









## **TABLE OF CONTENTS**



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## SYSTEM OVERVIEW

The Slimplicity® HP ACP System offers simplified versatility to accommodate diverse patient anatomies and pathologies. Low profile constrained, semi-constrained, or hybrid constructs are achieved via fixed and variable angle screws.

- Dual thread screws maximize cortical and cancellous bone interface
- One-step locking mechanism provides tactile and visual confirmation
- Alignment Markings and Large Graft Windows for increased intra-operative visualization and positioning



The **Slimplicity HP** Anterior Cervical Plate System is indicated for use in temporary stabilization of the anterior spine from C2 to T1 during the development of cervical spinal fusions in patients with: degenerative disc disease (DDD) (as defined by neck pain of discogenic origin with degeneration of disc confirmed by patient history and radiographic studies); spondylolisthesis; trauma (including fractures or dislocations); spinal tumors; spinal stenosis; deformity (defined as kyphosis, lordosis, or scoliosis); pseudoarthrosis; and failed previous fusions.



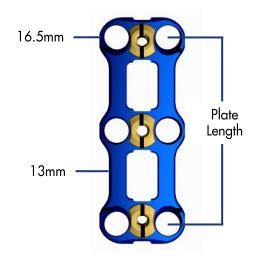




## **SYSTEM FEATURES**

## **PLATES**

- Low Profile designed to minimize tissue disruption and potential post-op discomfort
- Visual and Tactile One-Step Locking Mechanism for increased confidence
- Alignment Markings and Large Graft Windows for increased intra-operative visualization and positioning



2mm Plate Thickness

Plate Sizes\* (measured center hole to center hole)

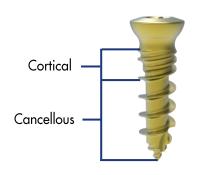
1 Level	2 Level	3 Level	4 Level	
10mm	24mm	43mm	60mm	
12mm	26mm	46mm 👗	64mm	
1 <i>4</i> mm	28mm	49mm	68mm	
16mm	30mm	52mm	72mm	
18mm	32mm	55mm	76mm	
20mm	34mm	58mm	80mm	
22mm	36mm	61mm		
24mm	38mm	<u> </u>		
	40mm			
	42mm			
	44mm			

<sup>\*</sup>Add 8mm to plate length for end to end plate length

## **SYSTEM FEATURES**

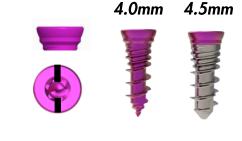
### **SCREWS**

- Fixed and Variable Screws to accommodate diverse patient anatomies and pathologies
- Cortical Cancellous Threads to maximize bone-screw interface
- T10 Interface



## **Fixed Angulation**

Fixed Screw
Black Line on Screw Head



10° 0° 10°

**Variable Angulation** 



-7° 19°

## Variable Screw



## **Screw Lengths**









## **SET CONFIGURATION 65-BK-0101**

#### **CERVICAL PLATES\***

Item No.	Description	Qty/Set
	1 LEVEL	
65-CA-1010	1 Level - 10mm	2
65-CA-1012	1 Level - 12mm	2
65-CA-1014	1 Level - 14mm	2
65-CA-1016	1 Level - 16mm	2
65-CA-1018	1 Level - 18mm	2
65-CA-1020	1 Level - 20mm	2
65-CA-1022	1 Level - 22mm	2
65-CA-1024	1 Level - 24mm	2
	2 LEVEL	
65-CA-2024	2 Level - 24mm	2
65-CA-2026	2 Level - 26mm	2
65-CA-2028	2 Level - 28mm	2
65-CA-2030	2 Level - 30mm	2
65-CA-2032	2 Level - 32mm	2
65-CA-2034	2 Level - 34mm	2
65-CA-2036	2 Level - 36mm	2
65-CA-2038	2 Level - 38mm	2
65-CA-2040	2 Level - 40mm	2
65-CA-2042	2 Level - 42mm	2
65-CA-2044	2 Level - 44mm	2

<sup>\*</sup>Plate Sizes measured center hole to center hole Add 8mm to plate length for end to end plate length

Item No.	Description	Qty/Set
	3 LEVEL	
65-CA-3043	3 Level - 43mm	2
65-CA-3046	3 Level - 46mm	2
65-CA-3049	3 Level - 49mm	2
65-CA-3052	3 Level - 52mm	2
65-CA-3055	3 Level - 55mm	2
65-CA-3058	3 Level - 58mm	2
65-CA-3061	3 Level - 61mm	2
	4 LEVEL	
65-CA-4060	4 Level - 60mm	2
65-CA-4064	4 Level - 64mm	2
65-CA-4068	4 Level - 68mm	2
65-CA-4072	4 Level - 72mm	2
65-CA-4076	4 Level - 76mm	2
65-CA-4080	4 Level - 80mm	2

#### **DISPOSABLES**

Item No.	Description	Qty/Set
	FIXATION PINS	
65-FS-2010	Fixation Pin, Locking Mechanism	4
65-FS-2510	Fixation Pin, Screw Hole	4

### **BONES SCREWS**

Item No.	Description	Qty/Set
4.0	mm Self-Drilling FIXED SCREWS	
65-DF-4012	4.0mm x 12mm SD Fix Screw	12 🌓
65-DF-4014	4.0mm x 14mm SD Fix Screw	12 🕕
65-DF-4016	4.0mm x 16mm SD Fix Screw	12 🕕
65-DF-4018	4.0mm x 18mm SD Fix Screw	12 🌓
4.5	mm Self-Tapping FIXED SCREWS	
65-TF-4512	4.5mm x 12mm ST Fix Screw	12 🕕
65-TF-4514	4.5mm x 14mm ST Fix Screw	12 🕕
65-TF-4516	4.5mm x 16mm ST Fix Screw	12 🕕
65-TF-4518	4.5mm x 18mm ST Fix Screw	12 🕕

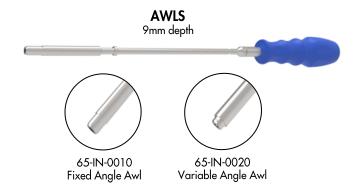
Item No.	Description	Qty/Set
4.0m	m Self-Drilling VARIABLE SCREW	'S
65-DV-4012	4.0mm x 12mm SD Var Screw	12 🛑
65-DV-4014	4.0mm x 14mm SD Var Screw	12 🛑
65-DV-4016	4.0mm x 16mm SD Var Screw	12 🔵
65-DV-4018	4.0mm x 18mm SD Var Screw	12 🔵
4.5m	m Self-Tapping VARIABLE SCREW	/S
65-TV-4512	4.5mm x 12mm ST Var Screw	12 🛑
65-TV-4514	4.5mm x 14mm ST Var Screw	12 🦲
65-TV-4516	4.5mm x 16mm ST Var Screw	12 🔵
65-TV-4518	4.5mm x 18mm ST Var Screw	12

## **SET CONFIGURATION** 65-BK-0101

#### **INSTRUMENTS**

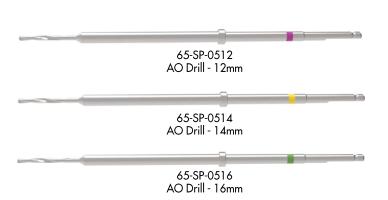
Item No.	Description	Qty/Set
55-CH-0001	AO Modular Handles	2
65-IN-0010	10° Fixed Angle Awl (2.3mm x 9mm)	1
65-IN-0020	Variable Angle Awl (2.3mm x 9mm)	1
65-IN-0030	10° Fixed Angle Drill Guide	1
65-IN-0033	Variable Angle Drill Guide	1
65-IN-0750	Locking Driver (GOLD)	2
65-IN-0600	Plate Bender	1
65-IN-0620	Plate Holder	1
65-IN-0730	Bone Screwdriver, T10 (SILVER)	2
65-SP-0512	AO Drill - 12mm x 2.3mm	1
65-SP-0514	AO Drill - 14mm x 2.3mm	1
65-SP-0516	AO Drill - 16mm x 2.3mm	1
65-SC-0100	Sterilization Tray	1

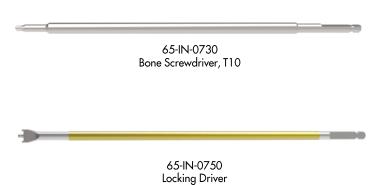




#### **DRILL GUIDES**











## **SLIMPLICITY® HP BY REQUEST**

## **IMPLANTS**

#### **PLATES**

Part No.	Description
65-CA-4056	4 Level - 56mm

#### **BONE SCREWS**

Part No.	Description	
65-DF-4010	4.0mm x 10mm Self-Drilling Fixed Screw	
65-TF-4510	4.5mm x 10mm Self-Tapping Fixed Screw	
65-DV-4010	4.0mm x 10mm Self-Drilling Variable Screw	
65-TV-4510	4.5mm x 10mm Self-Tapping Variable Screw	



65-TF-4510

65-DV-4010

65-IN-0035

10° DTS Guide

## **INSTRUMENTS**

65-IN-0090

65-CH-0038
65-SP-0510
da da
W W

## **DRIVERS**

Double Barrel DTS Guide - 0°, Small Handle, 3 1/2"

Part No.	Description	
65-IN-0060	Locking Driver, T8 (GOLD)	65-IN-0060

### LARGE HANDLE INSTRUMENT SET

Set No.	Description
65-BK-0102	5 1/4" Large Handle Implant and Instrument Set



65-IN-0090

0° DTS Guide

## TRAY LAYOUT 65-BK-0101

#### **IMPLANTS**

#### 4.5mm Screw Caddy

4.5mm Variable Screws 4.5mm Fixed Screws

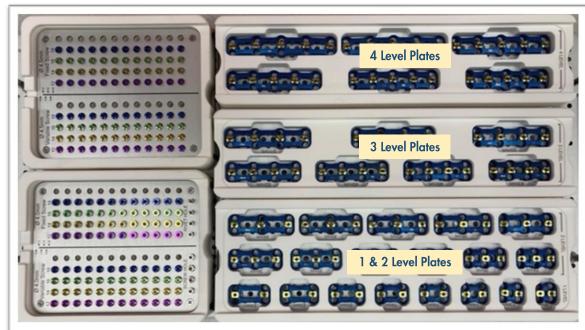
Extra Screw Hole Slots

#### 4.0mm Screw Caddy

4.0mm Variable Screws 4.0mm Fixed Screws

Fixation Pins, Screw Hole Fixation Pins, Locking Mech

Extra Screw Hole Slots



Item No.	Item No. Description					
1 LEVEL PLATES						
65-CA-1010	1 Level - 10mm	2				
65-CA-1012	1 Level - 12mm	2				
65-CA-1014	1 Level - 14mm	2				
65-CA-1016	1 Level - 16mm	2				
65-CA-1018	1 Level - 18mm	2				
65-CA-1020	1 Level - 20mm	2				
65-CA-1022	1 Level - 22mm	2				
65-CA-1024	1 Level - 24mm	2				
	2 LEVEL PLATES					
65-CA-2024	2 Level - 24mm	2				
65-CA-2026	2 Level - 26mm	2				
65-CA-2028	2 Level - 28mm	2				
65-CA-2030	2 Level - 30mm	2				
65-CA-2032	2 Level - 32mm	2				
65-CA-2034	2 Level - 34mm	2				
65-CA-2036	2 Level - 36mm	2				
65-CA-2038	2 Level - 38mm	2				
65-CA-2040	2 Level - 40mm	2				
65-CA-2042	2 Level - 42mm	2				
65-CA-2044	2 Level - 44mm	2				
4.0	Omm Self-Drilling FIXED SCREWS					
65-DF-4012	4.0mm x 12mm SD Fix Screw	12				
65-DF-4014	4.0mm x 14mm SD Fix Screw	12				
65-DF-4016	4.0mm x 16mm SD Fix Screw	12				
65-DF-4018	4.0mm x 18mm SD Fix Screw	12				
4.5mm Self-Tapping FIXED SCREWS						
65-TF-4512	4.5mm x 12mm ST Fix Screw	12				
65-TF-4514	4.5mm x 14mm ST Fix Screw	12				
65-TF-4516	4.5mm x 16mm ST Fix Screw	12				
65-TF-4518	4.5mm x 18mm ST Fix Screw	12				

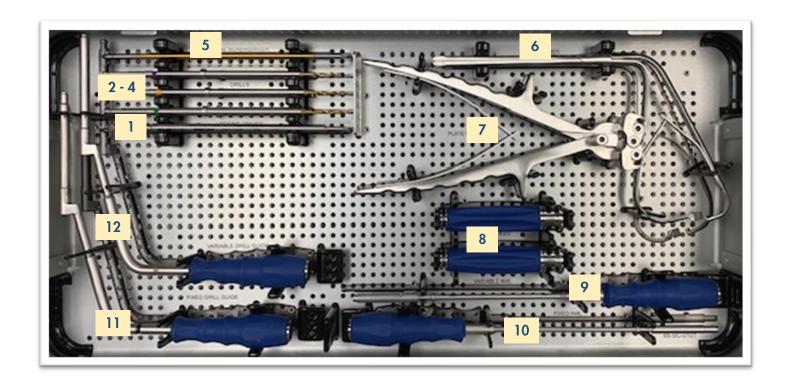
Item No.	Item No. Description						
3 LEVEL PLATES							
65-CA-3043	3 Level - 43mm	2					
65-CA-3046	3 Level - 46mm	2					
65-CA-3049	3 Level - 49mm	2					
65-CA-3052	3 Level - 52mm	2					
65-CA-3055	3 Level - 55mm	2					
65-CA-3058	3 Level - 58mm	2					
65-CA-3061	2						
4 LEVEL PLATES							
65-CA-4060	4 Level - 60mm	1					
65-CA-4064	4 Level - 64mm	1					
65-CA-4068	4 Level - 68mm	1					
65-CA-4072	4 Level - 72mm	1					
65-CA-4076	4 Level - 76mm	1					
65-CA-4080	4 Level - 80mm	1					
FIXATION PINS							

FIXATION PINS				
65-FS-2010	Fixation Pin, Locking Mechanism	4		
65-FS-2510	Fixation Pin, Screw Hole	4		

4.0mm Self-Drilling VARIABLE SCREWS					
65-DV-4012	4.0mm x 12mm SD Var Screw	12			
65-DV-4014	4.0mm x 14mm SD Var Screw	12			
65-DV-4016	4.0mm x 16mm SD Var Screw	12			
65-DV-4018	4.0mm x 18mm SD Var Screw	12			
4.5mm Self-Tapping VARIABLE SCREWS					
65-TV-4512	4.5mm x 12mm ST Var Screw	12			
65-TV-4514	4.5mm x 14mm ST Var Screw	12			
65-TV-4516	4.5mm x 16mm ST Var Screw	12			
65-TV-4518	4.5mm x 18mm ST Var Screw	12			

## TRAY LAYOUT 65-BK-0101

## **INSTRUMENTS**



	Item No.	Description	Qty/Set			Item No.	Description	Qty/Set
1.	65-IN-0730	Bone Screwdriver, T10 (SILVER)	2		7.	65-IN-0600	Plate Bender	1
2.	65-SP-0512	AO Drill - 12mm x 2.3mm	1		8.	55-CH-0001	AO Modular Handles	2
3.	65-SP-0514	AO Drill - 14mm x 2.3mm	1		9.	65-IN-0020	Variable Angle Awl (2.3mm x 9mm)	1
4.	65-SP-0516	AO Drill - 16mm x 2.3mm	1	1	10.	65-IN-0010	10° Fixed Angle Awl (2.3mm x 9mm)	1
5.	65-IN-0750	Locking Driver (GOLD)	2	1	11.	65-IN-0030	10° Fixed Angle Drill Guide	1
6.	65-IN-0620	Plate Holder	1	1	12.	65-IN-0033	Variable Angle Drill Guide	1



#### PATIENT POSITIONING

Place the patient in the supine position with the head in slight extension and slight rotation opposite the side of incision.

Confirm surgical level via fluoroscopy.

After decompression and interbody grafting procedures have been completed, remove all anterior osteophytes to provide a contoured contact surface for optimum plate positioning.

# PLATE POSITIONING & SELECTION

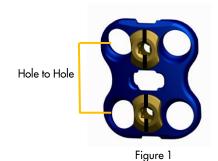
All plates are measured by the center screw hole to center screw hole distance (Figure 1).

Utilizing the alignment markings on the plate, position the plate on the surgical level with the Plate Holder (65-IN-0620) and confirm proper mediolateral and caudocranial alignment (Figure 2) visually and via fluoroscopy.

Select the length of the plate so that the bone screws enter the superior and inferior vertebral bodies as close to the edge of the disc space as possible.

Do not extend the plate over the adjacent disc spaces.

Note: Alignment markings should be in-line with the superior endplate



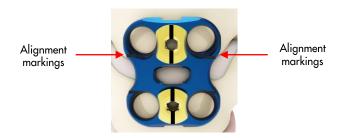


Figure 2

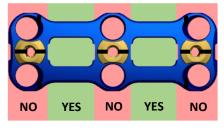
## PLATE CONTOURING

The Slimplicity® HP Plate is pre-contoured with lordotic curvature to minimize intraoperative contouring (Figure 3). If the curvature of the plate needs to be modified, the Plate Bender (65-IN-0600) may be used for contouring.

## Do NOT contour the plate on the locking mechanism as it could become damaged.

Insert the plate into the bender and ensure that the locking mechanism is seated within the groove of the bender (Figure 4).

Once securely positioned, apply moderate pressure to the handle to obtain the desired curvature.



DO NOT BEND PLATE ON OR NEAR THE LOCKING MECHANISMS AND SCREW HOLES.

Bending in these regions may weaken the plate and/or prevent proper functionality of the locking mechanism.

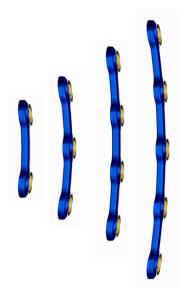


Figure 3





Temporarily fix the plate using the temporary Fixation Pins (65-FS-2010 or 65-FS-2510) and the Bone Screwdriver (65-IN-0730).

Attach the Bone Screwdriver (65-IN-0730) securely into the Modular Handle (55-CH-0001).

Insert the tip of the bone screwdriver firmly into the desired fixation pin.

Insert the Fixation Pin through any of the bone screw holes in the plate or the hole within the locking mechanism hole to provide stability during screw placement (Figures 5 and 6).

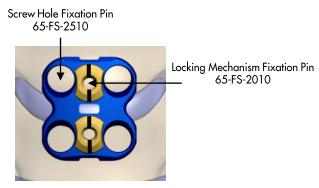
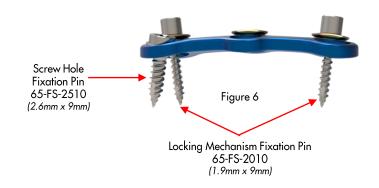


Figure 5



## PREPARING THE SCREW HOLE

In preparing the screw hole, create a pilot hole using the Fixed (65-IN-0010) or Variable Angle Awl (65-IN-0020).

The Fixed Angle Awl (65-IN-0010) provides 10° of angulation (Figure 7).

The Variable Angle Awl (65-IN-0020) provides a maximum angle of 23° (Figure 7).

#### **Fixed Angulation**



#### Variable Angulation

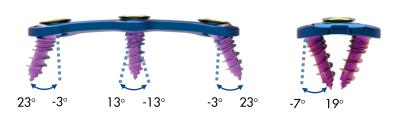


Figure 7

# PREPARING THE SCREW HOLE

Firmly seat and angle the Fixed (65-IN-0010) or Variable Angle Awl (65-IN-0020) into the desired bone screw hole (Figure 8).

Press the Awl through the plate and into the bone until the depth has bottomed out against the Plate.

Awl depth - 9mm

Securely attach the desired drill (65-SP-05XX) to the Modular Handle (55-CH-0001).

Securely seat the Fixed (65-IN-0030) or Variable Angle Drill Guide (65-IN-0033) within the screw hole prior to drilling.

Position the drill guide to the desired angulation (Figure 9).

The Fixed Drill Guide (65-IN-0030) provides  $10^{\circ}$  of angulation.

The Variable Drill Guide (65-IN-0033) provides a maximum angle of 23°.

Insert the drill into the drill guide and drill to the appropriate depth. When used in conjunction with the drill guides, there is a positive stop on the drill bits to prevent over-drilling.

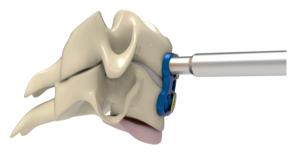


Figure 8

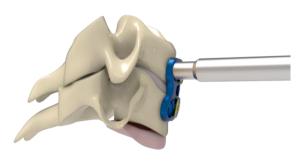
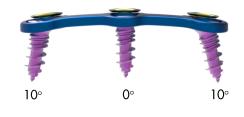


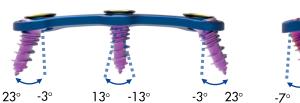
Figure 9

#### **Fixed Angulation**





#### **Variable Angulation**







Securely attach the Bone Screwdriver (65-IN-0730) to the Modular Handle (55-CH-0001).

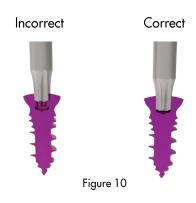
Insert the tip of the Bone Screwdriver (65-IN-0730) firmly into the hexalobe of the desired bone screw (Figure 10).

Note: The screwdriver tip must be completely seated into hexalobe of the bone screw during insertion to ensure proper placement.

Insert and firmly seat bone screws within the plate (Figure 11).

For proper engagement of the locking mechanism, ensure that all bone screws are seated flush and within the bone screw holes.

Confirm plate and bone screw positioning visually and via fluoroscopy.



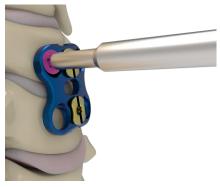


Figure 11



Once the bone screws have been properly seated, positioned and tightened, rotate the locking mechanism to secure the seated bone screws within the construct.

Insert the gold Locking Driver (65-IN-0750) securely into the Modular Handle (55-CH-0001).

Seat the Locking Driver securely into and around the locking mechanism and rotate all locking mechanisms clockwise 90° to properly lock the construct (Figure 12).

During rotation, there is an increased tactile resistance to confirm engagement of the locking mechanism.

Alignment markings on the locking mechanism will be in the horizontal position when the properly locked.

Do not rotate locking mechanism more than once as this will weaken it.

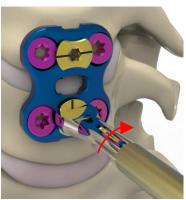


Figure 12



Visually and radiographically confirm construct placement and locking mechanisms (Figure 13), prior to closure.

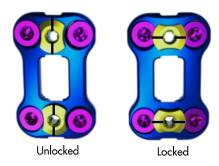


Figure 13



### **SCREW REMOVAL**

If required, the construct can be removed utilizing the Locking Driver (65-IN-0060) and Bone Screwdriver (65-IN-0730).

Insert the Locking Driver (65-IN-0750) or T8 Locking Driver (65-IN-0060) securely into the Modular Handle (55-CH-0001).

Seat the Locking Driver securely into and around the locking mechanism and rotate counterclockwise until the bone screws can be removed (Figure 14).

To remove the bone screws, insert the Bone Screwdriver (65-IN-0730) securely into the Modular Handle (55-CH-0001).

Completely seat the tip of the Bone Screwdriver into the hexalobe of the bone screw (Figure 15).

Turn the Bone Screwdriver counterclockwise to remove the bone screws.

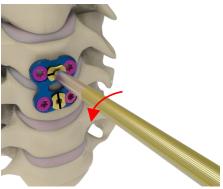


Figure 14

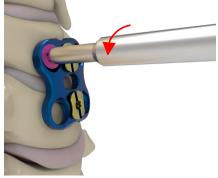


Figure 15

## Indications, Contraindications, Warnings, and Precautions

The Slimplicity HP Anterior Cervical Plate System is indicated for use in temporary stabilization of the anterior spine

from C2 to T1 during the development of cervical spinal fusions in patients with: degenerative disc disease (DDD) (as defined by neck pain of discogenic origin with degeneration of disc confirmed by patient history and radiographic studies); spondylolisthesis; trauma (including fractures or dislocations); spinal tumors; spinal stenosis; deformity (defined as kyphosis, lordosis, or scoliosis); pseudoarthrosis; and failed previous fusions.

WARNING: This device is not approved for screw attachment to the posterior elements (pedicles) of the cervical, thoracic, or lumbar spine.

#### **PRECAUTIONS**

The Slimplicity HP Anterior Cervical Plate System should only be implanted by surgeons who are fully experienced in the use of such implants and the required specialized spinal surgery techniques.

All system implants are single-use only. Reuse of the device may result in the following:

- Infection
- Loosening Fracture / mechanical failure of the device 3.
- Inability to properly engage surgical instrumentation
- Pyrogenic reaction

CONTRAINDICATIONS: The Slimplicity HP Anterior Cervical Plate System contraindications include, but are not limited to:

- Patients with infection in or adjacent to the spine or spinal structures
- Inadequate tissue coverage over operative site
- 3. Patients with morbid obesity
- 4.
- 5. Bone absorption, rapid joint disease, osteomalacia, osteopenia, and/or
- 6. 7. Any spinal surgery case not needing a fusion
- Any reuse, or multiple use
- Fever or leukocytosis
- Any patient unwilling or resistant to following postoperative instructions
- 10.
- Cardiovascular complications 11.
- Allergic or other reaction to the metallic components and/or implants

POTENTIAL ADVERSE AFFECTS: The following potential adverse effects associated with the procedure have been shown to occur with the use of similar spinal systems. All patients considered candidates for fusion should be informed concerning the pathogenesis of their spinal abnormality, the rationale for fusion with instrumentation, and the potential adverse effects. The following are potential adverse effects, but not limited to:

- Loss of proper spinal curvature, correction, height, and/or reduction
- Infection
- 2. 3. Non-Union or delayed union
- Foreign body reaction to the implants
- 5. Hemorrhaging
- Loss of neurological function, dural tear, pain, and/or discomfort
- Bone graft fracture, vertebral body fracture or discontinued growth of
- fusion at, above and/or below the surgery level Bending, loosening, fracture, disassembly, slippage and/or migration of the components
- Revision surgery
- 10. Dysphagia
- Bone loss and/or bone fracture due to stress shielding
- Loss of bladder and/or bowel control
- Injury to recurrent laryngeal nerve resulting in alteration of voice Injury to esophagus and/or trachea
- 15.

WARNINGS: The following are warnings and precautions of this device.

- This device is not approved for screw attachment or fixation to the posterior elements (pedicles) of the cervical, thoracic, or lumbar spine.
- Potential risks identified with the use of this device system, which may require additional surgery, include device component fracture, loss of fixation, non-union, fracture of the vertebrae, necrosis of the bone,

neurological injury, and/or vascular or visceral injury. The benefit of spinal fusion utilizing any cervical plating system has not 3. been adequately established in patients with stable spines.

Patient selection and compliance will greatly affect the results. Patients suffering from obesity, malnutrition, and/or poor bone quality are poor candidates for spinal fusion. Patients who smoke or abuse alcohol are poor candidates for spinal fusion.

Patients who smoke should be advised of the consequences of the fact that an increased incidence of non-union has been reported with patients who

It is recommended that the locking rivets should only be engaged once, or disengaged once, if necessary.
The locking rivets should not be engaged until the surgeon has screwed

and tightened all bone screws and is ready to close the soft tissues. Failure to engage the locking rivet may increase the chances of screw

back out from the plate if the screws become loose. The implants and instruments are provided non-sterile and must be cleaned and sterilized before use. Device components should be sterilized

using one of the noted validated sterilization cycle parameters. A successful result is not always achieved in every surgical case due to many extenuating circumstances. This device is intended for temporary immobilization of the cervical spine in order to obtain a solid fusion mass

using a bone graft. Only surgeons trained and experienced in spinal decompression and bone grafting techniques should use the cervical plate. Preoperative and

operating procedures, including knowledge of surgical techniques and proper selection and placement of the implants are essential

considerations in the utilization of this device. Do not reuse implants. Discard used, damaged, or otherwise suspect implants. AN IMPLANT SHOULD NÉVER BÉ RÉ-USED. Any implant, once used, should be discarded. Even though it appears undamaged, it may have small defects and internal stress patterns that may lead to failure Reuse can potentially compromise device performance and patient safety.





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