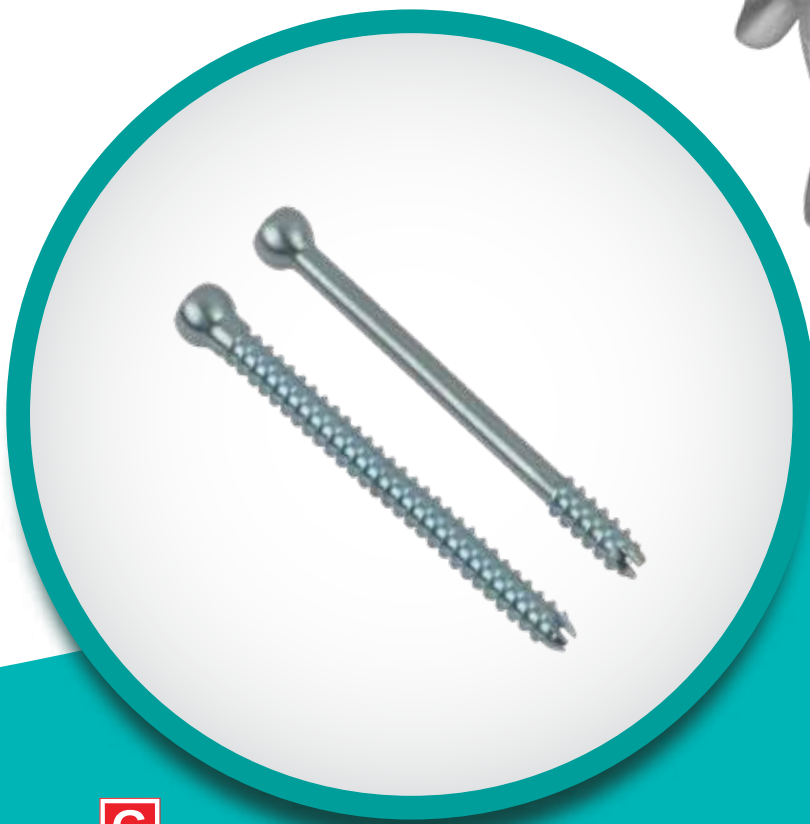
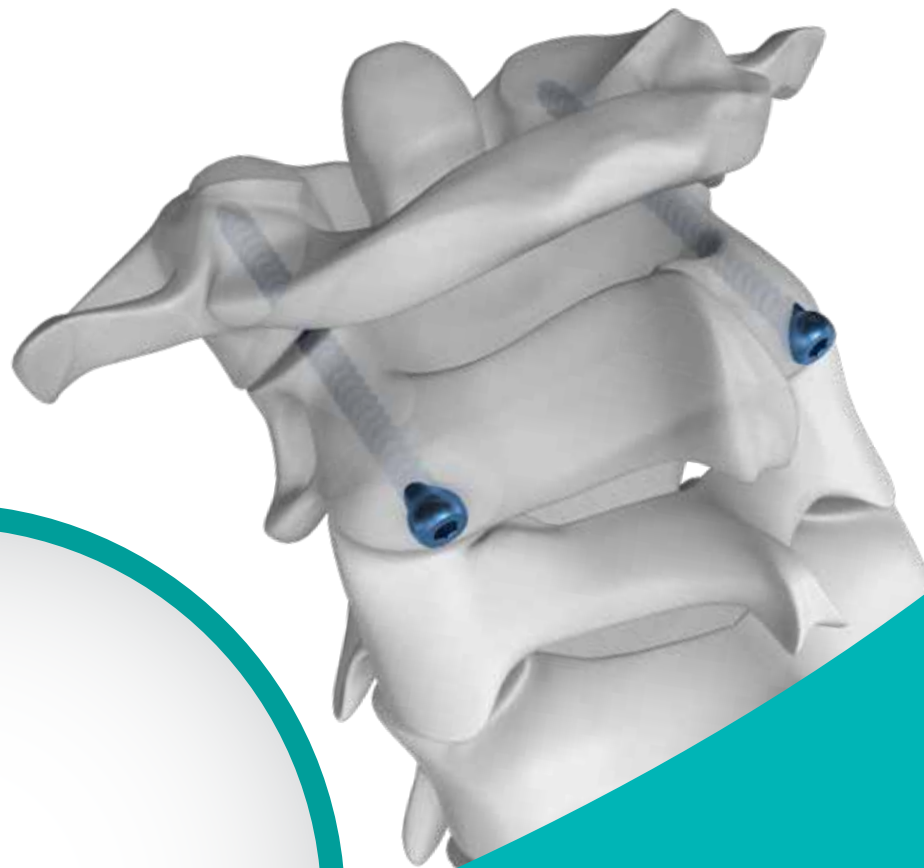




Alleviating Pain
SINCE 1962



Cannulated Odontoid Fixation System



Alleviating Pain
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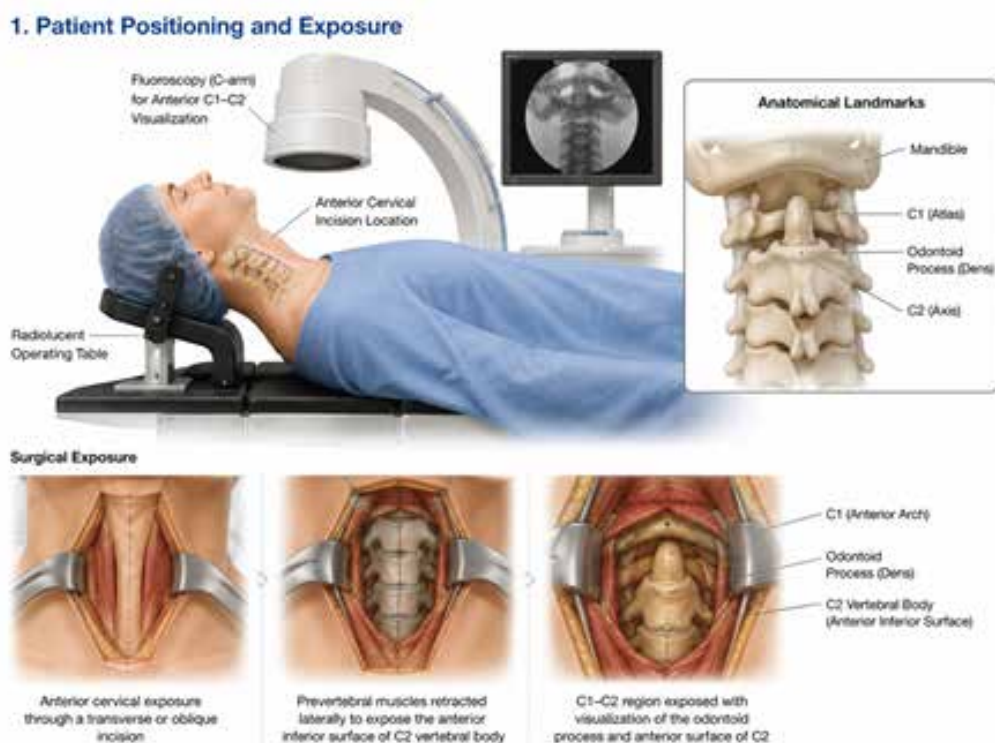
Cannulated Odontoid Fixation System

1. Patient Positioning and Exposure

The patient is placed in the supine position on a radiolucent operating table with the head and neck securely stabilized. The cervical spine is positioned in a neutral or slightly extended position to optimize access to the anterior C1–C2 region and facilitate intraoperative imaging.

The operative site is prepared and draped in accordance with standard sterile surgical practice. A suitable anterior cervical approach is performed according to surgeon preference to expose the anterior inferior surface of the C2 vertebral body and provide access for odontoid fracture fixation.

Following exposure, fracture reduction is achieved using appropriate reduction techniques. The alignment of the odontoid fracture is assessed and confirmed using intraoperative imaging. The intended screw trajectory is determined based on fracture orientation, anatomical considerations, and surgeon preference.



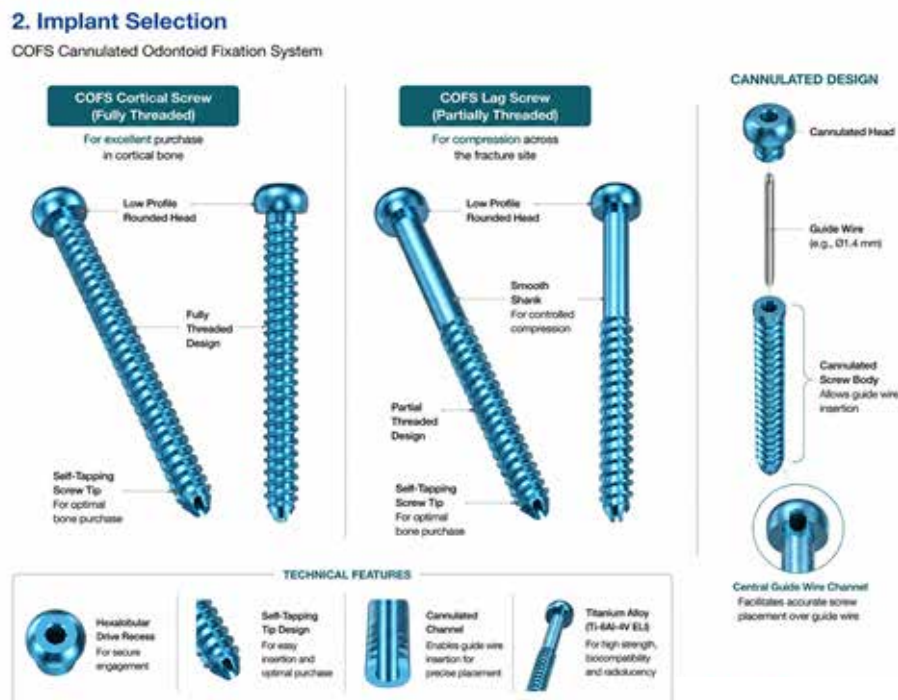
2. Implant Selection

The surgeon selects the appropriate COFS implant configuration based on fracture characteristics, bone quality, patient anatomy, and the desired fixation technique. The COFS system provides two cannulated screw options COFS Cortical Screw, COFS Lag Screw.

The COFS Cortical Screw is a fully threaded cannulated screw designed to provide stable fixation of odontoid fracture fragments through cortical bone engagement. It may be selected when compression across the fracture site is not required or when a fully threaded fixation construct is preferred.

The COFS Lag Screw is a partially threaded cannulated screw designed to provide interfragmentary compression across the fracture site. The smooth shank portion allows controlled compression of the fracture fragments during screw advancement.

The selected implant is used with the dedicated COFS cannulated instrumentation system.

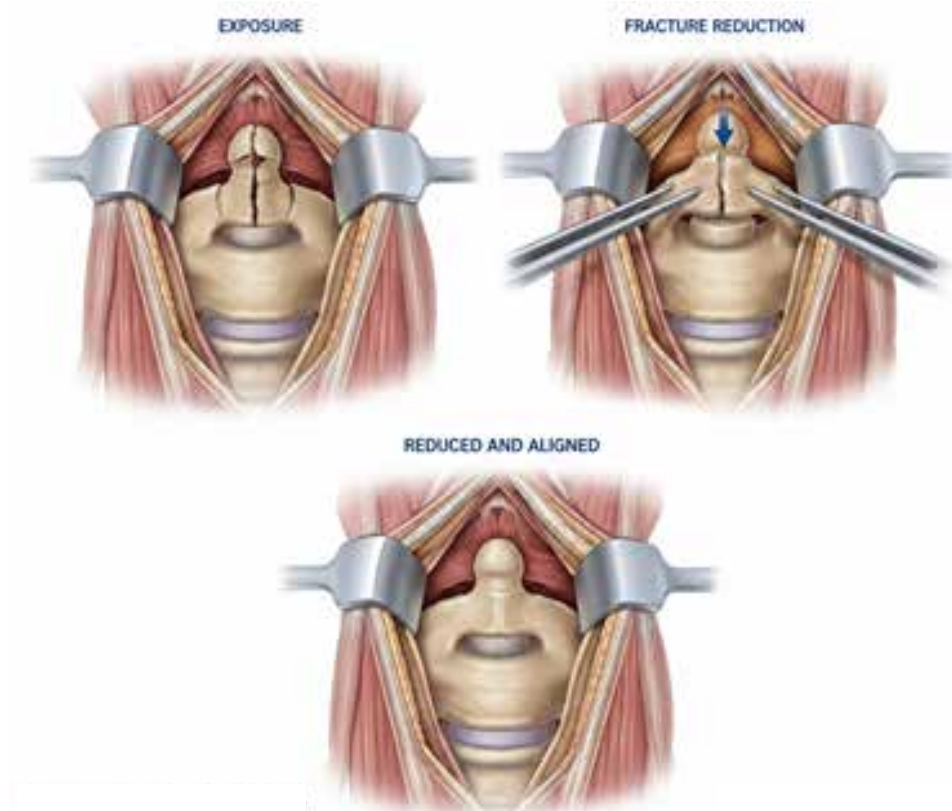


3. Surgical Procedure

3.1 Surgical Exposure and Fracture Reduction

Following patient positioning and standard sterile preparation, the anterior cervical spine is exposed through the selected surgical approach. The anterior inferior surface of the C2 vertebral body is identified, and soft tissue is carefully cleared to allow placement of the COFS Guide.

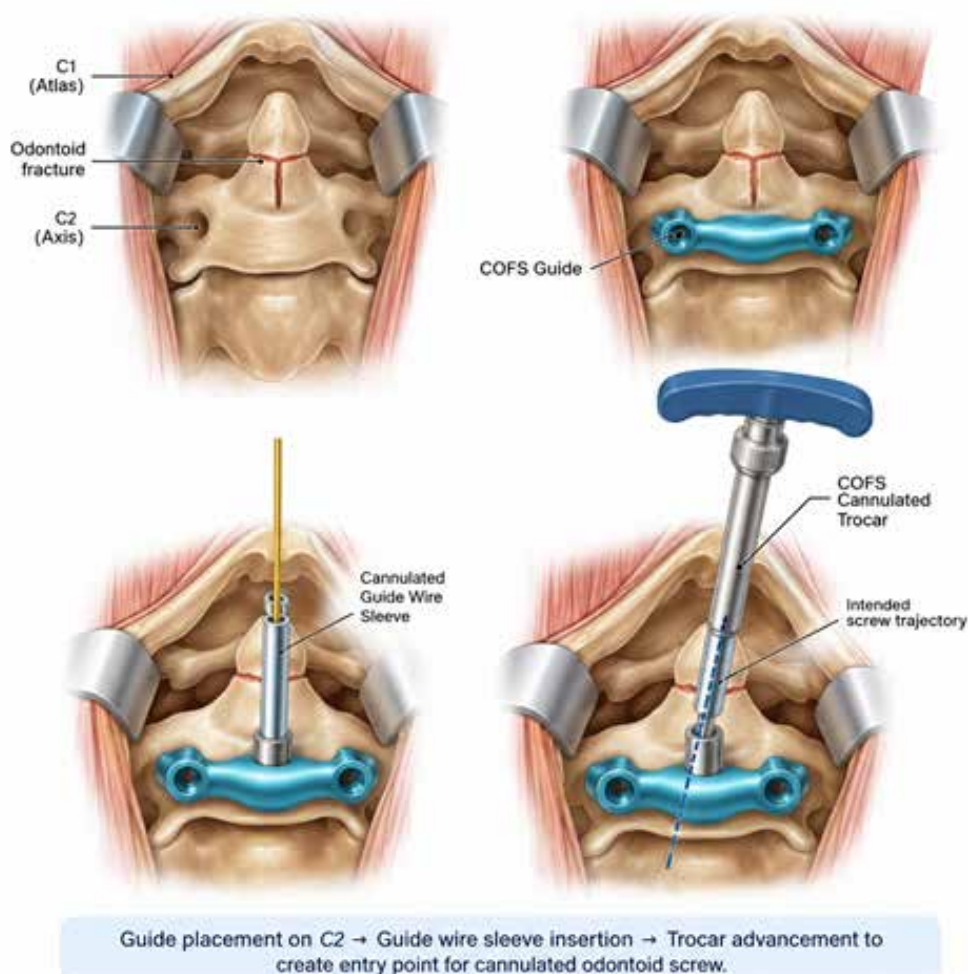
The odontoid fracture is reduced using appropriate surgical techniques. The reduction is confirmed using intraoperative imaging before proceeding with implant preparation. The surgeon determines the optimal entry point and screw trajectory to achieve fixation across the fracture site while maintaining appropriate alignment of the odontoid fragment



3.2 Guide Preparation and Placement

The selected trajectory is established using the COFS Guide. The COFS Guide is positioned against the anterior inferior surface of the C2 vertebral body at the planned screw entry point.

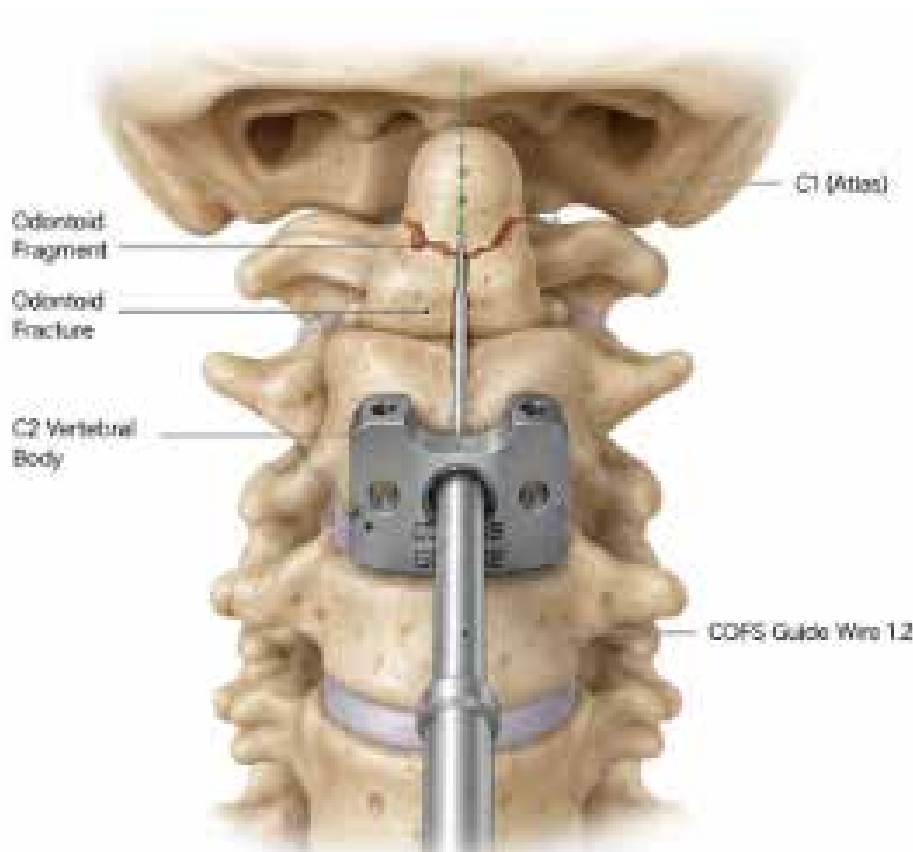
The guide provides controlled alignment for subsequent guide wire placement and implant insertion. The COFS Cannulated Guide Wire Sleeve is inserted through the COFS Guide to provide a protected pathway for guide wire advancement. The COFS Cannulated Trocar is introduced through the guide wire sleeve to create the initial cortical entry point. After preparation of the entry site, the trocar is removed while maintaining the position of the guide and guide wire sleeve.



3.3 Guide Wire Insertion

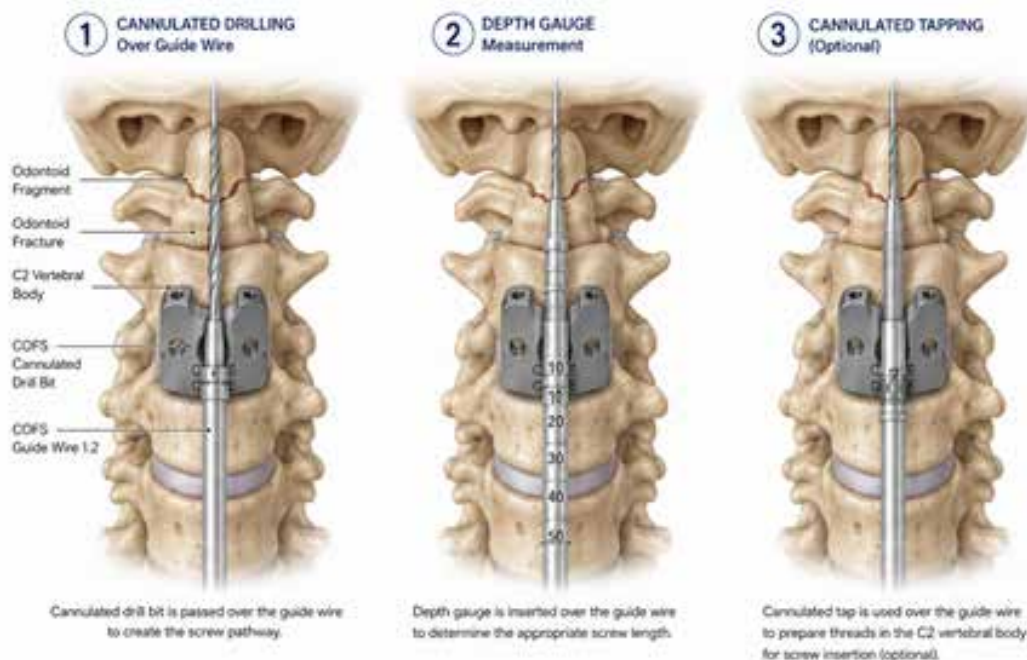
The COFS Guide Wire 1.2 is advanced through the cannulated guide wire sleeve and across the fracture site under appropriate imaging guidance.

The guide wire establishes the intended trajectory for implant preparation and screw insertion. The position of the guide wire is confirmed to ensure appropriate fracture crossing, correct screw trajectory, adequate purchase within the odontoid fragment, Maintenance of fracture reduction. The guide wire is maintained in position throughout subsequent drilling and screw insertion steps.



3.4 Screw Path Preparation

With the COFS Guide Wire 1.2 maintained in position, the COFS Cannulated Drill Bit is advanced over the guide wire to prepare the screw pathway. The drilled pathway allows controlled advancement of the selected cannulated screw while maintaining the established trajectory. Following drilling, the COFS Cannulated Depth Gauge is used over the guide wire to determine the appropriate screw length. Based on bone quality, fracture characteristics, and surgeon preference, the prepared pathway may be further prepared using the COFS Cannulated Tap 4 mm. The tapping procedure assists in preparing the screw pathway when required for controlled screw insertion.



3.5 Screw Selection and Preparation

Based on the measured depth and desired fixation technique, the surgeon selects either COFS Cortical Screw or COFS Lag Screw. The selected cannulated screw is mounted onto the COFS Cannulated Screw Driver. The screw is aligned with the guide wire to ensure controlled advancement along the prepared trajectory.



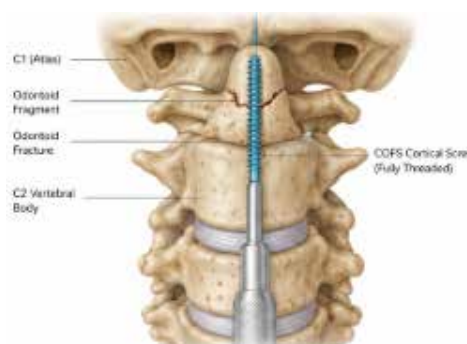
3.6 Screw Insertion

The selected COFS screw is advanced over the COFS Guide Wire 1.2 using the COFS Cannulated Screw Driver.



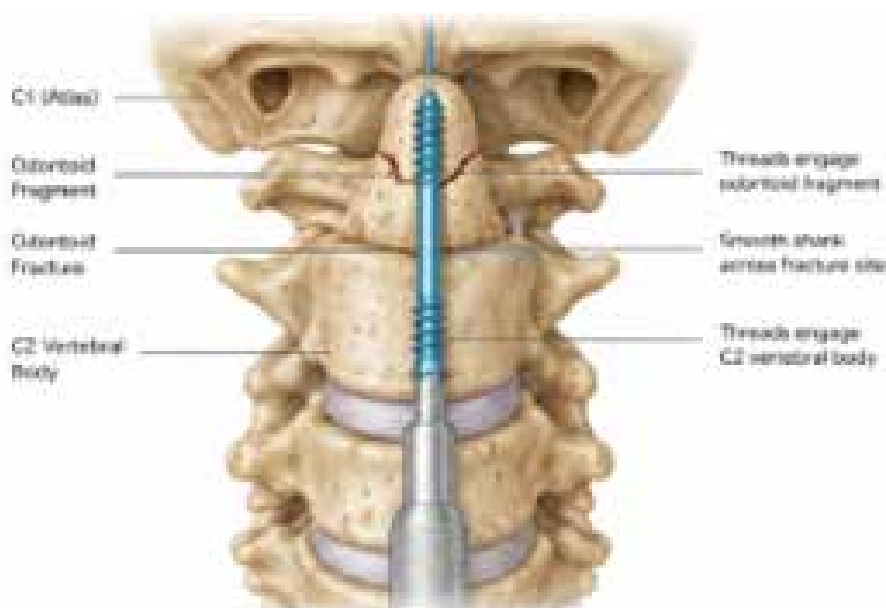
3.6.1 COFS Cortical Screw Insertion

When the COFS Cortical Screw is selected, the fully threaded screw is advanced until the desired fixation position is achieved. The screw provides fixation through engagement of the surrounding cortical bone and stabilizes the odontoid fracture fragments. The surgeon confirms adequate screw purchase, Correct implant depth, Stable fracture fixation, Maintenance of fracture reduction.



3.6.2 COFS Lag Screw Insertion

When the COFS Lag Screw is selected, the partially threaded screw is advanced across the fracture site. As the screw advances, the smooth shank region allows compression between the fracture fragments while maintaining fixation. The surgeon confirms appropriate compression across the fracture interface, Stable fixation of the odontoid fragment, Correct implant position, Appropriate screw advancement.



3.7 Final Assessment

After screw placement, the surgeon verifies the final construct using appropriate imaging guidance. The following parameters are assessed : Correct positioning of the COFS Cortical Screw or COFS Lag Screw, Appropriate screw trajectory and depth, Maintenance of fracture reduction, Adequate implant purchase, Stable fixation of the odontoid fracture. Once satisfactory fixation has been confirmed, the COFS Guide Wire 1.2 is removed.

The surgical site is irrigated according to standard surgical practice. Hemostasis is achieved, and the wound is closed in layers using the surgeon's preferred closure technique. A sterile dressing is applied.



4. Implant Removal

Implant removal, when clinically indicated, is performed through the appropriate surgical approach. After exposure of the implanted construct, surrounding tissue is carefully cleared to expose the screw head.

The COFS Cannulated Screw Driver is used to engage and remove the implanted screw. Removal may include COFS Cortical Screw, COFS Lag Screw.

The screw is carefully removed by controlled rotation while maintaining alignment with the implant axis. Following removal of the screw, the surgical site is inspected for any residual implant material or tissue changes.

The wound is irrigated as required and closed according to standard surgical practice.

