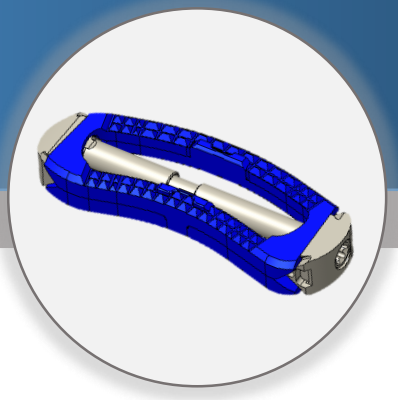
AccelFix-XTP

SURGICAL TECHNIQUE



EXPANDABLE ATP CAGE SYSTEM

Lumbar Interbody Fusion Cage System

LEARNING & KNOWLEDGE BIOMED

L&K BIOMED

Contents

Overview

Subsidence measurements showed that **lower density** had the greatest influence on subsidence, followed by **smaller cage footprint**.

The contribution of **cage footprint** area to subsidence was found to be 40 times greater than the contribution of cage material to subsidence. Subsidence of the interbody cage into the vertebral body may cause collapse of disc space, recurrence of spinal deformity and preoperative symptoms, or failure of the fusion.

L&K BIOMED developed the world's first banana-shaped Expandable ATP cage, **AccelFix-XTP** to maximize the cage footprint and to reduce stress on the endplate. This unique design reinforces the cancellous bone at the endplate and has easier, controlled access.

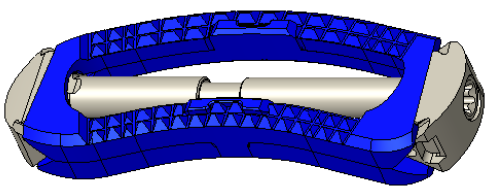
- **World's first Banana-shaped cage**
- **Large Footprint**
- **Unique Design minimizes subsidence**
- **Specifications:**

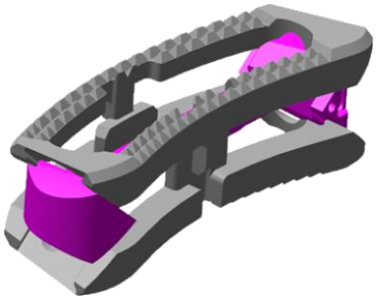
Width: 18, 20, 22, 24mm

Length: 40~70mm

Height (mm): 6~10, 7~11, 8~12, 10~14 (7-11 height for 0 º cage only)

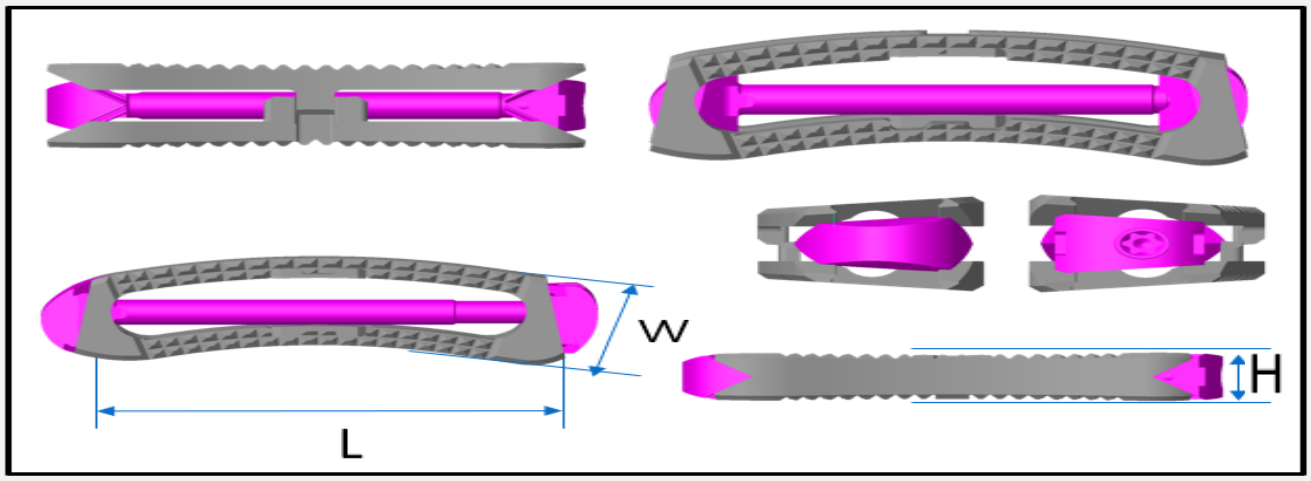
Lordosis: 0 º,6 º,9 º,12º





Set configuration

Cage



AccelFix-XTP Expandable Cage					
REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
4018-0600S	18	40	6~10	0	Blue
4018-0700S	18	40	7~11	0	Blue
4018-0800S	18	40	8~12	0	Purple
4018-1000S	18	40	10~14	0	Yellow
4018-0606S	18	40	6~10	6	Blue
4018-0806S	18	40	8~12	6	Purple
4018-1006S	18	40	10~14	6	Yellow
4018-0609S	18	40	6~10	9	Blue
4018-0809S	18	40	8~12	9	Purple
4018-1009S	18	40	10~14	9	Yellow
4018-0612S	18	40	6~10	12	Blue
4018-0812S	18	40	8~12	12	Purple
4018-1012S	18	40	10~14	12	Yellow
4518-0600S	18	45	6~10	0	Blue
4518-0700S	18	45	7~11	0	Blue
4518-0800S	18	45	8~12	0	Purple
4518-1000S	18	45	10~14	0	Yellow
4518-0606S	18	45	6~10	6	Blue
4518-0806S	18	45	8~12	6	Purple
4518-1006S	18	45	10~14	6	Yellow
4518-0609S	18	45	6~10	9	Blue
4518-0809S	18	45	8~12	9	Purple
4518-1009S	18	45	10~14	9	Yellow
4518-0612S	18	45	6~10	12	Blue
4518-0812S	18	45	8~12	12	Purple
4518-1012S	18	45	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
5018-0600S	18	50	6~10	0	Blue
5018-0700S	18	50	7~11	0	Blue
5018-0800S	18	50	8~12	0	Purple
5018-1000S	18	50	10~14	0	Yellow
5018-0606S	18	50	6~10	6	Blue
5018-0806S	18	50	8~12	6	Purple
5018-1006S	18	50	10~14	6	Yellow
5018-0609S	18	50	6~10	9	Blue
5018-0809S	18	50	8~12	9	Purple
5018-1009S	18	50	10~14	9	Yellow
5018-0612S	18	50	6~10	12	Blue
5018-0812S	18	50	8~12	12	Purple
5018-1012S	18	50	10~14	12	Yellow
5518-0600S	18	55	6~10	0	Blue
5518-0700S	18	55	7~11	0	Blue
5518-0800S	18	55	8~12	0	Purple
5518-1000S	18	55	10~14	0	Yellow
5518-0606S	18	55	6~10	6	Blue
5518-0806S	18	55	8~12	6	Purple
5518-1006S	18	55	10~14	6	Yellow
5518-0609S	18	55	6~10	9	Blue
5518-0809S	18	55	8~12	9	Purple
5518-1009S	18	55	10~14	9	Yellow
5518-0612S	18	55	6~10	12	Blue
5518-0812S	18	55	8~12	12	Purple
5518-1012S	18	55	10~14	12	Yellow
6018-0600S	18	60	6~10	0	Blue
6018-0700S	18	60	7~11	0	Blue
6018-0800S	18	60	8~12	0	Purple
6018-1000S	18	60	10~14	0	Yellow
6018-0606S	18	60	6~10	6	Blue
6018-0806S	18	60	8~12	6	Purple
6018-1006S	18	60	10~14	6	Yellow
6018-0609S	18	60	6~10	9	Blue
6018-0809S	18	60	8~12	9	Purple
6018-1009S	18	60	10~14	9	Yellow
6018-0612S	18	60	6~10	12	Blue
6018-0812S	18	60	8~12	12	Purple
6018-1012S	18	60	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
6518-0600S	18	65	6~10	0	Blue
6518-0700S	18	65	7~11	0	Blue
6518-0800S	18	65	8~12	0	Purple
6518-1000S	18	65	10~14	0	Yellow
6518-0606S	18	65	6~10	6	Blue
6518-0806S	18	65	8~12	6	Purple
6518-1006S	18	65	10~14	6	Yellow
6518-0609S	18	65	6~10	9	Blue
6518-0809S	18	65	8~12	9	Purple
6518-1009S	18	65	10~14	9	Yellow
6518-0612S	18	65	6~10	12	Blue
6518-0812S	18	65	8~12	12	Purple
6518-1012S	18	65	10~14	12	Yellow
7018-0600S	18	70	6~10	0	Blue
7018-0700S	18	70	7~11	0	Blue
7018-0800S	18	70	8~12	0	Purple
7018-1000S	18	70	10~14	0	Yellow
7018-0606S	18	70	6~10	6	Blue
7018-0806S	18	70	8~12	6	Purple
7018-1006S	18	70	10~14	6	Yellow
7018-0609S	18	70	6~10	9	Blue
7018-0809S	18	70	8~12	9	Purple
7018-1009S	18	70	10~14	9	Yellow
7018-0612S	18	70	6~10	12	Blue
7018-0812S	18	70	8~12	12	Purple
7018-1012S	18	70	10~14	12	Yellow
4020-0600S	20	40	6~10	0	Blue
4020-0700S	20	40	7~11	0	Blue
4020-0800S	20	40	8~12	0	Purple
4020-1000S	20	40	10~14	0	Yellow
4020-0606S	20	40	6~10	6	Blue
4020-0806S	20	40	8~12	6	Purple
4020-1006S	20	40	10~14	6	Yellow
4020-0609S	20	40	6~10	9	Blue
4020-0809S	20	40	8~12	9	Purple
4020-1009S	20	40	10~14	9	Yellow
4020-0612S	20	40	6~10	12	Blue
4020-0812S	20	40	8~12	12	Purple
4020-1012S	20	40	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
4520-0600S	20	45	6~10	0	Blue
4520-0700S	20	45	7~11	0	Blue
4520-0800S	20	45	8~12	0	Purple
4520-1000S	20	45	10~14	0	Yellow
4520-0606S	20	45	6~10	6	Blue
4520-0806S	20	45	8~12	6	Purple
4520-1006S	20	45	10~14	6	Yellow
4520-0609S	20	45	6~10	9	Blue
4520-0809S	20	45	8~12	9	Purple
4520-1009S	20	45	10~14	9	Yellow
4520-0612S	20	45	6~10	12	Blue
4520-0812S	20	45	8~12	12	Purple
4520-1012S	20	45	10~14	12	Yellow
5020-0600S	20	50	6~10	0	Blue
5020-0700S	20	50	7~11	0	Blue
5020-0800S	20	50	8~12	0	Purple
5020-1000S	20	50	10~14	0	Yellow
5020-0606S	20	50	6~10	6	Blue
5020-0806S	20	50	8~12	6	Purple
5020-1006S	20	50	10~14	6	Yellow
5020-0609S	20	50	6~10	9	Blue
5020-0809S	20	50	8~12	9	Purple
5020-1009S	20	50	10~14	9	Yellow
5020-0612S	20	50	6~10	12	Blue
5020-0812S	20	50	8~12	12	Purple
5020-1012S	20	50	10~14	12	Yellow
5520-0600S	20	55	6~10	0	Blue
5520-0700S	20	55	7~11	0	Blue
5520-0800S	20	55	8~12	0	Purple
5520-1000S	20	55	10~14	0	Yellow
5520-0606S	20	55	6~10	6	Blue
5520-0806S	20	55	8~12	6	Purple
5520-1006S	20	55	10~14	6	Yellow
5520-0609S	20	55	6~10	9	Blue
5520-0809S	20	55	8~12	9	Purple
5520-1009S	20	55	10~14	9	Yellow
5520-0612S	20	55	6~10	12	Blue
5520-0812S	20	55	8~12	12	Purple
5520-1012S	20	55	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
6020-0600S	20	60	6~10	0	Blue
6020-0700S	20	60	7~11	0	Blue
6020-0800S	20	60	8~12	0	Purple
6020-1000S	20	60	10~14	0	Yellow
6020-0606S	20	60	6~10	6	Blue
6020-0806S	20	60	8~12	6	Purple
6020-1006S	20	60	10~14	6	Yellow
6020-0609S	20	60	6~10	9	Blue
6020-0809S	20	60	8~12	9	Purple
6020-1009S	20	60	10~14	9	Yellow
6020-0612S	20	60	6~10	12	Blue
6020-0812S	20	60	8~12	12	Purple
6020-1012S	20	60	10~14	12	Yellow
6520-0600S	20	65	6~10	0	Blue
6520-0700S	20	65	7~11	0	Blue
6520-0800S	20	65	8~12	0	Purple
6520-1000S	20	65	10~14	0	Yellow
6520-0606S	20	65	6~10	6	Blue
6520-0806S	20	65	8~12	6	Purple
6520-1006S	20	65	10~14	6	Yellow
6520-0609S	20	65	6~10	9	Blue
6520-0809S	20	65	8~12	9	Purple
6520-1009S	20	65	10~14	9	Yellow
6520-0612S	20	65	6~10	12	Blue
6520-0812S	20	65	8~12	12	Purple
6520-1012S	20	65	10~14	12	Yellow
7020-0600S	20	70	6~10	0	Blue
7020-0700S	20	70	7~11	0	Blue
7020-0800S	20	70	8~12	0	Purple
7020-1000S	20	70	10~14	0	Yellow
7020-0606S	20	70	6~10	6	Blue
7020-0806S	20	70	8~12	6	Purple
7020-1006S	20	70	10~14	6	Yellow
7020-0609S	20	70	6~10	9	Blue
7020-0809S	20	70	8~12	9	Purple
7020-1009S	20	70	10~14	9	Yellow
7020-0612S	20	70	6~10	12	Blue
7020-0812S	20	70	8~12	12	Purple
7020-1012S	20	70	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
4022-0600S	22	40	6~10	0	Blue
4022-0700S	22	40	7~11	0	Blue
4022-0800S	22	40	8~12	0	Purple
4022-1000S	22	40	10~14	0	Yellow
4022-0606S	22	40	6~10	6	Blue
4022-0806S	22	40	8~12	6	Purple
4022-1006S	22	40	10~14	6	Yellow
4022-0609S	22	40	6~10	9	Blue
4022-0809S	22	40	8~12	9	Purple
4022-1009S	22	40	10~14	9	Yellow
4022-0612S	22	40	6~10	12	Blue
4022-0812S	22	40	8~12	12	Purple
4022-1012S	22	40	10~14	12	Yellow
4522-0600S	22	45	6~10	0	Blue
4522-0700S	22	45	7~11	0	Blue
4522-0800S	22	45	8~12	0	Purple
4522-1000S	22	45	10~14	0	Yellow
4522-0606S	22	45	6~10	6	Blue
4522-0806S	22	45	8~12	6	Purple
4522-1006S	22	45	10~14	6	Yellow
4522-0609S	22	45	6~10	9	Blue
4522-0809S	22	45	8~12	9	Purple
4522-1009S	22	45	10~14	9	Yellow
4522-0612S	22	45	6~10	12	Blue
4522-0812S	22	45	8~12	12	Purple
4522-1012S	22	45	10~14	12	Yellow
5022-0600S	22	50	6~10	0	Blue
5022-0700S	22	50	7~11	0	Blue
5022-0800S	22	50	8~12	0	Purple
5022-1000S	22	50	10~14	0	Yellow
5022-0606S	22	50	6~10	6	Blue
5022-0806S	22	50	8~12	6	Purple
5022-1006S	22	50	10~14	6	Yellow
5022-0609S	22	50	6~10	9	Blue
5022-0809S	22	50	8~12	9	Purple
5022-1009S	22	50	10~14	9	Yellow
5022-0612S	22	50	6~10	12	Blue
5022-0812S	22	50	8~12	12	Purple
5022-1012S	22	50	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
5522-0600S	22	55	6~10	0	Blue
5522-0700S	22	55	7~11	0	Blue
5522-0800S	22	55	8~12	0	Purple
5522-1000S	22	55	10~14	0	Yellow
5522-0606S	22	55	6~10	6	Blue
5522-0806S	22	55	8~12	6	Purple
5522-1006S	22	55	10~14	6	Yellow
5522-0609S	22	55	6~10	9	Blue
5522-0809S	22	55	8~12	9	Purple
5522-1009S	22	55	10~14	9	Yellow
5522-0612S	22	55	6~10	12	Blue
5522-0812S	22	55	8~12	12	Purple
5522-1012S	22	55	10~14	12	Yellow
6022-0600S	22	60	6~10	0	Blue
6022-0700S	22	60	7~11	0	Blue
6022-0800S	22	60	8~12	0	Purple
6022-1000S	22	60	10~14	0	Yellow
6022-0606S	22	60	6~10	6	Blue
6022-0806S	22	60	8~12	6	Purple
6022-1006S	22	60	10~14	6	Yellow
6022-0609S	22	60	6~10	9	Blue
6022-0809S	22	60	8~12	9	Purple
6022-1009S	22	60	10~14	9	Yellow
6022-0612S	22	60	6~10	12	Blue
6022-0812S	22	60	8~12	12	Purple
6022-1012S	22	60	10~14	12	Yellow
6522-0600S	22	65	6~10	0	Blue
6522-0700S	22	65	7~11	0	Blue
6522-0800S	22	65	8~12	0	Purple
6522-1000S	22	65	10~14	0	Yellow
6522-0606S	22	65	6~10	6	Blue
6522-0806S	22	65	8~12	6	Purple
6522-1006S	22	65	10~14	6	Yellow
6522-0609S	22	65	6~10	9	Blue
6522-0809S	22	65	8~12	9	Purple
6522-1009S	22	65	10~14	9	Yellow
6522-0612S	22	65	6~10	12	Blue
6522-0812S	22	65	8~12	12	Purple
6522-1012S	22	65	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
7022-0600S	22	70	6~10	0	Blue
7022-0700S	22	70	7~11	0	Blue
7022-0800S	22	70	8~12	0	Purple
7022-1000S	22	70	10~14	0	Yellow
7022-0606S	22	70	6~10	6	Blue
7022-0806S	22	70	8~12	6	Purple
7022-1006S	22	70	10~14	6	Yellow
7022-0609S	22	70	6~10	9	Blue
7022-0809S	22	70	8~12	9	Purple
7022-1009S	22	70	10~14	9	Yellow
7022-0612S	22	70	6~10	12	Blue
7022-0812S	22	70	8~12	12	Purple
7022-1012S	22	70	10~14	12	Yellow
4024-0600S	24	40	6~10	0	Blue
4024-0700S	24	40	7~11	0	Blue
4024-0800S	24	40	8~12	0	Purple
4024-1000S	24	40	10~14	0	Yellow
4024-0606S	24	40	6~10	6	Blue
4024-0806S	24	40	8~12	6	Purple
4024-1006S	24	40	10~14	6	Yellow
4024-0609S	24	40	6~10	9	Blue
4024-0809S	24	40	8~12	9	Purple
4024-1009S	24	40	10~14	9	Yellow
4024-0612S	24	40	6~10	12	Blue
4024-0812S	24	40	8~12	12	Purple
4024-1012S	24	40	10~14	12	Yellow
4524-0600S	24	45	6~10	0	Blue
4524-0700S	24	45	7~11	0	Blue
4524-0800S	24	45	8~12	0	Purple
4524-1000S	24	45	10~14	0	Yellow
4524-0606S	24	45	6~10	6	Blue
4524-0806S	24	45	8~12	6	Purple
4524-1006S	24	45	10~14	6	Yellow
4524-0609S	24	45	6~10	9	Blue
4524-0809S	24	45	8~12	9	Purple
4524-1009S	24	45	10~14	9	Yellow
4524-0612S	24	45	6~10	12	Blue
4524-0812S	24	45	8~12	12	Purple
4524-1012S	24	45	10~14	12	Yellow

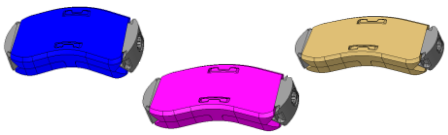
REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
5024-0600S	24	50	6~10	0	Blue
5024-0700S	24	50	7~11	0	Blue
5024-0800S	24	50	8~12	0	Purple
5024-1000S	24	50	10~14	0	Yellow
5024-0606S	24	50	6~10	6	Blue
5024-0806S	24	50	8~12	6	Purple
5024-1006S	24	50	10~14	6	Yellow
5024-0609S	24	50	6~10	9	Blue
5024-0809S	24	50	8~12	9	Purple
5024-1009S	24	50	10~14	9	Yellow
5024-0612S	24	50	6~10	12	Blue
5024-0812S	24	50	8~12	12	Purple
5024-1012S	24	50	10~14	12	Yellow
5524-0600S	24	55	6~10	0	Blue
5524-0700S	24	55	7~11	0	Blue
5524-0800S	24	55	8~12	0	Purple
5524-1000S	24	55	10~14	0	Yellow
5524-0606S	24	55	6~10	6	Blue
5524-0806S	24	55	8~12	6	Purple
5524-1006S	24	55	10~14	6	Yellow
5524-0609S	24	55	6~10	9	Blue
5524-0809S	24	55	8~12	9	Purple
5524-1009S	24	55	10~14	9	Yellow
5524-0612S	24	55	6~10	12	Blue
5524-0812S	24	55	8~12	12	Purple
5524-1012S	24	55	10~14	12	Yellow
6024-0600S	24	60	6~10	0	Blue
6024-0700S	24	60	7~11	0	Blue
6024-0800S	24	60	8~12	0	Purple
6024-1000S	24	60	10~14	0	Yellow
6024-0606S	24	60	6~10	6	Blue
6024-0806S	24	60	8~12	6	Purple
6024-1006S	24	60	10~14	6	Yellow
6024-0609S	24	60	6~10	9	Blue
6024-0809S	24	60	8~12	9	Purple
6024-1009S	24	60	10~14	9	Yellow
6024-0612S	24	60	6~10	12	Blue
6024-0812S	24	60	8~12	12	Purple
6024-1012S	24	60	10~14	12	Yellow

REF. NO.	Dimension (mm)				Anodizing
	W(Width)	L(Length)	H(Height range)	A°(Angle)	
6524-0600S	24	65	6~10	0	Blue
6524-0700S	24	65	7~11	0	Blue
6524-0800S	24	65	8~12	0	Purple
6524-1000S	24	65	10~14	0	Yellow
6524-0606S	24	65	6~10	6	Blue
6524-0806S	24	65	8~12	6	Purple
6524-1006S	24	65	10~14	6	Yellow
6524-0609S	24	65	6~10	9	Blue
6524-0809S	24	65	8~12	9	Purple
6524-1009S	24	65	10~14	9	Yellow
6524-0612S	24	65	6~10	12	Blue
6524-0812S	24	65	8~12	12	Purple
6524-1012S	24	65	10~14	12	Yellow
7024-0600S	24	70	6~10	0	Blue
7024-0700S	24	70	7~11	0	Blue
7024-0800S	24	70	8~12	0	Purple
7024-1000S	24	70	10~14	0	Yellow
7024-0606S	24	70	6~10	6	Blue
7024-0806S	24	70	8~12	6	Purple
7024-1006S	24	70	10~14	6	Yellow
7024-0609S	24	70	6~10	9	Blue
7024-0809S	24	70	8~12	9	Purple
7024-1009S	24	70	10~14	9	Yellow
7024-0612S	24	70	6~10	12	Blue
7024-0812S	24	70	8~12	12	Purple
7024-1012S	24	70	10~14	12	Yellow

INSTRUMENT – Basic Set

Cage Inserter

Height Adjust Driver



Trial

Trial Holder

TBD

Cobb Elevator Straight 18mm

Cobb Elevator Angled Left 18mm

Cobb Elevator Angled Right 18mm

Cup Curette 4mm Straight

Cup Curette 4mm Angled Left

Cup Curette 4mm Angled Right

Ring Curette Straight

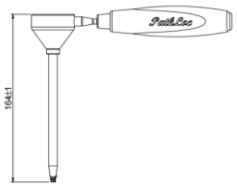
Ring Curette Angled Side

RASP

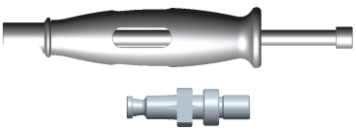
RASP Angled Side

Blunt Reamer 8 ,10mm

Osteotome 10mm

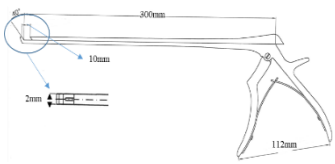


Bone Funnel

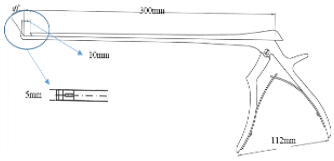


Sliding Ram / Sliding Ram Adaptor

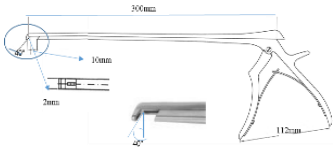
INSTRUMENT – Basic Set



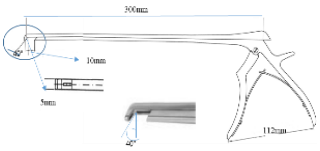
Kerrison Punch 40°, 2mm, 300mm



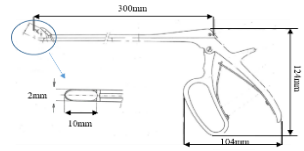
Kerrison Punch 40°, 5mm, 300mm



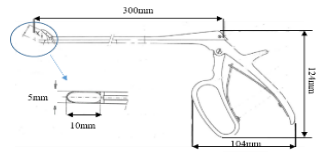
Kerrison Punch Down 40°, 2mm, 300mm



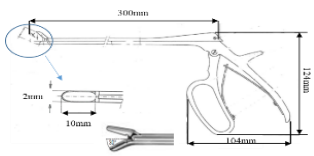
Kerrison Punch Down 40°, 5mm, 300mm



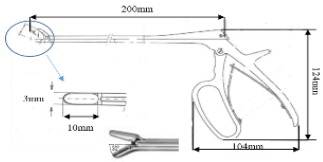
Pituitary Forceps Straight 2mmx10mm,300 mm



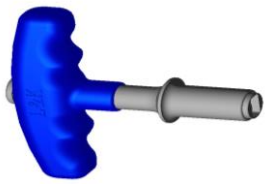
Pituitary Forceps Straight 5mmx10mm, 300mm



Pituitary Forceps Down 2mmx10mm, 300mm

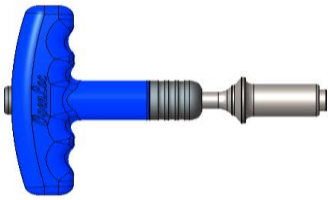


Pituitary Forceps Down 3mmx10mm,200mm



Modular T-Handle

Torque Limit I-Handle(5N)



Torque Limit T-Handle(5N)

INSTRUMENT – Optional Set

Removal Tool

Cobb Elevator Bayonet Left 18mm

Cobb Elevator Bayonet Right 18mm

Cobb Elevator Straight 22mm

Cobb Elevator Angled Left 22mm

Cobb Elevator Angled Right 22mm

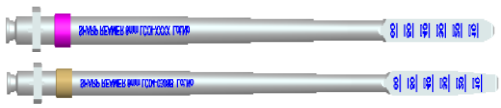
Cobb Elevator Bayonet Left 22mm

Cobb Elevator Bayonet Right 22mm

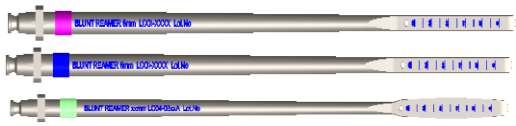
Cup Curette Straight 6mm

Cup Curette Angled Left 6mm

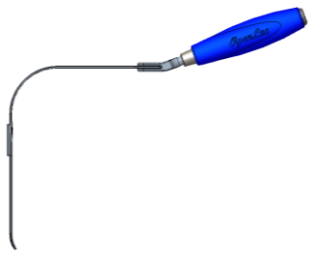
Cup Curette Angled Right 6mm



Sharp Reamer Ring Type (6,8mm)



Blunt Reamer 4, 6, 12mm



Initial Blade

Modular I -Handle

INSTRUMENT

Cat. No.	Name	Qty
XA01-0001	Cage Inserter (L2L5)	2
XA01-0002	Height Adjust Driver	2
LC05-0122	Trial Holder (L2L5)	2
LC05-0204	Cobb Elevator Straight 22mm	1
LC05-0213	Cobb Elevator Angled Left 22mm	1
LC05-0214	Cobb Elevator Angled Right 22mm	1
LC05-0223	Cobb Elevator Bayonet Left 22mm	1
LC05-0224	Cobb Elevator Bayonet Right 22mm	1
LC05-0201	Cobb Elevator Straight 18mm	1
LC05-0211	Cobb Elevator Angled Left 18mm	1
LC05-0212	Cobb Elevator Angled Right 18mm	1
LC05-0221	Cobb Elevator Bayonet Left 18mm	1
LC05-0222	Cobb Elevator Bayonet Right 18mm	1
LC05-0401	Cup Curette Straight 4mm	1
LC05-0411	Cup Curette Angled Left 4mm	1
LC05-0412	Cup Curette Angled Right 4mm	1
LC05-0403	Cup Curette Straight 6mm	1
LC05-0413	Cup Curette Angled Left 6mm	1
LC05-0414	Cup Curette Angled Right 6mm	1
LC05-0421	Ring Curette Straight	1
LC05-0403	Ring Curette Side Angled	1
LC05-0502	RASP (L2L5)	1
LC05-0503	RASP (L2L5) Angled Side	1

INSTRUMENT

LC05-0503	RASP (L2L5) Angled Side	1
LC04-0306B	Sharp Reamer Ring Type 6mm	1
LC04-0308B	Sharp Reamer Ring Type 8mm	1
LC04-0304A	Blunt Reamer 4mm	1
LC04-0306A	Blunt Reamer 6mm	1
LC04-0308A	Blunt Reamer 8mm	1
LC04-0310A	Blunt Reamer 10mm	1
LC04-0312A	Blunt Reamer 12mm	1
LC05-1001	Osteotome 10mm	1
LC05-0821	Initial Blade	1
LC05-0902	Removal Tool (L2L5)	1
LC05-0702	Bone Packing Block (L2L5)	1
LC05-0712	Graft Impactor (L2L5)	1
LC04-0906	Sliding Ram Adaptor	1
LC04-1001	Sliding Ram	1
LC05-1002	Kerrison Punch 40°, 2mm, 300mm	1
LC05-1005	Kerrison Punch 40°, 5mm, 300mm	1
LC06-1042	Kerrison Punch Down 40°, 2mm, 300mm	1
LC06-1045	Kerrison Punch Down 40°, 5mm, 300mm	1
LC05-1012	Pituitary Forceps Straight 2mmx10mm,300mm	1
LC05-1015	Pituitary Forceps Straight 5mmx10mm,300mm	1
LC06-1042	Pituitary Forceps Down 2mmx10mm,300mm	1
LC06-1053	Pituitary Forceps Down 3mmx10mm,200mm	1
LC04-0400	Modular T-Handle (Hudson Type)	2
LC04-0400I	Modular I-Handle (Hudson Type)	2

INSTRUMENT

LC05-084008	Trial (18x40x8Hx0D)	1
LC05-084010	Trial (18x40x10Hx0D)	1
LC05-084012	Trial (18x40x12Hx0D)	1
LC05-084508	Trial (18x45x8Hx0D)	1
LC05-084510	Trial (18x45x10Hx0D)	1
LC05-084512	Trial (18x45x12Hx0D)	1
LC05-085008	Trial (18x50x8Hx0D)	1
LC05-085010	Trial (18x50x10Hx0D)	1
LC05-085012	Trial (18x50x12Hx0D)	1
LC05-085510	Trial (18x55x10Hx0D)	1
LC05-085512	Trial (18x55x12Hx0D)	1
LC05-684006	Trial (18x40x6Hx6D)	1
LC05-684008	Trial (18x40x8Hx6D)	1
LC05-684010	Trial (18x40x10Hx6D)	1
LC05-684012	Trial (18x40x12Hx6D)	1
LC05-684506	Trial (18x45x6Hx6D)	1
LC05-684508	Trial (18x45x8Hx6D)	1
LC05-684510	Trial (18x45x10Hx6D)	1
LC05-684512	Trial (18x45x12Hx6D)	1
LC05-685006	Trial (18x50x6Hx6D)	1
LC05-685008	Trial (18x50x8Hx6D)	1
LC05-685010	Trial (18x50x10Hx6D)	1
LC05-685012	Trial (18x50x12Hx6D)	1
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LC05-685508	Trial (18x55x8Hx6D)	1
LC05-685510	Trial (18x55x10Hx6D)	1
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LC05-686006	Trial (18x60x6Hx6D)	1
LC05-686008	Trial (18x60x8Hx6D)	1
LC05-686010	Trial (18x60x10Hx6D)	1
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LC05-284512	Trial (18x45x12Hx12D)	1
LC05-285008	Trial (18x50x8Hx12D)	1
LC05-285010	Trial (18x50x10Hx12D)	1
LC05-285012	Trial (18x50x12Hx12D)	1
LC05-285508	Trial (18x55x8Hx12D)	1
LC05-285510	Trial (18x55x10Hx12D)	1
LC05-285512	Trial (18x55x12Hx12D)	1
LC05-286008	Trial (18x60x8Hx12D)	1
LC05-286010	Trial (18x60x10Hx12D)	1
LC05-286012	Trial (18x60x12Hx12D)	1

INSTRUMENT

LC05-624506	Trial (22x45x6Hx6D)	1
LC05-624508	Trial (22x45x8Hx6D)	1
LC05-624510	Trial (22x45x10Hx6D)	1
LC05-624512	Trial (22x45x12Hx6D)	1
LC05-625006	Trial (22x50x6Hx6D)	1
LC05-625008	Trial (22x50x8Hx6D)	1
LC05-625010	Trial (22x50x10Hx6D)	1
LC05-625012	Trial (22x50x12Hx6D)	1
LC05-625506	Trial (22x55x6Hx6D)	1
LC05-625508	Trial (22x55x8Hx6D)	1
LC05-625510	Trial (22x55x10Hx6D)	1
LC05-625512	Trial (22x55x12Hx6D)	1
LC05-626006	Trial (22x60x6Hx6D)	1
LC05-626008	Trial (22x60x8Hx6D)	1
LC05-626010	Trial (22x60x10Hx6D)	1
LC05-626012	Trial (22x60x12Hx6D)	1
LC05-224008	Trial (22x40x8Hx12D)	1
LC05-224010	Trial (22x40x10Hx12D)	1
LC05-224012	Trial (22x40x12Hx12D)	1
LC05-224508	Trial (22x45x8Hx12D)	1
LC05-224510	Trial (22x45x10Hx12D)	1
LC05-224512	Trial (22x45x12Hx12D)	1
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LC05-225010	Trial (22x50x10Hx12D)	1
LC05-225012	Trial (22x50x12Hx12D)	1
LC05-225508	Trial (22x55x8Hx12D)	1
LC05-225510	Trial (22x55x10Hx12D)	1
LC05-225512	Trial (22x55x12Hx12D)	1
LC05-226008	Trial (22x60x8Hx12D)	1
LC05-226010	Trial (22x60x10Hx12D)	1
LC05-226012	Trial (22x60x12Hx12D)	1

Surgical Technique

Instrument guide

PREOPERATIVE PLANNING

Figure 1: Lateral radiograph

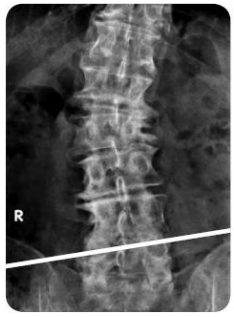


Figure 2: AP radiograph

Preoperative planning

Preoperative planning can be useful in determining:

- Location of the iliac crest and lower ribs in relation to disc space of interest (Figure 1)
- Position of the anterior vasculature and posterior nerve structures via axial MRI
- Curvature of the spine (Figure 2)

Standard lateral surgical positioning is right lateral decubitus, or left side up, however the surgeon should consider ease of access and surgeon preference in determining which side to approach. Correction can be achieved equally from either the convex or concave side of the curve.

PATIENT POSITIONING

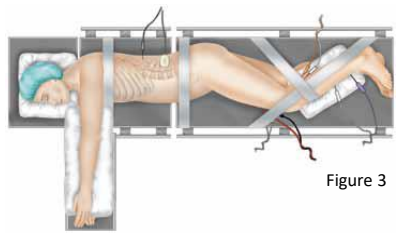


Figure 3

Patient positioning

The patient should be placed in the lateral decubitus position. An axillary roll is placed between the arms to ensure they remain suspended is the neutral position. Padding is also placed beneath and in between the leg from the knees distally (Figure3).

The legs of the patient may be slightly flexed in order to prevent the patient from rolling on the bed. However, extreme flexion to relax the psoas is not required because the approach is outside or within the anterior portion of the psoas.

The patient is secured to the surgical table with tape at four locations:

1. Beneath the iliac crest
2. Over the thoracic region
3. From the back of the table, over the ankle, and past the knee to the front of the table
4. From the shin to the back of the table

The surgeon and operating team should be positioned to work on the abdominal side of the patient with the C-Arm positioned posterior the patient.

Instrument guide

PATIENT PREPARATION

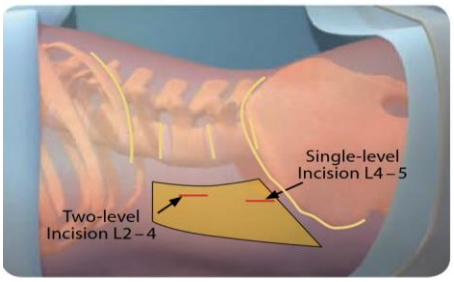


Figure 4

Figure 5

Localization

Fluoroscopy is used to confirm the target segment and mark location for the initial incision. The disc spaces of interest, lower ribs and iliac crest can be marked on the skin as landmarks. For a single level case, the patient should be marked 4-10cm anterior to midsection of the target disc. For a two level case, the patient should be marked 4-10cm anterior to midsection of intervening vertebral body (Figure 4, 5)

ACCESS

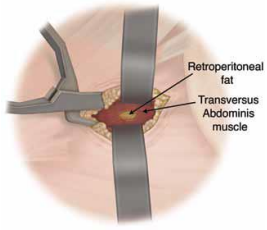


Figure 6

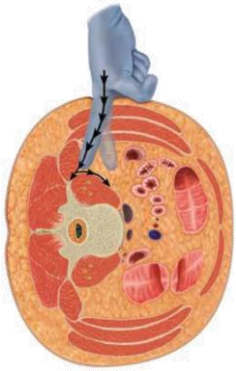


Figure 7

Dissection

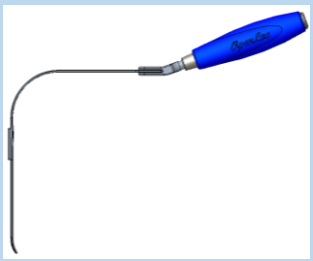
The surgeon can approach the retroperitoneal space using a Kelly clamp or simply fingers via blunt dissection of abdominal external oblique muscle, internal oblique muscle, and transversalis muscle with deep transversalis fascia in its back.

The external oblique fascia will be the first plane encountered and is the only layer that will need to be sharply incised. A Kelly Clamp is then used to bluntly spread through the fibers of the external oblique, internal oblique and transversalis muscles.
All dissection is done in line with the muscle fibers as these muscles layers run in opposite directions. After bluntly penetrating the transversalis fascia, the yellow retroperitoneal fat is exposed (Figure 6).

Once inside the retroperitoneal space, the index finger is used to follow the internal abdominal wall posteriorly down to the psoas muscle, which can be visualized. Use of the finger to sweep the peritoneal contents as well as the retroperitoneal fat anteriorly will allow a clear path down to the psoas muscle (Figure 7).

Palpating the quadratus muscle, followed by the tip of the transverse process and finally the psoas muscle will verify that the correct retroperitoneal plane is being entered and ensures that the peritoneum is not compromised.

Instrument guide



Initial Blade

RETRACTION

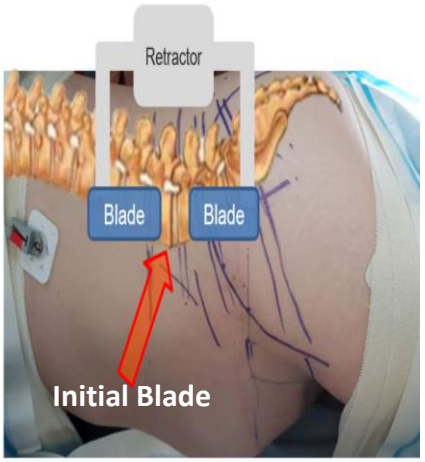


Figure 8

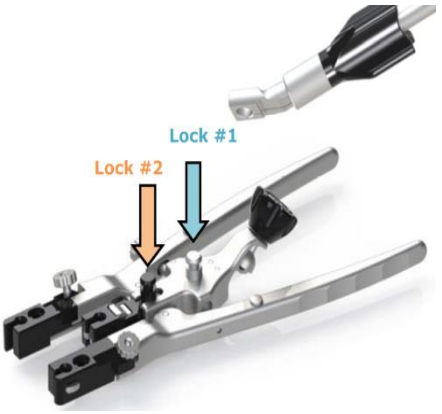


Figure 9

Retractor Placement

Once the initial blade is inserted with retraction, insert the retractor blade and fix to the vertebral body.

The surgeon can use a pin from L2~L5 to fix the blade on the vertebral body. As it shows on the picture two blades can be used to widen both side to see the disc.

Once the blade is inserted, connect the blades to the retractor body & lighting. The retractor body should be mounted to the table.

Attaching the retractor

After the retractor is properly positioned, attach the articulating arm to the retractor body or posterior arm while maintaining downward pressure on the retractor.

There are 2 options available for attachment:

1. Central blade is mobile & lateral blades are fixed: Use lock #1
2. Central blade is fixed and lateral blades are mobile: Use lock #2

Verify the top surface of the retractor is parallel to the floor. Attach the articulating arm in a triangular configuration, with the bend toward the ceiling, so that the assembly applies a downward force on the retractor. The black knob of the articulating arm should be above the level of the retractor.

While applying downward pressure to the retractor, lock the articulating arm in the desired position.

The articulating arm knob instrument may be used to tighten the articulating arm to the retractor.

Support the weight of the articulating arm when attaching it to the retractor.

Insert the lights.

If necessary, a 4th blade, shims & broaches may be used.

Instrument guide

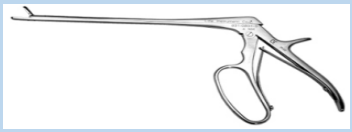
Cobb Elevator St.

Cobb Elevator Angled Lt.

Cobb Elevator Angled Rt.

Cup Curette 4mm St.

Kerrison Rongeur 2mm, 5mm



Pituitary Forcep 2mm, 5mm

Kerrison Rongeur
angled down 30°
2mm, 5mm

Pituitary Rongeur
Angled down 30°
2mm, 5mm

DISC SPACE PREPARATION 1

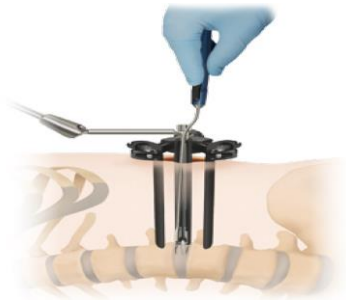


Figure 10

Figure 11

Figure 12

Annulotomy & Discectomy

The annulus is incised and an annulotomy at least 18mm in length is created using the bayoneted knife (Figure 11). A thorough discectomy is performed using pituitary forceps and other disc preparation instruments (Figure 12).
A large cobb is passed along both end plates to the contralateral annulus. A mallet is then used to gently released both the superior and inferior aspects of the contralateral annulus. This step is critical to ensure that appropriate distraction and coronal alignment can be achieved.

Instrument guide

Blunt Reamer 4,6,8 10, 12mm

Sharp Reamer 6,8mm

Trial

Trial Holder TBD

Modular T-Handle

DISC SPACE PREPARATION 2

Figure 13

Distraction

Blunt & sharp reamers are placed into the disc space and rotated several times to clean the end plate. Appropriate size reamers should be carefully selected to ensure that the end plates are not compromised.

It is extremely important that the end plates be meticulously prepared for fusion by removing the cartilaginous disc without destroying the cortical end plates.

Turning the instrument 90° (this position will be called vertical) distracts the intervertebral space. The graduation marks on the instrument indicate the depth of the opening in the disc.
The mark on the reamer extends from 40 to 60mm.

CAGE SIZE SELECTION

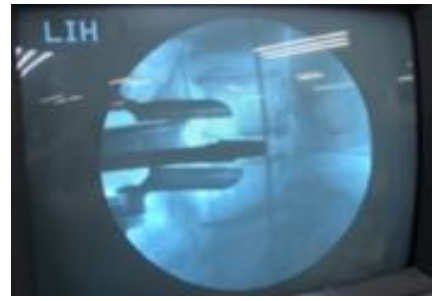


Figure 14

Using Trials

The final reamer gives an approximate idea about the appropriate cage size. Using this as a benchmark for the cage size, sequentially insert the trials from small to large.

The trial that doesn't require too much force to enter and yet sits within the endplates tightly, is of the most appropriate size.

Use AP and lateral fluoroscopy to confirm appropriate disc height has been achieved.

Instrument guide

Cage Inserter

Modular T-Handle

CAGE INSERTION

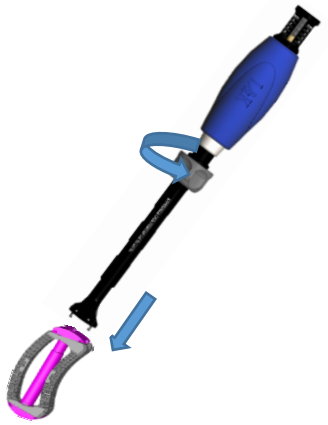


Figure 15

Cage preparation

Slide the cage in the direction of the arrow to the cage holder and move it into position for attachment.

Keeping the cage in the binding position, turning the cage holder knob clockwise. It will move the cage holder shaft in the direction of the arrow and grip the cage firmly.

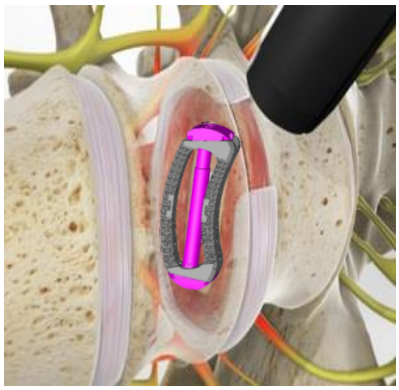


Figure 26

Cage insertion

Carefully impact the implant into the disc space. You may use the lateral slide to ensure no bone graft material falls out of the implant during insertion. Fluoroscopy should be used to confirm correct implant placement.

Instrument guide

Cage inserter

Height Adjust Driver

Torque Limited
I Handle(5N)

HEIGHT EXPANSION

Figure 17

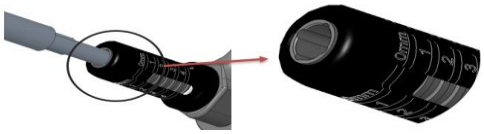


Figure 18

Figure 19

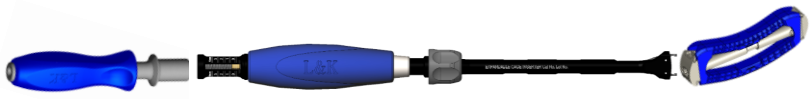


Figure 20

Height Expansion

While the cage and the cage holder shaft are still fully engaged, insert the Height Adjustment Driver and adjust it with the tooltip of the Start Height Adjust bolt on the Cage. (Figure 17)

Make sure that it is at the initial position is 0 mm. If it is not in the 0mm position, insert the Height Adjust Driver as shown below and rotate it counterclockwise to move it to 0mm. When inserting the Height Adjust Driver, it should fit in the grooves on the Cage Holder. (Figure 18)

If you turn the Height Adjust driver clockwise, the cage will expand, and you will be able to see the height of the expansion when the Indicator moves. (Figure19)

Height expansion should performed using used with Torque Limiting I-handle (5N). Apply the Torque Limiting I-handle while using the height adjustable driver. (Figure 20)

Instrument guide

POSITION CONFIRMATION

Figure 21

Fluoroscopic image
The cage must be placed in a central position after insertion into the intervertebral disc space to ensure proper correction. The position of the cage should be confirmed by direct visualization of the cage with lateral and AP fluoroscopic images (figure 21).

Instructions for Use

Notes