

Item Catalogue

NUPCO CODE: 4229660302200 | SN: 688

NUPCO ITEM DESCRIPTION

SET, COMPLETE INSTRUMENTATION FOR HOOK TITANIUM CLAVICLE PLATING, WITH NECESSARY CASE AND IMPLANT TRAY

VENDOR PRODUCT DESCRIPTION

Clavicle Hook Plating System instruments

SKU CODES INCLUDED FOR THIS NUPCO CODE

- 80-4007
- 80-4011
- 80-4012
- 80-4010
- 80-0601
- 80-0600
- 80-4020
- 80-4019
- 80-4021

Surgical Technique



Instrument Overview



Clavicle Hook Plate Length Sizer
(80-4007)



Clavicle Hook Plate Depth Sizer, Hook
(80-4010)



Clavicle Hook Plate Depth Sizer, Left
(80-4011)



Clavicle Hook Plate Depth Sizer, Right
(80-4012)



Depth Gauge 6–65 mm
(80-0623)



.059" x 5" ST Guide Wire
(WS-1505ST)



2.5 mm Easyout, QR
(80-0600)



3.0 mm Easyout, QR
(80-0601)

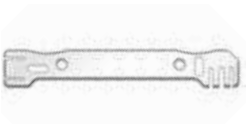


Plate Bender
(PL-2040)



Plate Bender, Large
(PL-2045)



Clavicle Retractor
(PL-CL03)



Large Cannulated Quick Release Driver Handle
(MS-3200)



2.8 mm/3.5 mm Thin Drill Guide
(PL-2196)



Plate Tack
(PL-PTACK)



2.5 mm Quick Release Hex Driver
(HPC-0025)



3.5 mm Cortical Screw Bone Tap
(MS-LTT35)



2.8 mm Quick Release Drill
(80-0387)



3.5 mm x 5" Quick Release Drill
(MS-DC35)



2.8 mm x 5" Quick Release Drill
(MS-DC28)



T15 Stick Fit Hexalobe Driver
(80-0760)



6 mm–70 mm Depth Gauge, 2 mm Increments
(MS-9022)



2.8 mm Hexalobe Locking Drill Guide 6–65 mm
(80-0668)



3.5 mm Locking Drill Guide
(MS-LDG35)



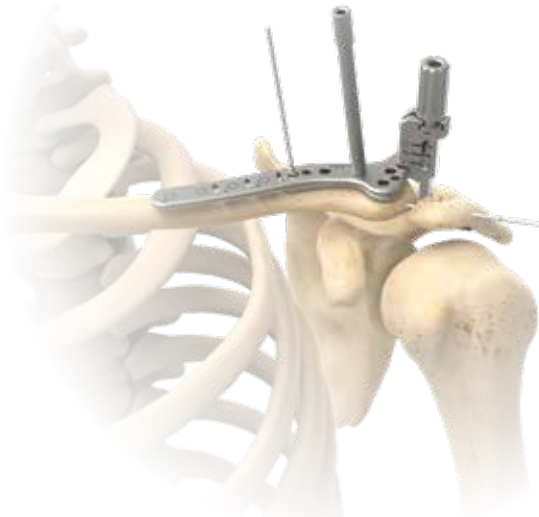
3.5 mm Screw Driver Sleeve
(MS-SS35)



Reduction Forceps w/Serrated Jaw
(PL-CL04)

Clavicle Hook Plate Surgical Technique [continued]

Figure 9



4 Plate Selection

Acumed provides a range of clavicle hook plate options to address the fracture or AC dislocation as needed to accommodate different fracture/dislocation morphology and patient anatomic variations. Select the appropriate size Clavicle Hook Plate (7014-0XXXX) using the Clavicle Hook Plate Length Sizer (80-4007) and the Clavicle Hook Plate Depth Sizer (Left, 80-4011 or Right, 80-4012) (Figure 9).

Hook Depth Measurement

Assemble the Clavicle Hook Plate Depth Sizer, Hook (80-4010) into either the Clavicle Hook Plate Depth Sizer, Left (80-4011) or Right (80-4012) depending on which side the Clavicle Hook Plate will be used (Figure 10).

Note: Do not bend the Clavicle Hook Plate Depth Sizer.

Insert the assembled Clavicle Hook Plate Depth Sizer into the subacromial space through the incision created in the extracapsular trapezius fibers on the posterior aspect of the acromion. If desired, provisionally fix the Clavicle Hook Plate Depth Sizer to the superior aspect of the distal clavicle using either Plate Tacks (PL-PTACK) or .059" x 5" ST Guide Wires (WS-1505ST). Adjust the depth of the hook by rotating the knob until the distal end of the clavicle and the acromion are reduced. Using the laser marks on the Clavicle Hook Plate Depth Sizer, identify the optimal hook depth and select the nearest appropriate size (12 mm, 16 mm, or 20 mm) if the measurement is between size offerings (Figure 11).

Hook Plate Length Measurement

Place the Clavicle Hook Plate Length Sizer along the superior aspect of the clavicle so that the lateral end is aligned with the lateral end of the clavicle. Using direct visualization or radiographic assessment, determine appropriate plate length, ensuring three plate holes (six cortices of fixation) will be present medial to the fracture.

Optionally, the Clavicle Hook Plate Length Sizer may be positioned based off the back of the Clavicle Hook Plate Depth Sizer after placement. Place the length sizer over the top of the depth sizer, aligning the notch in the length sizer to the tower of the depth sizer (Figures 10 and 11).

Note: A 3.5 mm Locking Drill Guide (MS-LDG35) may be threaded into the length sizer and used as a handle to maneuver the template.

Note: Do not bend the Clavicle Hook Plate Length Sizer.

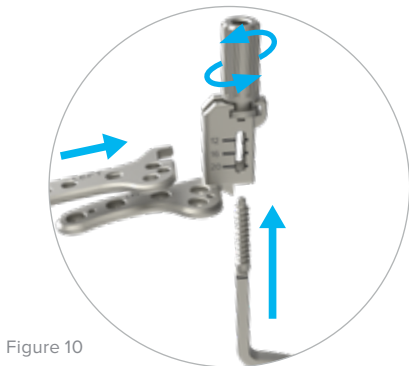


Figure 10



Figure 11



Clavicle Hook Plate
(7014-0XXXX)



Clavicle Hook Plate Depth Sizer, Hook
(80-4010)



Clavicle Hook Plate Length Sizer
(80-4007)



Plate Tacks
(PL-PTACK)



Clavicle Hook Plate Depth Sizer, Left
(80-4011)



.059" x 5" ST Guide Wire
(WS-1505ST)



Clavicle Hook Plate Depth Sizer, Right
(80-4012)



3.5 mm Locking Drill Guide
(MS-LDG35)

Clavicle Hook Plate Surgical Technique [continued]

9 Implant Removal Instructions

Implant removal is typically performed once healing has occurred.

To remove a Clavicle Hook Plate (7014-0XXXX), identify which Acumed 3.5 mm Hexalobe or 3.5 mm Hex Screws are implanted in the plate.

To remove 3.5 mm Locking or Nonlocking Hexalobe Screws (30-02XX), use the T15 Stick Fit Hexalobe Driver (80-0760) and Large Cannulated Quick Release Driver Handle (MS-3200) (Figure 22).

To remove 3.5 mm Locking Hex Screws (COL-3XX0) or Nonlocking Hex Screws (CO-3XX0), place the 3.5 mm Screw Driver Sleeve (MS-SS35) over the 2.5 mm Quick Release Hex Driver (HPC-0025) and connect both to the Large Cannulated Quick Release Driver Handle.

If there is resistance or risk of stripping the drive interface with the screw, an Easyout Driver can be used as an alternative to the drivers.

For the 3.5 mm Locking or Nonlocking Hexalobe Screws, attach the 3.0 mm Easyout (80-0601) to the Large Cannulated Quick Release Driver Handle.

For the 3.5 mm Locking or Nonlocking Hex Screws, attach the 2.5 mm Easyout (80-0600) to the Large Cannulated Quick Release Driver Handle (MS-3200).

Note: If the 2.5 mm Easyout (80-0600) is spinning, size up to the 3.0 mm Easyout (80-0601) and repeat removal attempt.

Turn the 2.5 mm or 3.0 mm Easyout with firm constant pressure in line with the screw. If the 2.5 mm or 3.0 mm Easyout does not engage the screw, it may help to slightly angle the Easyout so it wedges into the head of the screw. If the 2.5 mm or 3.0 mm Easyout is spinning, tap it with a mallet to move it further inside the drive feature before turning it again.

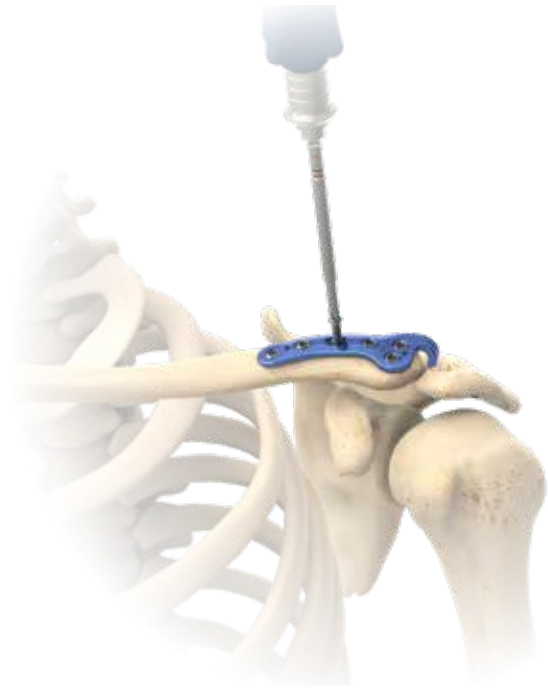


Figure 22



T15 Stick Fit
Hexalobe Driver
(80-0760)



Large Cannulated
Quick Release
Driver Handle
(MS-3200)



3.5 mm Screw
Driver Sleeve
(MS-SS35)



2.5 mm Quick
Release Hex
Driver
(HPC-0025)



3.0 mm Easyout
(80-0601)



2.5 mm Easyout
(80-0600)

Ordering Information

Tray Components

Clavicle Hook Plate Implants

1	Clavicle Hook Plate, 7-Hole 12 mm, Left	7014-0712L	10	Clavicle Hook Plate, 7-Hole 12 mm, Right	7014-0712R
2	Clavicle Hook Plate, 6-Hole 12 mm, Left	7014-0612L	11	Clavicle Hook Plate, 6-Hole 12 mm, Right	7014-0612R
3	Clavicle Hook Plate, 5-Hole 12 mm, Left	7014-0512L*	12	Clavicle Hook Plate, 5-Hole 12 mm, Right	7014-0512R*
4	Clavicle Hook Plate, 7-Hole 16 mm, Left	7014-0716L	13	Clavicle Hook Plate, 7-Hole 16 mm, Right	7014-0716R
5	Clavicle Hook Plate, 6-Hole 16 mm, Left	7014-0616L	14	Clavicle Hook Plate, 6-Hole 16 mm, Right	7014-0616R
6	Clavicle Hook Plate, 5-Hole 16 mm, Left	7014-0516L*	15	Clavicle Hook Plate, 5-Hole 16 mm, Right	7014-0516R*
7	Clavicle Hook Plate, 7-Hole 20 mm, Left	7014-0720L	16	Clavicle Hook Plate, 7-Hole 20 mm, Right	7014-0720R
8	Clavicle Hook Plate, 6-Hole 20 mm, Left	7014-0620L	17	Clavicle Hook Plate, 6-Hole 20 mm, Right	7014-0620R
9	Clavicle Hook Plate, 5-Hole 20 mm, Left	7014-0520L*	18	Clavicle Hook Plate, 5-Hole 20 mm, Right	7014-0520R*

Instrumentation

19	Clavicle Hook Plate Length Sizer	80-4007
20	Clavicle Hook Plate Depth Sizer, Left	80-4011
21	Clavicle Hook Plate Depth Sizer, Right	80-4012
22	Clavicle Hook Plate Depth Sizer, Hook	80-4010
23	3.0 mm Easyout, QR	80-0601
24	2.5 mm Easyout, QR	80-0600

Trays

25	Clavicle Hook Plate Tray	80-4020
26	Clavicle Hook Plate Essential Tray**	80-4019
27	Clavicle Hook Plate Tray Lid**	80-4021

*5-hole Clavicle Hook Plates are optional

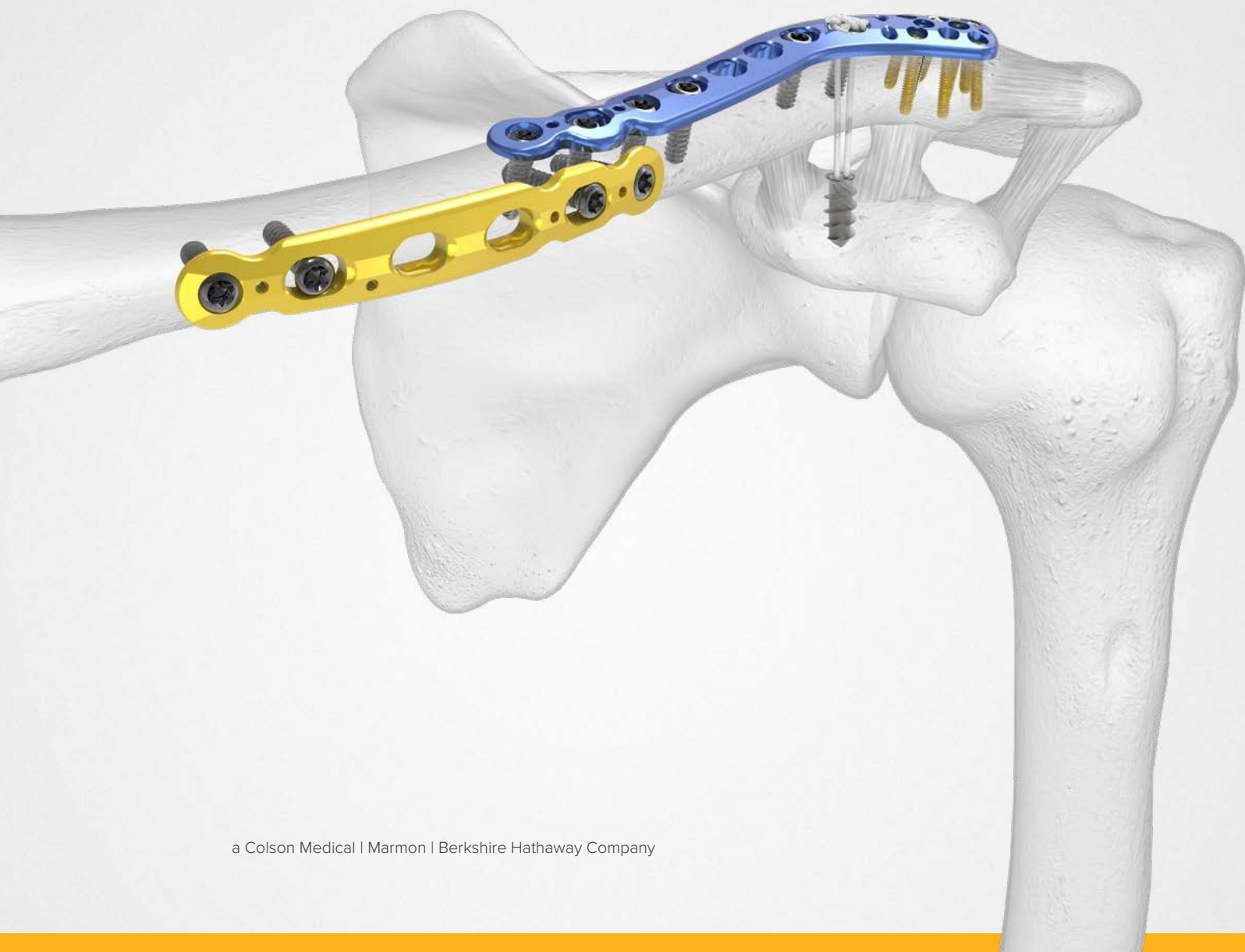
** Not shown

Optional

Sterile Implants

Clavicle Hook Plate, 9-Hole 12 mm, Left	7014-0912L-S	Clavicle Hook Plate, 9-Hole 20 mm, Left	7014-0920L-S
Clavicle Hook Plate, 9-Hole 12 mm, Right	7014-0912R-S	Clavicle Hook Plate, 9-Hole 20 mm, Right	7014-0920R-S
Clavicle Hook Plate, 9-Hole 16 mm, Left	7014-0916L-S		
Clavicle Hook Plate, 9-Hole 16 mm, Right	7014-0916R-S		

Surgical Technique



System Features [continued]

Anterior Clavicle Plates—Side

Tapered medial and lateral plate ends are designed to aid in minimizing irritation and reduce stress concentrations



Limited Contact Design (LCD) is intended to support healing of the periosteum

Low-profile screw/plate interface

Anterior Clavicle Plates—Top

.062" K-wire holes for provisional stability

Beveled superior and inferior profiles are designed to help minimize irritation



Locking screw holes

Standard compression/reduction slots

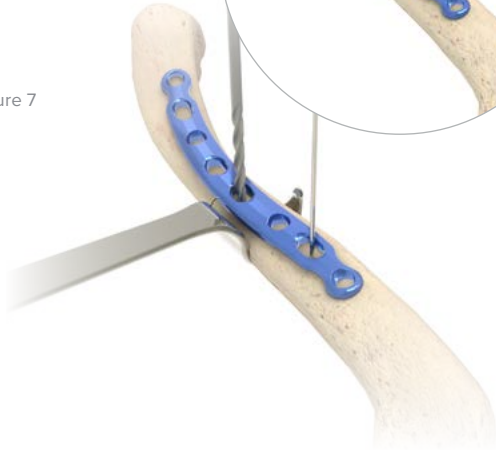
Superior Midshaft Clavicle Plate Surgical Technique

[continued]

Figure 6



Figure 7



5 Nonlocking Screw Insertion

For early stability, place the first two screws medial and lateral to the fracture site. If bicortical screws are used, precautions should be taken to avoid over-penetration of the inferior cortex. Place the Clavicle Retractor (PL-CL03) under the inferior surface of the clavicle to protect the neurovascular structures from overpenetration when drilling.

Caution: Replace the drill if it comes in contact with the clavicle retractor.

Reference the chart below for instrumentation related to each screw size option.

If drilling for 3.5 mm size screws, the Offset Drill Guide (PL-2095) is available to assist in providing compression. The green side of the drill guide is neutral, while the gold side will generate compression when used in a compression slot on the plate.

After installing at least two screws, remove the K-wires holding the plate to the clavicle.

Screw Size Option	Drill	Depth Gauge	Driver	Driver Handle
3.5 mm Nonlocking Hexalobe Screw (30-02XX)	2.8 mm Quick Release Drill (80-0387)	Depth Gauge 6–65 mm (80-0623)	T15 Stick Fit Hexalobe Driver (80-0760)	Large Cannulated Quick Release Driver Handle (MS-3200)
3.0 mm Nonlocking Hexalobe Screw (30-03XX)	2.3 mm Quick Release Drill (80-0627)	Depth Gauge 6–65 mm (80-0623)	T15 Stick Fit Hexalobe Driver (80-0760)	Large Cannulated Quick Release Driver Handle (MS-3200)
Optional 3.5 mm (Nonlocking) Cortical (Hex) Screw (CO-3XX0)	2.8 mm x 5" Quick Release Drill (MS-DC28)	6–70 mm Depth Gauge, 2 mm Increments (MS-9022)	2.5 mm Quick Release Hex Driver (HPC-0025)	Large Cannulated Quick Release Driver Handle (MS-3200)
Optional 2.7 mm (Nonlocking) Cortical (Hex) Screw (CO-27XX)	2.0 mm x 5" Quick Release Drill (MS-DC5020)	6–70 mm Depth Gauge, 2 mm Increments (MS-9022)	2.5 mm Quick Release Hex Driver (HPC-0025)	Large Cannulated Quick Release Driver Handle (MS-3200)

Anterior Clavicle Plate Surgical Technique [continued]

6 Locking Screw Insertion

For locking screw insertion, reference the chart below for instrumentation related to each screw size option. Note that when utilizing either the 2.8 mm Hexalobe Locking Drill Guide 6–65 mm (80-0668), or the 2.3 mm Locking Drill Guide 6–65 mm (80-0622), the screw length can be estimated by matching the laser line on the drill with the markings on the drill guide. When in between sizes, it is recommended to choose the shorter screw option. Advance screws until the head fully engages the plate.

Note: Tapping with the 2.7 mm Cortical Screw Bone Tap (MS-LTT27) or 3.5 mm Cortical Screw Bone Tap (MS-LTT35) is recommended for patients with dense bone. The locking drill guide must be removed prior to tapping.

Depending on the degree of comminution, demineralized bone matrix, iliac crest autograft, or allograft bone chips may be used to fill areas devoid of bone.¹ In hypertrophic nonunions, callus from the nonunion site may be sufficient to provide graft material.



Figure 7

Screw Size Option	Locking Drill Guide	Drill	Depth Gauge	Driver	Driver Handle
3.5 mm Locking Hexalobe Screw (30-02XX)	2.8mmHexalobe Locking Drill Guide 6–65 mm (80-0668)	2.8 mm Quick Release Drill (80-0387)	Depth Gauge 6–65 mm (80-0623)	T15 Stick Fit Hexalobe Driver (80-0760)	Large Cannulated Quick Release Driver Handle (MS-3200)
3.0 mm Locking Hexalobe Screw (30-02XX)	2.3 mm Locking Drill Guide 6–65 mm (80-0622)	2.3 mm Quick Release Drill (80-0627)	Depth Gauge 6–65 mm (80-0623)	T15 Stick Fit Hexalobe Driver (80-0760)	Large Cannulated Quick Release Driver Handle (MS-3200)
Optional 3.5 mm Locking Cortical (Hex) Screw (COL-3XXO)	3.5 mm Locking Drill Guide (MS-LDG35)	2.8 mm x 5" Quick Release Drill (MS-DC28)	6–70 mm Depth Gauge, 2 mm Increments (MS-9022)	2.5 mm Quick Release Hex Driver (HPC-0025)	Large Cannulated Quick Release Driver Handle (MS-3200)
Optional 2.7 mm Locking Cortical (Hex) Screw (COL-2XXO)	2.7 mm Locking Drill Guide (MS-LDG27)	2.0 mm x 5" Quick Release Drill (MS-DC5020)	6–70 mm Depth Gauge, 2 mm Increments (MS-9022)	2.5 mm Quick Release Hex Driver (HPC-0025)	Large Cannulated Quick Release Driver Handle (MS-3200)

Anterior Clavicle Plate Surgical Technique [continued]



Figure 8

7 Final Plate and Screw Position

An intraoperative radiograph is recommended to check the final reduction of the fracture and the position of the screws. If the surgeon feels the bone quality of the lateral fragment is poor, sutures may be passed from medial to lateral around the coracoid and the plate to take stress off the lateral fixation. After radiographic evaluation and thorough irrigation, close the clavipectoral fascia over the clavicle and the plate. Follow by closing the subcutaneous tissue and musculature in separate layers.

Finally, close the skin by using interrupted absorbable sutures with a subcuticular stitch and dress the wound.

Postoperative Protocol

Postoperative care is at the discretion of the surgeon. The following protocol is provided as an example:

For the first four weeks, place the patient in either an arm sling or an abduction pillow to bring the arm up and the clavicle down, unloading the AC joint.¹ Initiate passive range of motion exercises during the first four weeks. Exercises may include pendulum, Codman, isometric bicep, and elbow and wrist motion. Emphasize to patients that they must avoid any activity involving heavy lifting, pushing, or pulling. Depending on the amount of comminution and the stability of fixation, start active assisted exercise from four to six weeks, and initiate active strengthening at six to eight weeks postoperatively, once healing is seen radiographically. A full return to activities is permitted once healing has occurred.

8 Optional: Implant Removal Instructions

To remove a clavicle plate, use the T15 Stick Fit Hexalobe Driver (80-0760) or 2.5 mm Hex Driver (HPC-0025) and Large Cannulated Quick Release Driver Handle (MS-3200). Referencing the Screw Removal Brochure (SPF10-00) may aid in implant extraction if difficulty is experienced.

Caution: Due to risk of refracture, implant removal is generally not recommended before one year after ORIF.