Cerfix Anterior Cervical Plate System

SURGICAL TECHNIQUE
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Surgical Technique</td>
<td>2</td>
</tr>
<tr>
<td>Implants</td>
<td>8</td>
</tr>
<tr>
<td>Instruments</td>
<td>8</td>
</tr>
</tbody>
</table>
The Cerfix Plate is a semi-rigid system intended for anterior cervical intervertebral body fixation. Cerfix has been designed to answer the growing need for a lower profile plate, offering the most advanced product features in anterior cervical plating surgery. Cerfix is based on a clinically proven design.

The Cerfix Anterior Cervical Plate System is indicated for stabilization of the cervical spine from C2 to C7 employing unicortical screw fixation at the anterior face of the vertebral bodies. Specific clinical indications for anterior cervical plating include:

1. Instability caused by trauma;
2. Instability associated with correction of cervical lordosis and kyphosis deformity;
3. Instability associated with pseudoarthrosis as a result of previously failed cervical spine surgery;
4. Instability associated with major reconstructive surgery for primary tumors or metastatic malignant tumors of the cervical spine;
5. Instability associated with single or multiple level corpectomy in advanced degenerative disc disease, spinal canal stenosis and cervical myelopathy.

Introduction

Step 1: Patient Positioning and Anterior Approach

The patient is placed in the supine position with the head in slight extension. The posterior cervical spine is supported to establish and maintain normal cervical lordosis. The surgeon must then choose a right- or left-sided approach to the cervical column.

After exposing the cervical spine, the self retaining retractor is placed to provide optimal visualization. A Distractor (111110) may be used. The Position Rod (111210) are positioned midline in the vertebral bodies adjacent to the level to be treated. The distractor is placed over the shafts and the appropriate amount of distraction is applied.

Discectomy are completed. Median corpectomy will be completed if required. Pituitary forceps, curettes, and kerissons may be used to remove the disc material and cartilage to expose the posterior longitudinal ligament.

Bone graft/substitute (Diamesh, e.g.) is then positioned between both vertebrae.
Anterior osteophytes are removed from the exposed vertebrae so that the plate may sit flush/evenly on the anterior cortex.

Cerfix Anterior Cervical Plate are available in 1-3 level configuration with a length ranging from 24-72mm. Use the plate holder (116140) to select the appropriate plate size and place it on the vertebral column. Confirm that the length is appropriate. The plate should span the entire fusion segment, preferably using the shortest plate possible, therefore avoiding the adjacent disc space. Fluoroscopy may be utilized to optimize the plate selection and screw placement.

The plate is precontoured in the longitudinal and transverse planes, however, if required the plate bender (116150) can be used to adjust the sagittal contour. Once the sagittal contour has been altered by the plate bender, do not bend in the everse direction.

The Temporary Fixation pin (111220) can be used to precisely position and stabilize the plate in the horizontal plane. To apply the pin in the horizontal plane, use the multifunctional holder (111200) to insert the pins in the predetermined holes. Once the plate is properly positioned, use the dual drilling guide (116170) to drill holes through the drilling guide firmly seated in the prefixed position. The Drill bit (116180) can be used to increase or decrease the amount of anterior curvature of the plate. The angulation should be 3°-10° cephalad. The drilling depth is also fixed to 13mm.

Drilling with the dual drilling guide.
3.2 Taping
The Cerfix system is provided with self-tapping screws. Hence, tapping is not always necessary. However, if tapping is required to prepare the passage of the screw, the tap (116200) can be used. The fixed tapping depth is 13mm.

The use of interoperative fluoroscopy while drilling and tapping, will further improve the accuracy of screw length selection.

3.3 Inserting screw
The standard screw diameter is 4.0mm, the bone screws are self-tapping and come in 13, 15 and 17mm lengths colored with purple, natterblue and navy blue. They are intended to only be used in the bone screw hole. Placement of a 4.0mm diameter screw in the central hole of the plate is not recommended as the screw would not be prevented from backing out.

The gold 4.35mm screw is used as a revision screw in the superior and inferior holes of the plate, or as a bone graft screw in the central hole of the plate. The 4.35mm screws are self-tapping and come in 13, 15 and 17mm lengths.

The instruments used to insert the screw include screwdriver sleeve (111240) and Hex screwdriver (116190).

Select the appropriate screw length corresponding to the hole drilled. First place the screwdriver shaft through the center of the holding sleeve. Then pick up the appropriate diameter and length of screw with the driver with the sleeve holding the screw head.

Partially insert two bone screws diagonally positioned in the plate. Remove the prefixation pins with the multifunctional holder.

Fully insert the two remaining screws. Complete final tightening of the first two screws.

The compression of the graft is achieved by the combination of the offset drilling (0.3mm) and the screw head interference with the plate screw holes.

If needed insert the gold 4.35mm screw in the central hole to further secure the bone graft/substitute.
**Surgical Technique**

**Step 4: Antimigration Cap Locking**

Put the point side of the Cerfix locking cap pusher (116180) into the half-circle on the cap, and the other side to clamp the plate side. Clamp the pusher gently to move the cap onto the screw head successfully, with the half-circle onto the prefixation hole.

It’s important to maintain a relatively perpendicular orientation of the cap pusher to the cap during the entire locking procedure. And a proper tightening and angulation of the screws ensure an easy locking of the antimigration caps.

If unlocking is needed, handle the cap pusher in a converse direction.