B. Braun Regional Anesthesia portfolio

Product catalog

B|BRAUN
SHARING EXPERTISE

Reach your targets quicker

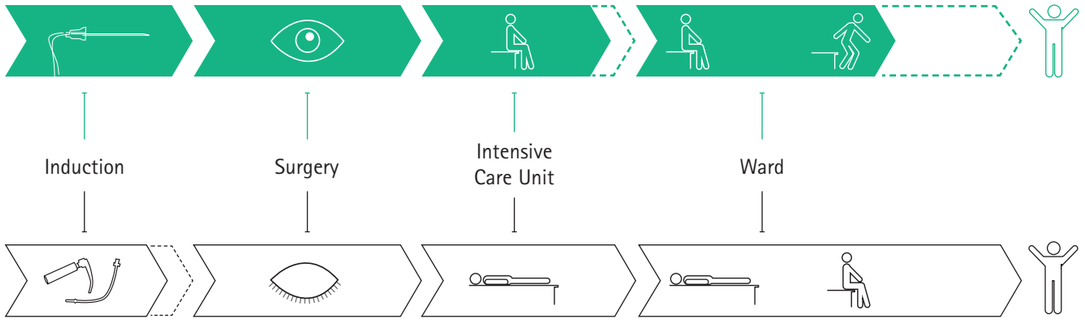
Thanks to Regional Anesthesia

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

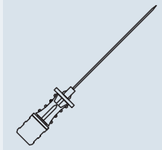
Comparing two potential interventions with and without Regional Anesthesia:

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

Spinal anesthesia

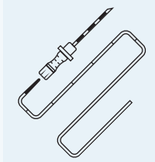
Spinocan® | Pencan® | Ataucan® | Spinal introducer needle



Spinal anesthesia

Epidural anesthesia

Perican® | Perican® Paed | Epican® Paed
Perifix® epidural catheter | Perifix® Sets | Accessories



Epidural anesthesia

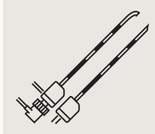
Combined spinal & epidural anesthesia

Espocan®-sets

Combined spinal and epidural anesthesia

Peripheral nerve blocks

Stimuplex® A | Stimuplex® D | Stimuplex® Ultra 360® | Ultraplex® 360
Contiplex® C | Contiplex® S/S Ultra 360®| Contiplex® Tuohy/Tuohy Ultra 360®
Contiplex® D



Peripheral nerve blocks

Ultrasound guidance

EZCOVER®

Ultrasound guidance

Pain therapy with Regional Anesthesia

Supported by B. Braun's product portfolio

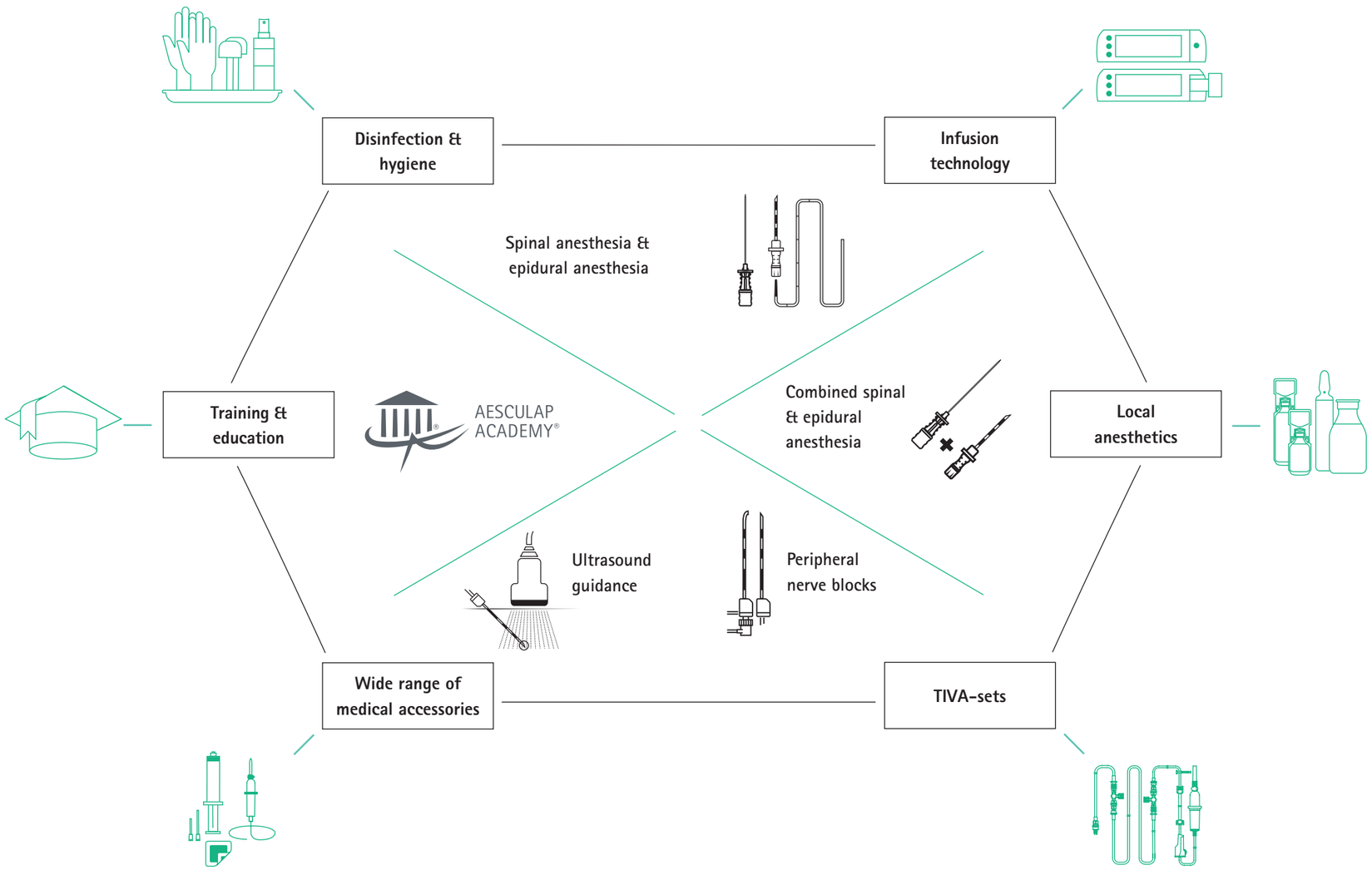
B. Braun – a competent partner

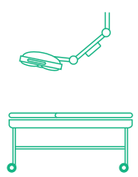
As one of the world's major providers in the area of regional anesthesia, B. Braun supports its customers with innovative products and services.

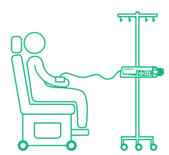
We strive to accompany our customers through the entire patient pathway helping to optimize their processes and to provide products adapted to day-to-day clinical needs.

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.

Reducing risks of misconnections in Regional Anesthesia with NRFit®

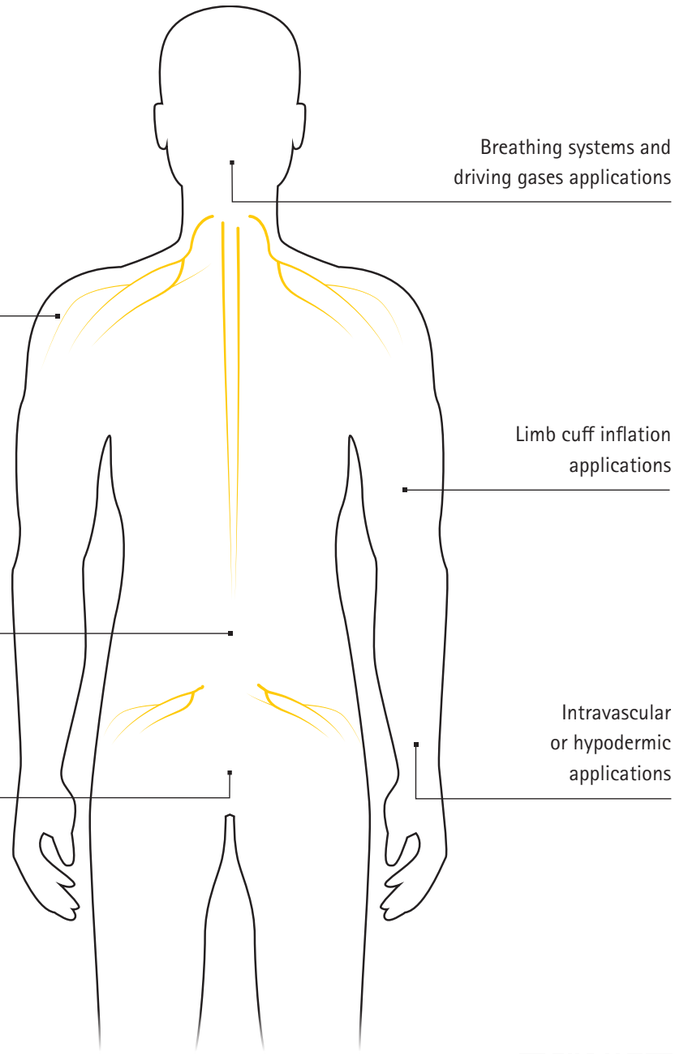
Medical device connectors for neuraxial & Regional Anesthesia applications are changing to meet international design standards: ISO 80369-6. [6]

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]

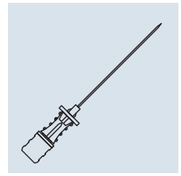


BEST PARTNER B|B NRFit®

Our NRFit® portfolio consists of more than 700 article codes.
To find out more visit:

Spinal anesthesia

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



Products for Spinal Anesthesia

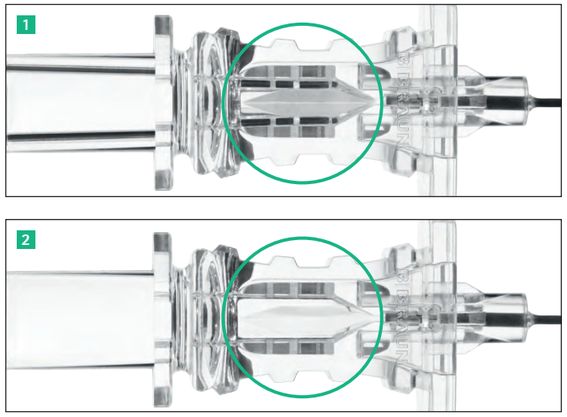
Quality and practicality

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.

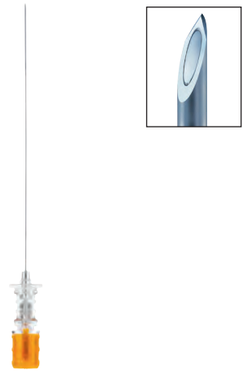
Spinocan® and Pencan® are well accepted for their **innovative** needle tip designs.

CSF[ID] System: Prism and magnifying lense for improved visualization of CSF flashback.



CSF flashback identification

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

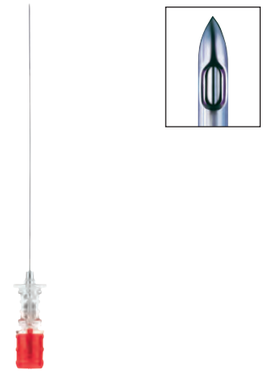


Spinocan® with quincke bevel

- Sharp bevel for low puncture force[7]
- Fitted stylet: to reduce the risk of tissue coring and potential epidermoid tumor development
- CSF[ID] System for improved visualization of CSF flashback in the needle hub aiding proper needle placement

Atraucan® with two-zone bevel

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



Pencan® with pencil point bevel

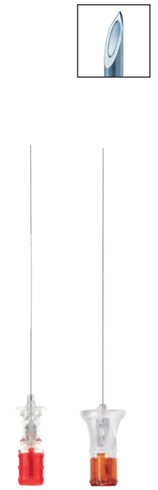
- Pencil point tip and opening design allows avoidance of incomplete blocks and helps reduce PDPH[8]
- Low intrathecal penetration depth[7]
- Safe handling through identification of tissue structures and dura click[7,9]
- Fitted stylet: to reduce the risk of tissue coring and potential epidermoid tumor development
- CSF[ID] System for improved visualization of CSF flashback in the needle hub aiding proper needle placement

Spinal Introducer Needle

- Introducer needles providing needle guidance for the spinal needle during puncture[7]

Portfolio overview

Spinal needles

Spinocan®	Colour Code	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) NHD Luer	Code no. (REF) Spinocan® NX Luer	Code no. (REF) Spinocan® NX NRFit®
		29 x 3 ½"	0.35 x 88		4501900-13*	4522901*	4522901N*
		27 x 3 ½"	0.42 x 88		4503902-01	4522701	4522701N
		26 x 3 ½"	0.47 x 88		4502906-01	4522601	4522601N
		25 x 3"	0.53 x 75		4505751-01	4522501	4522501N
		25 x 3 ½"	0.53 x 88		4505905-01	4522502	4522502N
		23 x 3½"	0.65 x 88		4506014-03	4522301	4522301N
		22 x 1 ½"	0.70 x 40		4507401-13	4522201	4522201N
		22 x 3"	0.70 x 75	25	4507754-13	4522202	4522202N
		22 x 3 ½"	0.70 x 88		4507908-01	4522203	4522203N
		20 x 3"	0.90 x 75		4509757-13	-	-
		20 x 3 ½"	0.90 x 88		4509900-01	4522001	4522001N
		19 x 1 ½"	1.10 x 40		4501144-13	-	-
		19 x 3 ½"	1.10 x 88		4501195-13	-	-
		18 x 3"	1.30 x 75		4501373-13	-	-
		18 x 3 ½"	1.30 x 88		4501390-01	4521801	4521801N
	Long Length						
		29 x 4 ¾"	0.35 x 120	25	4501918-13	-	-
		27 x 4 ¾"	0.42 x 120		4502140-13	4522702	4522702N
						4522703*	4522703N*
		26 x 4 ¾"	0.47 x 120		4504917-13	-	-
		25 x 4 ¾"	0.53 x 120		4505913-13	4522503	4522503N
		22 x 4 ¾"	0.70 x 120		4506090-13	4522204	4522204N

*with Spinal Introducer (Luer compatible)

Atraucan®	Color code	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) NHD Luer	Code no. (REF) Atraucan® NX Luer	Code no. (REF) Atraucan® NX NRFit®
		26 x 3 ½"	0.47 x 88	25	-	4542603	-
	Pediatric use						
		26 x 1"	0.47 x 25	25	-	4542601	-
		26 x 2"	0.47 x 50		-	4542602	-

Spinal needles

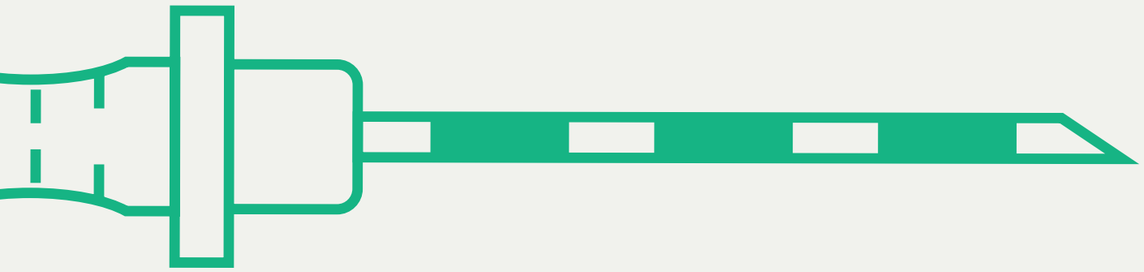
Pencan®	Color code	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) NHD Luer	Code no. (REF) Pencan® NX Luer	Code no. (REF) Pencan® NX NRFit®
		27 x 3 ½"	0.42 x 88		4502027-01	4532702	4532702N
					4502051-13*	4532703*	4532703N*
		25 x 3 ½"	0.53 x 88	25	4502019-01	4532503	4532503N
					4502043-13*	4532504*	4532504N*
		22 x 3 ½"	0.73 x 88		4502035-13	4532201	4532201N
	Long Length						
		27 x 4"	0.42 x 103		4502124-13*	4532704	4532704N
						4532705*	4532705N*
		27 x 4 ¾"	0.42 x 120		4502132-13	4532706	4532706N
				25		4532707*	4532707N*
		25 x 4"	0.53 x 103		4502116-13*	4532505	4532505N
						4532506*	4532506N*
		25 x 4 ¾"	0.53 x 120		4502120-13	4532507	4532507N
						4532508*	4532508N*
		25 x 6.1"	0.53 x 156	20	-	4532510*	4532510N*
	Pediatric use						
		27 x 2"	0.42 x 50		4502175-13	4532701	4532701N
		25 x 1"	0.53 x 25	25	4502167-13	4532501	4532501N
		25 x 2"	0.53 x 50		4502159-13	4532502	4532502N

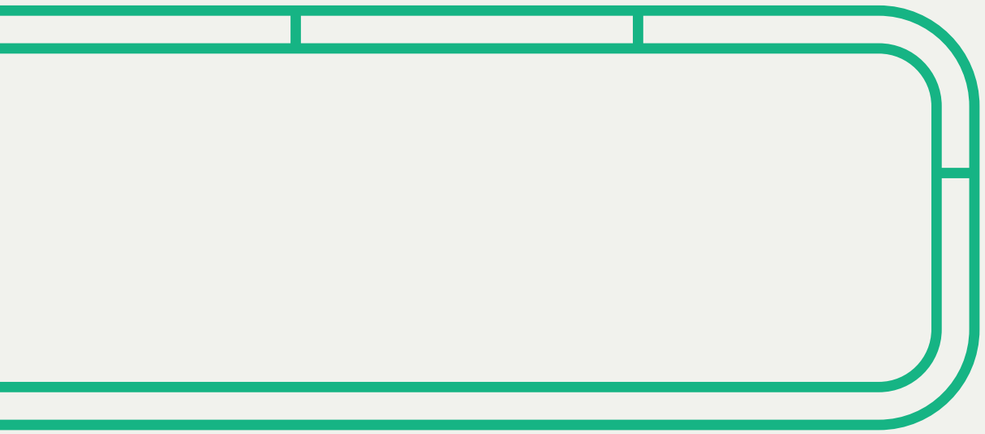
*with Spinal Introducer (Luer compatible)

Spinal introducer

Spinal Introducer Needles (for Spinocan® and Pencan®)	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) NHD Luer (compatible)	Code no. (REF) NX Luer (compatible)	Code no. (REF) NX NRFit®***
	For Spinal Needles 27 G to 29 G					
	22 x 1"	0.70 x 25	25	-	4552201	4552201
	22 x 1 ⅜"	0.70 x 35**		4500059-13	4552202	4552202
	22 x 1 ¾"	0.70 x 45		-	4552203	4552203
	For Spinal Needles 24 G to 26 G					
	20 x 1"	0.90 x 25	25	-	4552001	4552001
	20 x 1 ⅜"	0.90 x 35**		4505000-13	4552002	4552002
	20 x 1 ¾"	0.90 x 45		-	4552003	4552003

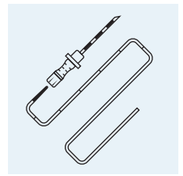
** for Spinal Needles 29 and 27 G *** can be used with Spinal Needles NRFit® but does not have a NRFit® connector!





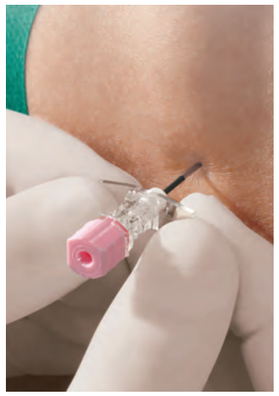
Epidural anesthesia

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



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, SoftTip 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
- One radiopaque stripe for x-ray control
- Clear blue length markings embedded in catheter material
- Does not contain latex, DEHP or PVC
- MR conditional

Perifix® SoftTip catheter

- SoftTip catheter with a superimposed tip
- Length 1000 mm
- Three micro-holes enhance the spread of anesthetic drug
- One radiopaque stripe for x-ray control
- Clear blue length markings embedded in catheter material
- Does not contain latex, DEHP or PVC
- MR conditional

Perifix® ONE

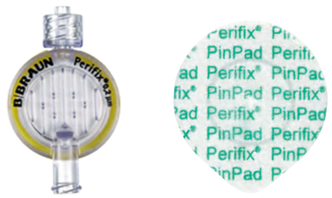
- Epidural catheter with a relatively stiff but flexible shaft and a soft, atraumatic tip
- Length 1000 mm
- Six micro-holes enhance the spread of anesthetic drug
- Three radiopaque stripes for x-ray control
- Does not contain latex, DEHP or PVC
- MR conditional

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

- 23° 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

Pericán®	Color code	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
		18 x 3 ⅛"	1.30 x 80	25	4512383	4512383N-01
		17 x 3 ⅛"	1.50 x 80		4512588	-
		16 x 3 ⅛"	1.70 x 80		4512782	4512782N-01
	Long Length					
		18 x 4 ¾"	1.30 x 120	25	4512453	4512453N-01
		18 x 6"	1.30 x 150		4512200	4512200N-01
		16 x 4 ¾"	1.70 x 120		-	4512785N-01
		16 x 6"	1.70 x 150		-	4512784N-01

Pericán® 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"	0.90 x 50		4502094	4502094N-01
		18 x 2"	1.30 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 1 ⅛"	0.53 x 30	25	4502400	4502400N-01
		22 x 1 ⅜"	0.73 x 35		4502418	4502418N-01
		20 x 2"	0.90 x 50		4502426	4502426N-01

Epidural catheters

Perifix® catheter	Catheter ø outer / inner / Length (mm) (G)	Suitable for Pericán® 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® SoftTip catheter (with 3 lateral eyes)				
	0.85 / 0.45 / 1000 (20)	18	25	4515048	4515048N-01
	Perifix® ONE catheter (with 6 lateral eyes)				
	1.05 / 0.60 / 1000 (19)	16	25	4513258C	45132581N-01
	0.85 / 0.45 / 1000 (20)	18		4513150C	45131501N-01

Epidural anesthesia accessories

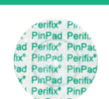
Perifix® catheter fixation	Description	Units per box	Code no. (REF)
	Perifix® catheter fixation, consisting of a fixation ring and a non-woven cover foil	25	4511200
	Perifix® non-woven replacement cover foil		4511201

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

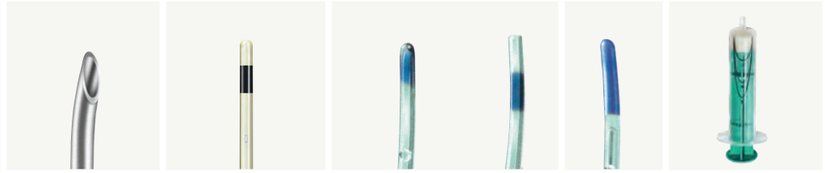
Perifix® PinPad	Description	Units per box	Code no. (REF)
	Perifix® PinPad filter fixation	25	4515510

Portfolio overview

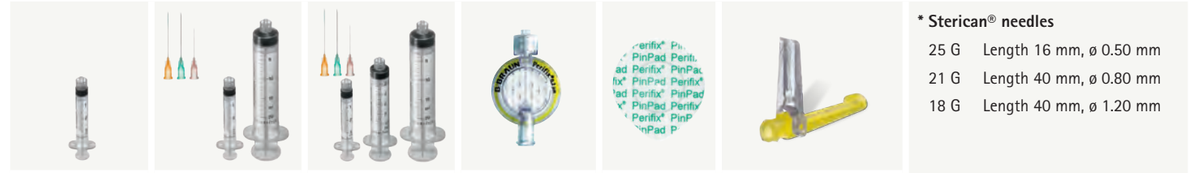
Sets for epidural anesthesia (luer)

Pericar® 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



Complete sets	Type	Pericar® Pericar® Tuohy epidural needle 50/80 mm	Pericar® Pericar® Tuohy epidural needle 120 mm	Perifix® ONE Perifix® ONE epidural catheter, 6 lateral eyes 24 G	Perifix® ONE Perifix® ONE epidural catheter, 6 lateral eyes 20 G	Perifix® ONE Perifix® ONE epidural catheter, 6 lateral eyes 19 G	Perifix® standard Perifix® epidural catheter, 3 lateral eyes 20 G	Perifix® standard Perifix® epidural catheter, 3 lateral eyes 19 G	Perifix® standard central opening 20 G	Perifix® SoftTip 3 lateral eyes 20 G	Perifix® LOR Perifix® Loss-of-Resistance (LOR) syringe, Luer-Slip
	Perifix® standard catheter										
	Perifix® 420	■					■				
	Perifix® 421	■					■				■
	Perifix® 431	□						■			■
	Perifix® SoftTip catheter										
	Perifix® 900	■								■	
	Perifix® 901	■								■	■
	Perifix® ONE catheter										
	Perifix® ONE 420	■			■						■
	Perifix® ONE 421	■			■						■
	Perifix® ONE 431	□				■					■
Filter sets											
	Perifix® standard catheter										
	Perifix® 400	■					■				
	Perifix® 401	■					■				■
	Perifix® 402	□						■			■
	Perifix® 451	■					■				■
	Perifix® SoftTip catheter										
	Perifix® 700	■								■	
	Perifix® 701	■								■	■
	Perifix® 730	□								■	■
	Perifix® 750	■								■	■
	Perifix® ONE catheter										
	Perifix® ONE 400	■			■						
	Perifix® ONE 401	■			■						■
	Perifix® ONE 402	□				■					■
	Perifix® ONE 418		■		■						■
	Perifix® ONE 451	■			■						■
Pediatric filter sets											
	Perifix® ONE Paed										
	Perifix® ONE Paed 18	■			■						■
	Perifix® ONE Paed 20	■		■							■
Mini sets											
	Perifix® standard catheter										
	Perifix® 100	■							■		
	Perifix® 300	■					■				
	Perifix® 301	■					■				■
	Perifix® 302	□						■			■
	Perifix® 310	□						■			



Omnifix® Omnifix® three part syringe, 3 ml, Luer-Lock	Omnifix®/ Stericar® Omnifix® three part syringes, 3 ml, 20 ml, Luer-Lock, 3 hypodermic needles*	Omnifix®/ Stericar® Omnifix® three part syringes, 3 ml, 10 ml, 20 ml, Luer-Lock, 3 hypodermic needles*	Perifix® filter Perifix® Filter 0.2 µm pressure resistant up to 7 bar	Perifix® PinPad Perifix® PinPad filter fixation	Perifix® catheter connector Perifix® catheter connector	Sales unit / Pcs.	Code no. (REF) Luer
		■	■	■	■		4514203
	■		■	■	■	10	4514211
	■		■	■	■		4514319
		■	■	■	■		4510291
	■		■	■	■	10	4510305
		■	■	■	■		4514203C
	■		■	■	■	10	4514211C
	■		■	■	■		4514319C
			■		■		4514009
			■		■		4514017
			■		■	20	4514025
			■	■	■		4514513
			■	■	■		4510216
			■		■		4510097
			■	■	■	20	4517309
			■	■	■		4517504
			■		■		4514009C
			■		■		4514017C
			■	■	■	20	4514025C
			■	■	■		4514183C
			■	■	■		4514513C
■			■	■	■	10	4512006C
■			■	■	■		4512014C
					■		4511000
					■		4513002
					■	20	4513010
					■		4513029
					■		4513100

*** Stericar® needles**

25 G	Length 16 mm, ø 0.50 mm
21 G	Length 40 mm, ø 0.80 mm
18 G	Length 40 mm, ø 1.20 mm

Portfolio overview

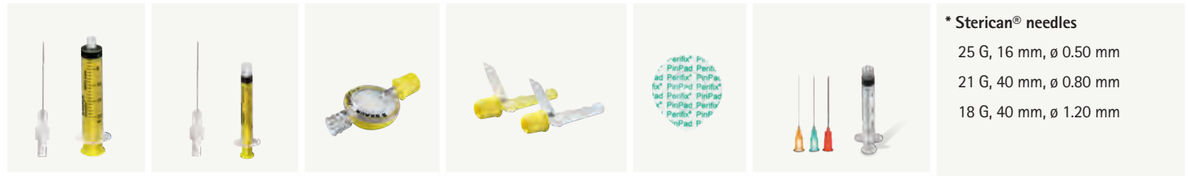
Sets for epidural anesthesia (NRFit®)

Perican® Tuohy epidural needles

- 20 G x 2", ø 0.90 x 50 mm
- 18 G x 3 ¼", ø 1.30 x 80 mm,
- 18 G x 2", ø 1.30 x 50 mm (Paed Set)
- 16 G x 3 ¼", ø 1.70 x 80 mm

Perican® Tuohy needle		Perifix® ONE epidural catheter, 6 lateral eyes			Perifix® epidural catheter, 3 lateral eyes		Perifix® SoftTip 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	

Set versions	Perican® with NRFit®		Perifix® ONE with NRFit®			Perifix® Standard with NRFit®		Perifix® SoftTip with NRFit®	Perifix® LOR with NRFit®
Complete sets									
Perifix® standard catheter									
Perifix® 421		■				■			■
Perifix® Soft Tip catheter									
Perifix® Soft Tip 901		■						■	■
Perifix® ONE catheter									
Perifix® ONE 421		■		■					■
Filter sets									
Perifix® standard catheter									
Perifix® 400		■				■			
Perifix® 401		■				■			■
Perifix® 402		□					■		■
Perifix® SoftTip catheter									
Perifix® Soft Tip 701		■						■	■
Perifix® Soft Tip 730		□						■	■
Perifix® ONE catheter									
Perifix® ONE 401		■		■					■
Perifix® ONE 402		□			■				■
Pediatric sets									
Perifix® ONE Paed									
Perifix® ONE Paed 18	■			■					■
Perifix® ONE Paed 20	■		■						■
Mini set									
Perifix® standard catheter									
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*
Omnifix® and Sterifix® with NRFit®	Omnifix® and Sterifix® with NRFit®	Perifix® filter with NRFit®	Perifix® catheter connector with NRFit®	Perifix® PinPad	Omnifix® and hypodermic needles with luer

*** Sterican® needles**

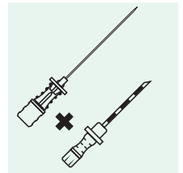
- 25 G, 16 mm, ø 0.50 mm
- 21 G, 40 mm, ø 0.80 mm
- 18 G, 40 mm, ø 1.20 mm

Caution: Hypodermic needles (for skin infiltration) stay luer

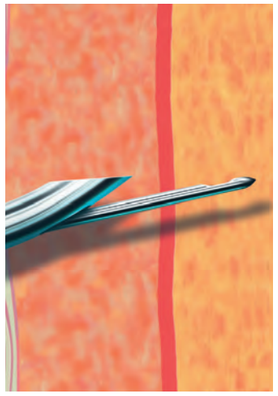
Units per box	Code no. (REF) NRFit®
10	4514211N-01
10	4510305N-01
10	45142111N-01
	4514009N-01
10	4514017N-01
	4514025N-01
10	4510097N-01
	4517309N-01
10	45140171N-01
	4514025N-01
10	45120061N-01
	45120141N-01
10	4513002N-01

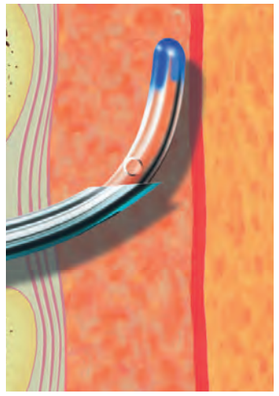
Combined spinal and epidural anesthesia

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



Products for combined spinal and epidural anesthesia





Combined spinal-epidural anesthesia (CSE):

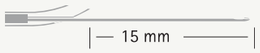
the benefits of spinal and epidural anesthesia in the Espocan®-Sets

Special Tuohy needle with a back-eye in the curved tip and a spinal needle with a plastic centering sleeve

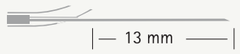
- Back-eye in tuohy needle for insertion of spinal needle
- Docking system to fixate the spinal needle
- Sleeved spinal needle for smooth exit through the back-eye

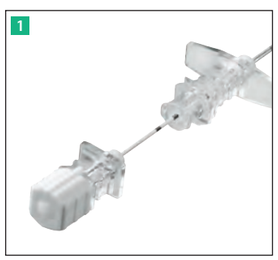
The ideal overlap of the spinal needle is by

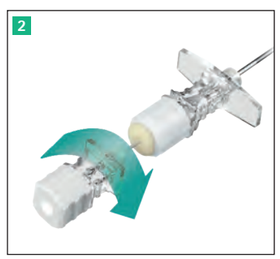
Pencil point needle 15 mm



"Quincke" needle 13 mm







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

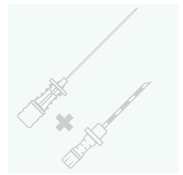
Espocan® and Perifix® standard	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	With quincke-bevel: Spinocan®				
	27 x 5"	0.42 x 125.5*	10	4556674	4556674N-01
	Pencil-point cannula: Pencan®				
	27 x 5"	0.42 x 127.5*	10	4556666	4556666N-01
	All sets contain				
	▪ Perifix® standard catheter, 3 lateral eyes ▪ Perican® epidural needle, cannula ø 1.30 mm, 18 G x 88 mm ▪ Perifix® LOR-syringe, Luer-Slip ▪ Perifix® Filter 0.2 µm ▪ Perifix® PinPad ▪ Perifix® catheter connector				

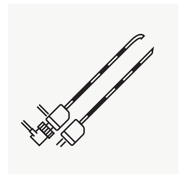
Espocan® and Perifix® standard with SoftTip	Size (G) / Length (inch)	ø / Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	With quincke-bevel: Spinocan®				
	27 x 5 3/8"	0.42 x 136.5*	10	4556747	4556747N-01
	Pencil-point cannula: Pencan®				
	27 x 5 3/8"	0.42 x 138.5*	10	4556763	4556763N-01
	All sets contain				
	▪ Perifix® SoftTip catheter, 3 lateral eyes ▪ Docking system ▪ Perican® epidural cannula ø 1.30 mm, 18 G x 88 mm ▪ Perifix® LOR-syringe, Luer-Slip ▪ Perifix® epidural flat filter 0.20 µm ▪ Perifix® PinPad ▪ Perifix® catheter connector				

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

Peripheral nerve blocks

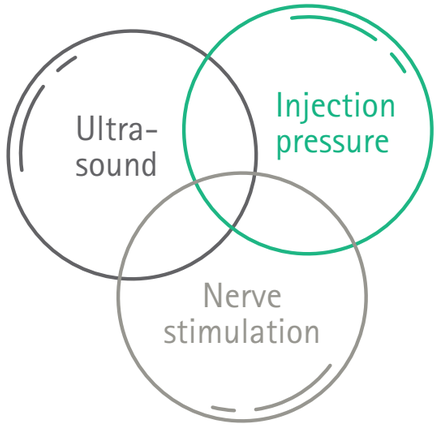
Whatever option you prefer –
wide ranged product portfolio for
stimulated and ultrasound guided
peripheral nerve blocks.





Peripheral nerve 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.

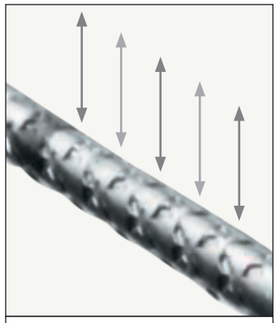
Injection pressure monitoring

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

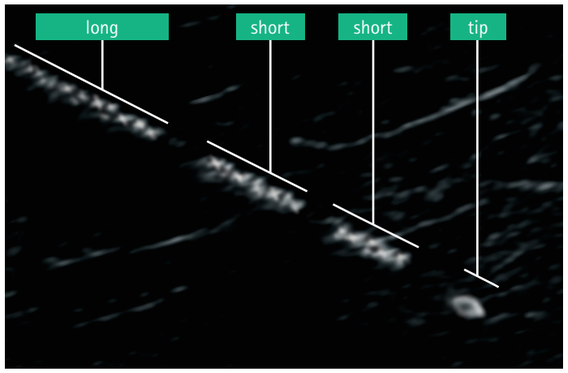


Reflection of the
ultrasound waves

B. Braun ultrasound needles – Ultraline 360:

The Ultraline 360 is B. Braun's latest generation of echogenic nerve block needles, featuring B. Braun's 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 highly visible echogenic 360° X-pattern facilitates clear needle visualization from all sides.



Navigation

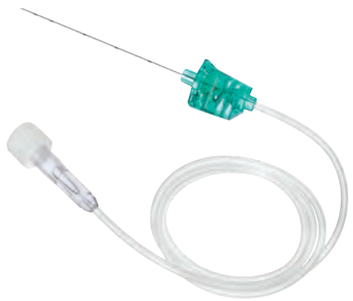
For an easy identification of the needle tip, the X-pattern is strategically applied on the first 20 mm of the needle shaft to create the segmented code "long-short-short-tip". This enables distinction between the needle tip and the upper needle shaft. [11]

User benefits

- **Navigation**: Safety code for identification of the needle and needle tip position
- **Visibility**: Echogenic X-pattern markings facilitate needle visualization with minimal acoustic shadowing, providing additional safety
- **Tactile feedback**: Ergonomically shaped hub design and large contact surface between hub and fingertips for enhanced tactile feedback

Products for peripheral nerve blocks

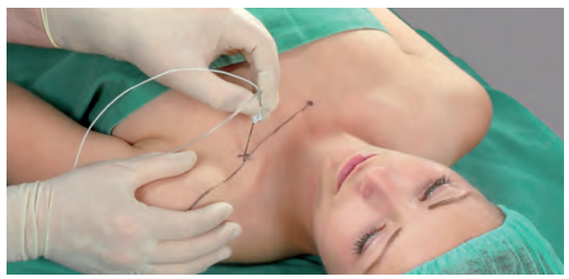
Single shot needles



Stimuplex® and Ultraplex® needles – a broad choice for different needs.

User benefits
- Cannulas with and without stimulating capabilities
- Cannulas with and without echogenic properties

Cannula	Bevel		Insulation	Echogenic properties	Stimulating capabilities
	15°	30°	Full Tip	PinPoint		
Stimuplex® A		✓	✓			✓
Stimuplex® D	✓	✓		✓		✓
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]

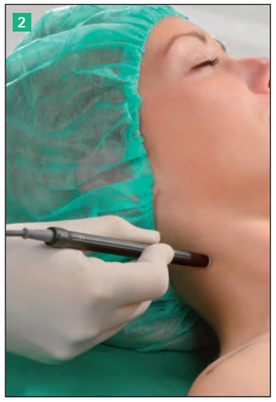
User benefits
- Wide range of catheter sets
- Harmonized set components

Set	Bevel				Echogenic properties	Stimulating capabilities	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

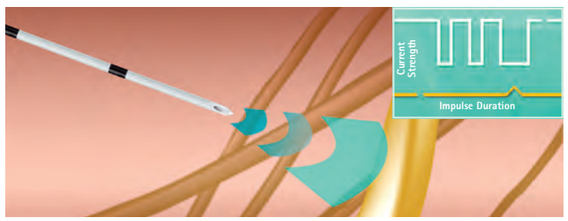
What is SENSe?

In practice, marginal needle movements often lead to loosing 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.

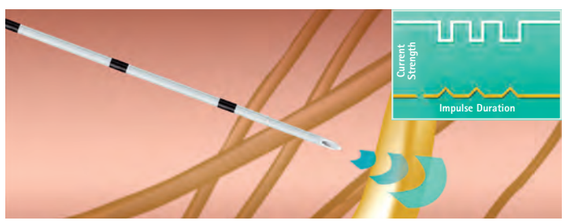
User benefits

- Stimulation with SENSe-technology designed for more efficient nerve stimulation[13]
- 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®

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Injection pressure

< 15 psi / 103 kPa	15–20 psi / 103–138 kPa	> 20 psi / 138 kPa

Examples of low opening injection pressure (< 15 psi):

1 Needle tip placed perineurally[14,15]
2 Needle tip placed sub-epineurally in adipose tissue between fascicles[15,16]

Examples of high opening injection pressure (> 15 psi):

3 Needle-epineurium contact (needle-nerve-contact)[14]
4 Needle-perineurium contact (needle-nerve-contact)[14,15,16]
5 Needle tip placed intrafascicularly[14,15,17]

Injection pressure monitoring

Accidental injection of local anesthetic into fascicles of peripheral nerves can result in permanent nerve injury.[7] Research has shown that high opening injection pressure (> 15 psi) consistently detects needle-nerve-contact[1] or indicates intrafascicular injection. Therefore, avoiding injection with high opening injection pressure (> 15 psi) can prevent injection into poorly compliant tissue (e. g. nerve fascicles).[18,19,20,21,22]

BSmart®

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.

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[23]
- Allows for standardized and objective documentation of injection pressure information during nerve block procedures
- Available in Luer and NRFit®

Also available in NRFit®

NRFit®

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
	Needles with 30° bevel			
	24 x 1	0.55 x 25		4894251
	22 x 1	0.70 x 25		4894539
	22 x 1 ⅛	0.70 x 35		4894367
	22 x 2	0.70 x 50	25	4894502
	21 x 2	0.80 x 50		4894375
	21 x 4	0.80 x 100		4894260
	20 x 6	0.90 x 150		4894278

Stimuplex® D	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer	Code no. (REF) NRFit®
	Insulated Needles with 15° Bevel				
	25 x 1 ⅓	0.50 x 35		4892153	4892153NR
	25 x 2 ⅛	0.50 x 55		4892155	4892155NR
	23 x 1 ½	0.60 x 40		4892134	4892134NR
	23 x 2 ¾	0.60 x 70		4892137	4892137NR
	22 x 2	0.70 x 50	25	4892105	4892105NR
	22 x 3 ⅛	0.70 x 80		4892108	4892108NR
	22 x 4 ¾	0.70 x 120		4892112	4892112NR
	20 x 6	0.90 x 150		4892115	4892115NR
	Insulated Needles with 30° Bevel				
	22 x 2	0.70 x 50		4892205	4892205NR
	22 x 3 ⅛	0.70 x 80		4892208	4892208NR

Stimuplex® Ultra 360®	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer	Region Suffix*				Code no. (REF) NRFit®
	Insulated Echogenic Needles with 30° Bevel								
	22 x 1 ⅓	0.70 x 35		4892503	-01	-03	-04	-20	4892503NR-01
	22 x 2	0.70 x 50		4892505	-01	-03	-04	-20	4892505NR-01
	22 x 3 ⅛	0.70 x 80	25	4892508	-01	-03	-04	-20	4892508NR-01
	20 x 4	0.90 x 100		4892510	-01	-03	-04	-20	4892510NR-01
	20 x 6	0.90 x 150		4892515	-01	-03	-04	-20	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

Single-shot block needles

Ultraplex® 360	Needle ø (G) and Length (inch)	Needle ø and Length (mm)	Units per box	Code no. (REF) Luer	Region Suffix*		Code no. (REF) NRFit®
	Non-Insulated Echogenic Needles with 30° Bevel						
	22 x 1 ⅓	0.70 x 35		4892603	-01	-20	4892603NR-01
	22 x 2	0.70 x 50		4892605	-01	-20	4892605NR-01
	22 x 3 ⅛	0.70 x 80	25	4892608	-01	-20	4892608NR-01
	20 x 4	0.90 x 100		4892610	-01	-20	4892610NR-01
	20 x 6	0.90 x 150		4892615	-01	-20	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
	BSmart® NRFit® Injection Pressure Monitor	25	4894000NR-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

Portfolio overview

Sets for continuous nerve blocks

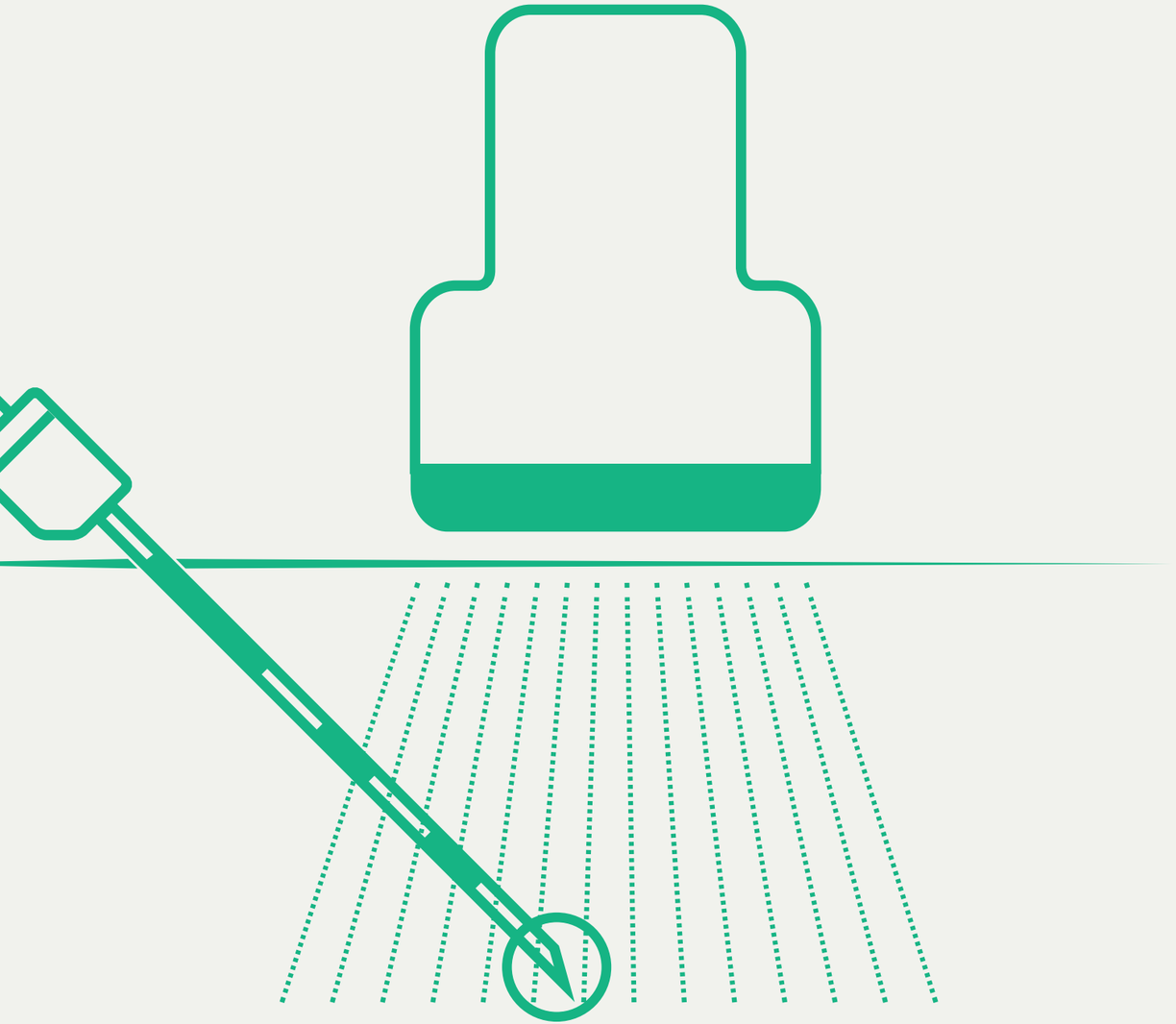
	Contiplex® C catheter-over-the-needle system	Contiplex® S Contiplex® S Ultra 360®	Contiplex® Tuohy Contiplex® Tuohy Ultra 360®	Contiplex® D	Perifix® standard catheter		Contiplex® ONE catheter (6 lateral openings, closed tip, open tip for Contiplex® C)	Perifix® catheter connector 19 G or 20 / 24 G	Perifix® PinPad filter fixation	Perifix® filter 0.20 µm, pressure resistant up to 7 bar	Omnifix® syringe 5 ml			
	25 G	18 G	18 G	18 G, 20 G										
Set specifications	Bevel (°)		Needle				Perifix® standard		Contiplex® ONE (mm)	Perifix® Catheter Connector	Perifix® PinPad	Perifix® filter	Omnifix®	Units per box	Code no. (REF) Luer	Region suffix*		Code no. (REF) NRFit®
			Size (G)	Size Ø (mm)	Length (mm)		3 lateral openings (closed tip) (mm)	central opening (open tip) (mm)										
	with NRFit®	with NRFit®	with NRFit®	with NRFit®								with NRFit®	with NRFit®					
Contiplex® C Sets																		
Contiplex® C		15	25	0.53	190		-	-	187	■	■	■	-	5	4898115	-	-	4898115NR
Contiplex® C		30	25	0.53	190		-	-	187	■	■	■	-		4898130	-	-	4898130NR
Contiplex® D Sets																		
Contiplex® D		15	20	1.10	33		-	400	-	■	■	■	■		4898311	-	-	4898311NR
Contiplex® D		15	20	1.10	55		-	400	-	■	■	■	■		4898323	-	-	4898323NR
Contiplex® D		15	18	1.30	55		-	400	-	■	■	■	■	10	4898325	-	-	4898325NR
Contiplex® D		30	18	1.30	55		-	400	-	■	■	■	■		4898305	-	-	4898305NR
Contiplex® D		15	18	1.30	55		-	1000	-	■	■	■	■		4898335	-	-	4898335NR
Contiplex® D		15	18	1.30	110		-	1000	-	■	■	■	■		4898308	-	-	-
Contiplex® S Ultra 360® Sets																		
Contiplex® S Ultra 360®		20	18	1.30	50		-	-	400	■	■	■	■		4898650	-01	-27	4898650NR-27
Contiplex® S Ultra 360®		20	18	1.30	100		-	-	1000	■	■	■	■	10	4898610	-01	-27	4898610NR-27
Contiplex® S Ultra 360®		20	18	1.30	150		1000	-	1000	■	■	■	■		4898615	-01	-27	4898615NR-27
Contiplex® Tuohy Ultra 360® Sets																		
Contiplex® Tuohy Ultra 360®	Tuohy bevel		18	1.30	40		-	-	400	■	■	■	■		4898704	-01	-27	4898704NR-01
Contiplex® Tuohy Ultra 360®	Tuohy bevel		18	1.30	50		-	-	400	■	■	■	■	10	4898705	-01	-27	4898705NR-01
Contiplex® Tuohy Ultra 360®	Tuohy bevel		18	1.30	100		-	-	1000	■	■	■	■		4898710	-01	-27	4898710NR-01
Contiplex® Tuohy Ultra 360®	Tuohy bevel		18	1.30	150		-	-	1000	■	■	■	■		4898715	-01	-27	4898715NR-01

*Suffixes

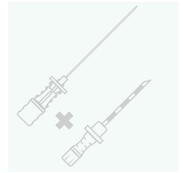
Contiplex® Tuohy Ultra 360®: Article code suffix **–01** = CE Region: covering all CE countries; Article code suffix **–27** = RoW

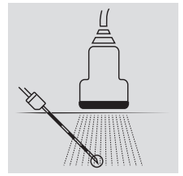
Contiplex® S Ultra 360®: Article code suffix **–01** = CE Region: covering all CE countries; Article code suffix **–27** = RoW

Ultrasound guidance



Reimagine Regional Anesthesia
with B. Braun's innovative portfolio
for ultrasound guided therapies.





EZCOVER®

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.[25] 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.[26]

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.

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 (30 x 30 cm)
- All versions optional available with STOP Safety Shield

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® advantages at a glance:

Improved protection

- Latex-free
- Approved for intraoperative environments
- Reduces risks of procedural errors (STOP Safety Shield)

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

NEW! Stop before you block.

Wrong site nerve blocks (WSNB) are classified as never events. 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.[27]

EZCOVER® are available with STOP Safety Shield label. The sticker reminds the practitioner to STOP immediately prior to the start of the procedure and to 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 site nerve blocks

Portfolio overview EZCOVER® sets

	Description	Size (W x L cm)	Units	Article Code
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)				
STOP	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

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