

A low profile plate with an efficient, secure locking mechanism that reduces retraction and the possibility of dysphasia, while preventing screw back-out.

The Anterior Cervical Plate System is designed with smooth contours and flush fitting locking caps engineered for ease of insertion and placement. Prescribed for the surgical treatment and correction of traumatic and pathologic conditions of the cervical spine, the Snowcap system consists of a wide range of titanium alloy plates, screws (fixed and variable, self-drilling and self-tapping) and locking caps with comprehensive instrumentation.



Indications and Contraindications

Intended Use

The ACP is used in anterior plating of the cervical spine (C2-T2) for the internal fixation in the treatment of instabilities associated with fractures/ Dislocations, degenerative diseases, tumours and partial or total spondylectomy.

Indications

The ACP is used in anterior plating of the cervical spine (C2–T2) for the internal fixation in the treatment of instabilities associated with:

- fractures/dislocations
- degenerative diseases
- Tumours
- partial or total spondylectomy

Contraindications

- Severe osteoporosis and indications not listed above
- Any indication where fusion is not required



PATIENT POSITIONING AND EXPOSURE

The patient is placed in a supine position with all bony prominences padded and the head in slight extension. (Fig. 1) The cervical spine is supported to maintain cervical lordosis. For one or two level

Procedures, a transverse incision parallel to the skin creases of the neck is recommended. For longer level procedures, one may choose to do a transverse or oblique incision placed along the anterior border

of the sternocleidomastoid. After blunt dissection through the various tissue layers, the anterior cervical spine is gently exposed.



(Fig.1)

Adequate visualization of the vertebrae and disc space is critical. Ventral soft tissue should be removed from the vertebral body to create a smooth surface for optimal surface exposure and plate placement. (Fig. 2)

Following decompression and anterior bone graft placement, osteophytes or irregularities should be removed from the anterior surface of the spine so the selected plate fits flush across the graft space.



(Fig.2)



Surgical Technique

1. Patient Positioning and Approach

The approach described by Southwick and Robinson is chosen for plating the mid and lower cervical spine through T2. The patient is in supine position, with his/ her head turned slightly away from the operator. If the plating is to extend over several segments, it is advisable to make a long incision along the anterior border of the

M. sternocleidomastoideus. The approach to the spine is medial to this muscle and the neurovascular bundle, and lateral to the thyroid, trachea, and oesophagus. The A. thyroidea inferior must be ligated as a rule.

When preparing the vertebral body, it is important to only remove or incise the anterior longitudinal ligament where the intervertebral disc is to be bridged by the fusion. Under no circumstances is the anterior longitudinal ligament to be traumatised in the neighbouring segments not involved in the fusion.

2. Select Plate

When choosing the suitable plate size, it must be considered that the intervertebral discs in the neck region are slightly inclined from anterocaudal to posterocranial. Ensure that the screws will remain totally in the vertebral body and will not penetrate the intervertebral discs. Make sure there will be enough space between the intact adjacent intervertebral discs and the screws. Once the correct plate size has been chosen, the alignment of the plate is determinded. The 12° angled screw holes are, as a rule, positioned cranially to allow access to the cranial vertebrae. When directed caudally, the angled holes make instrumentation of T2 possible (possible insertion of screw in T2).

If the plate requires contouring, ensure that the holes remain unaltered. Distorted holes cannot be used for ex pensioned screws. The Bending Pliers is recommended to give the Cervical Spine Locking Plate its correct lordotic curvature.

Note: The plate must not be bent backward and Forward as this has a weakening effect.







Surgical Technique

3. Insert Drill Guide

Insert the Drill Guide 3.0 into a middle plate hole (1). Choose the correct alignment to hold the plate, press the handle to attach the plate to the drill guide (2) and slide the catch forward to lock the drill guide in its position (3).

CERVICAL PLATE



4. Position the Plate

The plate thus attached to the drill guide is inserted into the operating area and aligned. Ensure that the screws will remain totally in the vertebral body and will not penetrate the intervertebral discs. Make sure there will be enough space between the intact adjacent intervertebral discs and the screws.



5. Insert Fixation Pins

Using the self-holding Screwdriver Shaft 4.0/4.5 and Handle, a Fixation Pin is taken from the rack and inserted into one of the cranial plate holes. The proximal end of the handle may be tapped on to facilitate the penetration of the pin into the cortex. Screw the pin into the vertebral body. Insert a second fixation pin into the diagonally opposite plate hole and remove screwdriver and drill guide (additional temporary fixation pins may be inserted if desired). An

Image intensifier may be used for a lateral view of the position of the fixation pins to indicate the potential positions of the screws.





Surgical Technique

6. Drill Holes for Expansion head Screws

For Expansion head Screws of 14 mm of length, Drill Bit 3.0 mm with Stop and Drill Guide 3.0 are used to drill the holes no deeper than 14 mm. For this purpose insert Drill Guide 3.0 in the empty caudal hole. The drill guide must sit correctly in the plate hole so the screw head can later be fully sunk into the plate. For 16 mm colour-coded screws use the purple Color-marked Drill Bit with Stop to drill the holes no deeper than 16 mm.

Note: During drilling the drill guide must sit accurately in the plate hole and the handle has to be pressed to achieve a firm hold between the plate and the drill guide.

7. Insert the First Expansion head Screw

A self-tapping expansion head screw appropriate in length and diameter is taken from the screw rack by means of the self-holding Screwdriver Shaft 4.0/4.5 and inserted at the given angle. The screw must not be fully tightened at first as this could cause the opposite side of the plate to tilt.

Warning: For long spans or poor bone quality: The surgeon is urged to consider the nature of such cases. The treatment may require the use of longer screws (16 mm), and/or posterior fixation for this kind of inherently unstable cases. The 4.5 mm screw may be used as an emergency screw in cases where the 4.0 mm screw has stripped the bone and a larger screw thread is required.







8. Insert Remaining Screws

The remaining screws are then inserted likewise, starting with the screw diagonally opposite the first one. The screw holes are prepared as in step 6. Once the second screw is inserted the fixation pins are removed. Finally, all screws must be tightened so that the screw heads render a flush plate surface.



9. Insert Locking Screws

The Locking Screws 1.8 mm are then inserted. Using Screwdriver Shaft 1.8 and Holding Sleeve, one locking screw after the other is taken from the screw rack, carefully inserted into the screw heads and firmly tightened.



10.Check Plate Surface

Before closing the incision check with your finger tip that all screws are fully sunk into the plate. A flush surface prevents the soft tissue from being damaged (oesopha gus!).





Implant Removal

CERVICAL PLATE

For implant removal:

- Firstly remove locking screw using Screwdriver Shaft 1.8.
- ➤ Then remove screw using Screwdriver Shaft 4.0/4.5.
- Repeat this for all screws.
- ➢ Remove plate.

Instruments:

7800-INS-0018	Rongeur For Cervical		T
7800-INS-0001	Double Drill & Tap Sleeve		
7800-INS-0003	Quick Coupling Handle		
7800-INS-0002	Drill Bit 2.5 With Quick Coupling		
7800-INS-0014	Screw Holder	-	
7800-INS-0004	Screw Driver		
7800-INS-0005	Plate Holder		1 to the second
7800-INS-0006	Cervical Body Distractor		
7800-INS-0007	Distractor Pin		



7800-INS-0009	Cervical Retractor (Large)	
7800-INS-0011	Cervical Retractor (Pointed)	
7800-INS-0010	Cervical Retractor (Small)	COMMUNICAL RETRACTOR SMALL
7800-INS-0008	Pin Driver	
7800-INS-0016	Bone Tap	
7800-INS-0017	Universal Plate Bender	
7800-INS-00016	Bone Curette	
7800-INS-00017	AWL	
7800-INS-0012	Cervical Retractor Blunt	
7800-INS-0015	Pin	



Implants: Plates ANTERIOR CERVICAL PLATE

2024-TT-0021	TITANIUM	21 MM
2024-TT-0023	TITANIUM	23 MM
2024-TT-0025	TITANIUM	25.0 MM
2024-TT-0027	TITANIUM	27.5 MM
2024-TT-0030	TITANIUM	30.0 MM
2024-TT-0032	TITANIUM	32.5 MM
2024-TT-0035	TITANIUM	35.0 MM
2024-TT-0037	TITANIUM	37.5 MM
2024-TT-0040	TITANIUM	40.0 MM
2024-TT-0042	TITANIUM	42.5 MM
2024-TT-0045	TITANIUM	45.0 MM
2024-TT-0047	TITANIUM	47.5 MM
2024-TT-0050	TITANIUM	50.0 MM
2024-TT-0052	TITANIUM	52.5 MM
2024-TT-0055	TITANIUM	55.0 MM
2024-TT-0057	TITANIUM	57.5 MM
2024-TT-0060	TITANIUM	60.0 MM
2024-TT-0062	TITANIUM	62.5 MM
2024-TT-0065	TITANIUM	65.0 MM
2024-TT-0067	TITANIUM	67.5 MM
2024-TT-0070	TITANIUM	70.0 MM
2024-TT-0072	TITANIUM	72.5 MM
2024-TT-0075	TITANIUM	75 MM
2024-TT-0077	TITANIUM	77.5 MM
2024-TT-0080	TITANIUM	80 MM
2024-TT-0082	TITANIUM	82.5 MM
2024-TT-0085	TITANIUM	85 MM

CERVICAL PLATE



Screws



Ø4.3 MM REVISION CERVICAL SCREW

2023-TT-4310	TITANIUM	10 MM
2023-TT-4312	TITANIUM	12 MM
2023-TT-4314	TITANIUM	14 MM
2023-TT-4316	TITANIUM	16 MM
2023-TT-4318	TITANIUM	18 MM
2023-TT-4320	TITANIUM	20 MM
2023-TT-4322	TITANIUM	22 MM
2023-TT-4324	TITANIUM	24 MM
2023-TT-4326	TITANIUM	26 MM
2023-TT-4328	TITANIUM	28 MM
2023-TT-4330	TITANIUM	30 MM

Ø4.0 MM CERVICAL SCREW

2023-TT-4010	TITANIUM	10 MM
2023-TT-4012	TITANIUM	12 MM
2023-TT-4014	TITANIUM	14 MM
2023-TT-4016	TITANIUM	16 MM
2023-TT-4018	TITANIUM	18 MM
2023-TT-4020	TITANIUM	20 MM
2023-TT-4022	TITANIUM	22 MM
2023-TT-4024	TITANIUM	24 MM
2023-TT-4026	TITANIUM	26 MM
2023-TT-4028	TITANIUM	28 MM
2023-TT-4030	TITANIUM	30 MM

Address

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