



METR_xTM
X-*Tube*
RETRACTION SYSTEM



MASTSM
A NEW ROAD TO RECOVERY.



Medtronic
SOFAMOR DANEK



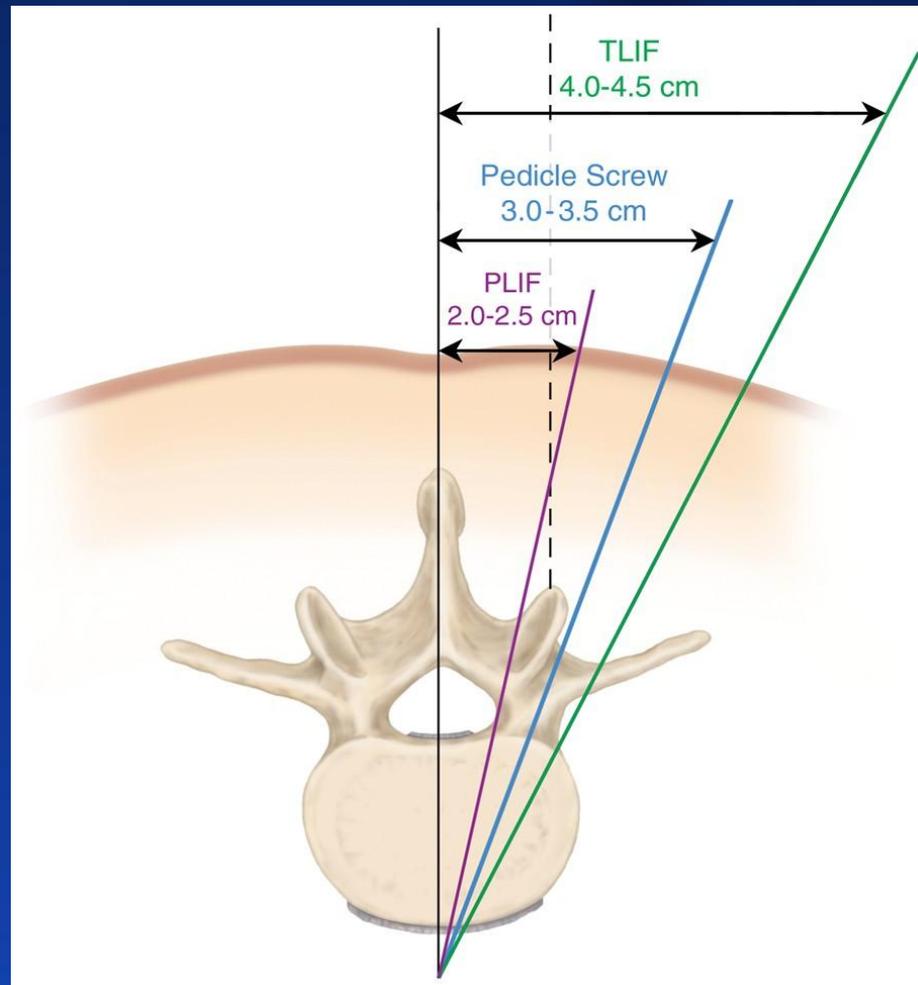
**MICHELSON
TECHNOLOGY
AT WORK**

Incision Location



The incision must be tailored to the pathology but as a rule of thumb, the docking points are as follows:

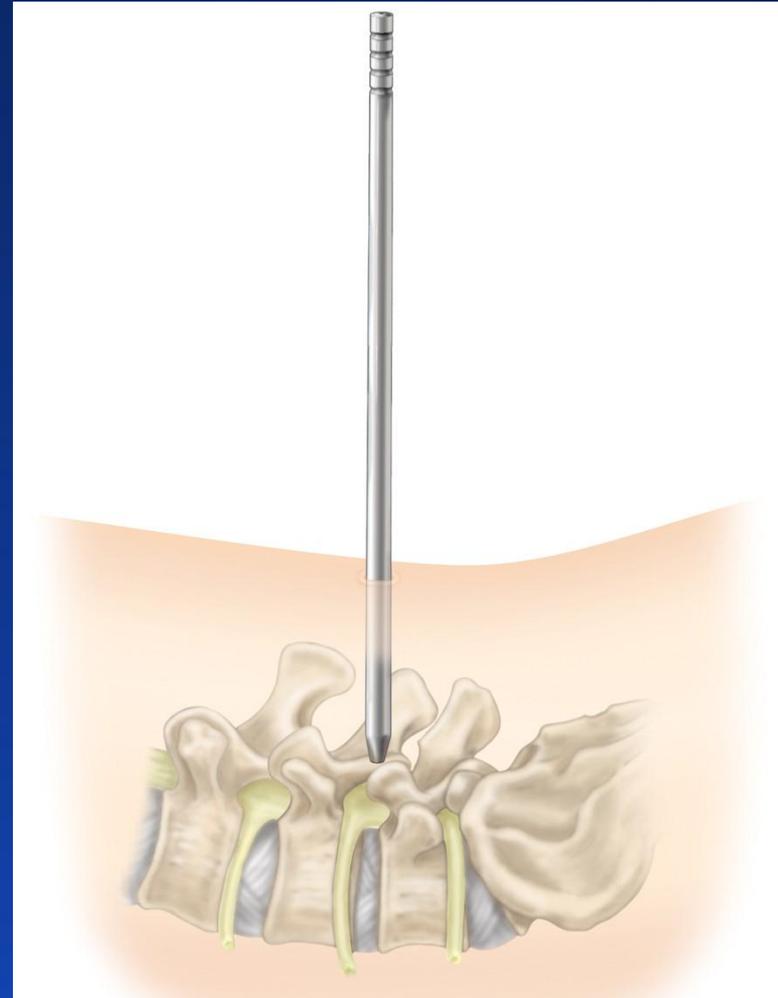
	Land Mark Docking Point	Incision Location Off Midline
PLIF	Inferior Edge of Lamina	2.0-2.5cm
Pedicle Screws	TP - Facet Junction	3.0-3.5cm
TLIF	Disc Space	4.0-4.5cm



Guide Wire and Initial Dilator Insertion



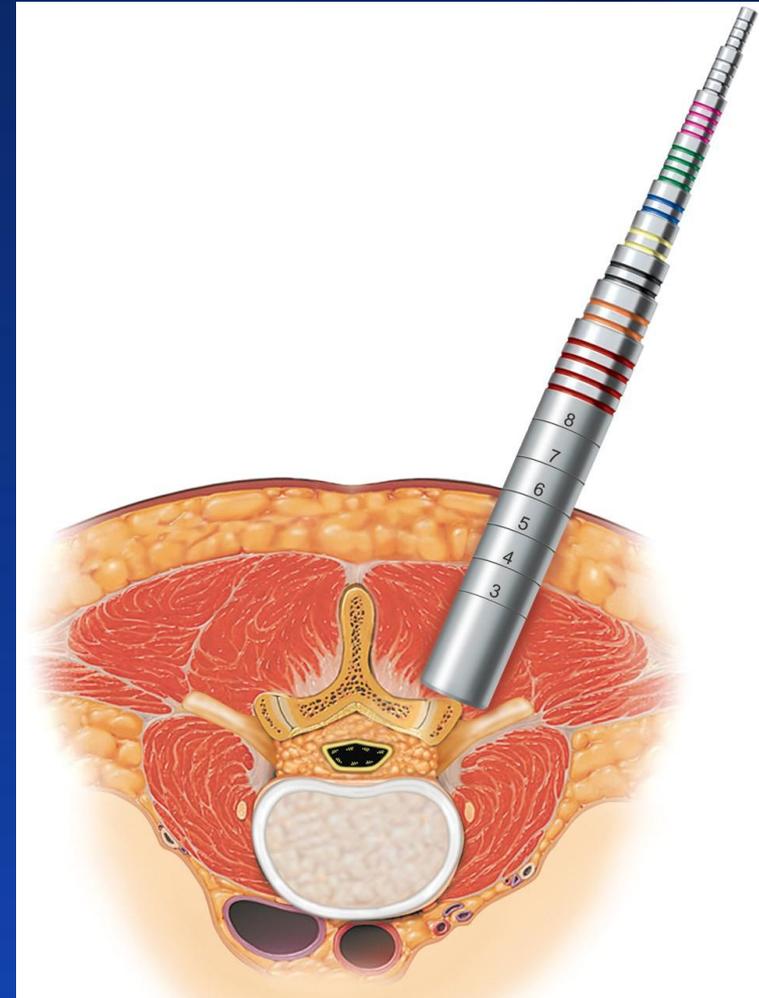
The guide wire is inserted through the incision and directed toward the appropriate landmark. The first dilator is placed over the guide wire and the guide wire is removed.



Sequential Muscle Dilation



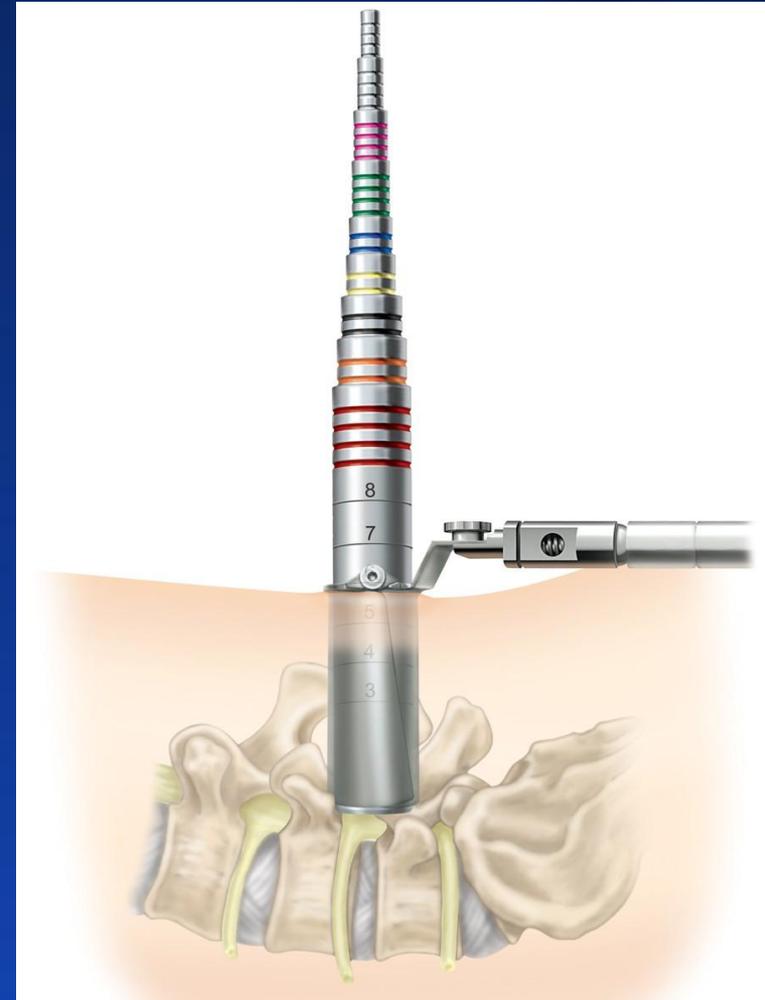
Dilators are sequentially placed over each other until the desired diameter is reached. An X-Tube is selected in accordance with exposed markings on the final dilator.



X-TUBE™ System Introduction



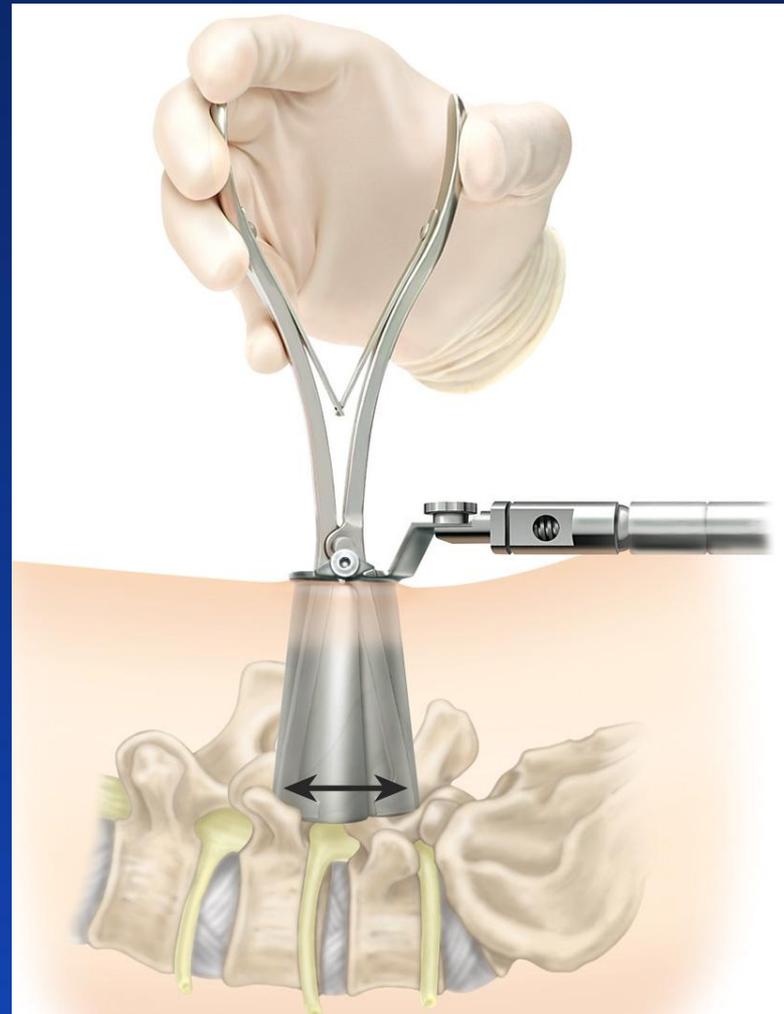
An X-TUBE™ System is inserted over the dilators and seated firmly flush with the bony anatomy and locked in place with the flexible arm. The dilators are then removed establishing a tubular operative corridor.



X-TUBE™ System Deployment



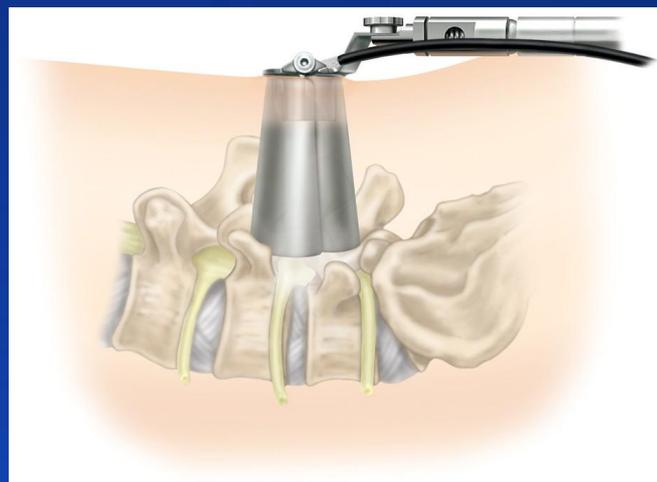
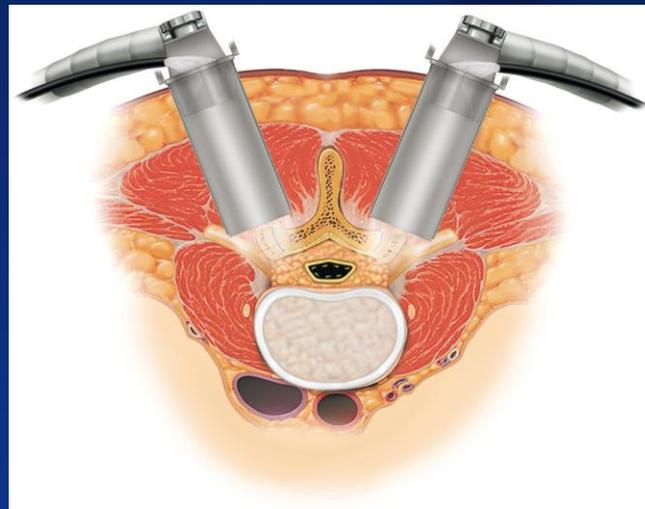
The corresponding opener is inserted into the X-TUBE™ System. The stops on the opener are lined up parallel with the hinges. The X-Tube™ System is then deployed by squeezing the opener until a “click” is heard.



Radiance X



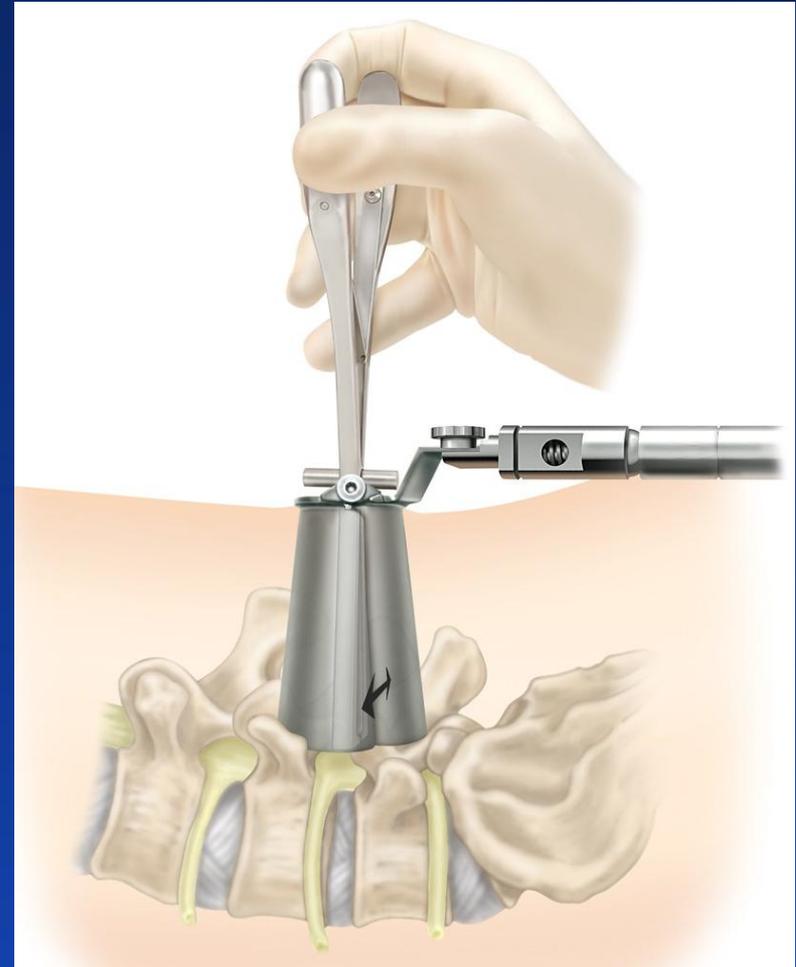
Radiance X is inserted providing optimal illumination. The microscope, endoscope or Loupes can be used to enhance visualization



X-TUBE™ System Extraction



The X-TUBE™ System is closed by turning the opener instrument 90 degrees so the stops are perpendicular to the hinges. The opener is then compressed causing the X-Tube™ System to collapse.



Conclusion



The objective of the METRx™ System is the same as conventional open surgery. This is accomplished by applying open surgical techniques through a tubular retractor under microscopic, loupes, or endoscopic visualization. For the first time, a laminotomy, medial facetectomy, foraminotomy, discectomy, PLIF, TLIF or pedicle screw insertion can be performed in a minimally invasive fashion.

