

Spinal Anesthesia

Strive for Perfection



Spinal Anesthesia – The most effective form of analgesia/ anesthesia. Professionals who practice this superior technique deserve perfect instruments.

B | BRAUN
SHARING EXPERTISE

Prologue

Perfecting spinal anesthesia

Of all regional anesthetic techniques, spinal anesthesia is the one most frequently used by anesthesiologists. Lumbar or subarachnoid anesthesia are other names for this nerve-blocking procedure performed close to the spine. With this over one-hundred-year-old method, a local anesthetic is injected into the cerebrospinal fluid-filled subarachnoid space in the lumbar spine, i.e. between the dura mater and the pia mater.

Spinal anesthesia is distinguished by its ease of performance, rapid onset of action, excellent anesthetic efficacy and motor blockade. Additionally, it is free from systemic toxicity. Spinal anesthesia is especially suitable for all interventions in the lower and middle abdomen, for operations of the hip joint, lower extremities, prostate and bladder as well as of the peripheral vasculature. Increasingly, gynecological and obstetric procedures – especially cesarean sections – are performed under spinal anesthesia.

Patients benefit from spinal anesthesia because it has little effect on physiological respiratory parameters, functional residual capacity, shunt volumes or respiratory drive. The rate of postoperative pneumonia or respiratory insufficiency is lower than after intubation anesthesia. Spinal anesthesia also provides benefits for geriatric patients: confusional states are rare when sedatives are moderately dosed.

Thanks to the introduction of new thin, atraumatic needles, PDPH, the most frequent complication of spinal anesthesia, can be minimized dramatically.

Not only can the described advantages be achieved with onestage spinal anesthesia, but also with continuous spinal anesthesia by introducing a catheter into the spinal cavity.

One major advantage of this technique is that it allows better control through titration of the anesthetic, which practically eliminates hemodynamic complications.

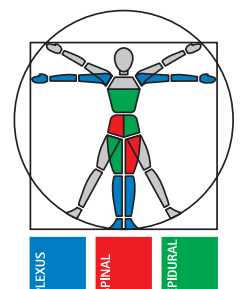
The catheter technique can also be used in protracted surgical procedures and postoperative pain therapy.

In summary, spinal anesthesia can be regarded as a successful and safe method that is well established in clinical practice.

Prof. Möllmann, M.D.
Münster University Hospital



The Art of
Regional
Anesthesia

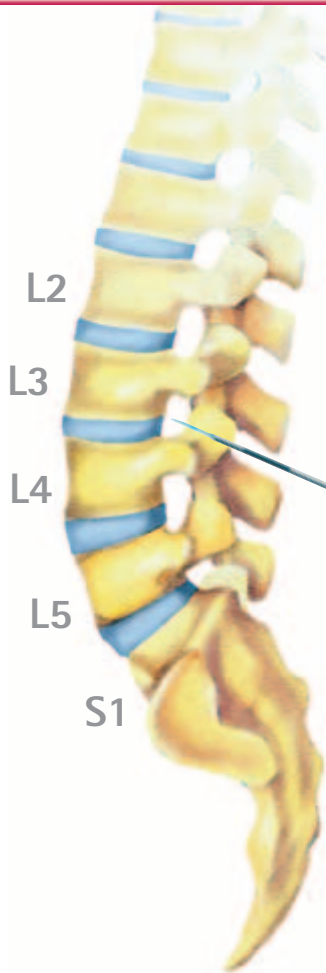


Regional Anesthesia

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Communication creates trust

Before every operation, the anesthesiologist informs the patient in depth about which anesthetic technique is most suitable in their particular case. More and more patients are choosing spinal anesthesia because of the low rate of side effects and resulting earlier postoperative mobilization.



Perfecting spinal anesthesia.

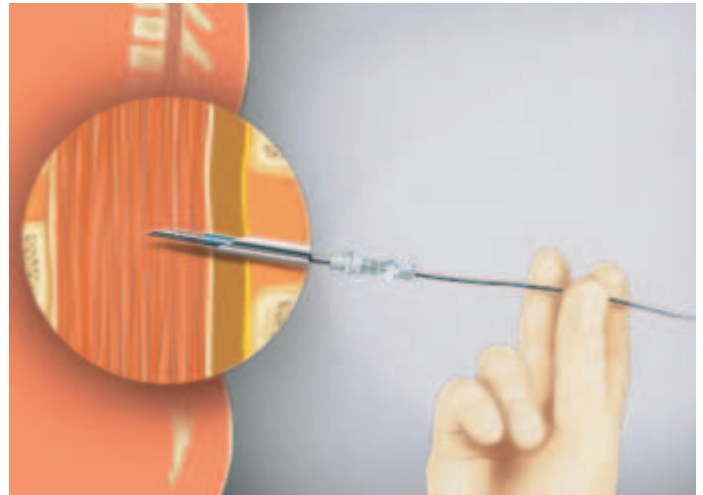
Continuous Spinal Anesthesia (CSA)

CSA – A safe method

Which anesthetic technique is most suitable for the specific procedure and patient is one of the central questions confronting anesthesiologists every day. Continuous spinal anesthesia (CSA) offers many advantages for both physician and patient:

Compared to epidural anesthesia, CSA provides safer preoperative confirmation of catheter position, faster onset of action and more reliable blockade. Moreover, only 1/10 to 1/5 of anesthetic is required, resulting in a much lower risk of systemic toxic reactions.

In contrast to single-dose spinal anesthesia, with CSA the anesthetic can be administered during the operation. Repeat dosing to prolong and control the duration and level of blockade is possible at any time, thereby improving overall anesthesia control. The block also subsides more rapidly. The risk of cardiovascular side effects and respiratory compromise is significantly reduced.



Advanced accurate technique

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User benefits

- Intelligent over-the-needle design: no CSF leakage, therefore minimized risk of PDPH
- Quick positive feedback on catheter position
- Less medication required, i.e. minimal risk of toxic reactions and cardiovascular side effects
- Postoperative pain management
- Short recovery periods

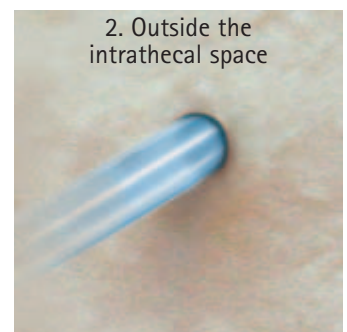
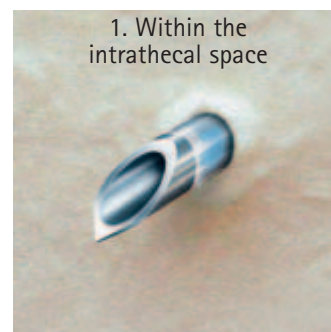
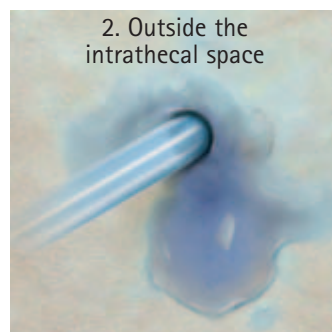
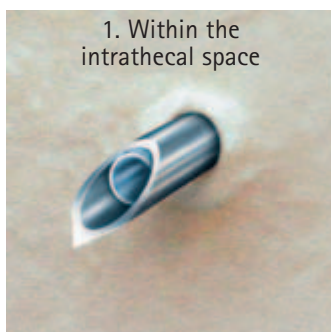
Spinocath® – Intelligent design

Spinocath® features a unique catheter-over-needle design, the catheter is positioned over the spinal needle. After puncturing that dura mater the needle is withdrawn from the catheter, which simultaneously seals the hole in the dura. In this way, CSF (cerebrospinal fluid) leakage is prevented right at the start of the procedure, reducing the risk of postdural puncture headache (PDPH) to a minimum.

Control through feedback

Spinocath® provides the anesthesiologist with accurate feedback. The pronounced dura click, and the visual check of CSF flashback in a second, confirming the intrathecal catheter position.

CSF leakage after catheter removal



Conventional products: CSF leakage – high risk of PDPH

Spinocath®: No CSF leakage – minimal risk of PDPH

The esthetic approach to spinal anesthesia.

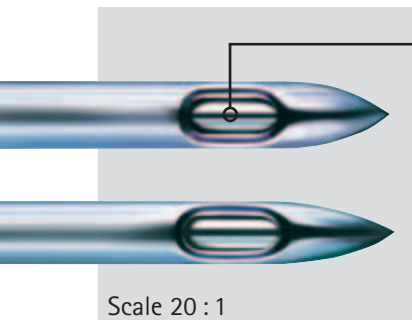
Single-shot technique

The anesthesiologist's sensitivity

For many anesthesiologists, the choice of optimal needle design is a matter of individual preference and tactile sensitivity.

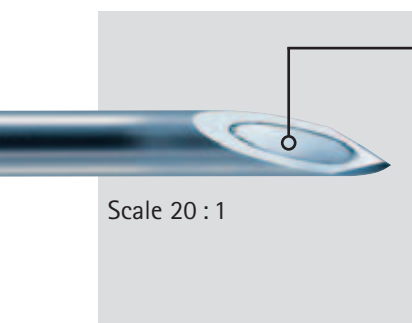
B. Braun therefore offers three different bevel geometries, covering the full range of gauge sizes including special versions for pediatrics.

Every needle type has its special characteristics. What unites them is the highest quality and a design optimized for the intended use.



Pencan with pencil point bevel

- Safe handling through easy identification of tissue structures, excellent tactile feedback
- Protection against PDPH, paresthesias, vascular puncture and nerve damage thanks to the atraumatic tip design
- Sturdy design, no tip deformation even after bone contact
- Optimal needle-tip design: minimal intrathecal penetration depth, avoiding incomplete blocks

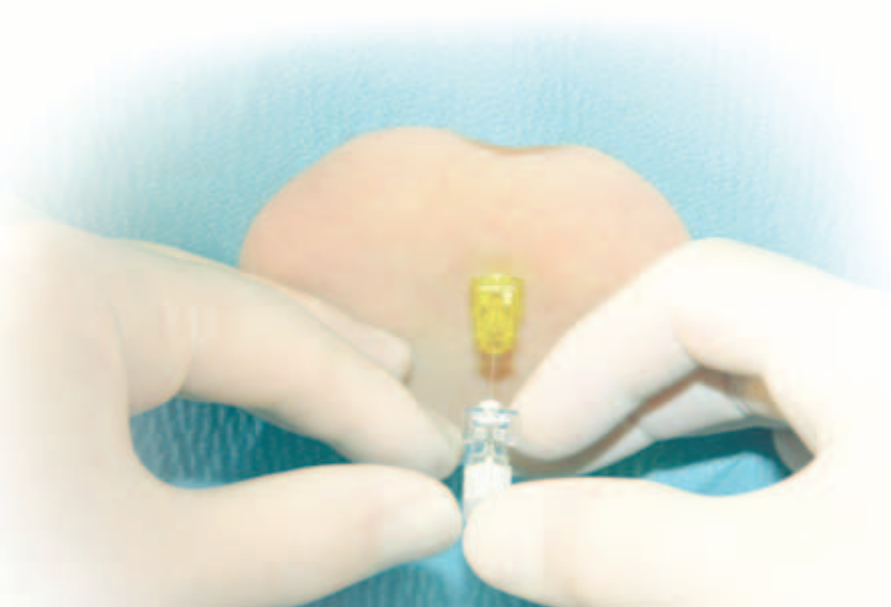


Spinocan® with Quincke bevel

- Sharp bevel for low puncture force
- Safe control due to reliable sensation of the tactile dura click
- Low rate of PDPH thanks to fine gauge needle design
- Perfect stylet fit, i.e. no tissue coring (risk of epidermoid tumor formation)

Hub design

The grooved transparent hub provides rapid detection of CSF flashback for confirming accurate placement. Its color-coded stylet ensures rapid identification of needle size and enables perfect matching: each stylet fits exactly into the respective needle's lumen.



Application – and safety-oriented design

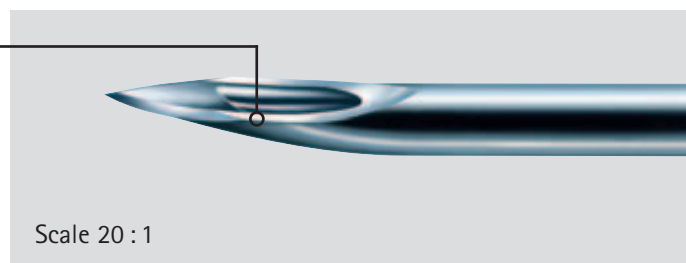
Regional Anesthesia

Atraucan® – The smart bevel

Atraucan® features a particularly subtle, sensitive bevel geometry allowing atraumatic puncture. First, a small, accurate incision is made with the first sharp zone bevel. Then, the dura mater is dilated by the second non-cutting zone bevel with no further trauma, minimizing the risk of postdural puncture headache (PDPH).

Atraucan® with Two-Zone Bevel

- Low puncture force
- Minimal puncture trauma
- Greatly reduced risk of PDPH



User benefits

- The ideal needle in your experienced hands
- 3 different bevel configurations to match your personal preference and application
- Translucent needle hubs provide rapid detection of CSF flashback
- Special pediatric product range for Pencan and Atraucan®
























Perfecting spinal anesthesia.

Product specifications

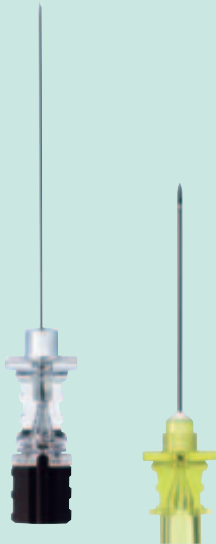
Spinocan®



	Size	Length mm	Needle ø mm	Length inch	Code No. (REF)	Sales unit/Pcs.
Needles for spinal anesthesia						
	29G	88*	0.35	3 1/2"	4501900	25
	27G	88	0.42	3 1/2"	4503902	25
	26G	88	0.47	3 1/2"	4502906	25
	25G	88	0.53	3 1/2"	4505905	25
	25G	75	0.53	3"	4505751	25
	22G	88	0.70	3 1/2"	4507908	25
	22G	75	0.70	3"	4507754	25
	22G	40	0.70	1 1/2"	4507401	25
	20G	88	0.90	3 1/2"	4509900	25
	20G	75	0.90	3"	4509757	25
	19G	88	1.10	3 1/2"	4501195	25
	19G	40	1.10	1 1/2"	4501144	25
	18G	88	1.30	3 1/2"	4501390	25
	18G	75	1.30	3"	4501373	25
	29G	120	0.35	4 3/4"	4501918	25
	27G	120	0.42	4 3/4"	4502140	25
	26G	120	0.47	4 3/4"	4504917	25
	25G	120	0.53	4 3/4"	4505913	25
	22G	120	0.70	4 3/4"	4506090	25
Guide needles for Spinocan®, Atraucan® and Pencan® Spinal needles up to max. dia. 0.53 mm (25 G)						
	22G	35	0.70	1 3/8"	4500059	25
	20G	35	0.90	1 3/8"	4505000	25

* with guide needle

Atraucan®



Size	Length mm	Needle ø mm	Length inch	Code No. (REF)	Sales unit/Pcs.
Special atraumatic needles for spinal anesthesia, with Atraucan® guide needle					
26G	88	0.47	3 1/2"	4504739	25
Guide needle:					
20G	35	0.90	1 3/8"		
For pediatric use: Atraucan® Paed					
26G	25	0.47	1"	4504771	25
26G	50	0.47	2"	4504763	25

Pencan



Size	Length mm	Needle ø mm	Length inch	Code No. (REF)	Sales unit/Pcs.
Pencil-point needles for spinal anesthesia					
27G	88	0.42	3 1/2"	4502027	25
27G	88*	0.42	3 1/2"	4502051	25
27G	103*	0.42	4"	4502124	25
27G	120	0.42	4 3/4"	4502132	25
25G	88	0.53	3 1/2"	4502019	25
25G	88*	0.53	3 1/2"	4502043	25
25G	103*	0.53	4"	4502116	25
22G	88	0.73	3 1/2"	4502035	25
For pediatric use: Pencan Paed					
27G	25	0.42	1"	4502183	25
27G	50	0.42	2"	4502175	25
25G	25	0.53	1"	4502167	25
25G	50	0.53	2"	4502159	25
Connecting line for Pencan Paed and Atraucan® Paed					
1.2 x 2.2 mm, 100 mm long				4180941	25

* with guide needle

Product specifications



Needle outer ø mm	G	Catheter outer/inner ø mm	Catheter Length mm/inch	G	Code No. (REF)	Sales unit/Pcs.
Spinocath® Catheter set 24 G						
0.35	29	0.71/0.41	720/28"	24	4517717	5
Spinocath® Catheter set 22 G						
0.42	27	0.85/0.45	720/28"	22	4517725	5

Regional Anesthesia Products

Regional Anesthesia

Epidural Anesthesia

**Perifix®/Perifix® Soft
Perifix® Soft Tip**

Continuous epidural and caudal anesthesia trays
- complete sets
- sets with Loss of Resistance device (L.O.R.)*
- filter sets
- mini sets
- catheter, catheter connector, L.O.R.* device

Perifix® Paed

Pediatric epidural sets and needles

Perifix® Filter 0,2µm

Filter for Regional Anesthesia

Perifix® PinPad

Fixation device for Perifix® Filter

Perifix® L.O.R.,

Low friction device for the L.O.R.* technique

Perican, Perican Paed

Needle with Tuohy bevel

* This low friction device has limited aspiration capabilities when used with fluids. Perifix® L.O.R. should not be used for injecting drugs.

Combined Spinal/Epidural Anesthesia (CSE)

Espocan®

Set for spinal epidural anesthesia

Plexus Anesthesia

Stimuplex®

Needle for peripheral nerve stimulation

Contiplex®

Cannula and catheter sets for peripheral nerve stimulation

Alphaplex®

Set for peripheral nerve stimulation

Plexufix®

Needle with 45° short bevel and extension tubing



B. Braun Melsungen AG

P.O. Box 1120
D-34209 Melsungen
Tel +49(0) 56 61 71-0

www.bbraun.com