

Harmony™

Retractor System

Surgical Technique



Expertise at your side.

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Introduction

Minimally Invasive Surgery (MIS) represents one of the most exciting and dynamic segments of spine surgery. At Abbott Spine we are committed to making minimally invasive techniques simple and intuitive. We are determined to meet the demands of spine surgeons by offering a complete MIS solution, one that combines the capabilities of an open technique with the benefits of a minimalist approach.

The Harmony Retractor is designed specifically for use with Harmony Posterior Access Instruments, PathFinder® MIS Pedicle Screw System and TraXis® Transforaminal Lumbar Interbody Spacer.

The Harmony Retractor offers features designed to provide customized access and direct visualization for the surgeon:

- **Individual Blade Retraction and Pivoting**

Optimizes access while minimizing skin incision and muscle distraction.

- **Radiolucent Blades**

Increase visualization of working area.

- **Customized Light Source**

Unique low profile fiber-optic light source reduces glare while illuminating desired anatomy.

Indications

The Harmony Retractor System is a table mounted retractor system consisting of reusable surgical instrumentation provided non-sterile, and intended to allow for minimally invasive surgical access during general procedures and operations involving the spine.

The Harmony Retractor System provides a self-locking mechanism to hold the edges of a wound open, allowing surgical exposure during general use and neurosurgical procedures.

Caution should be exercised when placing or manipulating the retractor to avoid damage to tissues, vascular or neurological structures.

Contraindications

1. Active systemic infection or infection localized to the site of the proposed instrument usage.
2. Suspected or documented sensitivity to materials commonly used in surgical instruments or products, including surgical grade aluminum and surgical stainless steel. The Harmony Retractor System is a latex-free product.
3. The device is bent, cracked, or otherwise physically damaged to a degree such that system functionality will be compromised.

Key Instruments



D-Ring

Aluminum ring serves as the backbone of the retractor, accepting the sliders that hold retractor blades. Its shape is designed to match patient anatomy with the flat side typically placed medially.



Slider

Sliders retract along D-Ring rails, holding blades in place while allowing them to pivot.



Blades

Color-coded blades are available in 40-130 mm lengths, in 10 mm increments. Each interfaces with sliders at a dovetail connection. The blades' aluminum construction increases intraoperative visibility during fluoroscopic guidance.



Inserter

Inserts retractor over 19 mm dilator.



Distractor

Retracts blades either in opposing pairs or individually. Can be used in a horizontal or vertical orientation.

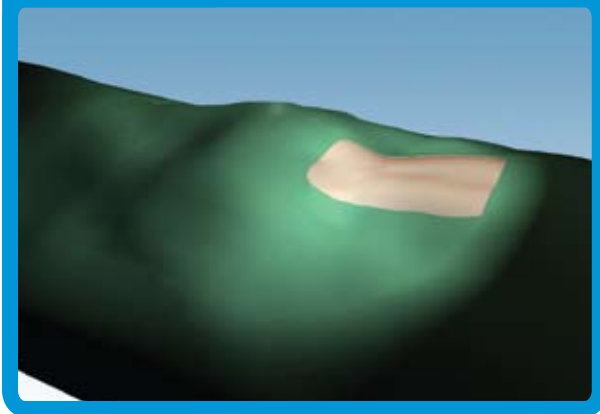


Pivot Driver

Triggers blades' pivoting mechanism.

Surgical Technique

Figure 1

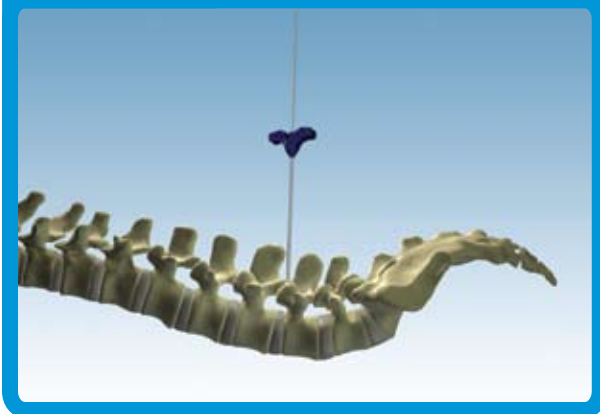


Patient Positioning

Position on a radiolucent table with adequate clearance for a fluoroscopic C-Arm (for A/P, lateral and oblique images of pedicles and vertebral bodies).

All other hardware utilized for patient positioning should be checked for radiolucency.

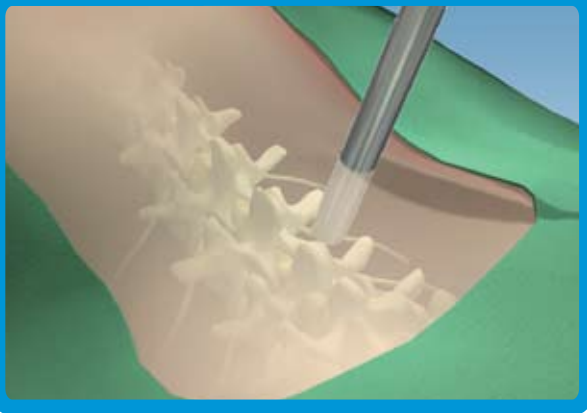
Figure 2



Targeting

Obtain A/P and lateral images of the desired exposure. Place targeting needle with desired trajectory. Advance K-Wire through targeting needle.

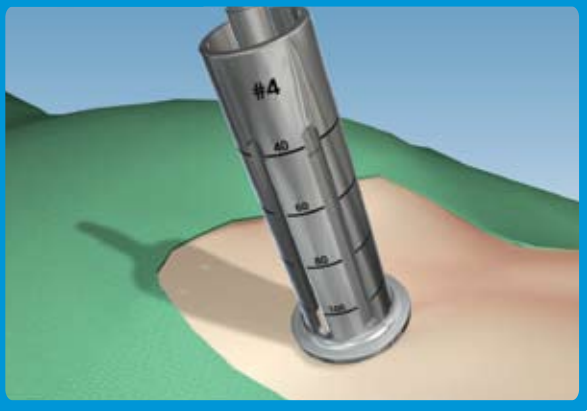
Figure 3



Sequential Dilation

Remove targeting needle and sequentially slide dilators #1-4 over K-Wire, ensuring that the dilators remain collinear.

Figure 4



Blade Depth Measurement

Rest flange against skin, locating proximal end of the #4 dilator in depth gauge window.

Identify necessary blade length, referencing depth gauge measurements and rounding up.

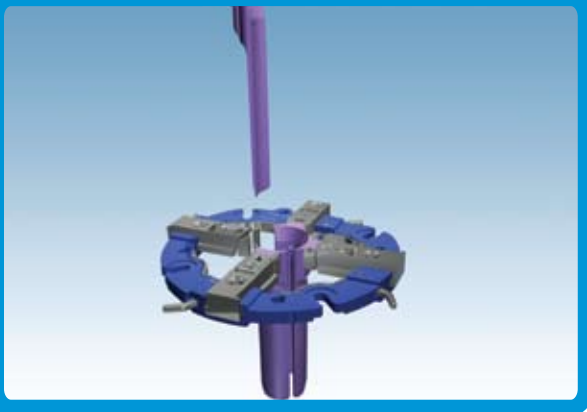
Figure 5



Assemble Sliders

Push slider into D-Ring frame while pushing spring clip away from sliders. The short slider must be assembled on the flat side of the D-Ring. If sliders do not easily slide into the D-Ring, ensure that set screws are backed out to release pivot mechanism.

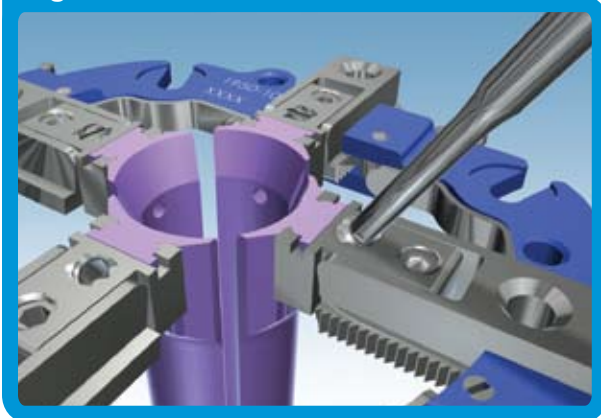
Figure 6



Assemble Blades

Slide selected blades down into the slider's dovetail. Blades of varied lengths can be utilized if desired.

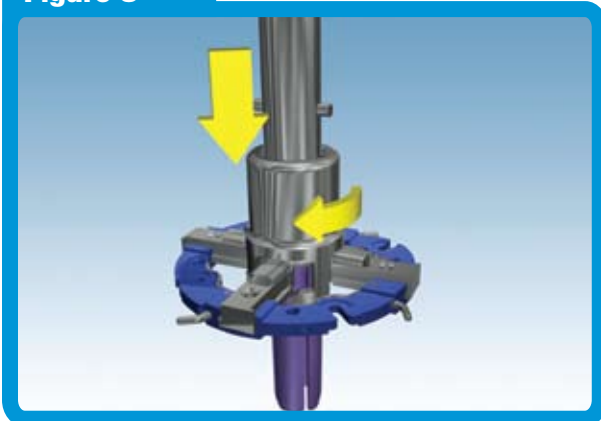
Figure 7



Secure Blades

Secure blades into dovetail by advancing set screw to finger-tight.

Figure 8



Attach Inserter

Place inserter's four cross-arms directly over sliders. Engage inserter, pushing the collar down and rotating clockwise.

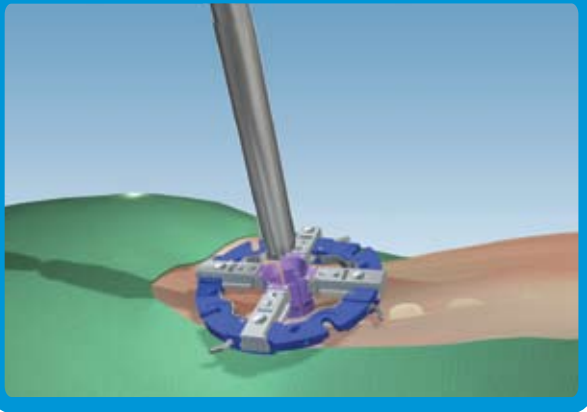
Note: If desired, the retractor can be inserted over the dilators directly without the use of the inserter.

Figure 9



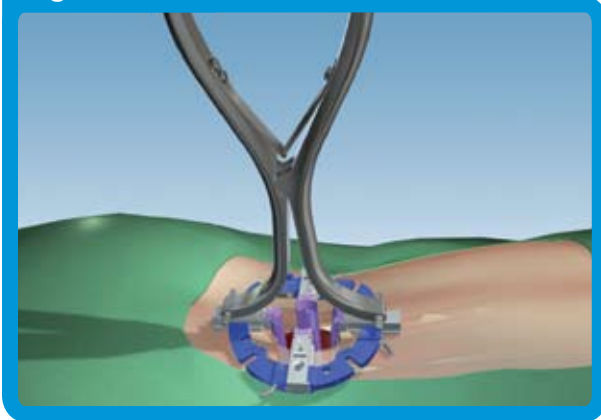
Insert Retractor
Push assembled retractor and inserter over #4 dilator.

Figure 10



Remove Inserter and Dilator
Remove inserter, pushing the collar down and rotating counterclockwise. Carefully remove all dilators and K-Wire.

Figure 11

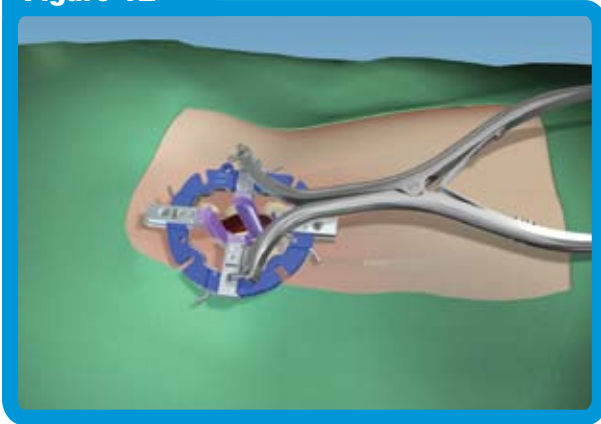


Distract Opposing Blades

Place distractor's two prongs into the holes within two opposing sliders; squeeze handles to retract.

Note: The distractor can be utilized in either a horizontal or vertical orientation.

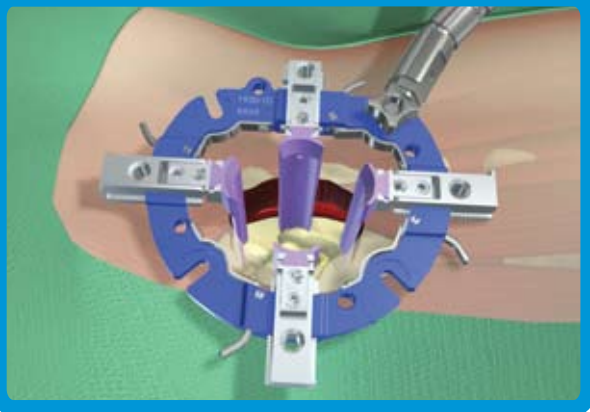
Figure 12



Distract Individual Blade

Utilizing the D-Ring's holes, an individual blade can be retracted without moving its opposite blade.

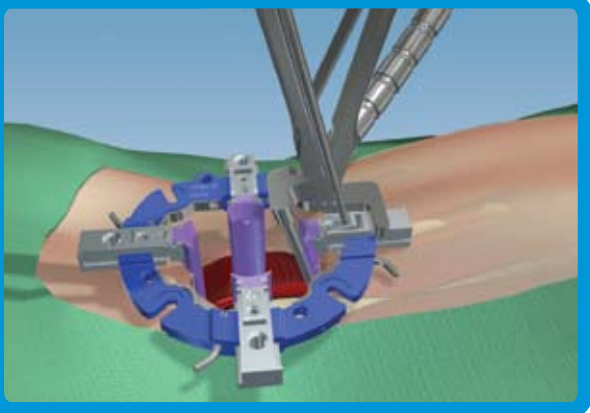
Figure 13



Assemble Snake Arm

A snake arm may be attached to any of the D-Ring's four docking points.

Figure 14



Pivot Blades

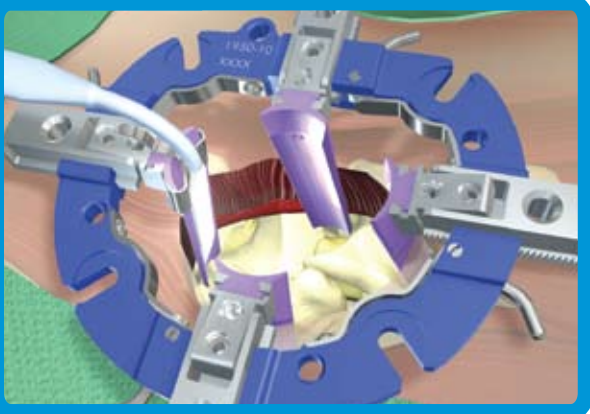
The Pivot Driver is used to pivot or toe-in individual blades.

Place driver's stub into slider's hole with the long post along the blade's inside edge.

Squeeze handle to pivot blade. Tighten set screw to maintain blade position.

Note: The set screw acts as a return stop and does not actively pivot blades; it should only be advanced to finger-tight.

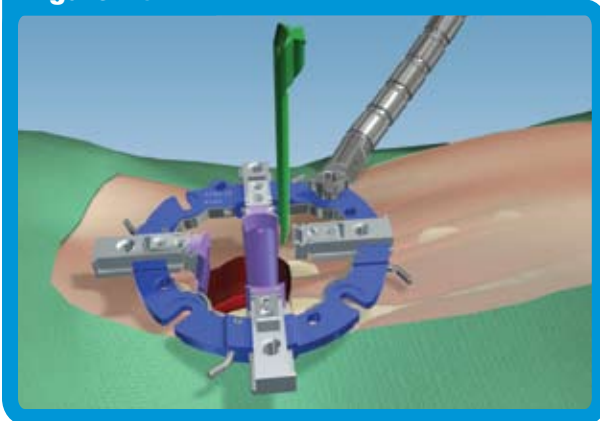
Figure 15



Insert Light

Attach preassembled fiberoptic light and push clip over top of the blade.

Figure 16

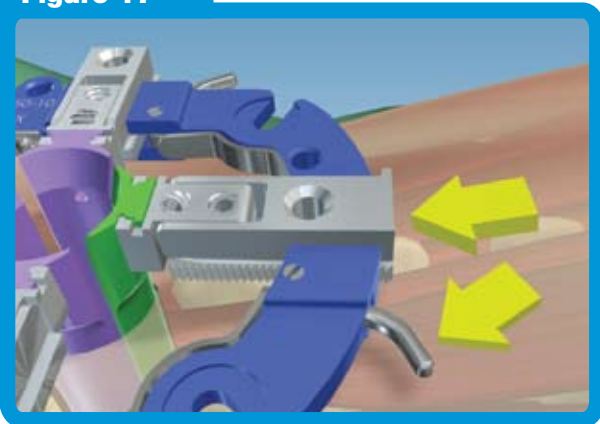


Replace an Individual Blade

If necessary, an individual blade may be exchanged for a different length in situ. With other blades in place, unpivot affected blade and release spring clip, returning it to center of retractor. Install new blade and retract/pivot into position.

Note: When unpivoting a blade, use Pivot Driver to reduce pressure on set screw before loosening it.

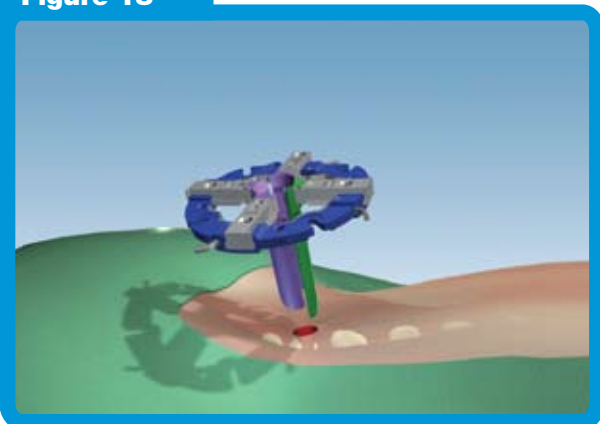
Figure 17



Remove Retractor

Return blades to starting position and remove retractor. To unpivot blades, loosen set screws with Pivot Driver; release set screw. To return sliders to position, push the spring clip toward D-Ring and push sliders forward.

Figure 18



Kit Contents

Harmony Retractor Kit

Part Number	Description	Standard Quantity
1950-10	Retractor D-Ring	1
1950-11	Slider-Long	3
1950-12	Slider-Short	1
1951-40	Harmony Retractor 40 mm Blades	5
1951-50	Harmony Retractor 50 mm Blades	5
1951-60	Harmony Retractor 60 mm Blades	5
1951-70	Harmony Retractor 70 mm Blades	5
1951-80	Harmony Retractor 80 mm Blades	5
1951-90	Harmony Retractor 90 mm Blades	5
1951-100	Harmony Retractor 100 mm Blades	5
1951-110	Harmony Retractor 110 mm Blades	5
1951-120	Harmony Retractor 120 mm Blades	5
1951-130	Harmony Retractor 130 mm Blades	5
561-2 D	Connect Fingertip Handle w/ AO Capture	1
450-2	2.5 mm Modular Hex Driver – D Connect	2
1953-1	Harmony Retractor Distractor	1
1954-2	Harmony Retractor Inserter	1
1955-1	Harmony Retractor Pivot Driver	1
1956-1	Universal Light Cable	1
1957-1	Universal to Wolf Adapter	1
1957-2	Universal to ACMI Adapter	1

1957-3	Universal to Storz Adapter	1
1957-4	Universal to Olympus Adapter	1

Harmony Port Instrument Kit

Part Number	Description	Standard Quantity
1913-010	Targeting Needle with 6° (Luer) Taper-Lock	2
1001-18	K-Wire, Trocar Tip, 0.054 x 18.0	12
1011-18	K-Wire Dispenser	1
1904-010	Tissue Dilator #1	1
1904-020	Tissue Dilator #2	1
1904-030	Tissue Dilator #3	1
1904-040	Tissue Dilator #4	1
1904-050	Tissue Dilator #5	1
1904-060	Tissue Dilator #6	1
1909-010	#1 Dilator Depth Gauge	1
1909-020	#2 Dilator Depth Gauge	1
1909-030	#3 Dilator Depth Gauge	1
1909-040	#4 Dilator Depth Gauge	1
1909-050	#5 Dilator Depth Gauge	1
1909-060	#6 Dilator Depth Gauge	1
1931-1	Table Clamp	1
1910-20	Extension Rod	1
1910-30	Flexible Table Arm	1

Warnings

General surgical risks, along with the following specific warnings and precautions, should be understood by the surgeon and explained to the patient prior to surgery. These warnings do not include all adverse effects that can occur with surgery in general, but are important considerations with particular respect to surgical instrumentation.

1. Do not implant any portion of the Harmony Retractor System.
2. This system is compatible with the Harmony Port System table fixation instruments, which facilitate rigid fixation to the surgical table.
3. Potential risks identified with the use of this system that may require additional surgery include excessive bleeding, damage to surrounding tissue, neurological damage and infection of the surgical site.

Precautions

1. Correct handling of all system components is important. The Harmony Retractor System contains delicate surgical instruments and should not be dropped, bent or broken. Do not use if damage has occurred as a result of multiple use, such that system functionality is compromised.
2. Proper, secure connection of the system components must be made according to surgical technique to assure system functionality.
3. Do not subject system components to excessive loads and/or impacts, as breakage and/or damage can occur.
4. Carefully inspect each system component before use to ensure all contaminants have been removed during cleaning; inspect for damage; verify mating fit(s) and/or assembly functionality; and to ensure product integrity remains as intended.

Expertise at your side.

We want to be there for you, at your side. We want to find solutions that deliver greater results for you and your patients, today and tomorrow. We want you to know that we are absolutely committed to supporting you with a broad line of meticulously engineered, best-in-class surgical instruments and implants, backed by the industry-leading training and expertise you demand. We are more than a vendor — we are your trusted partner. We have an enduring commitment to pioneer new technology, achieve exceptional results, provide outstanding care and extend our expertise. All while helping you extend yours.

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