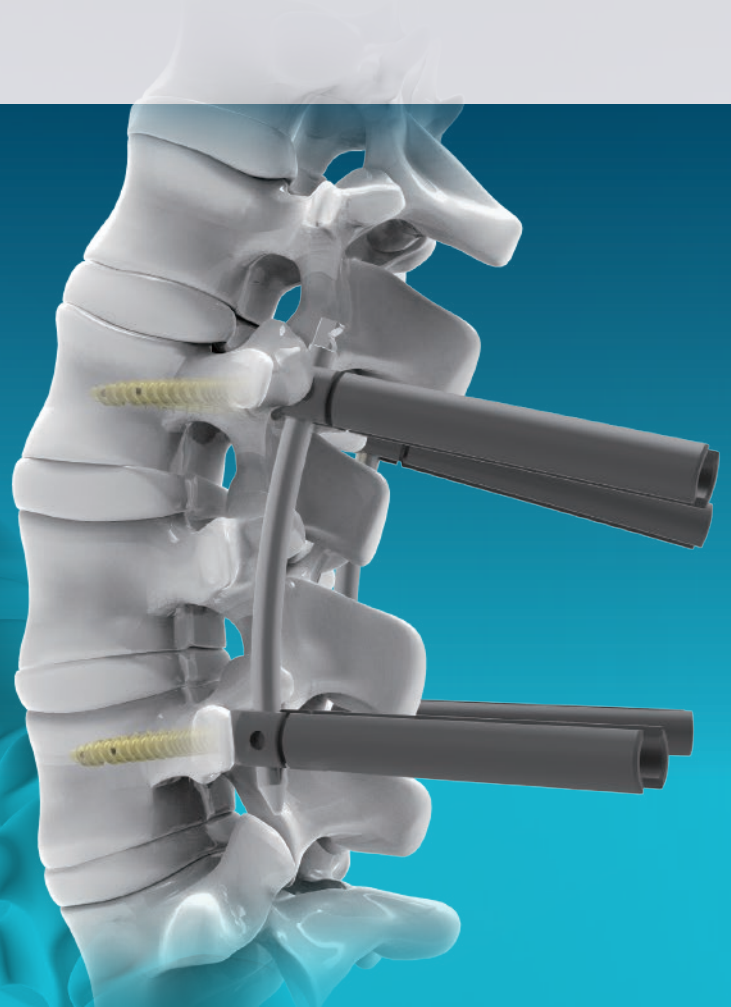


OVERFIX[®]

— SPINE —

SURGICAL
TECHNIQUE

Cellent
CTS 5.5 MIS
Spine Posterior
Fixation System



bioadvance
— MEDICAL DEVICES —

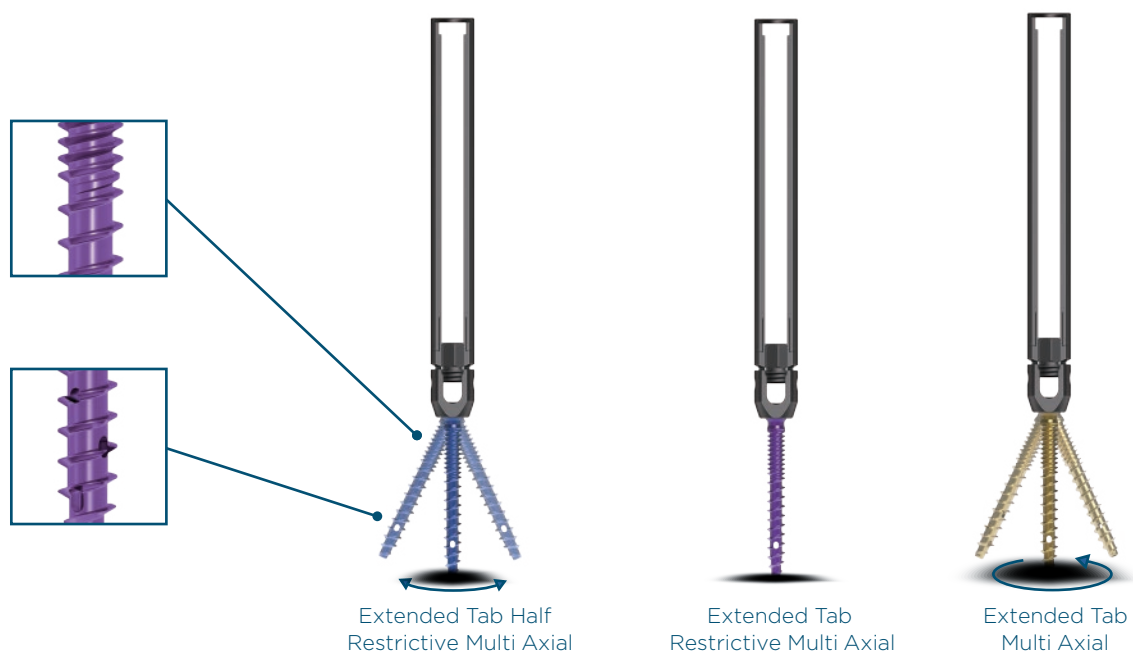


CONTENTS

Features, indications and contraindications	02
Surgical Technique	03
1. Patient Position and Exposure	03
2. Guide Wire Insertion	04
3. Pedicle Preparation	05
4. Pedicle Screw Insertion	07
5. Bone Cement Filling (Optional)	08
6. Rod Selection	08
7. Rod Insertion	09
8. Set Screw Pre-tightening	10
9. Compression and Distraction	11
10. Final Tightening	11
11. Tab Breaking	12
Implants	13
Instruments	14

FEATURES

- Multi axial, restrictive multi axial, half restrictive multi axial screw available.
- Strong, clean towers.
- Easy break off tab.
- Cortical and cancellous bone screw design.
- Three bone cement holes.
- Curved rod.
- Break-off set screw.



INDICATIONS

- Degenerative disc diseases.
- Spondylolisthesis.
- Spinal fracture.

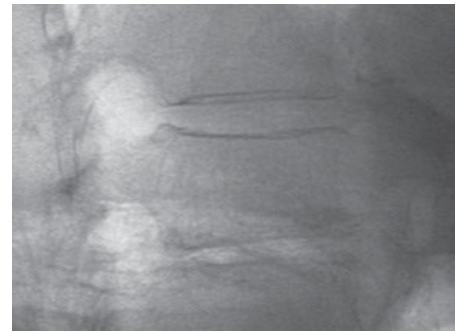
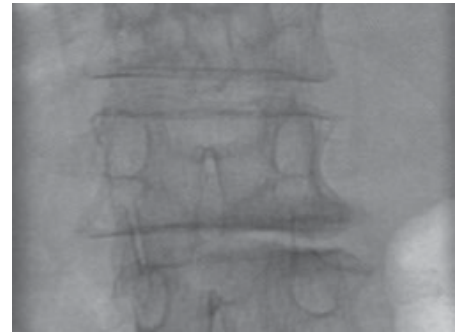
CONTRAINDICATIONS

- Local spine or general infection.
- Cachexia.
- Metal allergy.
- Symptoms or signs were caused by myasthenia gravis or spinal cord diseases such as subacute combined degeneration of the spinal cord.
- Be cautious to use the systems in diffuse idiopathic skeletal hyperostosis of spine.
- Not withstand the operation for organ failure.

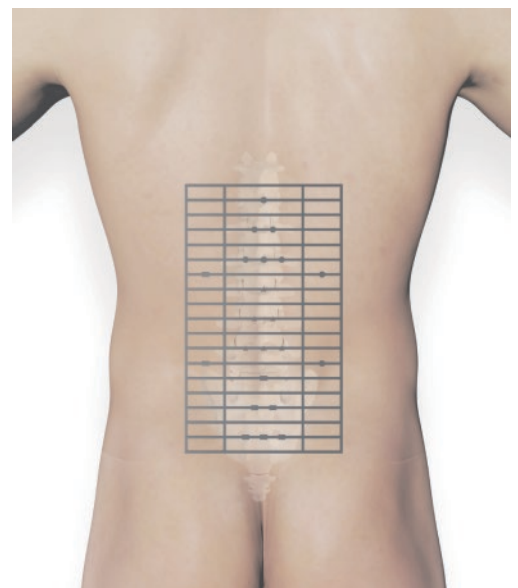
SURGICAL TECHNIQUE

1. PATIENT POSITION AND EXPOSURE

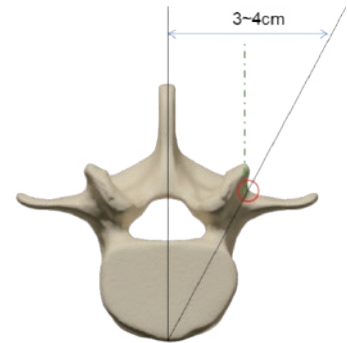
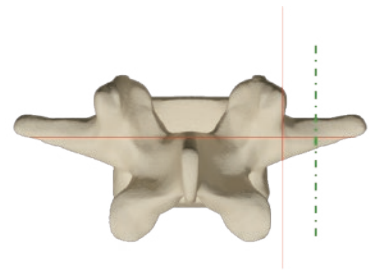
The patient keeps the prone position on the perspective operating table, please protect the parts which will be physically touched with the operating table. According to the patient's condition to decide the final body position.



Using the X-grid (12014180) to measure, discrimination and location the correct segment by anterior-posterior and lateral X-ray image.



Skin incision located about 1 cm distance at marked red cross line, the incision will be 1.5cm. The incision accordingly by the patient's body shape.

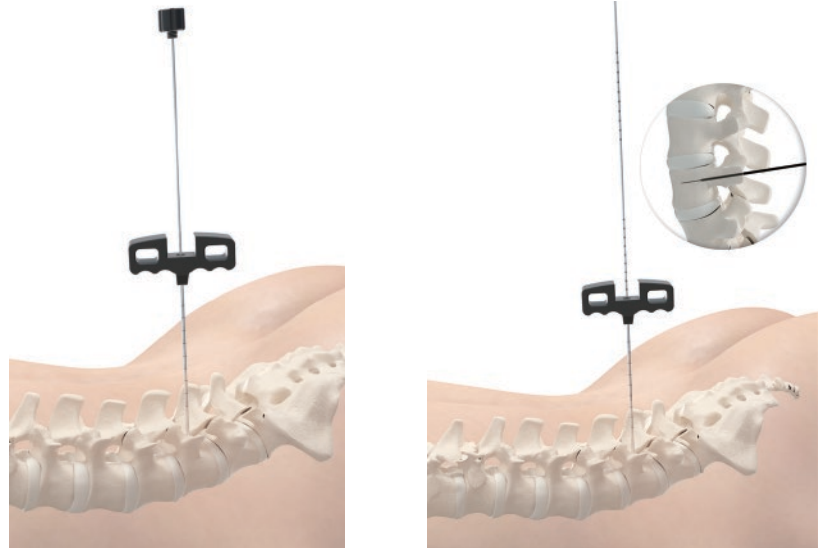


2. GUIDE WIRE INSERTION

Generally, the Guide Wire (12014010) insertion should reach a two-thirds depth of the vertebral body.



When the Guide Wire insertion is completed, remove the inner tube of Trocar (12014100).



3. PEDICLE PREPARATION

Gradually insert the Expander Guide to protect the surrounding muscle tissue.

Pedicle Preparation should be operated in the Ø14 Expander Guide (12014030) in order to accurately determine the depth of entry.



Cellent CTS 5.5 MIS

SPINE POSTERIOR FIXATION SYSTEM



Creating channel of pedicle screw by using the Awl (12014050) or Ø4.25 Cannulated Drill (12014060) (Optional)



Tap thread.

The screw length can be determined by Cannulated Tap (12014075/12014076/12014077) with the scale marked. Pay attention the scale changes where the Cannulated Tap when the Ø14 Expander Guide (12014030) insert.

Note: Please hold the Guide Wire (12014010) by hand or forceps to prevent the Guide Wire from advancing further inadvertently.



4. PEDICLE SCREW INSERTION

Remove the Ø14 Expander Guide (12014030) after insert the Ø15.5 Expander Guide (12014040) instead of it. Keep the Ø15 Expander Guide as the final channel when insert pedicle screw.



Choose the correct specification pedicle screw and connect to the Multiaxial Screwdriver (12014090).

Insert the screw over the Guide Wire (12014010) carefully. Remove the Guide Wire when the screw's tip through over the pedicle to prevent the Guide Wire move forward.



Repeat above steps for other pedicle screws insertion.

5. BONE CEMENT FILLING (OPTIONAL)

After the Pedicle Screw placement, we can choose the perfusion bone cement to strengthen the vertebral body.

The capacity of each bone cement filler is 1.2ml, steadily inserting the casing into the screw, slowly and carefully to push the bone cement into the vertebral body. The whole process should be seen by fluoroscope in order to ensure the dispersion of Bone Cement distribution.



12001050 Bone Cement Cannula



6. ROD SELECTION

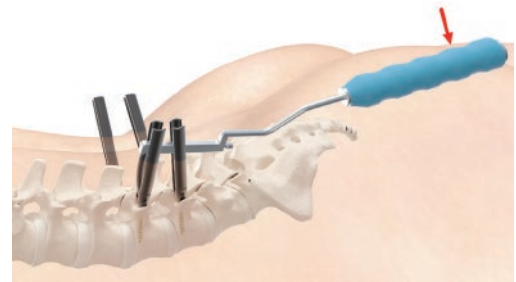
Insert one arm of the Length Gauge (12015080) into each of the Screw Blade until each leg is fully seated in the Screw Head. Check that the mark line on the arm is flush with the top of the Screw Blade. Once correctly positioned, read the rod length measurement indicated at the top of the Length Gauge.



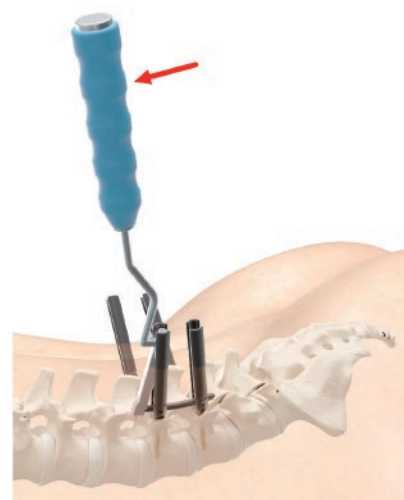
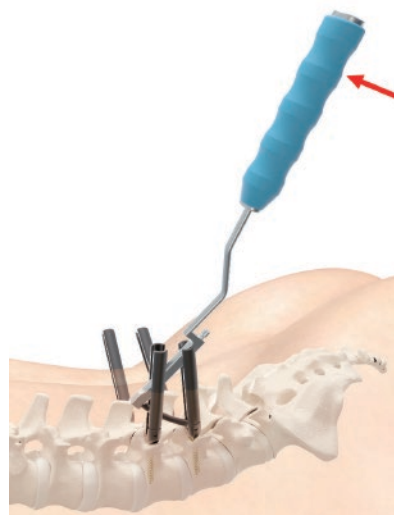
7. ROD INSERTION

For more smoothly rod insertion, Probe (12014200) can be used to separate the muscular tissue before rod insertion.

Connect the Rod to the Rod-Inserter and tighten it, align the the Screw Blades. Slowly insert the rod through the Screw Blade until the Rod reaches the deepest position where the head or surrounding tissue of the screw allows it to reach to. The head of the Rod should be located below the fascia at least.



Rotate the Rod-Inserter handle upwards 90 degrees, then continue to guide the Rod to the other Screw “U” Blade penetration. To verify the Rod has passed through the Screw “U” Blade, twist the Blade about its axis. If the Blade does not rotate, then the Rod has been properly passed. Use Fluoroscope to verify that adequate Rod overhand at each end of the construct.



If the Rod position is too high, use the Rod Compressor to push to the bottom of the Screw groove.



8. SET SCREW PRE-TIGHTENING

Insert the Set Screws by using the Pre-tightening Driver (12001038) sequentially.



Insert the Set Screw by using the Setscrew Driver (12014190), the Anti-torque Wrench (12014150) and the Ratchet Quick Handle (12001041) for final pre-tightening. (Note: It's not final tightening)



9. COMPRESSION AND DISTRACTION

Tighten one Set Screw and use the Distractor (12001032) with Blade or Compressor (12014220) with Blade for vertebral body restoration.

Once desired effect is achieved, tighten another Set Screw. There are 3 different specifications of the Blades, S (small, 12014141), M (medium, 12014142) and L (Large, 12014143). Different Blades could achieve different distraction or compression distance.



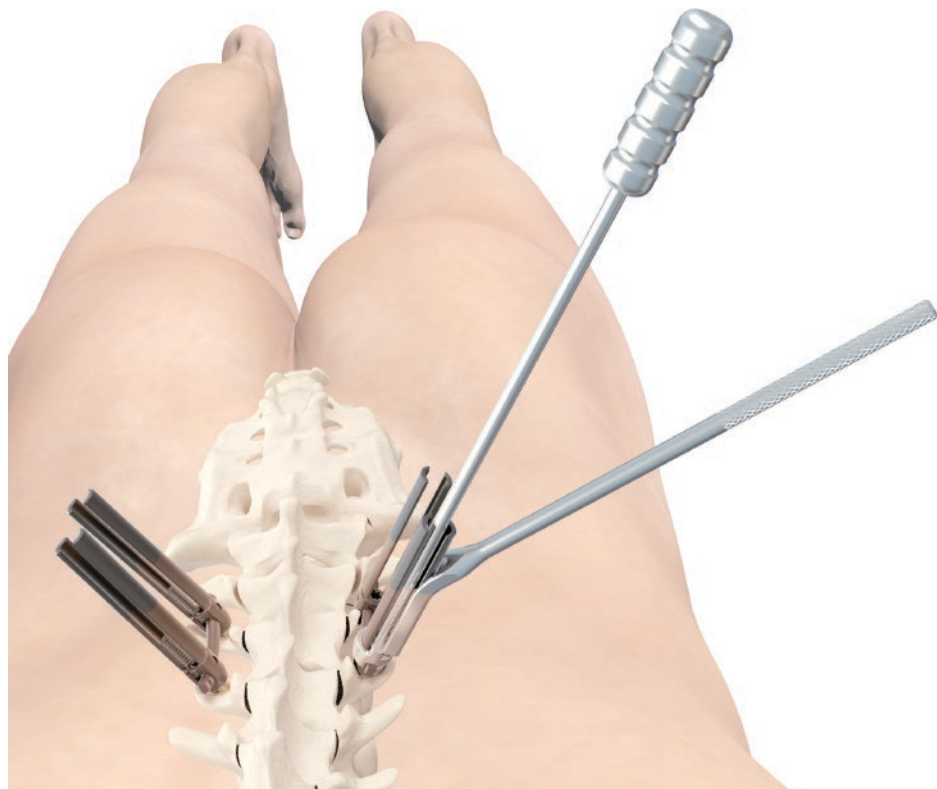
10. FINAL TIGHTENING

For final tighten, use the Anti-torque Wrench (12014150), Torque Limit Handle (12001007) and Setscrew Driver (12014190) to tighten all the Screws.



11. TAB BREAKING

Insert the Anti-break Off Wrench (12014170) until the mark line is flush with the top of the Screw Blade, use the Tab-breaker (12014160) break off the blades.



IMPLANTS

Minimally Invasive Rod



Product Code	D	L
50091050	Φ5.5	50
50091055	Φ5.5	55
50091060	Φ5.5	60
50091065	Φ5.5	65
50091070	Φ5.5	70
50091075	Φ5.5	75
50091080	Φ5.5	80
50091085	Φ5.5	85
50091090	Φ5.5	90
50091095	Φ5.5	95
50091100	Φ5.5	100
50091105	Φ5.5	105
50091110	Φ5.5	110
50091115	Φ5.5	115
50091120	Φ5.5	120

Curved Rod



Product Code	D	L
50099050	Φ5.5	50
50099055	Φ5.5	55
50099060	Φ5.5	60
50099065	Φ5.5	65
50099070	Φ5.5	70
50099075	Φ5.5	75
50099080	Φ5.5	80
50099085	Φ5.5	85
50099090	Φ5.5	90
50099095	Φ5.5	95
50099100	Φ5.5	100
50099105	Φ5.5	105
50099110	Φ5.5	110
50099115	Φ5.5	115
50099120	Φ5.5	120

Set Screw



Product Code	D
50095000	Φ9

Break-off Set Screw



Product Code	D
50095001	Φ9

Hollow Pedicle Screw Extended Tab Multi Axial



Product Code	D	L
50074025	Φ4.0	25
50074030	Φ4.0	30
50074035	Φ4.0	35
50074040	Φ4.0	40
50074045	Φ4.0	45
50074525	Φ4.5	25
50074530	Φ4.5	30
50074535	Φ4.5	35
50074540	Φ4.5	40
50074545	Φ4.5	45
50074550	Φ4.5	50
50075030	Φ5.0	30
50075035	Φ5.0	35
50075040	Φ5.0	40
50075045	Φ5.0	45
50075050	Φ5.0	50
50075055	Φ5.0	55
50075530	Φ5.5	30

Product Code	D	L
50075535	Φ5.5	35
50075540	Φ5.5	40
50075545	Φ5.5	45
50075550	Φ5.5	50
50075555	Φ5.5	55
50075560	Φ5.5	60
50076030	Φ6.0	30
50076035	Φ6.0	35
50076040	Φ6.0	40
50076045	Φ6.0	45
50076050	Φ6.0	50
50076055	Φ6.0	55
50076060	Φ6.0	60
50076530	Φ6.5	30
50076535	Φ6.5	35
50076540	Φ6.5	40
50076545	Φ6.5	45
50076550	Φ6.5	50

Product Code	D	L
50076555	Φ6.5	55
50076560	Φ6.5	60
50077030	Φ7.0	30
50077035	Φ7.0	35
50077040	Φ7.0	40
50077045	Φ7.0	45
50077050	Φ7.0	50
50077055	Φ7.0	55
50077060	Φ7.0	60
50077530	Φ7.5	30
50077535	Φ7.5	35
50077540	Φ7.5	40
50077545	Φ7.5	45
50077550	Φ7.5	50
50077555	Φ7.5	55
50077560	Φ7.5	60

Cellent CTS 5.5 MIS

SPINE POSTERIOR FIXATION SYSTEM



Hollow Pedicle Screw Extended Tab Restrictive Multi Axial



Product Code	D	L
59034025	Φ4.0	25
59034030	Φ4.0	30
59034035	Φ4.0	35
59034040	Φ4.0	40
59034045	Φ4.0	45
59034525	Φ4.5	25
59034530	Φ4.5	30
59034535	Φ4.5	35
59034540	Φ4.5	40
59034545	Φ4.5	45
59034550	Φ4.5	50
59035030	Φ5.0	30
59035035	Φ5.0	35
59035040	Φ5.0	40
59035045	Φ5.0	45
59035050	Φ5.0	50
59035055	Φ5.0	55
59035530	Φ5.5	30
59035535	Φ5.5	35
59035540	Φ5.5	40
59035545	Φ5.5	45
59035550	Φ5.5	50
59035555	Φ5.5	55
59035560	Φ5.5	60
59036030	Φ6.0	30
59036035	Φ6.0	35
59036040	Φ6.0	40
59036045	Φ6.0	45
59036050	Φ6.0	50
59036055	Φ6.0	55
59036060	Φ6.0	60
59036530	Φ6.5	30
59036535	Φ6.5	35
59036540	Φ6.5	40
59036545	Φ6.5	45
59036550	Φ6.5	50
59036555	Φ6.5	55
59036560	Φ6.5	60
59037030	Φ7.0	30
59037035	Φ7.0	35
59037040	Φ7.0	40
59037045	Φ7.0	45
59037050	Φ7.0	50
59037055	Φ7.0	55
59037060	Φ7.0	60
59037530	Φ7.5	30
59037535	Φ7.5	35
59037540	Φ7.5	40
59037545	Φ7.5	45
59037550	Φ7.5	50
59037555	Φ7.5	55
59037560	Φ7.5	60

Hollow Pedicle Screw Extended Tab Half Restrictive Multi Axial



Product Code	D	L
59044025	Φ4.0	25
59044030	Φ4.0	30
59044035	Φ4.0	35
59044040	Φ4.0	40
59044045	Φ4.0	45
59044525	Φ4.5	25
59044530	Φ4.5	30
59044535	Φ4.5	35
59044540	Φ4.5	40
59044545	Φ4.5	45
59044550	Φ4.5	50
59045030	Φ5.0	30
59045035	Φ5.0	35
59045040	Φ5.0	40
59045045	Φ5.0	45
59045050	Φ5.0	50
59045055	Φ5.0	55
59045530	Φ5.5	30
59045535	Φ5.5	35
59045540	Φ5.5	40
59045545	Φ5.5	45
59045550	Φ5.5	50
59045555	Φ5.5	55
59045560	Φ5.5	60
59046030	Φ6.0	30
59046035	Φ6.0	35
59046040	Φ6.0	40
59046045	Φ6.0	45
59046050	Φ6.0	50
59046055	Φ6.0	55
59046060	Φ6.0	60
59046530	Φ6.5	30
59046535	Φ6.5	35
59046540	Φ6.5	40
59046545	Φ6.5	45
59046550	Φ6.5	50
59046555	Φ6.5	55
59046560	Φ6.5	60
59047030	Φ7.0	30
59047035	Φ7.0	35
59047040	Φ7.0	40
59047045	Φ7.0	45
59047050	Φ7.0	50
59047055	Φ7.0	55
59047060	Φ7.0	60
59047530	Φ7.5	30
59047535	Φ7.5	35
59047540	Φ7.5	40
59047545	Φ7.5	45
59047550	Φ7.5	50
59047555	Φ7.5	55
59047560	Φ7.5	60





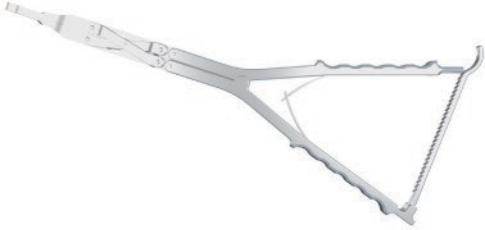




INSTRUMENTS

CODE	DESCRIPTION	PIECES	PICTURE
12014010	Guide Wire	8	
12008005	Hammer	1	
12014020	Φ7 Expander Guide	1	
12014030	Φ14 Expander Guide	1	
12014040	Φ15.5 Expander Guide	1	
12001041	Ratchet Quick Handle	1	
12014050	Awl	1	
12014060	Cannulated DrillΦ4.25 (Optional)	0	
12014075	Cannulated Tap Φ5	1	
12014076	Cannulated Tap Φ6	1	

Cellent CTS 5.5 MIS

SPINE POSTERIOR FIXATION SYSTEM




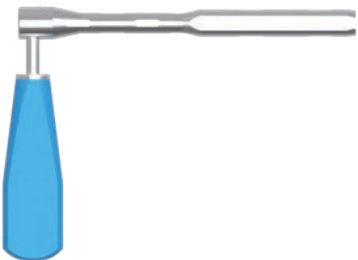


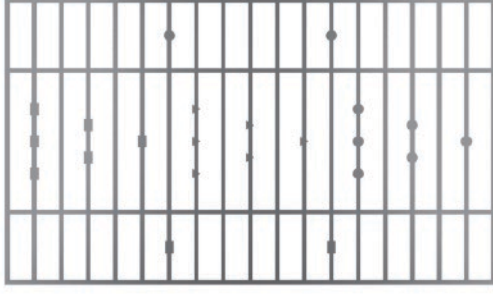



CODE	DESCRIPTION	PIECES	PICTURE
12014077	Cannulated Tap $\Phi 7$	1	
12014080	Ball Prob(Optional)	0	
12014090	Multiaxial Screwdriver	2	
12014100	Trocar	4	
12001032	Distractor	1	
12014141	Blade(S)	2	
12014142	Blade(M)	2	
12014143	Blade(L)	2	
12001030	Rod Bender	1	

Cellent CTS 5.5 MIS

SPINE POSTERIOR FIXATION SYSTEM







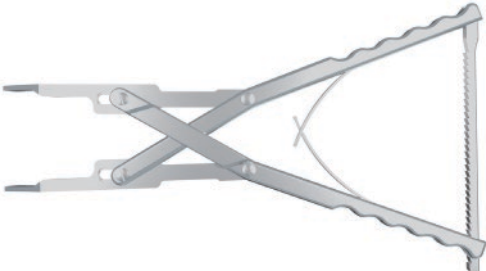




CODE	DESCRIPTION	PIECES	PICTURE
12014120	Rod Inserter	1	
12014130	Rod Compressor	1	
12001038	Pre-tightening Driver	1	
12014150	Anti-torque Wrench	1	
12014160	Tab-breaker	1	
12014170	Anti-break off Wrench	1	
12014180	X-grid	1	
12014180	Setscrew Driver	1	

Cellent CTS 5.5 MIS

SPINE POSTERIOR FIXATION SYSTEM



CODE	DESCRIPTION	PIECES	PICTURE
12014180	Probe	1	
12001007	Torque Limit Handle	1	
12001011	Quick T-handle	1	
12015080	length gauge	1	
12001050	Bone Cement Cannula (Optional)	0	
12014210	Sleeve(Optional)	0	
12014220	Compressor(Optional)	0	
12002001	Anti-torque Wrench	1	
12014991	Instrument Case	1	

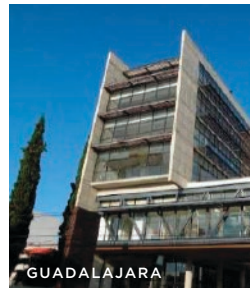
From our subsidiaries in Mexico, Argentina, Bolivia and Chile, we offer the most complete medical devices for trauma, spine, hip and knee.



Each product line has the certifications that comply with the regulations and sanitary registries in force in each country. We implement traceability and technovigilance procedures in the different stages of storage and commercialization. This rigorous control allows us to maintain a high brand value, guaranteeing highest safety for patients.

With more than 8 years dedicated to medical devices import and sale, we stand out for our service, clinical efficiency products and competitive costs.

To find out more about our medical devices, please contact us to link you to the nearest supplier to your location.



CDMX
Amores 1322
Colonia del Valle Centro
CP 03100, CDMX
+52 55 5925 5323
bioadvance.com.mx

GUADALAJARA
Av. Patria 179. Of. 302 y 303, Piso 3
CP. 45030. Col. Prados Guadalupe
Zapopan, Jalisco
+52 33 1656 4268
bioadvance.com.mx

ARGENTINA
Cnel. Cetz 336, Piso 2
Martínez, B1642
Buenos Aires
+54 11 4765 5995
bioadvance.com.ar

BOLIVIA
Calle Pedro Rodríguez 3830
Santa Cruz de la Sierra
Bolivia
+59 1 7048 5050
bolivia.bioadvanceusa.com

CHILE
Av. Alonso de Cordova 5870
Of. 1711, 7560885
Santiago de Chile
+56 9 8493 9874
chile.bioadvanceusa.com

in bioadvance-argentina
@ bioadvance
f bioadvancemed
✉ info@bioadvance.com.ar
globe bioadvance.com.ar



OVERFIX[®]
— SPINE —

bioadvance
— MEDICAL DEVICES —

MÉXICO

bioadvance.com.mx

ARGENTINA

bioadvance.com.ar

BOLIVIA

bolivia.bioadvanceusa.com

CHILE

chile.bioadvanceusa.com