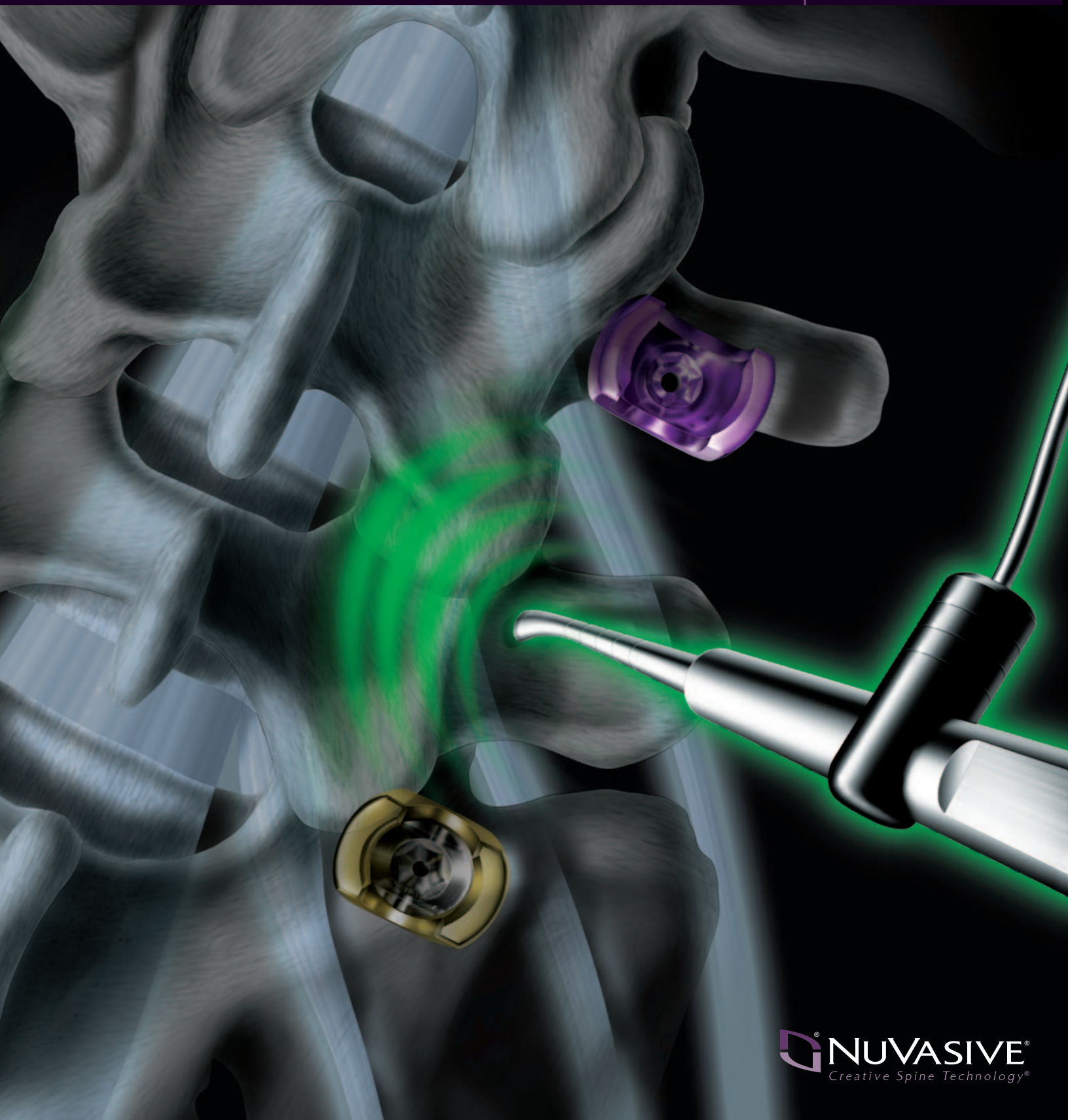
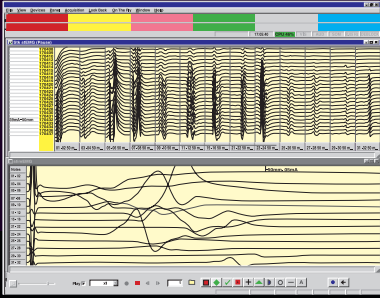




NeuroVision[®] JJB Nerve Monitoring System — Advanced Nerve Avoidance for Spine Surgery.





Converting Complex Data Into Useful Surgical Information.

Automated, intraoperative, neurophysiological monitoring with NeuroVision® JJB.

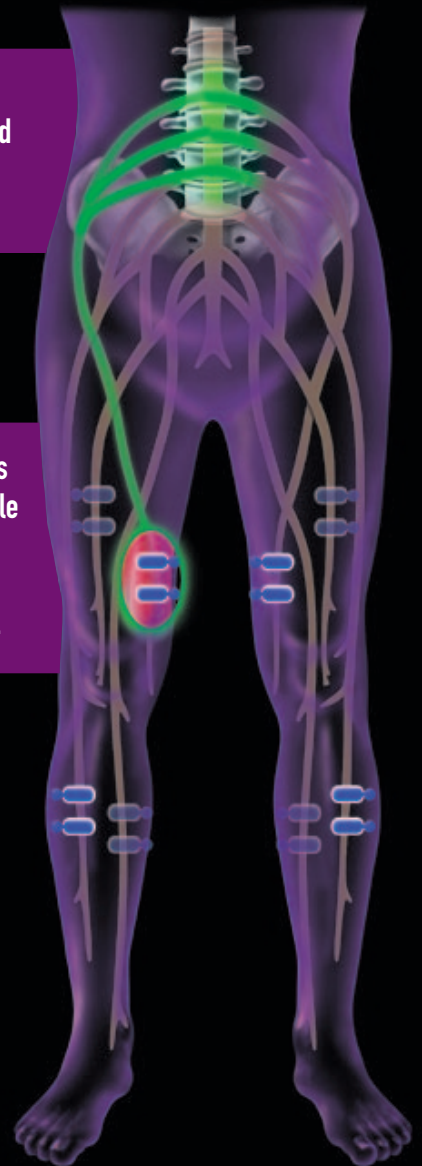
Based on conventional neurophysiological principles, the surgeon-directed NeuroVision JJB System converts data into simple, useful information used to drive clinical decision making.



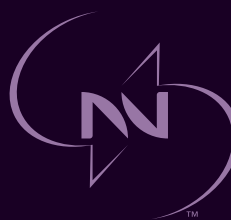
Stimulation is seamlessly applied to the surgeon's own instruments.

Surface electrodes record from muscle groups that are innervated by the nerves at risk.

Results are automatically analyzed, interpreted, and displayed on a simplified user interface.



Multiple Applications; Seamless, Procedural Integration.



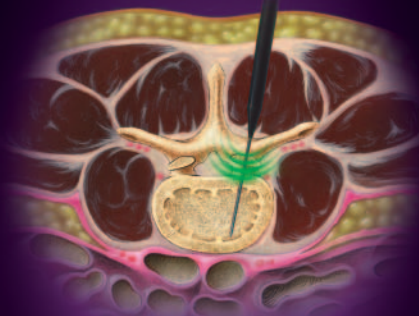
NEUROVISION® JJB

Dynamic Screw Test



Continuous, real-time EMG guidance during pedicle preparation and instrumentation.

InStim™ Percutaneous Screw Test

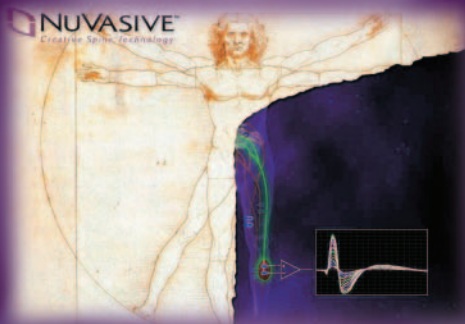


EMG confirmation of proper percutaneous pedicle screw placement – when medial wall visualization is not an option.

Nerve Retractor



Stimulated and continuous monitoring assists in identifying physiological changes during nerve retraction.



Nerve Detection



Nerve avoidance during minimally disruptive spine surgery.

Free Run EMG



Continuous monitoring warns of neurological insult from mechanical stimuli.

Dynamic Screw Test.

Continuous stimulated EMG seamlessly applied to your instruments to provide real-time information during ...



Real-time, continuous feedback is displayed as easy-to-interpret, color-coded, numeric threshold responses.



Conventional instruments are electrified with the Dynamic Stimulation Clip.

A sheath is included to minimize current shunting.

SYSTEM CONFIGURATION	
CAPITAL SYSTEM	
NeuroVision® JJB System	
DISPOSABLES	CATALOG #
NeuroVision Screw Test Module with Pedicle Probe	8010002
Small Dynamic Clip & Sheath	2010034
Large Dynamic Clip & Sheath	2010035

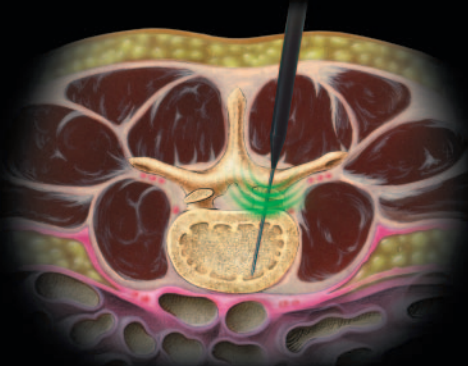
InStim™ Percutaneous Screw Test.



NEUROVISION® JJB

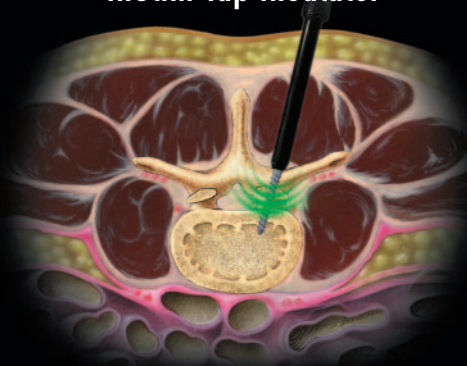
Safe, simple confirmation of percutaneous pedicle screw placement – when direct visualization is not possible – without changing your technique.

InStim K-Wire Insulator



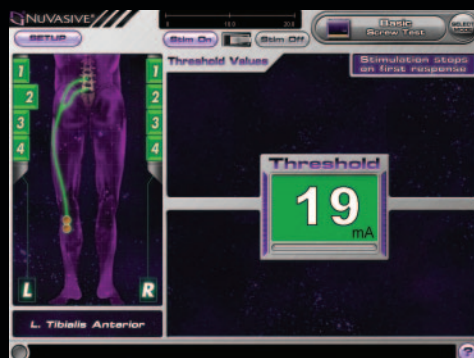
The InStim K-Wire Insulator insulates and stimulates the K-Wire to ensure proper placement within the pedicle.

InStim Tap Insulator



The InStim Tap Insulator prevents current shunting while the Small Dynamic Clip stimulates the Tap.

NeuroVision Basic Screw Test



NeuroVision Dynamic Screw Test



Percutaneous pedicle screw placement is confirmed using NeuroVision. Results are displayed as color-coded, numeric values for simple interpretation.

SYSTEM CONFIGURATION

CAPITAL SYSTEM

NeuroVision® JJB System

DISPOSABLES

CATALOG

NeuroVision Screw Test Module

with InStim K-Wire Insulator*

8010006

Small Dynamic Clip & Sheath

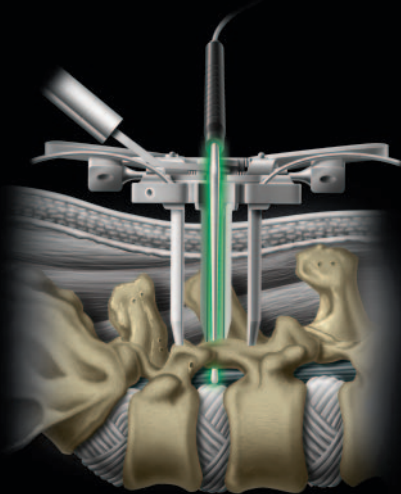
2010034

*The InStim Tap Insulator is included in the NeuroVision JJB System.

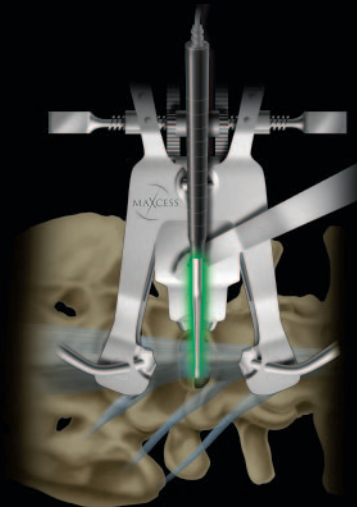
Nerve Retraction.

Stimulated and continuous monitoring assists in identifying physiological changes during nerve retraction.

Lateral View

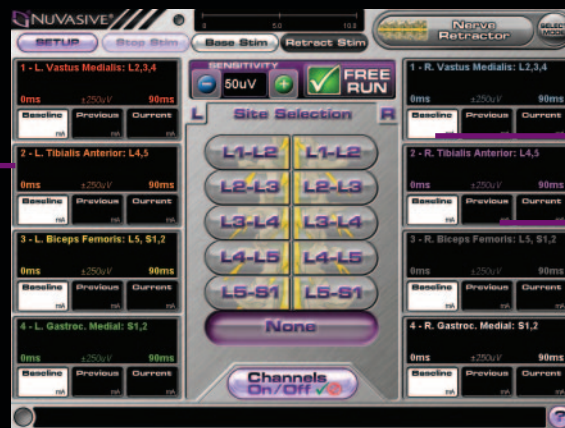


Posterior View



Excessive nerve retraction can potentially cause stretch and/or compression injury to the nerve(s). Both animal and human clinical studies have shown that excessive nerve retraction or compression can induce severe physiological consequences including electrophysiological changes.^{1,2,3,4,5,6} It has been further shown that these physiological changes are directly correlated with postoperative outcomes such as neurological deficit and pain.^{3,4,5,7}

Free Run EMG continuously monitors for neurological insult from nerve retraction.



A baseline stimulation is taken at first exposure of the nerve(s).

Subsequent retracted stimulation(s) should be taken throughout the case to ensure minimal change from baseline threshold.

SYSTEM CONFIGURATION

CAPITAL SYSTEM

NeuroVision® JJB System

DISPOSABLES

NeuroVision Nerve Retractor Module

CATALOG #

8010011

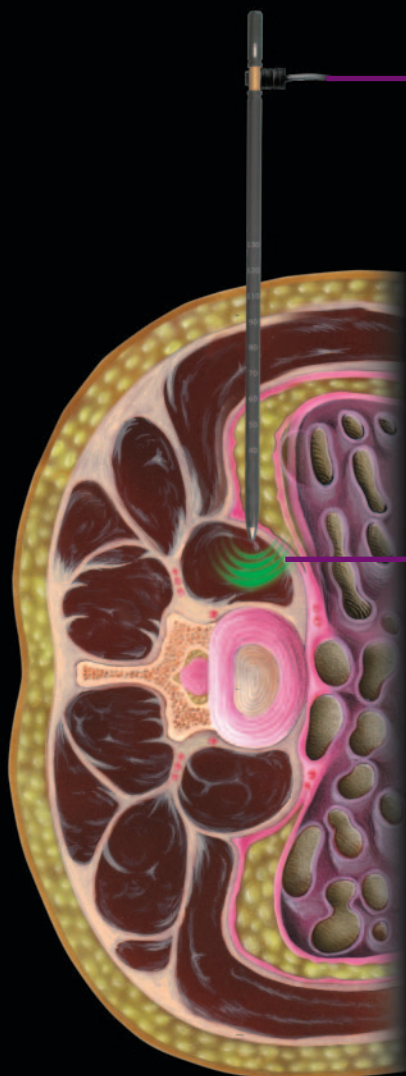
1. Cornelfjord M, et al. Spine 1997; 22:946-957.
2. Dezawa A, et al. Spine 2002; 27(24):2844-2849.
3. Matsui H, et al. Spine 1995; 20(6):654-659.
4. Matsui H, et al. Spine 1997; 22(18):2100-2105.
5. Olmarker K, et al. Spine 1990; 15(5):416-419.
6. Pedowitz RA, et al. Spine 1992; 17(2):194-199.
7. Takahashi K, et al. Spine 1999; 24(19):2003-2006.

Nerve Detection.



NEUROVISION® JJB

Stimulated EMG feedback for nerve avoidance during minimally disruptive spine surgery.



The NeuroVision Dynamic Stimulation Clip is attached to the MaXcess™ dilators, providing EMG nerve avoidance feedback while the dilators are safely passed through the psoas muscle to the disc space.

The closer the stimulation electrode on the MaXcess dilator is to the nerve, the lower the resulting EMG threshold. With this feedback, the dilator can be advanced and/or repositioned to determine proximity and avoid nerves.



Results are displayed as color-coded, numeric values for simple interpretation.

SYSTEM CONFIGURATION

CAPITAL SYSTEM

NeuroVision® JJB System

DISPOSABLES

NeuroVision XLIF™ 90° Module

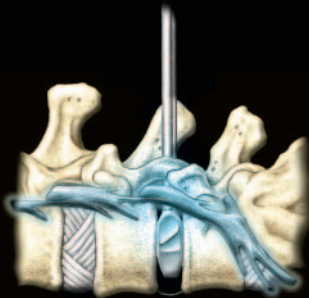
CATALOG

8010008

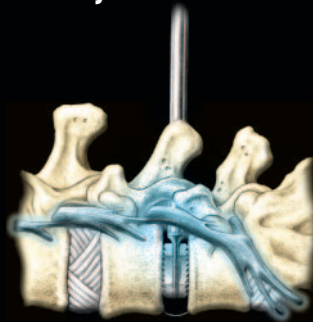
Free Run EMG.

Continuous monitoring of multiple spinal nerves provides a warning of neurological insult from mechanical stimuli.

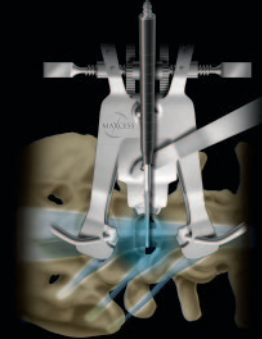
Distraction



Interbody Graft Placement



Nerve Retraction



If nerve manipulation generates EMG activity, NeuroVision will immediately notify the user with an audible alert tone and a visual signal on the screen.



Free Run alert signals provoke assessment of cause and action to alleviate neurotonic discharge.

SYSTEM CONFIGURATION

CAPITAL SYSTEM

NeuroVision® JJB System

DISPOSABLES

NeuroVision Module

CATALOG #

8010001

Catalog.



NEUROVISION® JJB

CODE	INSTRUMENT
2011000	NeuroVision JJB System - Capital Purchase Includes items below: NV JJB Control Unit NV JJB Patient Module NV JJB Stimulation Handpiece NV JJB Handpiece Sterilization Case Impedance Meter Impedance Meter Leads InStim Tap Insulator NV JJB Quick Reference Manual
8010001	NeuroVision Screw Test Module (No Stimulation Source) Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5)
8010002	NeuroVision Screw Test Module w/ Pedicle Probe Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5) (1) JJB Pedicle Probe
8010006	NeuroVision Screw Test Module w/ JJB InStim K-Wire Insulator Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5) (1) JJB InStim K-Wire Insulator
8010009	NeuroVision Dynamic Screw Test Module w/ Small Clip & Sheath Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5) (1) Dynamic Stimulation Clip (Small) (1) Dynamic Stimulation Sheath (2 per pack)

CODE	INSTRUMENT
8010010	NeuroVision Dynamic Screw Test Module w/ Large Clip & Sheath Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5) (1) Dynamic Stimulation Clip (Large) (1) Dynamic Stimulation Sheath (2 per pack)
8010008	NeuroVision XLIF 90° Module Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5) (1) Dynamic Stimulation Clip (Large) (1) JJB Pedicle Probe
8010011	NeuroVision Nerve Retractor Module Includes items below: NeuroVision EMG Harness Kit (1) Recording Surface Electrodes (Pouch of 25) (1) Reference Surface Electrodes (Pouch of 5) (1) JJB Nerve Retractor
Individual Capital Components	
2011002	NV JJB Control Unit
2011003	NV JJB Patient Module
2011054	NV JJB Stimulation Handpiece
2011008	NV JJB Handpiece Sterilization Case
2011052	Impedance Meter
2011053	Impedance Meter Leads
2010020	InStim Tap Insulator
9002956	NV JJB Quick Reference Manual
Individual Disposable Components	
2010002	(1) JJB Pedicle Probe
2010021	(1) JJB InStim K-Wire Insulator
2010034	(1) Dynamic Stimulation Clip (Small) & (2) Dynamic Stimulation Sheaths
2010035	(1) Dynamic Stimulation Clip (Large) & (2) Dynamic Stimulation Sheaths
2010036	(2) Dynamic Stimulation Sheaths (one-size fits all)
2011202	(1) JJB Nerve Retractor



To order, please contact your NuVasive Sales Consultant or Customer Service Representative today at:
4545 Towne Centre Court, San Diego, CA 92121 • phone: 800-475-9131 fax: 800-475-9134

www.nuvasive.com

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