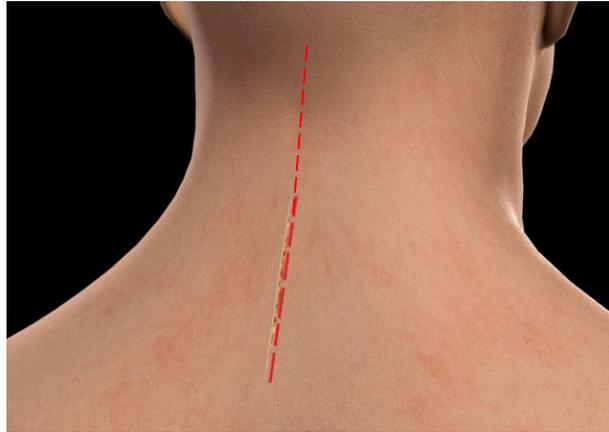


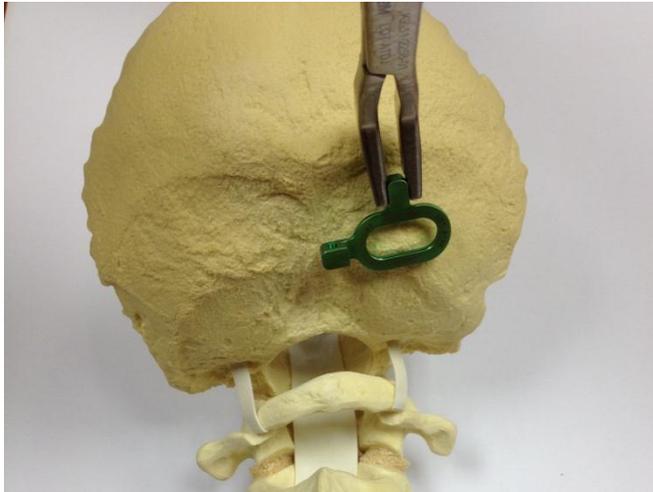
CASPIAN® Occipital Anchor Surgical Technique



1. PRE-OPERATIVE PLANNING & EXPOSURE: First, position the patient prone with the head and neck in a neutral position using a rigid head holder. Make a mid-line incision, and expose the occiput from theinion down to the desired level in the cervical spine. Dissection should be carried laterally to expose the lateral masses.



2. HOOK & SCREW INSERTION: Place hooks, MESA Mini or DENALI Mini screws (indicated for T1-T3), and other supplemental fixation as desired. *For instructions to insert, final tighten, and remove hooks and screws, refer to the DENALI Mini or MESA Mini Surgical Technique Guides.*



3. **PREPARING THE SITE:** Once supplemental fixation has been implanted, determine the appropriate Anchor width by using an Anchor Template. Two Anchor Templates are available: Short and Long.

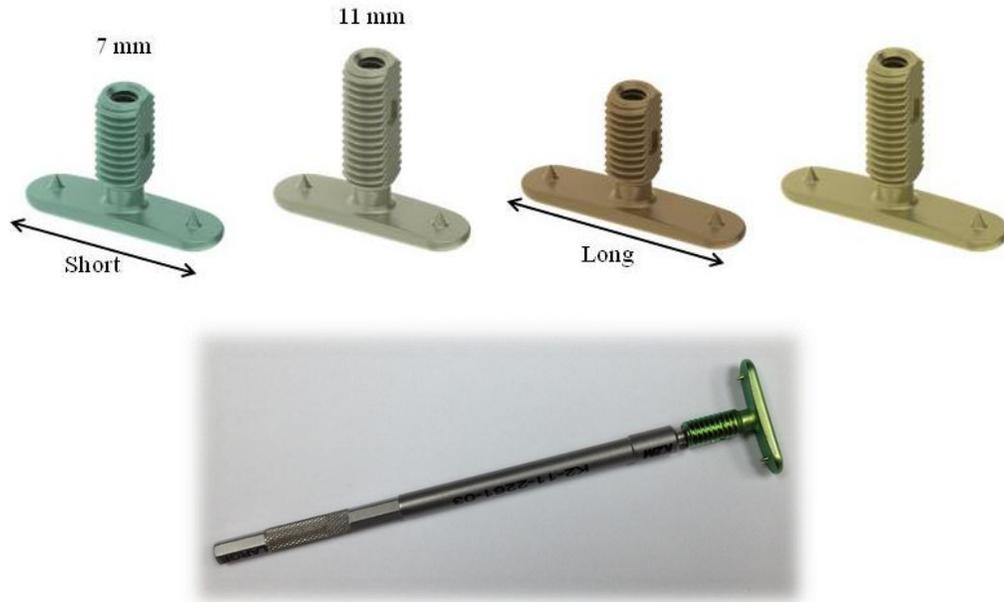
Hold the Anchor Template to the occiput using the Template Holder. The template should be centered with the cervical instrumentation to ensure the Anchor Connector will line up with the cervical hooks. Generally, this will be approximately 1 cm lateral

to the midline keel. Using the Anchor Template as a guide, trace the trough area in the center of the Template with a sterile marker.

- *Note:* Examination of pre-operative CT scans may also be useful in determining implant size.

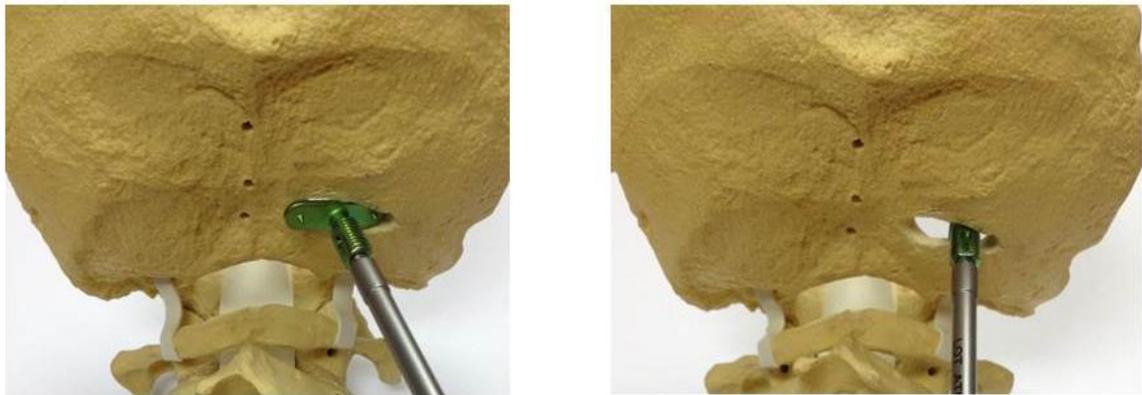


Use a high speed drill to clear the identified trough area. Remove any excess bone fragments from the area. Next, to facilitate placement of the Anchor, separate the dura from the occipital bone with a dural elevator.



4. **ANCHOR SELECTION:** Select the Occipital Anchor that corresponds to the chosen Anchor Template. Occipital Anchors are available in four sizes: Short, 7 mm; Long, 7 mm; Short, 11 mm; Long, 11 mm. Short or Long corresponds to the length of the Anchor base, while 7 and 11 mm correspond to the length of the post that attaches the Anchor to the Anchor Connector.

To insert the Anchor, attach the Short, Medium, or Long Anchor Inserter to the Anchor by threading the distal tip of the Inserter into the post on the implant.



5. **ANCHOR INSERTION:** Insert and slide the Occipital Anchor in the trough in the occiput so that the implant base mirrors the orientation of the opening. Once fully inserted in the trough, turn the implant 90°, and pull the Anchor against the skull to ensure secure fixation.



6. **ASSEMBLING THE ANCHOR CONNECTOR:** Select the Short or Long Anchor Connector, and slide the Connector, with the flat end positioned towards the occiput, over the Anchor Inserter. Next, place the Connector Assembly Tube over the Anchor Inserter and mate the Tube with the nut on the Anchor Connector. To maintain visibility of the position of the Anchor, attach the Mini T-Handle to the proximal end of the Anchor Inserter to mimic the orientation of the Anchor. Manually begin to tighten the Connector to the Occipital Anchor by turning the Connector Assembly Tube clockwise. To maintain the position of the Connector, use the Anti-Torque Guide on the lateral head of the Connector, or if using the Short Connector, engage the DENALI Mini Head Adjuster in lieu of the Anti-Torque Guide. Holding the Anchor Inserter steady, use the Short or Long Tube Wrench to further tighten the Connector Assembly Tube and secure the anchor assembly.



7. **SECURING THE ANCHOR CONNECTOR:** When the Occipital Anchor and Anchor Connector are tightly secured against the skull, turn the Mini T-Handle counterclockwise to disengage the Anchor Inserter, and remove Mini T-Handle, Connector Assembly Tube, and Anchor Inserter from the site. Then, use the Connector Driver or Universal Connector Driver (Hex Connect)

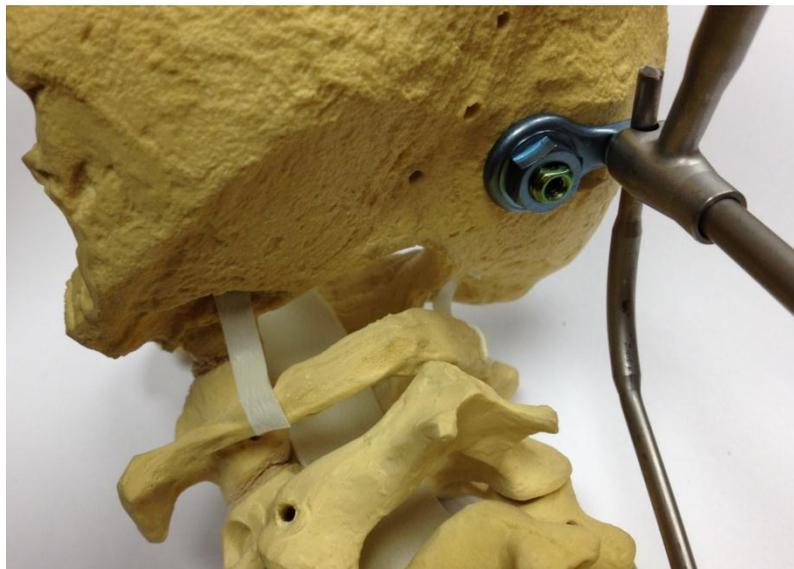
attached to the gray Torque Limiting Handle to final lock the Anchor Connector to the Anchor. The Handle will emit an audible click at 2 N-m. Repeat steps 3-8 if bilateral fixation is desired.



8. **ROD SELECTION:** Select the Pre-Bent Rods that best fit the application. Rods are available with 115° and 130° bends and lengths of 80-110 mm and 80-200 mm.

Rods may be additionally contoured by sliding the distal ends of the Tube Benders over the ends of the rods and bending to the desired angle. A Ratcheting Rod Cutter is also available to cut the length of the rod. Align the two white lines on the wheel of the Rod Cutter by turning the wheel counterclockwise. Then, insert either end of the rod into the Ratcheting Rod Cutter until the desired cut spot is lined up with the cut line. Proceed to squeeze the handle and then release, repeating until the rod is cut.

Note: On an 80-110 rod, 80 mm and 110 mm refer to the length of the $\varnothing 3.5$ mm rod before and after the thicker, reinforced bent section of the rod.



9. **ROD REDUCTION & FINAL LOCKING THE CONSTRUCT:** Use the Rod Holding Forceps to place the rod into the Anchor Connector tulip, hooks, and screws. Final lock the hooks and screws. If a translational or slight reduction force is needed to seat the rod in the Connector tulip, the Right



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or Left Torsional Rod Reducer or the Rod Fork may be used. For reductions up to 10 mm, the Single Action Rod Reducer, also known as the Firefly™, may also be used. Lightly squeeze the handle of the Firefly to engage the detents on either side of the Connector tulip. Once properly engaged, continue to squeeze the handle, or turn the proximal knob clockwise until the rod is fully seated. Then use the Size 15 Tapered Provisional Screwdriver to pass a Mini ATR™ Set Screw through the Firefly, and provisionally tighten the set screw. Disengage the Firefly by releasing the handle or turning the knob counterclockwise.

To finalize the construct, attach the Anti-Torque Guide to the tulip on the Connector. Then, use the Size 15 Torque Limiting Shaft and gray Torque Limiting Handle to final tighten the Mini ATR Set Screw. The handle will again emit an audible click at 2 Nm.

10. **UNLOCKING & REMOVAL:** Should the Occipital Anchor need to be removed, first, engage the Anti-Torque Guide on the tulip of the Anchor Connector. Then, use the Size 15 Provisional Driver to disengage the Mini ATR Set Screw.

Attach the Anchor Inserter to the post of the Anchor, and slide the Connector Assembly Tube over the Inserter. Use the Short or Long Tube Wrench to turn the Connector Assembly Tube counterclockwise and loosen the nut on the Anchor Connector. Remove the Connector, and with the Anchor Inserter still attached, turn the Occipital Anchor 90 degrees (parallel to the trough), and maneuver through the opening.



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Actual Device Color May Vary.

Consult Product Catalog for Details.

The CASPIAN Occipital Anchor is not available for sale or distribution in the United States.



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