

## ProDisc-L Removal System.

Instrumentation to assist with the removal of the ProDisc-L Total Disc Replacement device.

Technique Guide





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# ProDisc-L Removal System

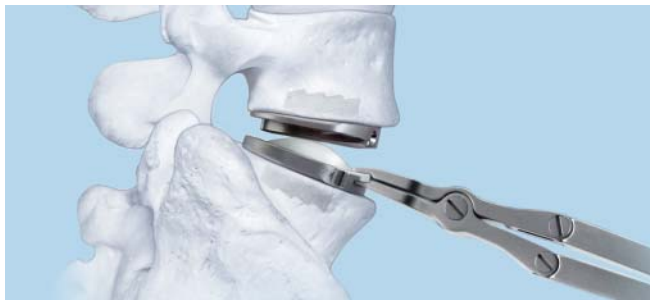
The ProDisc-L Removal System is a set of instruments to assist with the removal of the ProDisc-L prosthesis after implantation.

The ProDisc-L Removal System includes multiple options for distraction, for polyethylene inlay removal and for endplate removal.

## General recommendation

As a general recommendation, the total removal of the ProDisc-L implant should be performed in three steps:

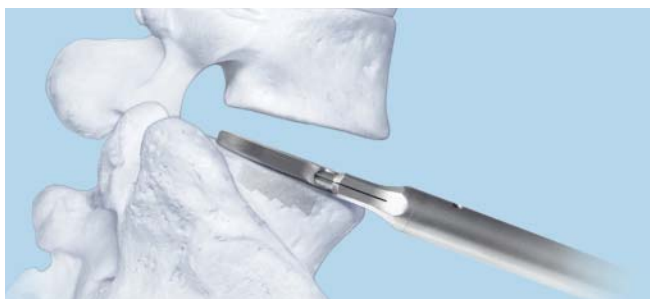
### 1 Polyethylene inlay removal



### 2 Superior endplate removal



### 3 Inferior endplate removal



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**Preoperative considerations**

To prepare for revision surgery, it is important to gather as much information as possible about the original procedure and the clinical status of the patient, including images.

**Approach**

Due to scar tissue from the initial surgery, the approach is a demanding, if not the most critical, part of the revision procedure. It is recommended to plan for a different approach than that used in the initial surgery, to avoid scar tissue (e.g. use left retroperitoneal approach if right retroperitoneal approach was used in the previous surgery).

Preventive measures should be taken into consideration for potential difficulties related to the approach, such as:

- Presence of vascular surgeon
- Open approach
- Use of cell saver

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**Note:** The technique presented herein assumes an anterior approach. Modification to this technique may be necessary if an alternative approach is used.

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# Surgical Technique

## 1

### Polyethylene inlay removal

#### Instruments

PDL120 Midline Marker, 8 mm width, 250 mm

PDL634 Osteotome, 6 mm

Kocher style forceps

#### Optional instruments

PDL114\* Vertebral Body Spreader

03.808.032– ALIF Spreaders

03.808.034 9 mm–13 mm heights

03.820.112 Vertebral Distractor

**Note:** When removing the polyethylene inlay, it may be necessary to distract the prosthesis endplates to clear the dome of the inlay from the superior endplate. This may be accomplished using the vertebral body spreader, the vertebral distractor (Figure 1), the ALIF spreaders, or any other means preferred. Distraction should be applied between the metal endplates, lateral to the polyethylene inlay (Figure 2).

Remove the polyethylene inlay by inserting an osteotome beneath the anterior lip of the inlay, between the inlay and the inferior endplate. Rotate the osteotome to break the inlay free of the inferior endplate. Retrieve the inlay using a Kocher style forceps.

**Note:** The osteotomes in the ProDisc-L Removal System contain sharp edges. Use caution to avoid injury to anatomical structures.



Figure 1



Figure 2

\* Also available

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**Alternative technique:  
Using the poly inlay remover**

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**Instrument**

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03.820.201 ProDisc-L Poly Inlay Remover

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The poly inlay remover is a single-handed, pistol-grip style instrument that combines the lifting action needed to disengage the inlay locking feature and the gripping action needed to retrieve the inlay (Figure 1).

Insert the lower jaw of the poly inlay remover beneath the anterior lip of the polyethylene inlay. The lip of the inlay will fit between the two jaws at the tip of the poly inlay remover. With the tip fully inserted, squeeze the handles of the instrument together, causing the teeth to bite into the poly inlay (Figure 2). Once secure, the thumb screw may be used to lock the handles in the closed position. Gently pull the inlay from the inferior endplate (Figures 3 and 4).

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**Note:** If the inlay fails to disengage from the endplate, the following techniques will assist in unlocking the poly:

- Twist the instrument to lift the corners of the inlay
  - Angle the instrument in the caudal direction
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**Note:** If desired, the endplate holding arm may be used to hold the inferior endplate and prevent posterior migration of the implant during inlay removal. Refer to Step 2 alternative technique for proper operation of the endplate holding arm.

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**Note:** The poly inlay remover in the ProDisc-L Removal System contains sharp edges. Use caution to avoid injury to anatomical structures.

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Figure 1



Figure 2



Figure 3



Figure 4

## 2

### Superior endplate removal

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#### Instruments

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PDL120 Midline Marker, 8 mm width, 250 mm

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PDL630 Slotted Osteotome

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PDL632 Osteotome, 15 mm

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PDL634 Osteotome, 6 mm

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Kocher style forceps

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The osteotomes provided in the removal system set facilitate separation of the metal endplates from the vertebral bodies. Insert an osteotome between the metal endplate and the vertebral body (Figure 1).\*

Twist or lever the osteotome to liberate the metal endplate from the bone, and to unseat the keel from within the vertebral body. Retrieve the endplate using a Kocher style forceps.

**Note:** The osteotomes in the ProDisc-L Removal System contain sharp edges. Use caution to avoid injury to anatomical structures.

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Figure 1

\* Endplate holding arm shown in image.

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**Alternative technique:  
Using the endplate holding arm**

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**Instruments**

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PDL120	Midline Marker, 8 mm width, 250 mm
PDL630	Slotted Osteotome
PDL632	Osteotome, 15 mm
PDL634	Osteotome, 6 mm
03.820.202	ProDisc-L Endplate Holding Arm

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The endplate holding arm (Figure 1) engages the metal endplates from within the inserter holes. Assemble the endplate holding arm by inserting the long plunger into the back of the outer sleeve. Engage only a few threads to retain the plunger in the sleeve. Do not tighten (Figure 2).

The tip of the endplate holding arm can be inserted into any of the inserter holes on either the superior or inferior metal endplate.

Tighten the thumb screw on the plunger (Figure 3), to secure the endplate holding arm within the inserter hole and obtain a firm grip for retrieval of the endplate (Figure 4).



Figure 1



Figure 2



Figure 3



Figure 4

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### Alternative technique:

#### Using the endplate holding arm continued

Insert an osteotome between the superior metal endplate and the vertebral body (Figure 5).

Twist or lever the osteotome to liberate the superior metal endplate from the bone, and to unseat the keel from within the vertebral body.

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**Note:** Avoid levering with the endplate holding arm, as this may cause the tips to bend. Lever only with an osteotome or other suitable instrument.

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Retrieve the superior metal endplate using the endplate holding arm (Figure 6).

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**Note:** The osteotomes in the ProDisc-L Removal System contain sharp edges. Use caution to avoid injury to anatomical structures.

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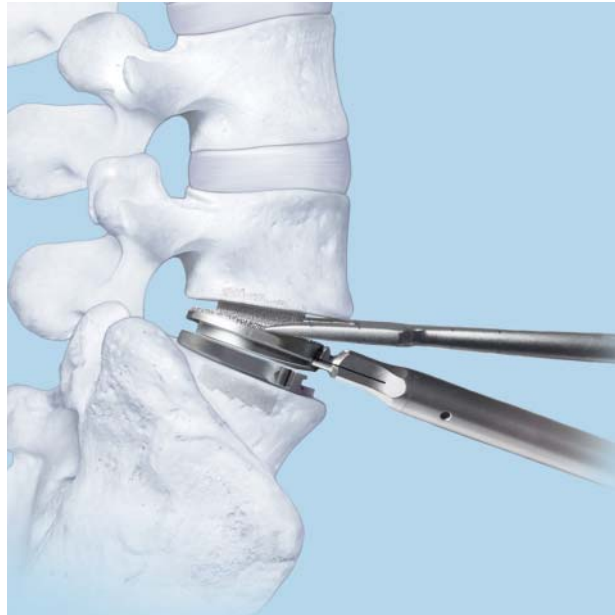


Figure 5

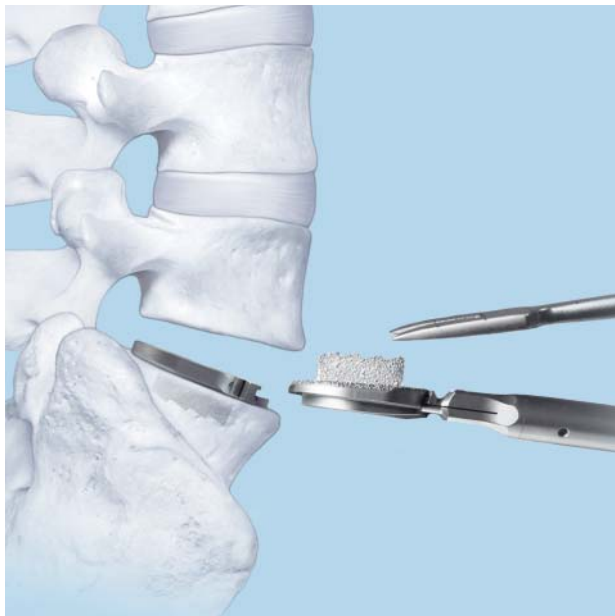


Figure 6

### 3

#### Inferior endplate removal

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##### Instruments

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PDL120	Midline Marker, 8 mm width, 250 mm
PDL630	Slotted Osteotome
PDL632	Osteotome, 15 mm
PDL634	Osteotome, 6 mm
03.820.202	ProDisc-L Endplate Holding Arm

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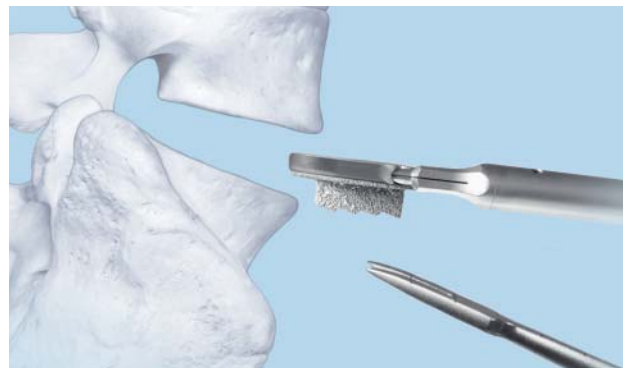
For removal of the inferior metal endplate, repeat technique from Step 2.

**Note for inferior endplate attachment:** The endplate holding arm has the same coupling feature as that on the inferior arms of the ProDisc-L inserter.

If desired, the endplate holding arm can be rotated to engage the coupling feature on the inferior endplate before tightening the thumb screw.

For additional information on the ProDisc-L inserter, please refer to the ProDisc-L Total Disc Replacement Technique Guide.

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# Instruments

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PDL120 Midline Marker, 8 mm width, 250 mm



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PDL630 Slotted Osteotome



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PDL632 Osteotome, 15 mm



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PDL634 Osteotome, 6 mm



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03.808.032 ALIF Spreader, 9 mm height

03.808.033 ALIF Spreader, 11 mm height

03.808.034 ALIF Spreader, 13 mm height



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03.820.112 Vertebral Distractor



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03.820.201 ProDisc-L Poly Inlay Remover



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03.820.202 ProDisc-L Endplate Holding Arm



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394.951 Quick Release T-Handle



# ProDisc-L Removal System Set (PDL1200E)

## Graphic Case

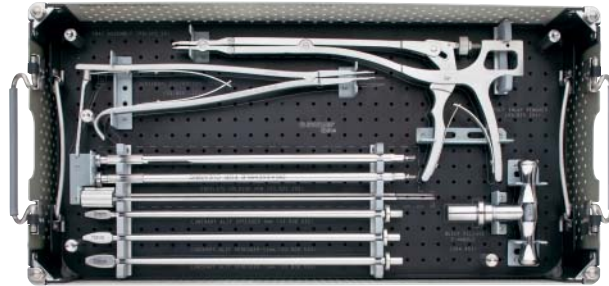
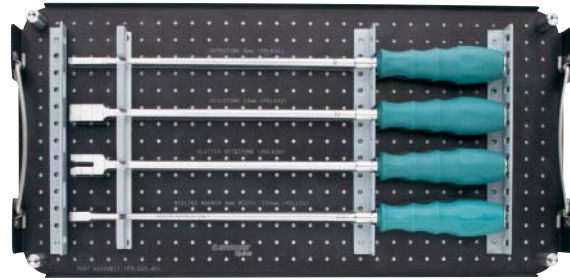
PDL003 Graphic Case, for ProDisc-L Removal System

## Instruments

PDL120 Midline Marker, 8 mm width, 250 mm  
PDL630 Slotted Osteotome  
PDL632 Osteotome, 15 mm  
PDL634 Osteotome, 6 mm  
03.808.032 ALIF Spreader, 9 mm height  
03.808.033 ALIF Spreader, 11 mm height  
03.808.034 ALIF Spreader, 13 mm height  
03.820.112 Vertebral Distractor  
03.820.201 ProDisc-L Poly Inlay Remover  
03.820.202 ProDisc-L Endplate Holding Arm, 2 ea.  
394.951 Quick Release T-Handle

## Also Available

PDL114 Vertebral Body Spreader



For additional information, please refer to the package insert.





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