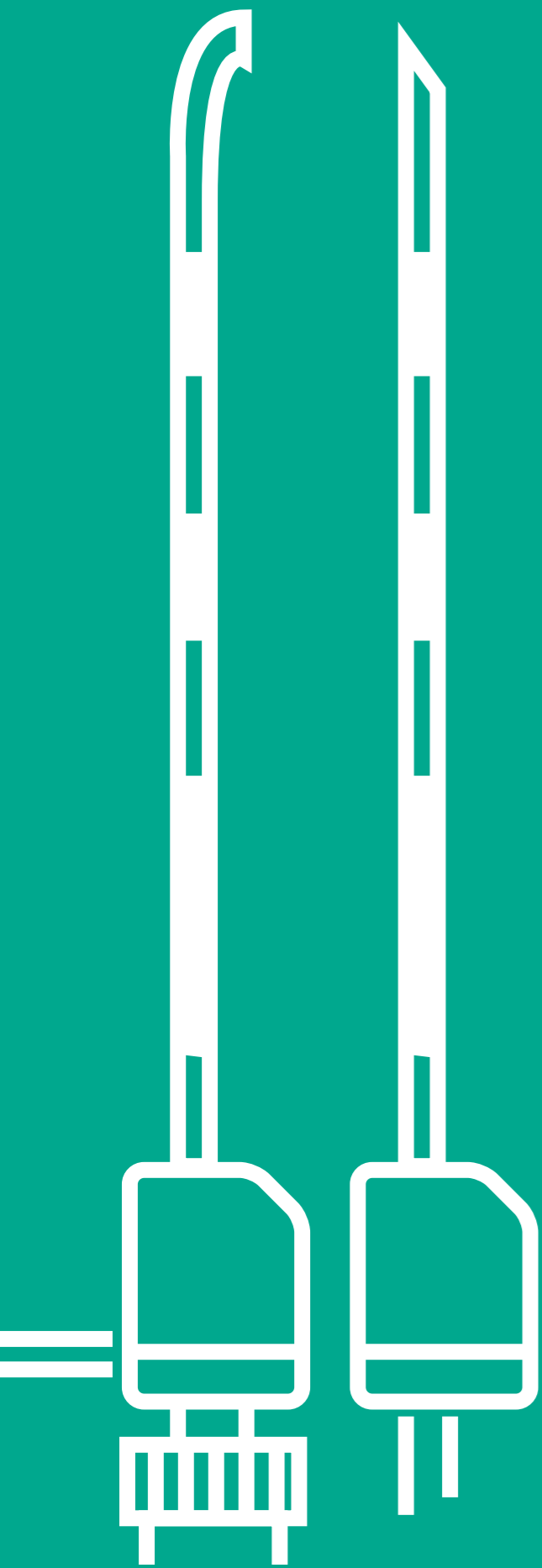
SETS FOR COMBINED SPINAL AND EPIDURAL ANESTHESIA

Espocan® and Perifix® standard	Size (G)/ Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	With Quincke-Bevel: Spinocan®				
	27 x 5"	0.42 x 125.5*	10	4556674	4556674N-01
	Pencil-Point Cannula: Pencan®				
	27 x 5"	0.42 x 127.5*	10	4556666	4556666N-01
All sets contain					
<ul style="list-style-type: none"> ▪ Perifix® Standard catheter, 3 lateral eyes ▪ Perican® epidural cannula ø 1.3 mm, 18 G x 90 mm ▪ Perifix® LOR-syringe, Luer-Slip ▪ Perifix® epidural flat filter 0.2 µm ▪ Perifix® PinPad ▪ Perifix® catheter connector 					

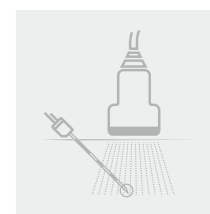
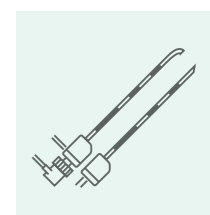
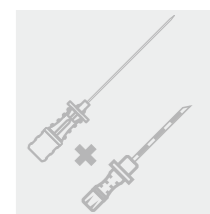
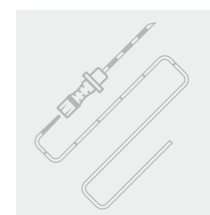
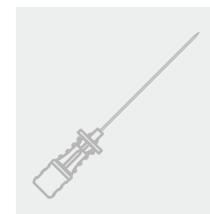
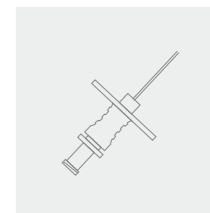
Espocan® and Perifix® Standard with docking system	Size (G)/ Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	With Quincke-Bevel: Spinocan®				
	27 x 5 3/8"	0.42 x 136.5*	10	-	4556747N-01
	Pencil-Point Cannula: Pencan®				
	27 x 5 3/8"	0.42 x 138.5*	10	4556763	4556763N-01
All sets contain					
<ul style="list-style-type: none"> ▪ Perifix® Soft-Tip catheter, 3 lateral eyes ▪ Docking system ▪ Perican® epidural cannula ø 1.3 mm, 18 G x 90 mm ▪ Perifix® LOR-syringe, Luer-Slip ▪ Perifix® epidural flat filter 0.2 µm ▪ Perifix® PinPad ▪ Perifix® catheter connector 					

* for CSE needle length in NRFit®, please consult our NRFit® brochure

PERIPHERAL NERVE BLOCKS



Whatever option you prefer - wide ranged product portfolio for stimulated and ultrasound guided peripheral nerve blocks



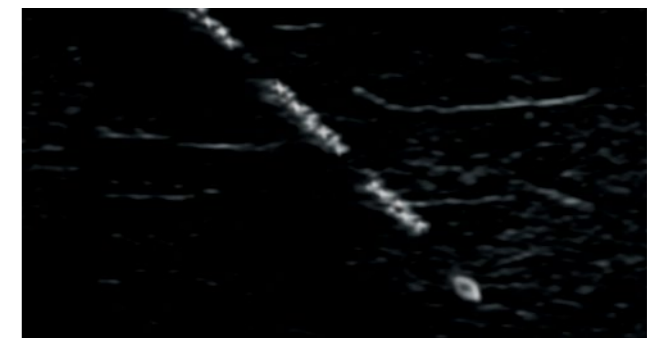
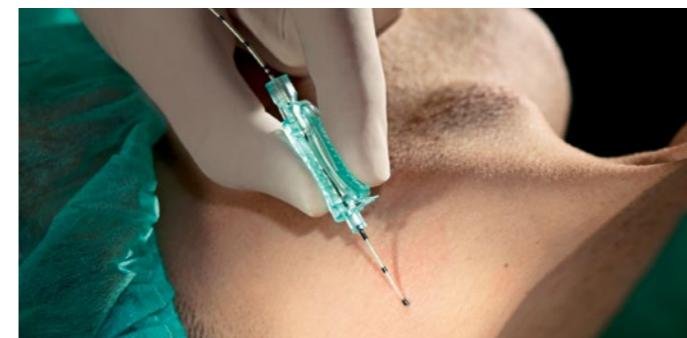
Peripheral nerve blocks with NRFit®

Connecting what belongs together



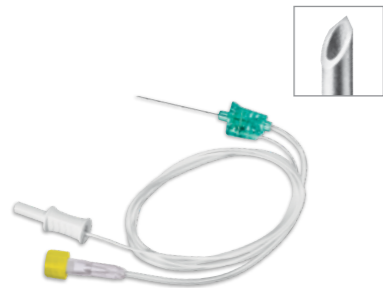
Peripheral and plexus nerve blocks are one of the segments of regional anesthesia, where a local anesthetic agent is used next to a nerve to provide sensory and motor blockades.

Peripheral nerve blocks (PNB) can be employed for anesthesia and for postoperative analgesia in order to support early patient mobilization and rehabilitation. PNBs are also used in combination with other forms of anesthesia and where volatile anesthetics are contraindicated.



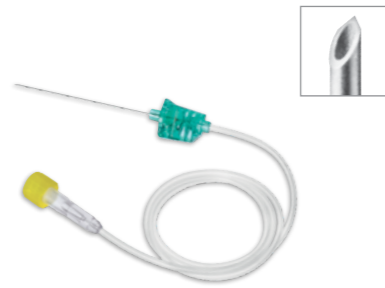
Products with NRFit® connector

PATIENT ACCESS: SINGLE SHOT PNB PRODUCTS



Stimuplex® Ultra 360° needles

Stimuplex® Ultra 360° is designed to perform an ultrasound guided peripheral nerve block and nerve stimulation. Due to high visibility of the X-pattern, the needle is easy to visualize under ultrasound with few artefacts.



Ultraplex® 360 needles

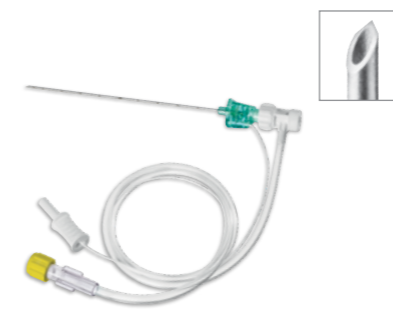
Ultraplex® 360 is a non-stimulating ultrasound needle, equipped with improved product properties to perform ultrasound guided peripheral nerve blocks, when nerve stimulation is not indicated (e.g. transversus abdominalplane block).



Stimuplex® A

Stimuplex® A is a single shot unipolar needle, providing the basic nerve stimulation-supported anesthesia for short-term interventions or additional single nerve blocks in continuous techniques.

PATIENT ACCESS: CONTINUOUS PNB PRODUCTS



Contiplex® S Ultra 360° needles

Contiplex® S Ultra 360° is a continuous technique needle with a 20° facet bevel, designed to perform ultrasound guided peripheral nerve blocks in combination with nerve stimulation.



Contiplex® Tuohy Ultra 360° needles

Contiplex® Tuohy Ultra 360° is a continuous technique needle with Tuohy bevel, designed to perform ultrasound guided peripheral nerve blocks in combination with nerve stimulation.



Contiplex® C

Contiplex® C is a patented catheter placement system with the innovative catheter-over-needle design. It is designed to help overcome the limitations associated with peripheral catheters, such as complexity of catheter placement, leakage and catheter displacement.

PRESCRIPTION

PATIENT ACCESS

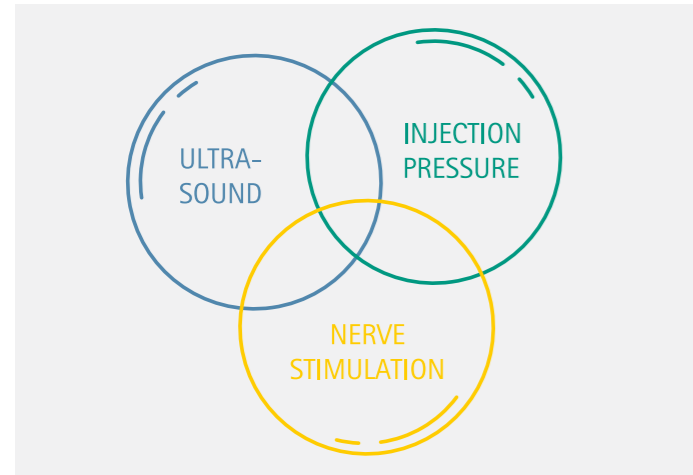
PREPARATION

APPLICATION

DISCHARGE MANAGEMENT

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 ultrasound-only, dual guidance monitoring, and stimulation procedures.



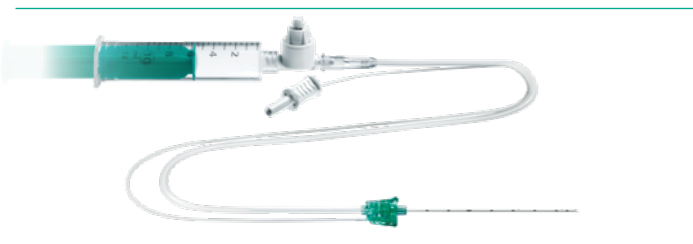
ULTRASOUND

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 the 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

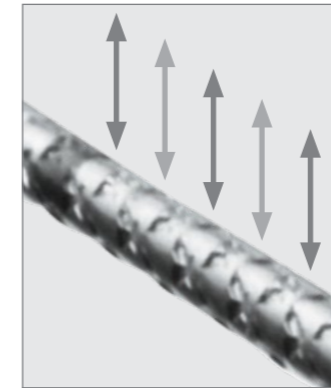
The disposable BSmart™ pressure monitor device objectively indicates the opening injection pressure in real time and allows for a more informed decision on how to proceed with an injection regardless of who performs the block. Using this technique can prevent injection into poorly compliant tissue (e.g.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

Ultraline 360

Visibility without compromise – the next generations of echogenic nerve block needles



Circular (360°)
X-pattern-design

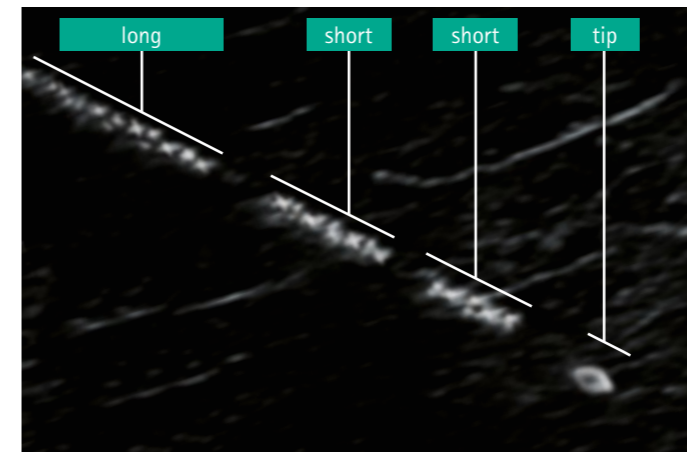


Reflection of the
Ultrasound waves

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 (long-short-short-tip) and facilitates the needle tip identification. The Ultraline 360 portfolio combines increased ultrasound visibility with excellent tactile feedback and puncture characteristics.



NAVIGATION

For an 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

USER BENEFITS

- **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

Products for peripheral nerve blocks

Single shot needles



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

USER BENEFITS

- Excellent puncture and gliding characteristics (Stimuplex® D)
- Broad portfolio of needle lengths from 35 to 150 mm and G 25 to G 20
- Ergonomic needle hub design for enhanced tactile feedback

Cannula	Bevel		Insulation		Echogenic properties	Stimulating capabilities
	15°	30°	Full Tip	PinPoint		
Stimuplex® A	✓	✓	✓		✓	✓
Stimuplex® Ultra 360®	✓	✓	✓		✓	✓
Ultraplex® 360®	✓				✓	



Products for peripheral nerve blocks

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

USER BENEFITS

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

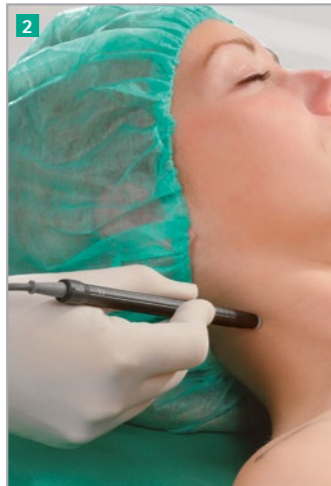
Set	Bevel			Insulation	Echogenic properties	Catheter
	15°	20°	30°	Tuohy		Standard ONE
Braunula technique						
Contiplex® D	✓		✓			✓
Catheter through the needle technique						
Contiplex® S Ultra 360		✓			✓	✓
Contiplex® Tuohy Ultra 360			✓	✓	✓	✓
Catheter over the needle						
Contiplex® C	✓		✓	✓	✓	✓

Products for peripheral nerve blocks

Nerve stimulation with the Stimuplex® HNS 12



1 Stimuplex® HNS 12 with SENSE



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 losing the 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 or specificity when closer to the nerve. The downside is that sensitivity, or the availability to elicit visual feedback at a distance from the nerve, is lost. SENSE technology increases both sensitivity and specificity 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 remaining the visual feedback.

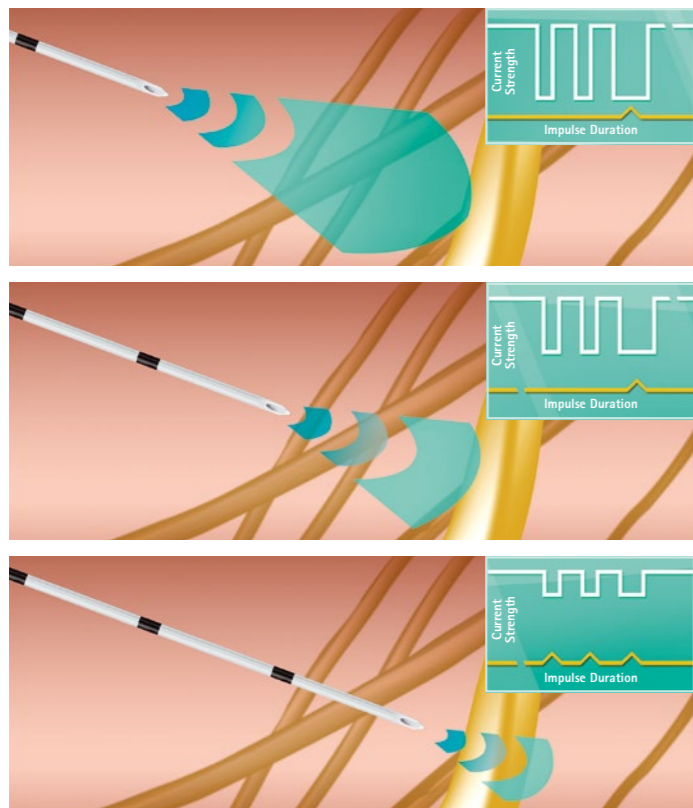
USER BENEFITS

- Stimulation with SENSE-technology designed for more efficient nerve stimulation¹³
- Menus designed for easy control of sound and other settings
- Acoustic signals inform the user of any relevant deviations

As the needle is advanced, SENSE generates two short and one long pulse. From the alternating sequence of three impulses, the third longer impulse stimulates the nerve already at a distance. One muscle twitch is visible and indicates that the needle is directed to the nerve.

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.



Products for peripheral nerve blocks

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 injection¹⁹
- 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.

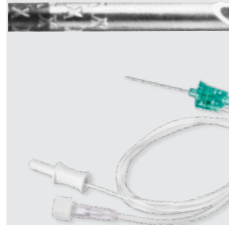
BSmart™ Injection Pressure Monitor

The BSmart™ Injection Pressure Monitor is an easy-to-use inline injection pressure monitoring device providing clinicians with objective pressure information. This happens through a coloured piston, which climbs into the gauge 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.

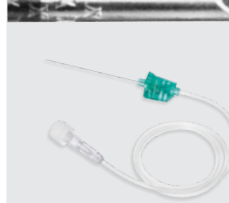
Portfolio overview

SINGLE-SHOT BLOCK NEEDLES

Stimuplex® A	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	Needles with 30° bevel				
	24 G x 1"	0.55 x 25 mm	25	4894251	-
	22 G x 1"	0.70 x 25 mm		-	4894539NR
	22 G x 1 1/8"	0.70 x 35 mm		4894367	4894367NR
	22 G x 2"	0.70 x 50 mm		4894502	4894502NR
	21 G x 2"	0.80 x 50 mm		-	4894375NR
	21 G x 4"	0.80 x 100 mm		4894260	4894260NR
20 G 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	Code no. (REF) NRFit®
	Insulated echogenic needles with 30° Bevel				
	22 G x 1 3/8"	0.70 x 35 mm	25	4892503-01	4892503NR-01
	22 G x 2"	0.70 x 50 mm		4892505-01	4892505NR-01
	22 G x 3 1/8"	0.70 x 80 mm		4892508-01	4892508NR-01
	20 G x 4"	0.90 x 100 mm		4892510-01	4892510NR-01
20 G x 6"	0.90 x 150 mm	4892515-01		4892515NR-01	


* SUFFIXES
Article code suffix -01 = CE Region: Covering all CE countries; Article code suffix -03 = Asia; Article code suffix -04 = South America; Article code suffix -20 = CIS

Ultraplex® 360	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	Non-Insulated Echogenic Needles with 30° Bevel				
	22 G x 1 3/8"	0.70 x 35 mm	25	4892603-01	4892603NR-01
	22 G x 2"	0.70 x 50 mm		4892605-01	4892605NR-01
	22 G x 3 1/8"	0.70 x 80 mm		4892608-01	4892608NR-01
	20 G x 4"	0.90 x 100 mm		4892610-01	4892610NR-01
20 G x 6"	0.90 x 150 mm	4892615-01		4892615NR-01	

* SUFFIXES
Article code suffix -01 = CE Region: Covering all CE countries; Article code suffix -20 = CIS

ACCESSORIES

BSmart™	Description	Units per box	Code no. (REF)
	BSmart™ Injection Pressure Monitor	25	4894000-01






Nerve stimulation	Description	Units per box	Code no. (REF)
	Stimuplex® HNS 12 Nerve Stimulator for Stimuplex®, Ultraplex® and Contiplex® needles	1	4892098


Nerve stimulator accessories and spare parts	Units per box	Code no. (REF)
Stimuplex® Pen for cutaneous nerve mapping	1	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

* Stimuplex® HNS Compact is not available in all countries

Portfolio overview

SETS FOR CONTINUOUS NERVE BLOCKS

							
	25 G	18 G	18 G	18 G			
Set specifications	Bevel (°)		Needle			Perifix® standard	
	with NRFit®	with NRFit®	Size (G)	Size Ø (mm)	Length (mm)	3 lateral openings (closed tip) (mm)	central opening (open tip) (mm)
Contiplex® C Sets							
Contiplex® C		15	25	0.53	190	-	-
Contiplex® C		30	25	0.53	190	-	-
Contiplex® D Sets							
Contiplex® D		15	18	1.3	110	-	1000
Contiplex® D		15	20	1.1	33	-	400
Contiplex® D		15	20	1.1	55	-	400
Contiplex® D		15	18	1.3	55	-	400
Contiplex® D		30	18	1.3	55	-	400
Contiplex® S Ultra 360® Sets							
Contiplex® S Ultra 360		20	18	1.3	50	-	-
Contiplex® S Ultra 360		20	18	1.3	100	-	-
Contiplex® S Ultra 360		20	18	1.3	150	-	-
Contiplex® Tuohy Ultra 360® Sets							
Contiplex® Tuohy Ultra 360		-	18	1.3	40	-	-
Contiplex® Tuohy Ultra 360		-	18	1.3	50	-	-
Contiplex® Tuohy Ultra 360		-	18	1.3	100	-	-
Contiplex® Tuohy Ultra 360		-	18	1.3	150	-	-

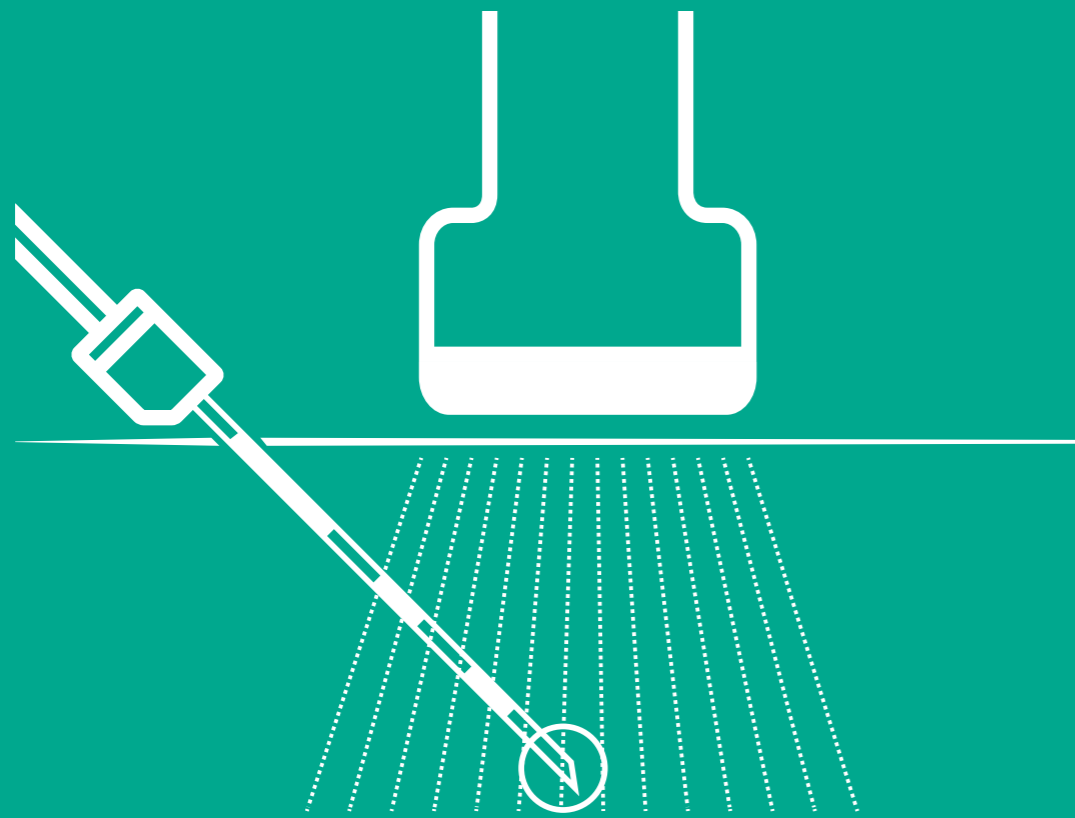
							
Contiplex® ONE catheter (6 lateral openings, closed tip, open tip for Contiplex® C)	Perifix® catheter connector 19G or 20/24G	Perifix® PinPad filter fixation	Perifix® filter 0.2 µm, Pressure resistant up to 7 bar	Omnifix® syringe 5 ml			
Contiplex® ONE (mm)	Perifix® catheter connector	Perifix® PinPad	Perifix® Filter with NRFit®	Omnifix® with NRFit®	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
187	■	■	■	-	5	4898115	-
187	■	■	■	-		4898130	4898130NR
-	■	■	■	■	10	4898311	-
-	■	■	■	■		4898323	-
-	■	■	■	■		4898325	-
-	■	■	■	■		4898305	-
-	■	■	■	■		4898335	-
400	■	■	■	■	10	4898650-01	4898650NR-27
1000	■	■	■	■		4898610-01	4898610NR-27
500	■	■	■	■		4898615-01	4898615NR-27
400	■	■	■	■	10	4898704-01	4898704NR-27
400	■	■	■	■		4898705-01	4898705NR-01
1000	■	■	■	■		4898710-01	4898710NR-01
1000	■	■	■	■		4898715-01	4898715NR-01

*SUFFIXES

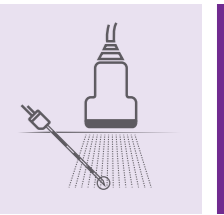
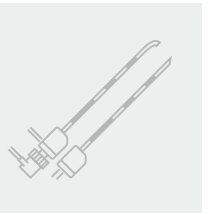
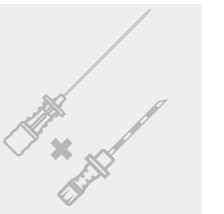
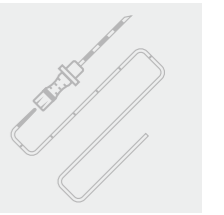
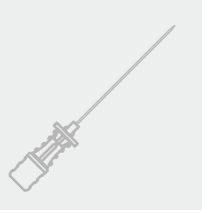
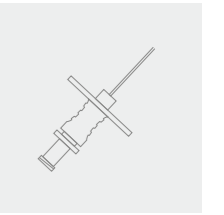
Contiplex® Tuohy Ultra 360: Article code suffix -01 = CE Region: covering all CE countries; Article code suffix -27 = RoW

Contiplex® S Ultra 360: Article code suffix -01 = CE Region: covering all CE countries; Article code suffix -27 = RoW

ULTRASOUND GUIDANCE



Reimagine Regional Anesthesia
with B. Braun's accessories for
ultrasound guidance



ULTRASOUND
GUIDANCE

EZCOVER® – improved protection for patient, user and equipment

Generic Ultrasound Probe Cover Set



EZCOVER®. Because infection control matters.

Infection prevention and control are key priorities in the healthcare setting. Although ultrasound is considered one of the safest imaging modalities, infection transmission risks during ultrasound are evident.¹ The use of a sterile sheath and gel for interventional ultrasound is an important way to prevent cross-contamination and reduce the risk of healthcare-associated infections.²

“Dedicated transducer covers and sterile gel must be used for all interventions”

(Recommendation of the European Society of Radiology Ultrasound Working Group)

ALL SETS INCLUDE:

- Ultrasound probe cover - available in different sizes (W x L)
 - 15 x 30 cm
 - 15 x 61 cm
 - 15 x 122 cm
 - 15 x 244 cm
- Sterile ultrasound gel (1 x 20 g)
- Latex-free rubber fixation bands (2 x)
- Blue sterile drape (40 x 40 cm)

EZCOVER®. Improved protection for patient, user and equipment

EZCOVER® are sterile, latex-free and ensure maximum protection for the patient, the user and the equipment. EZCOVER® are suited to all sterile and non-sterile ultrasound applications.

Easy to fit and convenient to use.

The telescopic folding allows for sterile application. Clear instruction labels on the cover decrease the risk of errors and misuse.

Image quality without compromise.

The high-quality material of the soft sleeve emulates the properties of human tissue. The elastic material facilitates wrinkle and air-free application for distortion free scanning.

EZCOVER® BENEFITS:

IMPROVED PROTECTION

- Latex-free
- Approved for intraoperative use
- Reduces risks of procedural errors (STOP (Check) Sticker)

EASY TO FIT – CONVENIENT TO USE

- Improved handling
- Elastic material – conforms to all probes
- All necessary components for immediate use in one set

ADVANCED PERFORMANCE

- Soft and comfortable material
- Wrinkle and air-free fit
- No compromise in image quality

Stop before you block!

Wrong site blocks (WSB) are classified as never events but they tend to happen frequently.³ A nation-wide patient safety campaign in the UK called “Stop before you block” is aimed at reducing the incidence of inadvertent wrong-sided nerve blocks during regional anesthesia.⁴

EZCOVER® are available with STOP (Check) label. The sticker reminds the practitioner to STOP immediately prior to the start of the procedure and conduct a final confirmation on the right surgery site and side of the block.





BENEFITS:

- Assures compliance with the WHO Checklist (JCI Standards IPSG4 and IPSG.4.1)
- Reduces risks of wrong-sided blocks

Portfolio overview

PROBE COVER SETS – ULTRASOUND ACCESSORIES

	Description	Size (W x L cm)	Units	Code no.
Generic Set				
	U/S Probe Cover Set w/Gel	15 x 30	30/ Box	PCG15030
	U/S Probe Cover Set w/Gel	15 x 61	30/ Box	PCG15061
	U/S Probe Cover Set w/Gel	15 x 122	30/ Box	PCG15122
	U/S Probe Cover Set w/Gel	15 x 244	25/ Box	PCG15244
Set with STOP (Check)				
	U/S Probe Cover Set, STOP w/Gel	15 x 30	30/ Box	PCT15030
	U/S Probe Cover Set, STOP w/Gel	15 x 61	30/ Box	PCT15061
	U/S Probe Cover Set, STOP w/Gel	15 x 122	30/ Box	PCT15122
	U/S Probe Cover Set, STOP w/Gel	15 x 244	25/ Box	PCT15244

Literature

- Neuman MD et al. Comparative Effectiveness of Regional versus General Anesthesia for Hip Fracture Surgery in Adults. *Anesthesiology* 2012;117(1):72-92. doi: <https://doi.org/10.1097/ALN.0b013e3182545e7c>.
- Ilfeld BM et al. Continuous Popliteal Sciatic Nerve Block for Postoperative Pain Control at Home: A Randomized, Double-Blinded, Placebo-Controlled Study. *Anesthesiology* 2002;97(4):959-965.
- Aguirre J. The economics of regional versus general anaesthesia in the ambulatory setting. *Euroanaesthesia: The European Anaesthesiology Congress*; 2016 May 28-30; London. <http://euroanaesthesia2016.esahq.org/the-economics-of-regional-versus-general-anaesthesia-in-the-ambulatory-setting/>.
- Hu S et al. A comparison of regional and general anaesthesia for total replacement of the hip or knee: a meta-analysis. *J Bone Joint Surg Br* 2009; 91(7):953-42. doi: [10.1302/0301-620X.91B7.21538](https://doi.org/10.1302/0301-620X.91B7.21538).
- Helwani MA et al. Effects of regional versus general anesthesia on outcomes after total hip arthroplasty: a retrospective propensity-matched cohort study. *J Bone Joint Surg Am.* 2015; 97(3):186-93. doi: [10.2106/JBJS.N.00612](https://doi.org/10.2106/JBJS.N.00612).
- ISO 80369-6:2016; Small bore connectors for liquids and gases in healthcare applications – Part 6: Connectors for neuraxial applications. <https://www.iso.org/standard/50734.html>.
- Lehmann, 2002, Spinalkanülen neuster Generation.
- Vallejo MC et al. Postdural puncture headache: a randomized comparison of five spinal needles in obstetric patients. *Anesth Analg.* 2000 Oct; 91(4):916-20.
- Krommendijk et al. The PENCAN 25-gauge needle: A new pencil-point needle for spinal anesthesia tested in 1,193 patients. *Reg Anesth Pain Med.* 1999;24(1):43-50.
- Scott DB et al. Atraucan: a new needle for spinal anesthesia. *Regional anesthesia* 1993;18(4):213-7.
- Cooper D et al. Regional Block Needles—A Matter of Feel and Brightness. Presented at the 35th ESRA in Maastricht, Netherlands, September 2016.
- Steinfeld T et al. Nerve injury by needle nerve perforation in regional anesthesia: does size matter? *Br J Anaesth.* 2010;104(2):245-53. doi: [10.1093/bja/aep366](https://doi.org/10.1093/bja/aep366).
- Urmey WF, Grossi P. Use of sequential electrical nerve stimuli (SENS) for location of the sciatic nerve and lumbar plexus. *Reg Anesth Pain Med.* 2006;31(5):463-9.
- Farber SJ et al. Peripheral nerve injury after local anesthetic injection. *Anesth Analg.* 2013; 117(3):731-9. doi: [10.1213/ANE.0b013e3182a00767](https://doi.org/10.1213/ANE.0b013e3182a00767).
- Gadsden et al. Opening injection pressure consistently detects needle-nerve contact during ultrasound-guided interscalene brachial plexus block. *Anesthesiology.* 2014;120(5):1246-53. doi: [10.1097/ALN.000000000000133](https://doi.org/10.1097/ALN.000000000000133).
- Kapur E et al. Neurologic and histologic outcome after intraneural injections of lidocaine in canine sciatic nerves. *Acta Anaesthesiol Scand.* 2007; 51(1):101-7.
- Orebaugh SL et al. Brachial plexus root injection in a human cadaver model: Injectate distribution and effects on the neuraxis. *Reg Anesth Pain Med.* 2012; 37(5):525-9.
- Bigeleisen PE et al. Extraneural versus intraneural stimulation thresholds during ultrasound-guided supraclavicular block. *Anesthesiology.* 2009;110(6):1235-43. doi: [10.1097/ALN.0b013e3181a59891](https://doi.org/10.1097/ALN.0b013e3181a59891).
- Theron PS et al. An animal model of 'syringe feel' during peripheral nerve block. *Reg Anesth Pain Med.* 2009;34:330-2.
- Kåsine T et al. Needle tip tracking for ultrasound-guided peripheral nerve block procedures—An observer blinded, randomised, controlled, crossover study on a phantom model. *Acta Anaesthesiol Scand.* 2019; 63(8): 1055-62. doi: [10.1111/aas.13379](https://doi.org/10.1111/aas.13379).
- Kåsine T et al. The effect of needle tip tracking on procedural time of ultrasound-uided lumbar plexus block: a randomised controlled trial. *Anaesthesia* 2019. 75(1): 72-79. doi: [10.1111/anae.14846](https://doi.org/10.1111/anae.14846).
- McLeod GA et al. An initial evaluation of the effect of a novel regional block needle with tip-tracking technology on the novice performance of cadaveric ultrasound-guided sciatic nerve block. *Anaesthesia* 2020;75(1):80-88. doi: [10.1111/anae.14851](https://doi.org/10.1111/anae.14851).
- Liu SS et al. Efficacy of continuous wound catheters delivering local anesthetics for postoperative analgesia: a quantitative and qualitative systemic review of randomized controlled trials. *J Am Coll Surg.* 2006;203(6):914-932. doi: [10.1016/j.jamcollsurg.2006.08.007](https://doi.org/10.1016/j.jamcollsurg.2006.08.007).
- Chely JE et al. Continuous peripheral nerve blocks in acute pain management. *Br J Anaesth.* 2010; 105(1): 186-196. doi: [10.1093/bja/aeq322](https://doi.org/10.1093/bja/aeq322).
- Ilfeld B, Continuous peripheral nerve blocks: A review of the published evidence. *Anesth Analg* 2011; 113(4):904-925. doi: [10.1213/ANE.0b013e3182285e01](https://doi.org/10.1213/ANE.0b013e3182285e01).
- Bingham A et al. Continuous peripheral nerve block compared with single-injection peripheral block. A systematic review and meta-analysis of randomized controlled trials. *Reg Anesth Pain Med.* 2012;37(6):583-94. doi: [10.1097/AAP.0b013e31826c351b](https://doi.org/10.1097/AAP.0b013e31826c351b).
- Bharti N et al. The efficacy of a novel approach to transverse abdominis palne block for postoperative analgesia after colorectal surgery. *Anesth Analg.* 2011;112(6):1504-8. doi: [10.1213/ANE.0b013e3182159bf8](https://doi.org/10.1213/ANE.0b013e3182159bf8).
- Belavy D et al. Ultrasound-guided transverse abdominis plane block for analgesia after caesarean delivery. *Br J Anaesth.* 2009;103(5):726-30. doi: [10.1093/bja/aep235](https://doi.org/10.1093/bja/aep235).
- Beaussier M et al. Continuous preperitoneal infusion of ropivacaine provides effective analgesia and accelerates recovery after colorectal surgery. *Anesthesiology.* 2007; 107(3):461-468.
- Sartoretti T, Sartoretti E, Bucher C et al. Bacterial contamination of ultrasound probes in different radiological institutions before and after specific hygiene training: do we have a general hygienical problem? *Eur Radiol.* 2017 Oct;27(10):4181-4187
- Nyhnen CM, Humphreys H, Koerner RJ et al. Infection prevention and control in ultrasound - best practice recommendations from the European Society of Radiology Ultrasound Working Group. *Insights Imaging.* 2017 Dec;8(6):523-535
- Cohen SP, Hayek SM, Datta S, Bajwa ZH, Larkin TM, Griffith S, Hobelmann G, Christo PJ, White R. Incidence and root cause analysis of wrong-site pain management procedures: a multicenter study. *Anesthesiology.* 2010 Mar;112(3):711-8
- <https://www.ra-uk.org/index.php/stop-before-you-block>
- Kress R, Townley, Jason Lane, Robyn Packer, and Rajnish K. Gupta. Unintentional Infusion of Phenylephrine into the Epidural Space. *A&A Case Rep.* 2016 Mar 1; 6(5):124-6
- <https://www.iso.org/standard/50734.html> (2017-05-23)

B. Braun Medical N.V./S.A. | +32 (0)2 712 86 50 | customercare.be@bbraun.com | www.bbraun.be

NRFit® is a federally registered trademark of GEDSA in multiple jurisdictions throughout the world. Used with permission.
ENFit® is a trademark of GEDSA. Used with permission.

The information contained in this communication is strictly confidential, may constitute inside information, and is intended only for the use of the addressee. It is the property of the sender of this information. Unauthorized use, disclosure, or copying of this communication or any part thereof is strictly prohibited and may be unlawful.