

HIGH QUALITY
**MADE IN
GERMANY**
SYSTEMS



intENTS[®] *Lumbar + Cervical* **Interventional Endoscopic Nucleus Therapy Set**

**Treating nerve compressions and discogenic pain
in the lumbar and cervical spine**

Intradiscal endoscopic nucleus instrument set

intENTS® Lumbar and Cervical are two endoscopic instrument sets used for minimally invasive intradiscal treatment of nerve compressions and discogenic pain.

The goal is to reduce the volume of the nucleus pulposus, thereby achieving decompression of the nerve root. Another treatment option is to coagulate nociceptors in the dorsal annulus curvature. In this context, the term High Intensity Zone (HIZ) is also used, which is represented in the MRI as a visible sign of disc degeneration (bright area in the disc ring).

There are two different instruments sets available that are specially optimized for procedures on the cervical and lumbar spine.

Indications for persistent clinical symptoms

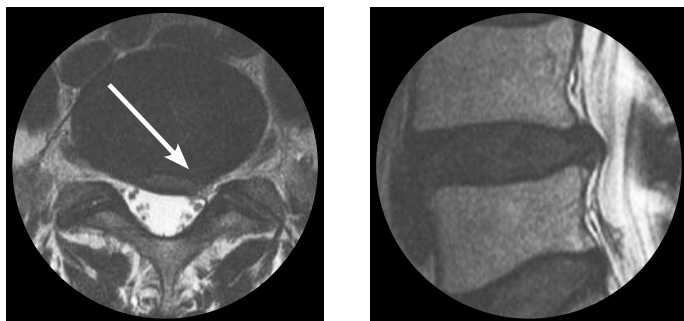
- > Protrusion of a disc (intervertebral disc protusion)
- > Disc prolapse without a complete tear of the fibrous ring
- > Discogenic pain

Benefits for patients

- > Very small incision in the skin, virtually no scar tissue
- > Procedure can be carried out under local anesthesia
- > Minimally invasive surgery, can also be performed in an outpatient clinic
- > Reduced risk of infection
- > Long-lasting absence of pain
- > Swift return to normal activities

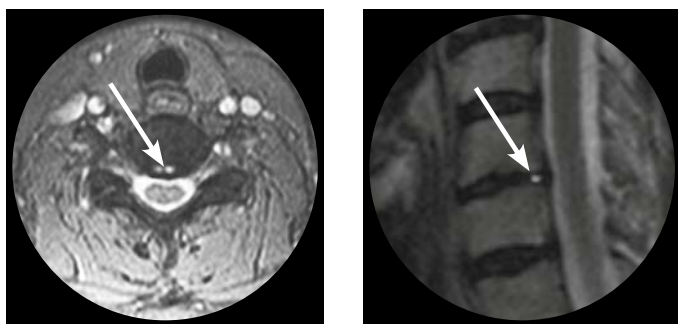
Contraindications

- > General contraindications to surgery
- > Free sequestrers
- > Bony compression (stenosis)
- > Complete annular rupture



Axial (left) and sagittal MRT of a protrusion in the lumbar spine.

Source: Thieme, Der MR-Trainer Wirbelsäule, ISBN 978-3-13-147591-6



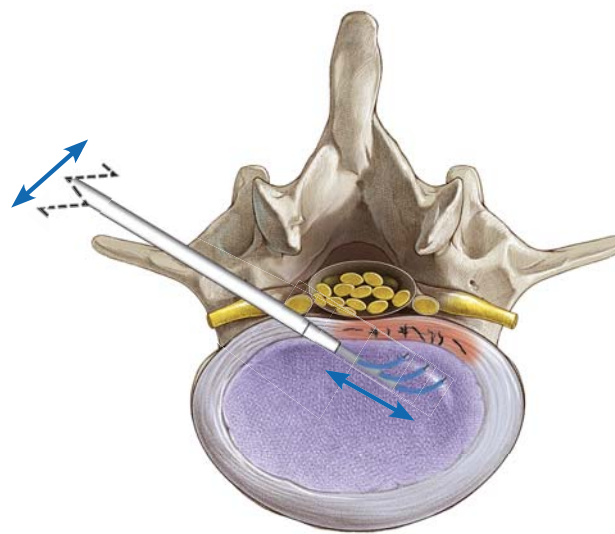
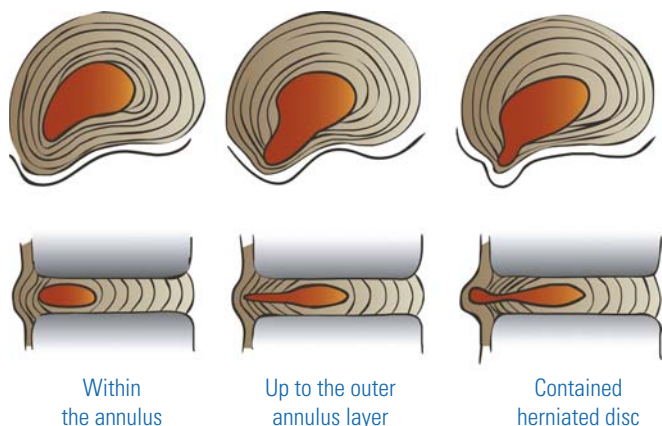
Axial (left) and sagittal MRT of a HIZ (High Intensity Zone) in the cervical spine.



CT discogram (axial) for L4 with visible annular fissure (arrow).

Source: D. Gillard 2012

Bulging Disc

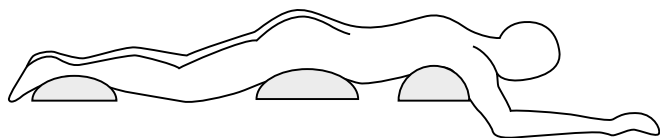


Treatment of annular fissures using joimax® RF probe Vaporflex®

Anesthesia / position of the patient

Depending on the indication, surgery is performed on an outpatient or short inpatient basis. The surgery should, however, be carried out in an operating room under the usual sterile conditions. A C-arm and a suitable

operating table for radioscopy are also required for intradiscal treatment. Usually, the procedure is performed under local anesthetic or analgesic sedation (see also joimax® anesthesia options).



Patient positioning for treatment on the lumbar spine using intENTS® Lumbar in prone position.



Patient positioning for treatment on the cervical spine using intENTS® Cervical in supine position.

Access technique and treatment options

Access is via the Seldinger technique – the cannulated instruments are inserted via a guide wire. The treatment is carried out through a guiding tube and the nucleoscope shaft.

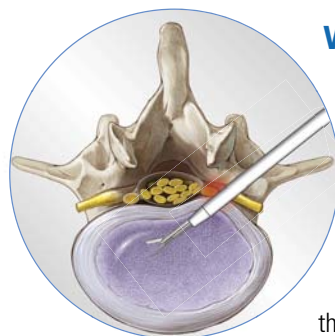
Volume reduction of the disc

The volume reduction of the disc can be carried out mechanically with the forceps contained in the instrument set or by coagulating the tissue using bipolar probes.

Volume reduction through

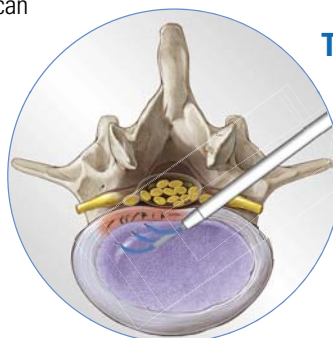
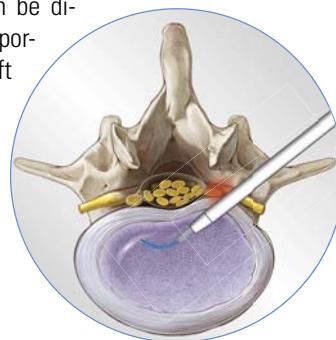
bipolar probes Vaporflex® and Legato®

The two bipolar probes Vaporflex® (intENTS® Lumbar) and Legato® (intENTS® Cervical) are used for coagulation of nucleus tissue. During the procedure, the nucleus is kept constantly moist with an irrigation system. The supply can be directly connected to the probe (Vaporflex®) or the nucleoscope shaft (Vaporflex®, Legato®).



Volume reduction using forceps

The intENTS® Lumbar and intENTS® Cervical instrument sets contain two forceps each (flexible and straight), which are used to remove nucleus tissue. If necessary, the tissue can then be histologically investigated.



Treatment of the dorsal annulus curvature

Using the flexible and curved tip of the probes, the dorsal annulus curvature is scanned, and any annular fissures are coagulated. The nucleoscope is then used to visualize and to check the result of the procedure.

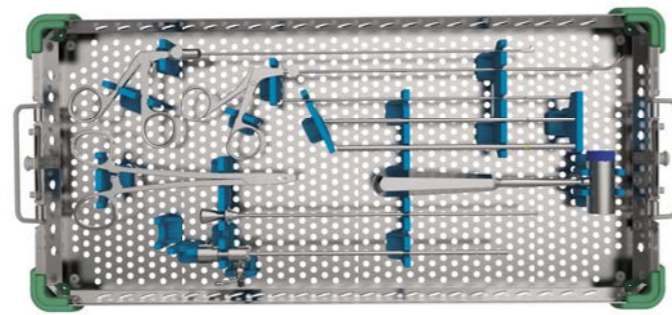
intENTS® Lumbar – Instrument set

The instruments in the tray enable two access options:

- Option 1:** Gradual dilation up to the required working tube
- Option 2:** In one step with the cannulated nucleoscope shaft

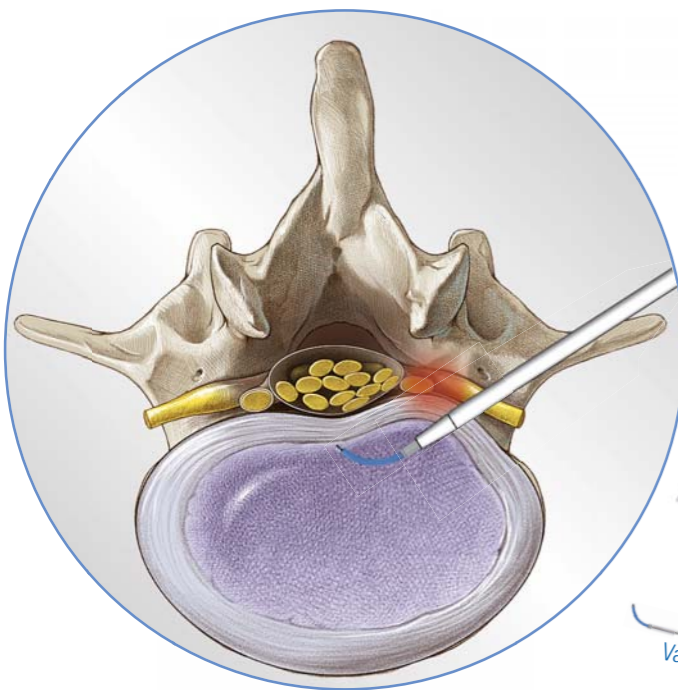
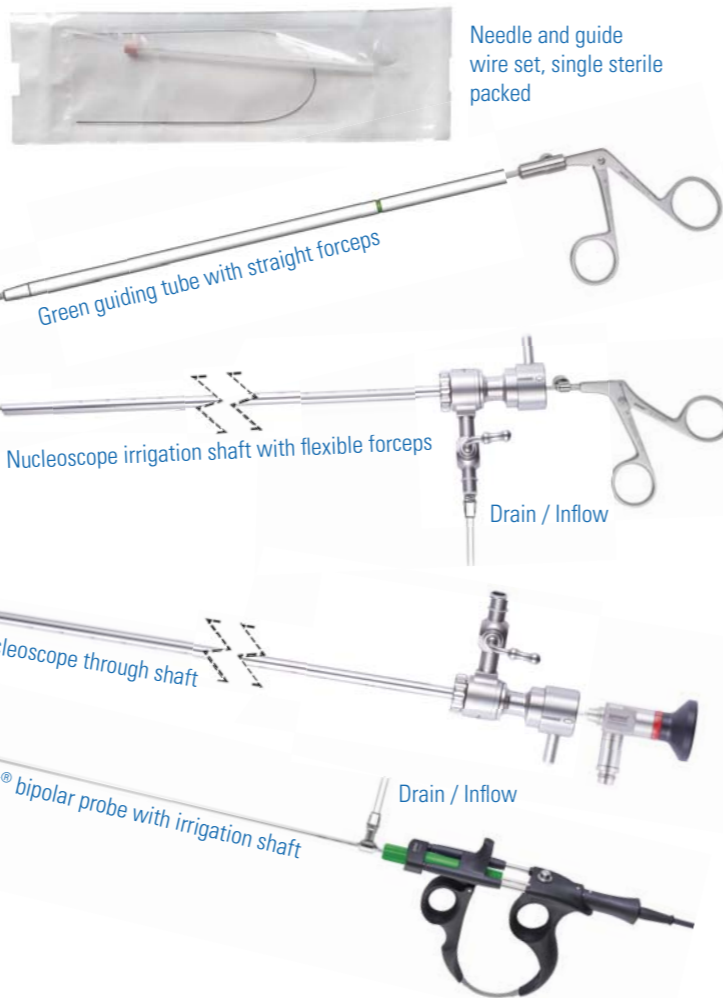
The straight biopsy forceps can be inserted both through the green guiding tube (working diameter 3.8 mm) and the nucleoscope shaft (working diameter 4.0 mm); the flexible forceps, on the other hand, can only be inserted through the nucleoscope shaft due to its curve. Nucleoscope, nucleoscope shaft and obturator are optional accessories. Brackets for these instruments are already included in the intENTS® Lumbar instrument tray.

One feature of the Vaporflex® radiofrequency probe is the flexible probe tip, which allows the surgeon to reach almost all areas of the nucleus. The probe can be inserted into the nucleus either through the nucleoscope shaft or the green guiding tube. For disc access using the Seldinger technique, there are single sterile packed needle and guide wire sets available. The probe is also supplied



intENTS® Lumbar instrument set

individually in sterile packaging. All other instruments and also the nucleoscope are designed for re-using.



The **Endovapor®2** is a smart all-in-one-generator that is winning over customers with its clearly understandable operating concept and innovative functionalities. Thus, all device settings are pre-programmed for numerous standard procedures. The modes Spine Vap or Spine Coag are used to operate the Vaporflex® and Legato® RF Probe.

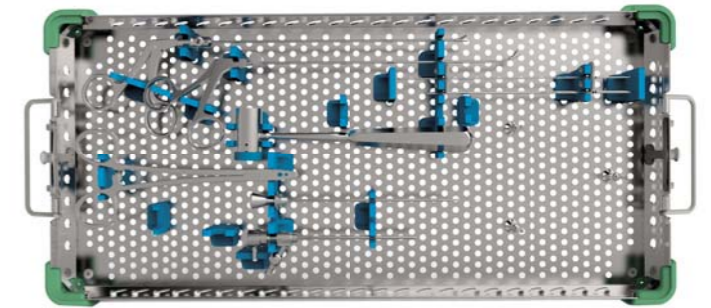


Sterilization tray for Vaporflex® hand piece, shaft and cable

intENTS® Cervical – Instrument set

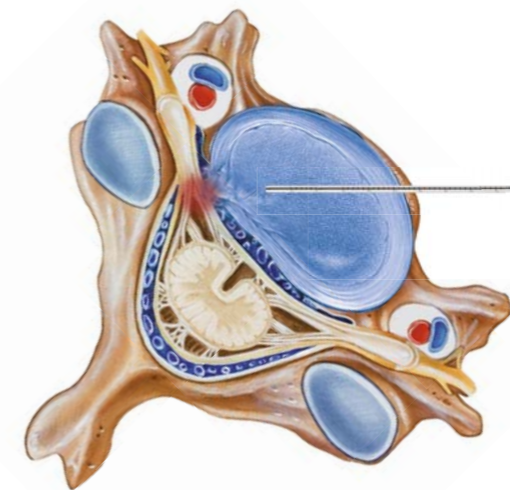
A ventral access is used with the cervical surgical system. The instruments are inserted according to the indication and the location of the pathology (intervertebral disc protrusion or annular fissure). The area is accessed by gradual dilation (recommended under local anesthesia) or directly with the nucleoscope shaft (working diameter 2.8 mm).

Brackets for the optionally available cervical nucleoscope and for the Legato® RF Probe Handle are already included in the tray.

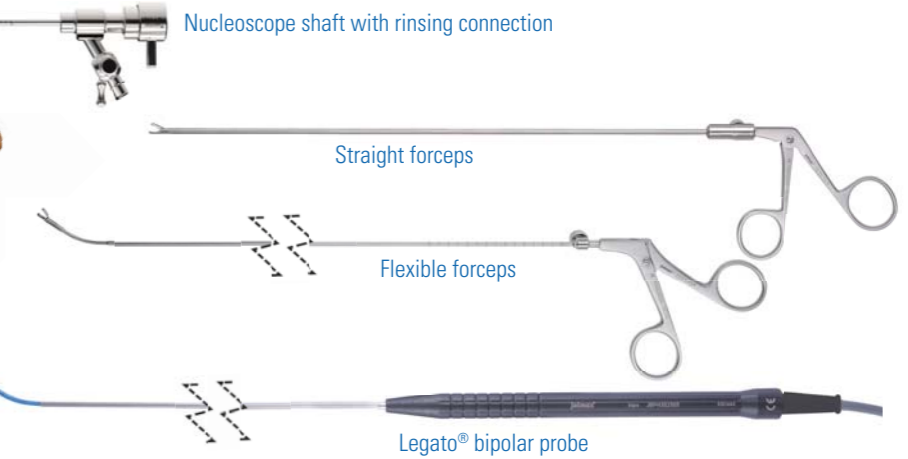


intENTS® Cervical instrument set

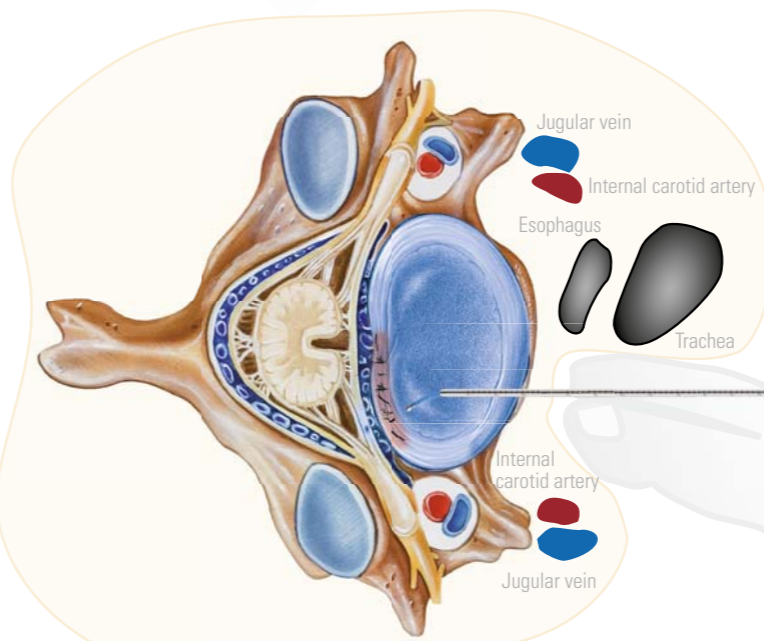
Contralateral access



A protrusion can either be removed mechanically with the forceps using the access through the nucleoscope shaft, or the protruded nucleus is coagulated with the Legato® RF probe.



Ipsilateral access

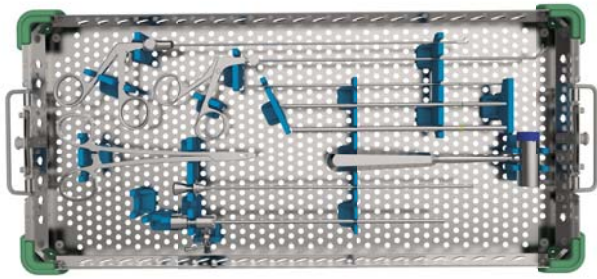


The dorsal and dorso-lateral annular fissures can be coagulated using the bipolar Legato® RF probe tip. Access palpation is performed between the index and middle finger.



joimax® intENTS® Lumbar

The instrument set for endoscopic treatment on the lumbar spine.



REF	Description
intENTS01	intENTS® Lumbar Instrument Set

Disposable instruments per procedure

JMSN18GW	joimax® Needle and Guide Wire Set (PU 10)
JVP27525S	Vaporflex® Probe, bipolar, sterile, 1200 Vp (PU 5)

Endoscopes and accessories

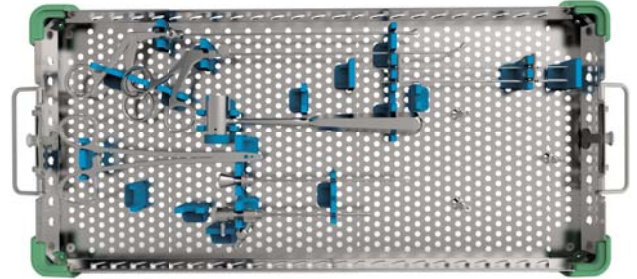
PS2730246C	FHD Nucleoscope with Combo Connection
PS2730246O	FHD Nucleoscope with Ocular Connection
PSD4030246	Shaft with Rinsing Connection for Nucleoscope (lumbar)
PSO273002	Obturator for Nucleoscope Shaft, cannulated (lumbar)

Devices with accessories

JSM120	joimax® Endovapor®
JVK1-275	Vaporflex® KIT1 S for joimax® Endovapor® consisting of: Vaporflex® Hand Piece (JVUH10010), Vaporflex® Irrigation Shaft (JVHS27527S), Vaporflex® Cable (JVC35010), Vaporflex® Sterilization Tray (VLTC3816) and Vaporflex® Spare Parts Set for Hand Piece (JVHP10023)
JEVD0201	joimax® Endovapor®2, Device (220-240 V)
JEVD0202	joimax® Endovapor®2, Device (100-127 V)
JVK2-275	Vaporflex® KIT2 S for joimax® Endovapor®2 consisting of: Vaporflex® Hand Piece (JVUH10010), Vaporflex® Irrigation Shaft (JVHS27527S), Vaporflex® Cable (JVC35020), Vaporflex® Sterilization Tray (VLTC3816) und Vaporflex® Spare Parts Set for Hand Piece (JVHP10023)

joimax® intENTS® Cervical

The instrument set for endoscopic treatment on the cervical spine.



REF	Description
intENTSZ01	intENTS® Cervical Instrument Set

Disposable instruments per procedure

JMSN18GW11	joimax® Needle and Guide Wire Set (PU 10)
JBPP27020	Legato® Probe, Ball Tip, bipolar, sterile, 850 Vp (PU 5)

Endoscopes and accessories

PS1909132C	FHD Nucleoscope cervical with Combo Connection
PS1909132O	FHD Nucleoscope cervical with Ocular Connection
PSD102430	Shaft with Rinsing Connection for Nucleoscope (cervical)
PSO141023	Obturator for Nucleoscope Shaft (cervical)

Devices with accessories

JEVS0201	joimax® Endovapor®2 (220-240 V) incl. foot switch
JEVS0202	joimax® Endovapor®2 (100-127 V) incl. foot switch
JBPH352506	Legato® Hand Piece, bipolar Plug for joimax® Endovapor®2, Cable L 3.5 m



More information and details can be found on the joimax® data sheet „RF/HF Program – complete overview“ and in the product usage guide.

joined minimal access

joimax® GmbH
Amalienbadstrasse 41, RaumFabrik 61
76227 Karlsruhe, Germany

Phone +49 (0) 721 255 14-0
Fax +49 (0) 721 255 14-920
E-Mail info@joimax.com
Net www.joimax.com

joimax®, Inc.
14 Goodyear, Suite 145
Irvine, CA 92618-3759, USA

Phone +1 949 859 3472
Fax +1 949 859 3473
E-Mail info@joimaxusa.com
Net www.joimax.com