Mediox

EROS-T Cage Systems

Surgical Technique

CONTENTS

Indications and contraindications

Indications

- Degenerative disc diseases
- Revision procedures for post–discectomy syndrome
- Pseudarthrosis or failed spondylodesis
- Degenerative spondylolisthesis
- Isthmic spondylolisthesis

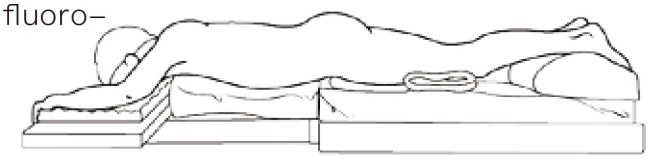
Contraindications

- Vertebral body fractures
- Spinal tumours
- Major spinal instabilities
- Primary spinal deformities
- Osteoporosis

Surgical technique

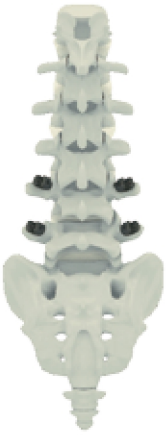
1.Patient position and exposure

Position the patient in a restored physiological lordosis, locate the correct operative level with fluoroscopic views.

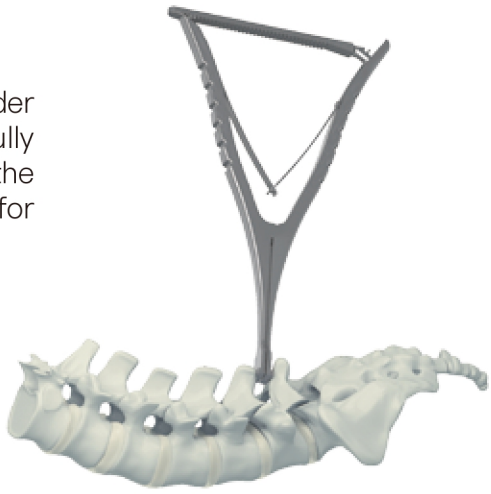


Make a standard posterior open incision, retract the muscle layer to view the desired segment.

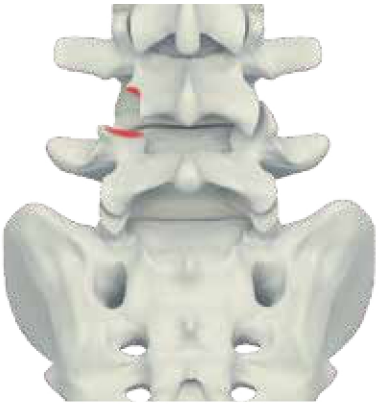
Insert pedicle screws to maintain distraction and prepare space for implant insertion.



Distract the segment if desired. Position the lamina spreader at the base of the spinous processes. Distract carefully until required distraction is achieved. Distraction opens the posterior disc space and promotes exposure both for decompression and delivery of the implant.

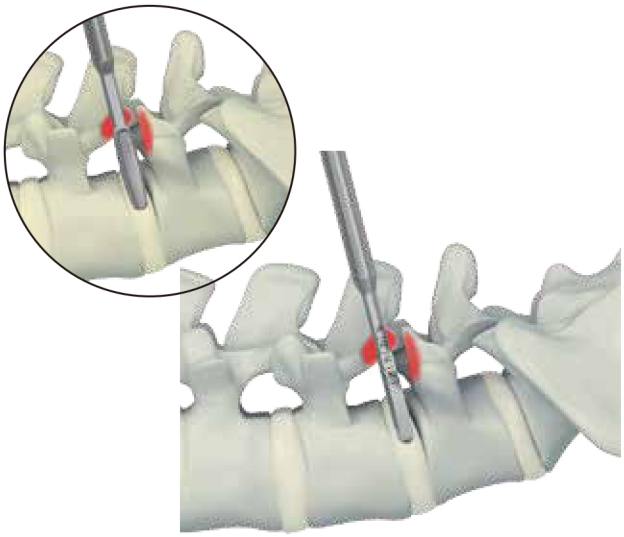


Prepare a window for the transforaminal approach using the osteotome to remove the inferior facet of the cranial vertebra and the superior facet of the caudal vertebra.



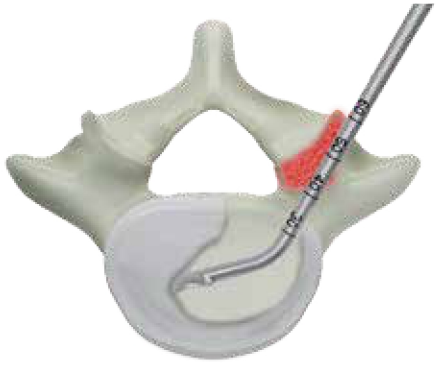
2.Discectomy

The shavers can initially be used to ream out disc material and moderate distraction.



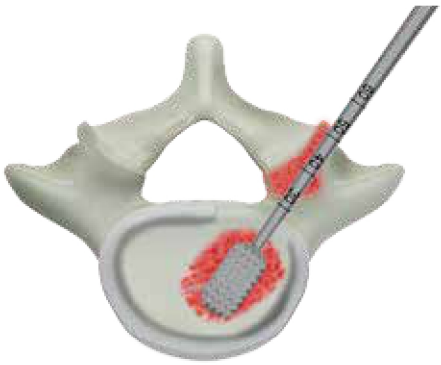
Use straight spoon curette and angled rectangular curette to remove the residual soft tissue in the ipsilateral end-plate.

For removal of the tissue in the far lateral disc space, use the left/right rectangular curette, angled spoon curette.



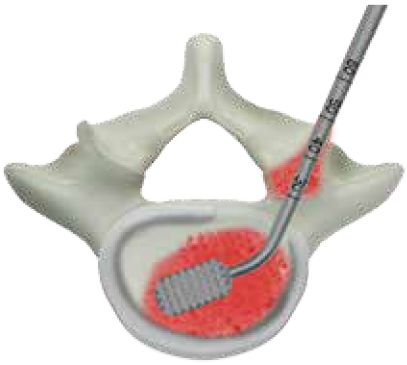
3.Preparation of endplates

When the discectomy is completed, use the rasp to remove the superficial cartilaginous layers of the endplates to expose the bleeding bone.



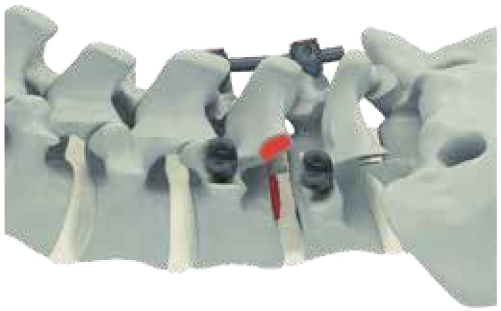
For the ipsilateral endplate, use the straight rasp.

For far lateral endplates, use the angled rasp.

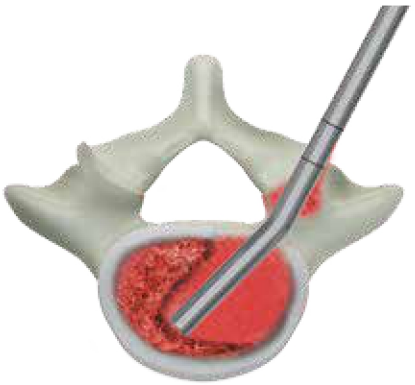


4.Pack disc space

Use the lamina spreader to distract disc space until it is fully distracted. Tight the far lateral pedicle screw to maintain the disc space height.



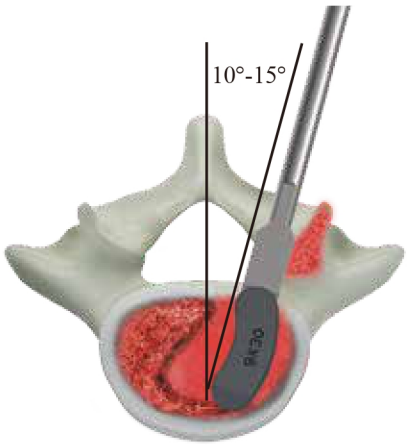
To achieve solid fusion, the disc space should be filled with bone graft or bone graft substitute as more as possible. Use funnel to fill the disc space and push the bone graft into the far lateral side with cancellous bone impactor–curved.



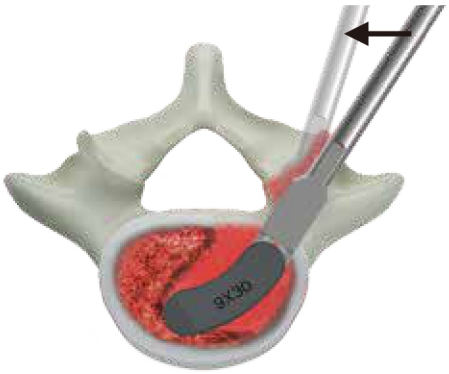
5.Trial for Implant Size

Turn the knob at the proximal end of the inserter counter–clockwise to allow inserter jaws open. Place the jaws over the proximal end of the trial implant making sure to align the inserter and trial implant in the same line. Turn the knob clockwise to close the jaws until it is tightened. When the knob is tightened, the trial implant can not pivot or detach.

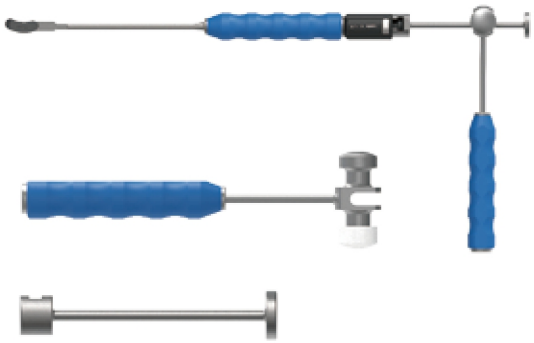
The trial implant tip should be orientated medial. Maintain 10 —15° between the inserter handle and the sagittal plane during trial implant insertion. Controlled and light hammering on the inserter may be required to advance the trial implant into the intervertebral disc space. Use fluoroscopy to confirm position and fit of the trial implant. The tip should be positioned near the anterior edge of the adjacent vertebral bodies.



Turn the inserter knob counterclockwise to the safety line, the knob must not cover any portion of the safety line. Pivot the inserter handle to decrease the angle between trial implant tip and inserter shaft, then lock and advance the trial implant again. Repeat this procedure until the trial implant at the ideal position. The trial implant must not be detached from the inserter when the trial implant is still in the disc space.



Turn the inserter knob counterclockwise to the safety line, the knob must not cover any portion of the safety line. Slide the handle extension onto the end of the inserter knob with quick coupling. While holding the handle with one hand, apply an upward force to the handle extension with the other hand to remove the trial implant.

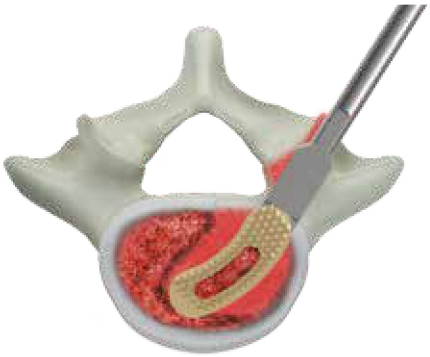


Turn the knob counterclockwise until it stops and remove the trial implant.

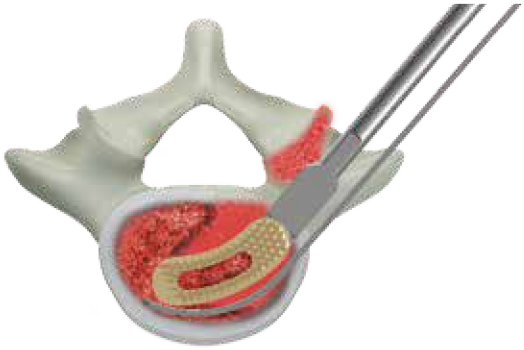
6.Implant insertion

Select the implant that corresponds to the height and size measured using the trial implant in the previous steps. Insert the selected implant into the implant support. Use the com–pactor to fill bone graft in the cage.

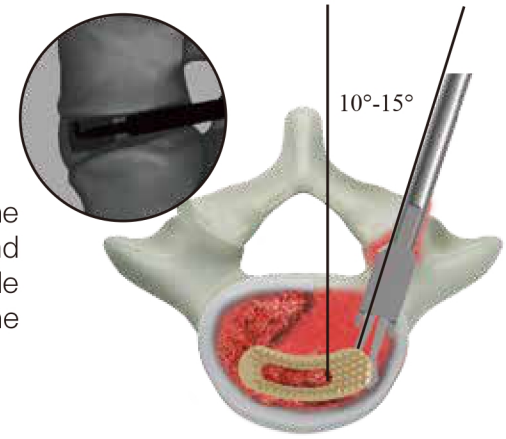
Connect the implant and the inserter, turn the knob clock–wise to hold the implant securely and make sure to align the cage tip and the inserter shaft in the same line. Inserter the implant use the same way as trial implant insertion.



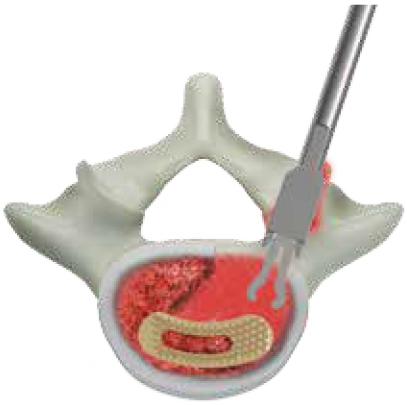
Root protector could help implant to be inserted into the far lateral disc space smoothly.



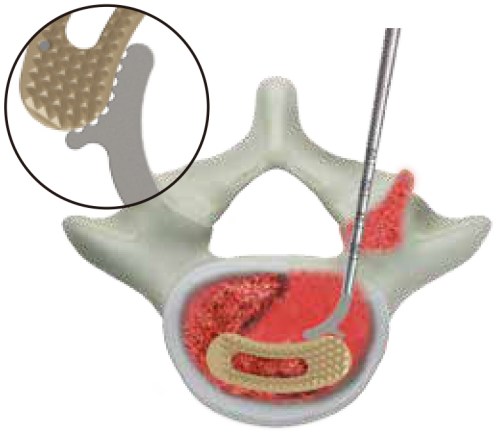
Use fluoroscopy to confirm the position of the implant, the two anterior markers should be overlapped as a line and the tip marker should be a dash in the lateral view, while in the A/P view,the tip marker should be a dot when the cage reached the ideal position.



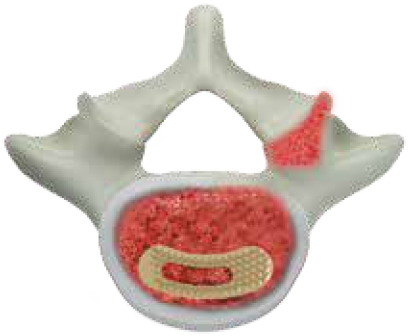
Turn the knob counterclockwise until it stops, detach the cage from inserter.



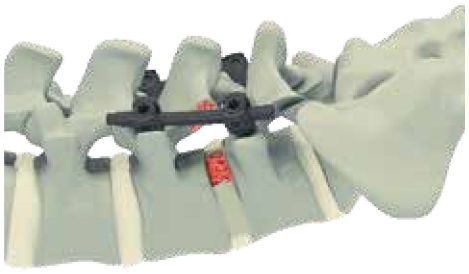
If the implant is not at the ideal position, straight tamp and angled tamp could be used to help to adjust the final position.



After the cage is implanted, fill the posterior disc space and the lateral disc space with bone graft or bone graft substitute to create optimal conditions for fusion.

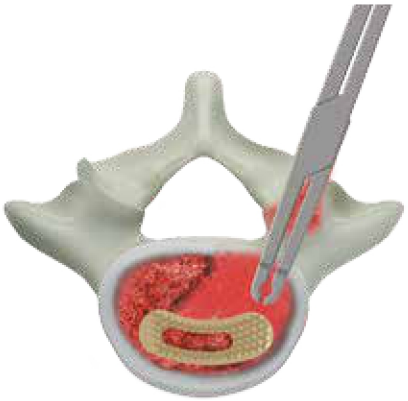


Insert the rod, apply adequate compression onto the cage, and final tighten the set screw.



7.Implant removal

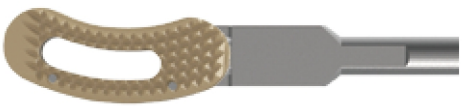
The cage can be removed by the remover when it's needed. Ensure that the remover is in the fully open position. Locate the implant and squeeze the handle firmly. Advance and rotate the sleeve to lock the jaws. The implant can now be removed. The handle extension and hammer may be required to facilitate removal.



8.Inserter instruction

Inserter assemble: Press the button and inserter the inner shaft until it stops, release the button to complete the assemble.

Insertion position: Turn the knob clockwise until it's tightened. In the insertion position, the implant or trial is fixed. The implant or trial can not pivot or detach.



Peek Cage System, MSC-T all Sizes

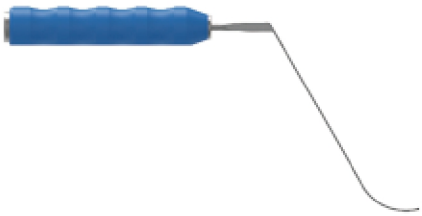
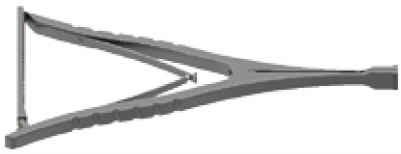
- Material: Biomedical PEEK (Polyether Ether Ketone).
- High molecular weight compound, not photosensitive, compatible with body biology.
- Bean-shaped inlet, with at least 3 Tantalum radiopaque lines, used in minimally invasive surgery, TLIF line.
- Tilt 10º-15º, curvature 0º and 5º, disc closing rotation angle: 90º.
- Width: 10mm and 12mm, length 27/30/33mm, height: 7, 8, 9, 10, 11, 12, 13, 14, 15mm.
- The curved shape follows the structure of the disc cavity, and the body has an inverted tooth system to help prevent slipping.
- There is 1 bone graft cavity, bone filling volume from 0.55cc to 2.95cc. Can be placed anywhere from 10º - 90º from the axis of the disc tree.

Peek Cage System, MSC-T all Sizes

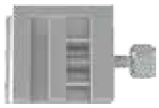
Product Code	W(A)	L	H
991520207	10	27	7
991520208	10	27	8
991520209	10	27	9
991520210	10	27	10
991520211	10	27	11
991520212	10	27	12
991520213	10	27	13
991520214	10	27	14
991520215	10	27	15
991520007	10	30	7
991520008	10	30	8
991520009	10	30	9
991520010	10	30	10
991520011	10	30	11
991520012	10	30	12
991520013	10	30	13
991520014	10	30	14
991520015	10	30	15
991520107	10	33	7
991520108	10	33	8
991520109	10	33	9
991520110	10	33	10
991520111	10	33	11
991520112	10	33	12
991520113	10	33	13
991520114	10	33	14
991520115	10	33	15

Product Code	W(A)	L	H
991522007	12	30	7
991522008	12	30	8
991522009	12	30	9
991522010	12	30	10
991522011	12	30	11
991522012	12	30	12
991522013	12	30	13
991522014	12	30	14
991522015	12	30	15
991522107	12	33	7
991522108	12	33	8
991522109	12	33	9
991522110	12	33	10
991522111	12	33	11
991522112	12	33	12
991522113	12	33	13
991522114	12	33	14
991522115	12	33	15

Instruments

Product Code	Parts Description	Pieces	Picture
12008001	Spatula–flat	1	
12008002	Spatula–ball	1	
12008003	Root Retractor	1	
12011001	Root Protector (option)	1	
12011002	Lamina Spreader	1	
12008004	Osteotome	1	
12008005	Hammer	1	
12011003	Angled Nucleus Pulposus Rongeur	1	

Product Code	Parts Description	Pieces	Picture
12011004	Scraper 7mm	1	
12011005	Scraper 9mm	1	
12011006	Scraper 11mm	1	
12011007	Scraper 12mm	1	
12011008	Scraper 13mm	1	
12011009	Scraper 15mm	1	
12011010	Angled Rectangular Curette	1	
12011011	Rectangular Curette–Left	1	
12011012	Rectangular Curette–Right	1	
12011013	Straight Rasp	1	
12011014	Angled Rasp	1	
12011015	Straight Spoon Curette	1	
12011016	Angled Spoon Curette	1	

Product Code	Parts Description	Pieces	Picture
12011017	Implant Support	1	
12011018	Compactor	1	
12011019	Trial Implant–7×30	1	
12011020	Trial Implant–9×30	1	
12011021	Trial Implant–11×30	1	
12011022	Trial Implant–12×30	1	
12011023	Trial Implant–13×30	1	
12011024	Trial Implant–15×30	1	
12011025	Trial Implant–7×33	1	
12011026	Trial Implant–9×33	1	
12011027	Trial Implant–11×33	1	
12011028	Trial Implant–12×33	1	
12011029	Trial Implant–13×33	1	
12011030	Trial Implant–15×33	1	
12011031	Inserter	2	
12011032	Handle Extension	1	

Product Code	Parts Description	Pieces	Picture
12011033	Straight Tamp	1	
12011034	Angled Tamp	1	
12011037	Funnel for Cancellous Bone Graft	1	
12011038	Cancellous Bone Impactor–straight	1	
12008035	Cancellous Bone Impactor–curved	1	
12011035	Compactor with Teeth	1	
12011036	Remover (option)	1	
12011991	Instrument Case	1	

Instruments (Option)

Product Code	Parts Description	Pieces	Picture
12011040	Trial Implant-7×27	1	
12011046	Trial Implant-8×27	1	
12011041	Trial Implant-9×27	1	
12011047	Trial Implant-10×27	1	
12011042	Trial Implant-11×27	1	
12011043	Trial Implant-12×27	1	
12011044	Trial Implant-13×27	1	
12011048	Trial Implant-14×27	1	
12011045	Trial Implant-15×27	1	
12011049	Trial Implant-8×30	1	
12011050	Trial Implant-10×30	1	
12011051	Trial Implant-14×30	1	
12011052	Trial Implant-8×33	1	
12011053	Trial Implant-10×33	1	
12011054	Trial Implant-14×33	1	
12011055	Scraper 8mm	1	
12011056	Scraper 10mm	1	
12011057	Scraper 14mm	1	

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