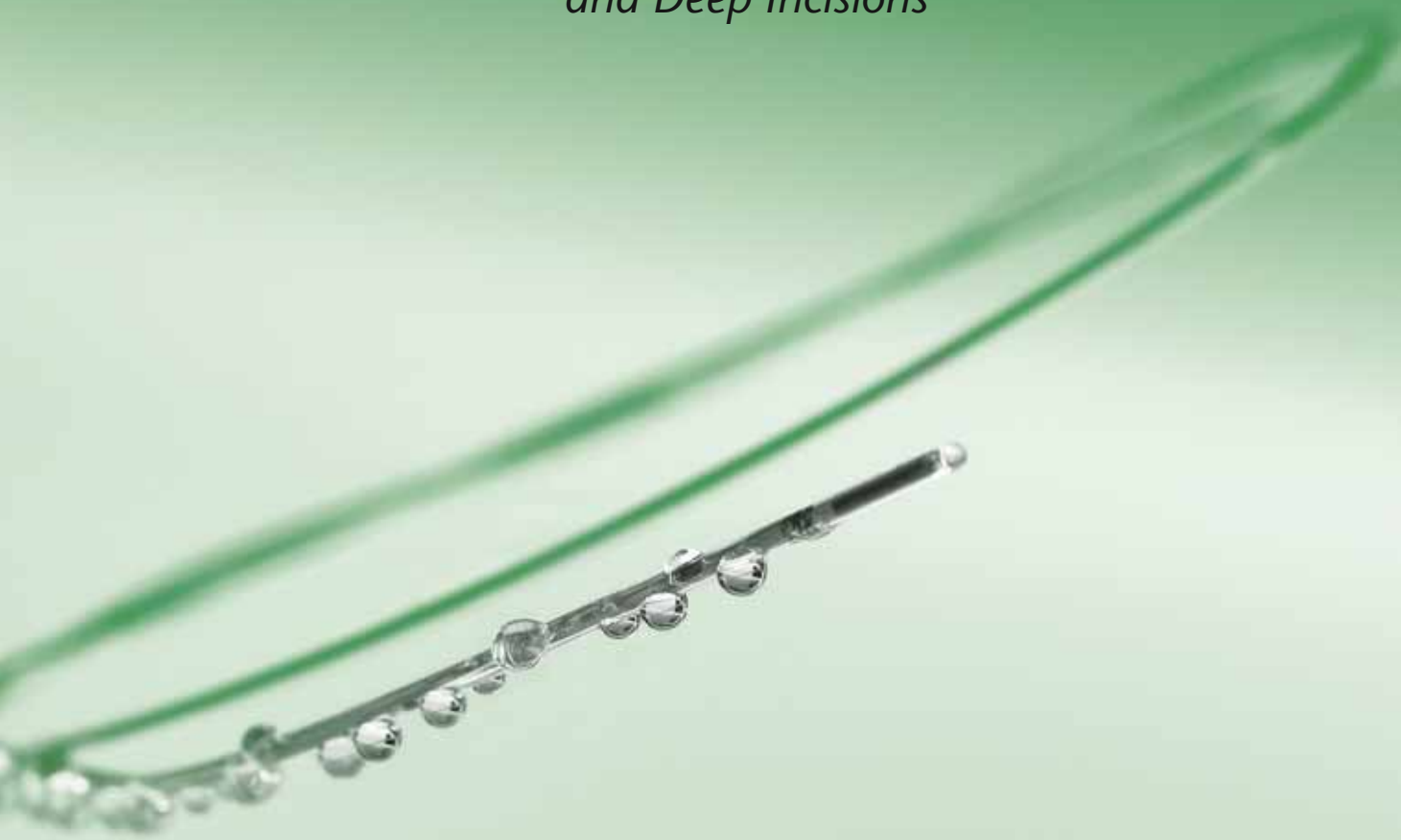


PAJUNK®

***InfiltraLong Catheter –
The Effective Treatment of Long
and Deep Incisions***



Wound Infiltration

InfiltraLong

The reliable post-operative wound treatment

Post-operative pain is foreseeable, it is very severe and lasts at most for two to four days. The avoidance of such pain has become one of the great challenges for our health care system. Currently, the industry and clinical practice are working together on various therapeutical measures to improve post-operative pain treatment.

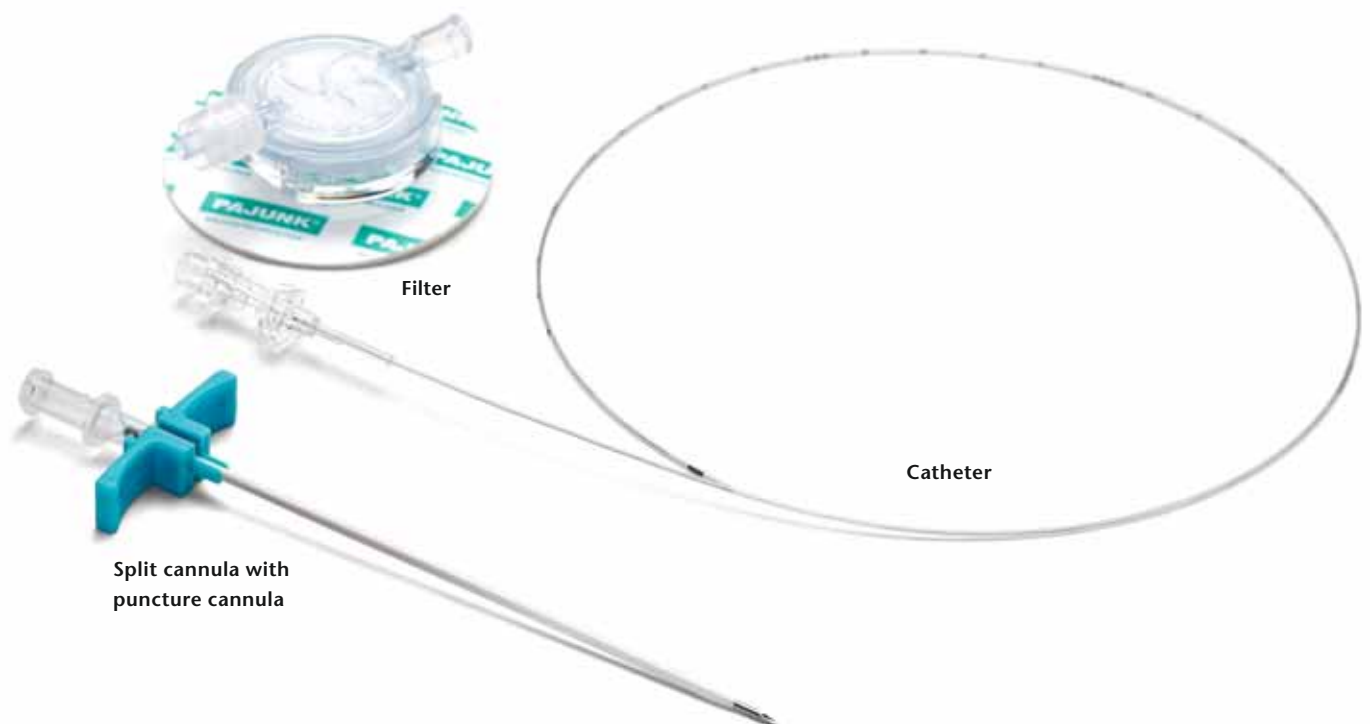
It is the objective for the benefit of the patient, to select a method of effective post-operative pain treatment corresponding with the constitution of the patient and with the seriousness of the

intervention. Because severe pain not only weakens the body already affect by the operation, it also impairs the healing process and will lead to a prolonged stay in the hospital if complications should arise.

Wound infiltration is in fact an extremely effective method for post-operative pain treatment, **which is very simple to apply**. A local anaesthetic is continuously administered by way of a catheter with multiple perforations, which is positioned in the wound, thereby blocking the distal nerve ends. Aside of the

➔ Infiltration set, alternatively with a split cannula

OR



The catheter is introduced by way of the split cannula.



Splitting of the split cannula.

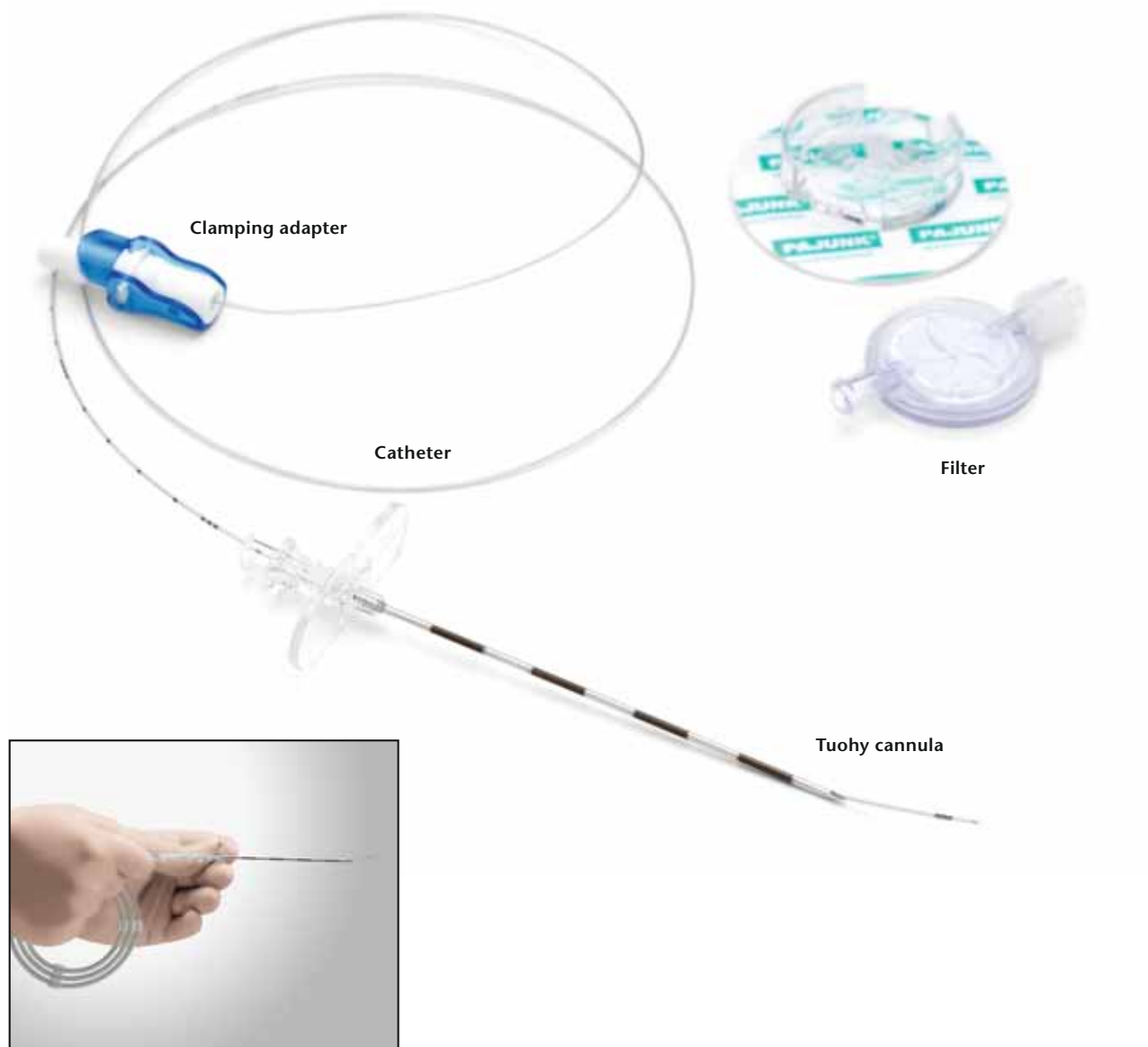
purely anaesthetic properties, the local anaesthetic also has an anti-inflammatory and antibacterial effect. The great advantage of this economical method is, **that the post-operative occurrence of side effects such as nausea and vomiting caused by opioids is reduced.** This optimized form of pain therapy is an essential component of all treatment paths for fasttrack rehabilitation.

Based on decades of experience in manufacturing catheters, PAJUNK® has developed InfiltraLong as a special wound infiltration catheter for the continuous treatment of long and deep wounds after operations. The special characteristics of the catheter permit the consistent and precise, on-target administration of local anaesthetic.

There are two infiltration sets available:

- with a split cannula and optional elastomer-pump,
- or with a Tuohy cannula

➔ with a Tuohy cannula



From the container, the catheter is introduced by way of the Tuohy cannula.

The InfiltraLong catheter

Freedom from pain along the complete length

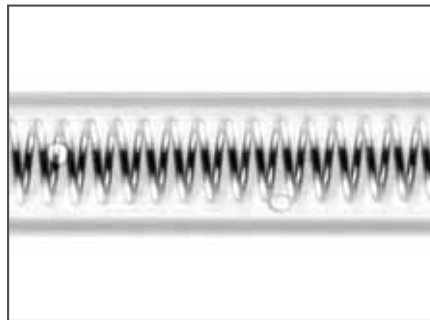
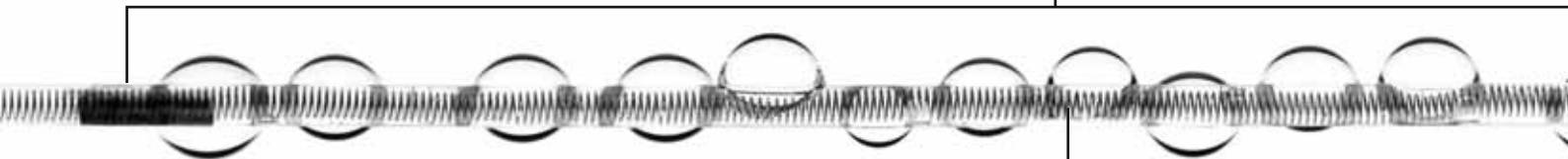
In the development of the InfiltraLong, PAJUNK® has combined decades of experience in the manufacture of catheters with the knowledge concerning the special requirements for pain treatment of large wounds. The main issue is the precise and uniform administration of the anaesthetic. Because this is the only way the patient can be guaranteed freedom from pain along the complete length of the surgical wound. And correspondingly, the InfiltraLong catheter is substantially different from other conventional wound infiltration catheters with regard to the following features.

1. The special arrangement and the precision of the catheter perforation guarantees an absolutely uniform distribution of the analgesic

- along the complete length of the wound
- in a radius of 360°, all around the catheter

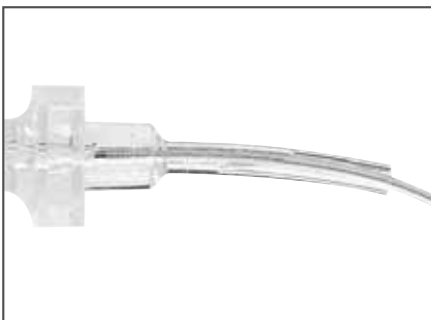
The beginning and the end of the perforation have been **provided with markings**.

➡ This is a safety benefit for the user, because it may be seen at a glance, whether the complete length of the perforated segment has actually been correctly placed within the lesion.



The **metal helical coil** has been **manufactured from stainless steel**, and it is therefore radiopaque and visible under ultrasound as well.

➡ A check of the positioning is possible at any time, also if the lesion has already been closed.



The **integrated stainless steel helical coil** will guarantee a uniform, continuous flow of the anaesthetic.

➡ patient is permanently relieved from pain – even if the catheter is subjected to a variety of different pressure loads.

The **hub of the catheter** has been provided with an **additional kink-proof protection** arrangement.

➡ This will also warrant its operational safety outside of the wound.

2. InfiltraLong of PAJUNK® is the only wound infiltration catheter which has been provided with an integrated stainless steel helical coil, that

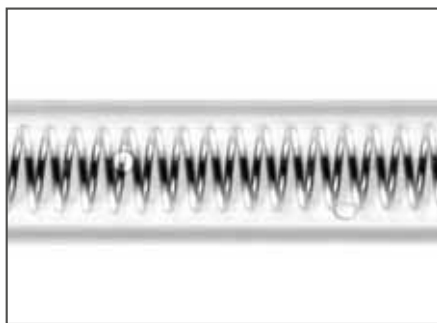
- will guarantee a uniform flow of the anaesthetic
- and protection against creasing or buckling during the placement of the catheter

3. The hub of the catheter has been provided with an additional kink-proof protection

This will also warrant the operational safety of the catheter outside of the wound.

The catheter material consists of transparent polyamide.

➡ If the catheter is misplaced, then the inflow of blood may be immediately detected and the corresponding measures can be taken.

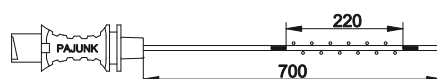
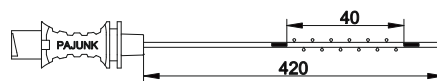


The micro perforations are absolutely precise, spaced at even intervals and arranged in a spiral line running along and around the catheter.

➡ This ensures for freedom from pain along the complete length of the wound, as well as the uniform distribution of the anaesthetic in a radius of 360°.

With a diameter of 19G, the InfiltraLong catheter is available in five different catheter- and perforation lengths.

➡ So the corresponding size suitable for every surgical wound will always be available.



Interventions and positioning

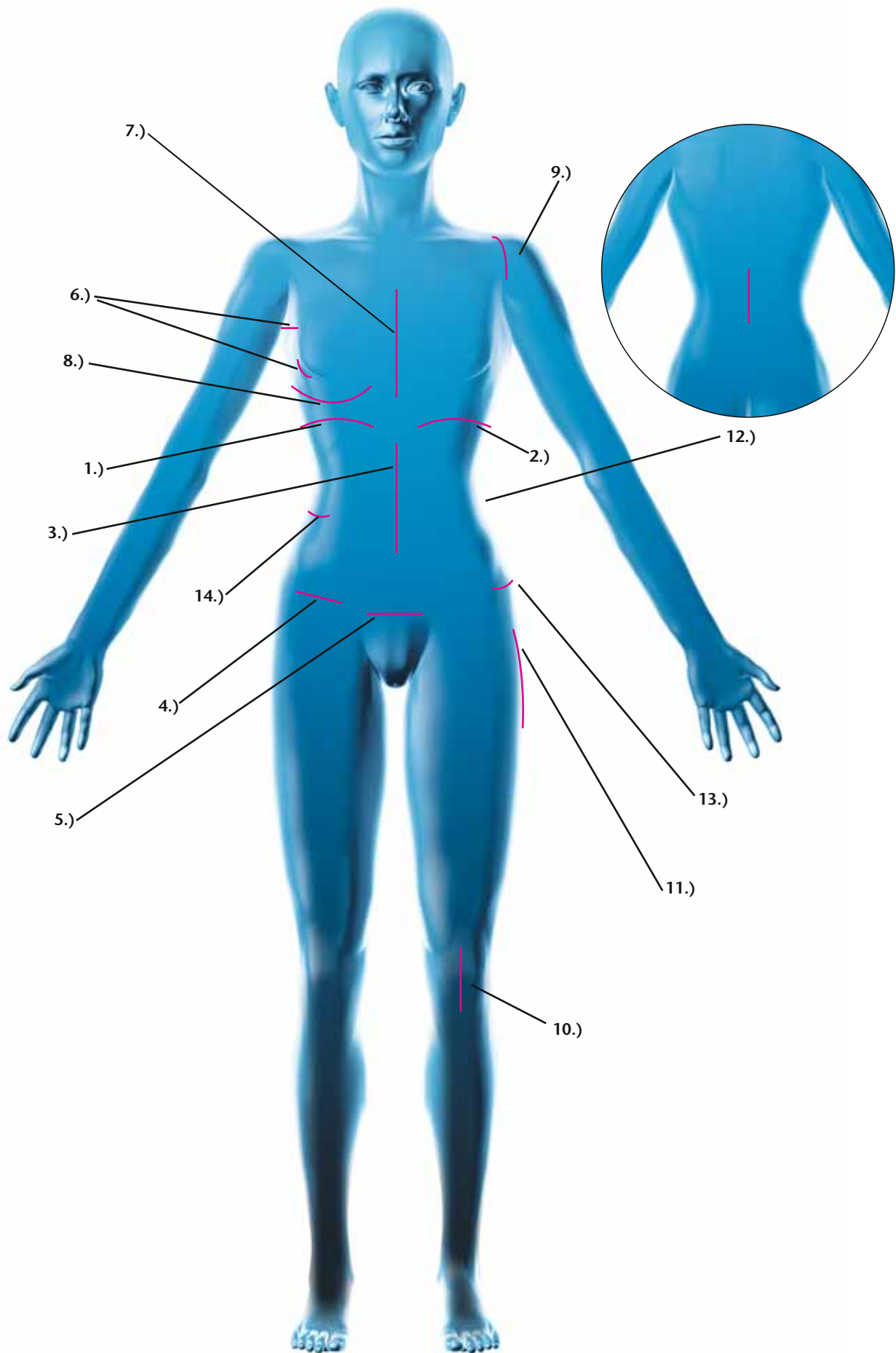
The InfiltraLong in post-operative applications

Indications

The InfiltraLong is a catheter with multiple perforations for continuous wound infiltration in painful operations.

We particularly recommend its use for long and deep lesions in the following operation fields:

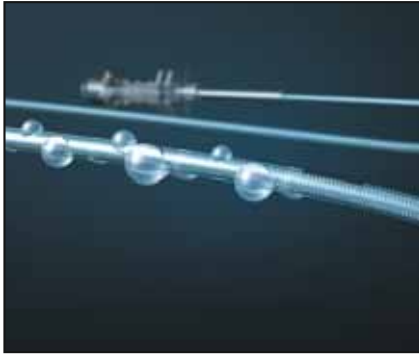
Intervention	Operation field	Positioning	Study
Abdominal surgery	1.) Wound at the lower costal arch for liver operations	preperitoneal above the peritoneum	
	2.) Wound at the lower costal arch for spleen operations	preperitoneal above the peritoneum	Levack et coll., Br j Anaesth 1986
	3.) Abdominal incision for operations in the digestive tract	preperitoneal above the peritoneum	Beaussier et coll., Anesthesiology 2007
Hernia	4.) Groin	under the fascia	Schurr et coll., Surgery 2004
Gynaecological operations and caesarean section	5.) Hysterectomy	intraperitoneal positioning	Lavand'homme et coll., Anesthesiology 2007
	5.) Caesarean section	subcutaneous	Lavand'homme et coll., Anesthesiology 2007
Gynaecological operations	6.) Breast surgery	axillary wound	Rawal et coll., Eur j Anaesth 2006
Heart surgery / thorax	7.) Heart surgery: Breastbone	two catheters: One at the breastbone and one at the fascia in the subcutaneous space	Wheatley et coll., J Thorac Cardiovasc Surg 2005.
	8.) Thorax surgery	two catheters: One on the intercostal vessel- and nerve fascicle and one subcutaneous	White et coll., Anesthesiology 2003
Joint surgery	9.) Shoulder	subacromial – outside the articular capsule	Savoie et coll., Arthroscopy, 2000 – Gottschalk et coll., Anest Anal 2003.
	10.) Knee	outside the articular capsule	Bianconi et coll., Br J Anaesth 2003
	11.) Hip	outside the articular capsule	Bianconi et coll., Br J Anaesth 2003
	12.) Spinal column	subacromial between the fascia and the subcutaneous layer	Bianconi et coll., Anaesth Analg, 2004
	13.) Iliac crest bone grafting	as close as possible to the bone, but at a distance to the drainage	Blumenthal et coll., Anesthesiology 2005
Urology / nephrology	14.) Lumbotomy		



Characterization and advantages

Exemplary course of an application

1. Preparation of the catheter



First, the catheter is removed from the container. Before application, the catheter is filled with local anaesthetic or saline solution to warrant unobstructed passage clearance and to ventilate it. Its functionality is ensured, if the formation of uniform droplets may be seen on the perforated segment.

2. Catheter placement

The catheter may be introduced into the wound either by way of a split cannula or through a Tuohy cannula. The puncture needle is thereby introduced through the skin by way of a separate access located within max. 30 to 50 mm from the operated wound.

Introduction of InfiltraLong via split cannula



1.) Puncture of the skin

The split cannula is advanced forward until the tip is visible in the wound. The lock is loosened, and the metal cannula is retracted.



2.) Introduction of the catheter

The catheter is introduced through the split cannula in such manner, so that the complete perforated segment comes to rest in the wound and the anaesthetic will be released evenly. Please make absolutely sure that the catheter does not injure any blood vessel.



3.) Removal of split cannula and connection of the filter

The split cannula is now separated and removed. Then the filter is connected to the catheter.

3. First injection and closing of the wound



A first injection of approx. 10 ml of local anaesthetic is administered, before securing the catheter and closing the wound. This serves to ensure that the infusion is proceeding successfully and that post-operative pain treatment can now commence. Now the wound can be closed, taking care that the InfiltraLong catheter is not damaged.

4. Catheter fixation

PAJUNK® offers two options to secure the catheter



FixoLong

Here, the catheter and the filter are secured in the vicinity of the catheter emergence, which will ensure that the patient will have maximum freedom of movement during all continuous applications.



FixoCath

FixoCath is a combination of wound dressing and fixation, and it is attached directly at the exit point. Creasing or buckling of the catheter can be excluded in the greatest extent possible. And here the patient will simultaneously also attain maximum freedom of movement.

As soon as the catheter has been secured, it is attached to the elastomer-pump.

5. Removal of the catheter

At the latest after 72 hours, the catheter is grasped close to the skin and carefully extracted. The active infusion will warrant, that this can be done painlessly. Please make sure that the complete catheter has been removed.

All in One

The InfiltraLong FuserPump Set

Indications

PAJUNK® offers a complete, closed system consisting of the pump, weld-bonded discharge lines, filter and InfiltraLong catheter, thereby reducing the contamination risk as compared to open systems

The advantages at a glance

- Abundance: Maximum filling volume 350 ml
- Variable flow rate of 3.5 or 8 ml/h.
- Visual checking: Shatter-proof, clear shell
- Non-compressible - no excess dosage due to compression
- Simple handling - no adjustments required
- Filling syringe 50 ml

A split cannula is always included in the set.



FuserPump

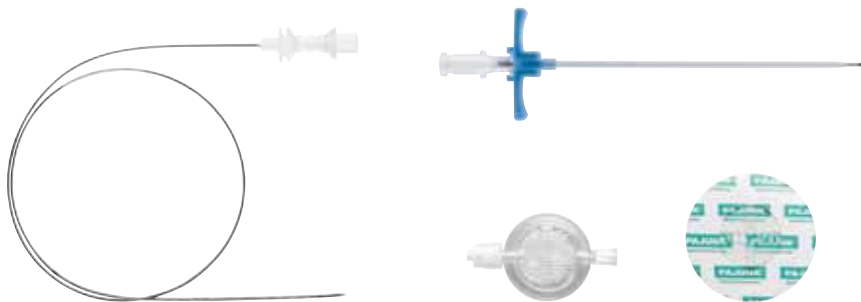
50 ml syringe

Split cannula with
puncture cannula

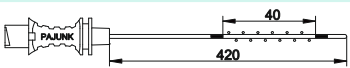
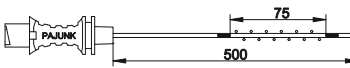
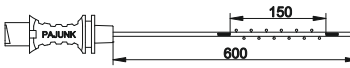
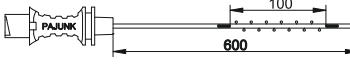
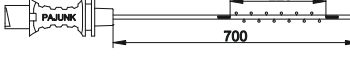

Wound infiltration catheter

All the information at a glance

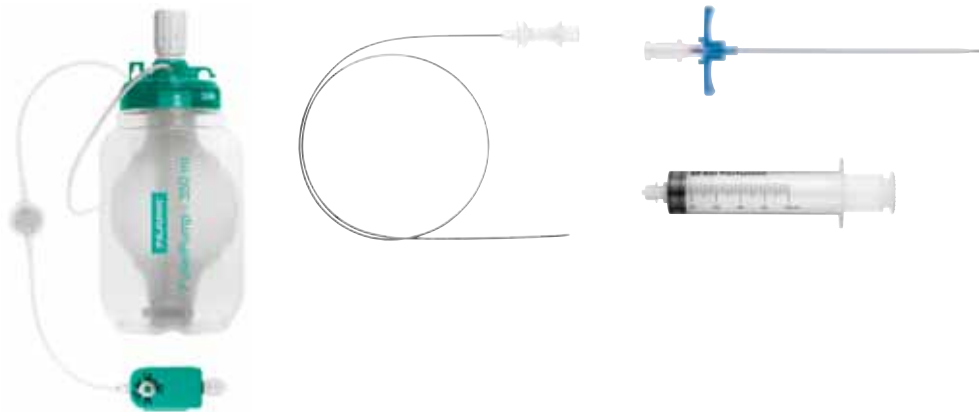
InfiltraLong sets with split cannula




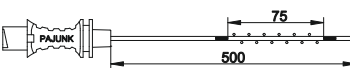
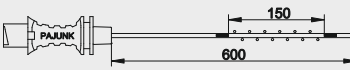
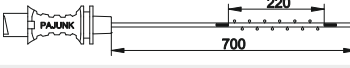
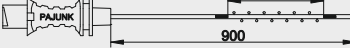
Spaltverweilkanüle mit
Punktkanüle
Filter
FixoLong

Product	Size				Item no.	PU
 InfiltraLong Set 420 InfiltraLong catheter, with flexible helical coil and 15 perforations along the first 40 mm	19 G × 420 mm	•	•	•	001158-00Z	10
 InfiltraLong Set 500 InfiltraLong catheter, with flexible helical coil and 30 perforations along the first 75 mm	19 G × 500 mm	•	•	•	001158-10A	10
 InfiltraLong Set 600 InfiltraLong catheter, with flexible helical coil and 60 perforations along the first 150 mm	19 G × 600 mm	•	•	•	001158-20B	10
 InfiltraLong Set 600 InfiltraLong catheter, with flexible helical coil and 45 perforations along the first 100 mm	19 G × 600 mm	•	•	•	001158-20D	10
 InfiltraLong Set 700 InfiltraLong catheter, with flexible helical coil and 88 perforations along the first 220 mm	19 G × 700 mm	•	•	•	001158-30C	10
 InfiltraLong Set 900 InfiltraLong catheter, with flexible helical coil and 88 perforations along the first 300 mm	19 G × 900 mm	•	•	•	001158-40C	10

FuserPump sets with split cannula






Split cannula with
puncture cannula
Balloon pump 350 ml
50 ml syringe

Product	Size				Item no.	PU
 FuserPump set InfiltraLong catheter, with flexible helical coil and 15 perforations along the first 40 mm	19 G × 420 mm	•	•	•	001157-00Z	3
 FuserPump set InfiltraLong catheter, with flexible helical coil and 30 perforations along the first 75 mm	19 G × 500 mm	•	•	•	001157-10A	3
 FuserPump set InfiltraLong catheter, with flexible helical coil and 60 perforations along the first 150 mm	19 G × 600 mm	•	•	•	001157-20B	3
 FuserPump set InfiltraLong catheter, with flexible helical coil and 88 perforations along the first 220 mm	19 G × 700 mm	•	•	•	001157-30C	3
 FuserPump set InfiltraLong catheter, with flexible helical coil and 88 perforations along the first 300 mm	19 G × 900 mm	•	•	•	001157-40C	3

All the information at a glance

InfiltraLong sets with Tuohy cannula



Product		Size	Item no.	PU
	InfiltraLong set 420 with Tuohy cannula InfiltraLong catheter with indwelling helical coil and 15 perforations along the first 40 mm, Tuohy cannula 17 G × 90 mm, clamping adapter, filter, FixoLong	19 G × 420 mm	001159-00Z	10
	InfiltraLong set 600 with Tuohy cannula InfiltraLong catheter with indwelling helical coil and 45 perforations along the first 100 mm, Tuohy cannula 17 G × 90 mm, clamping adapter, filter, FixoLong	19 G × 600 mm	001159-20D	10
	InfiltraLong set 900 with Tuohy cannula InfiltraLong catheter with indwelling helical coil and 30 perforations along the first 75 mm, Tuohy cannula 17 G × 90 mm, clamping adapter, filter, FixoLong	19 G × 900 mm	001159-40C	10



Product	Item no.	PU
Injecting tube with Y-connecting piece for the simultaneous use of 2 catheters	001151-37W	10



Product	Item no.	PU
FixoCath	001151-37Z	10

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