

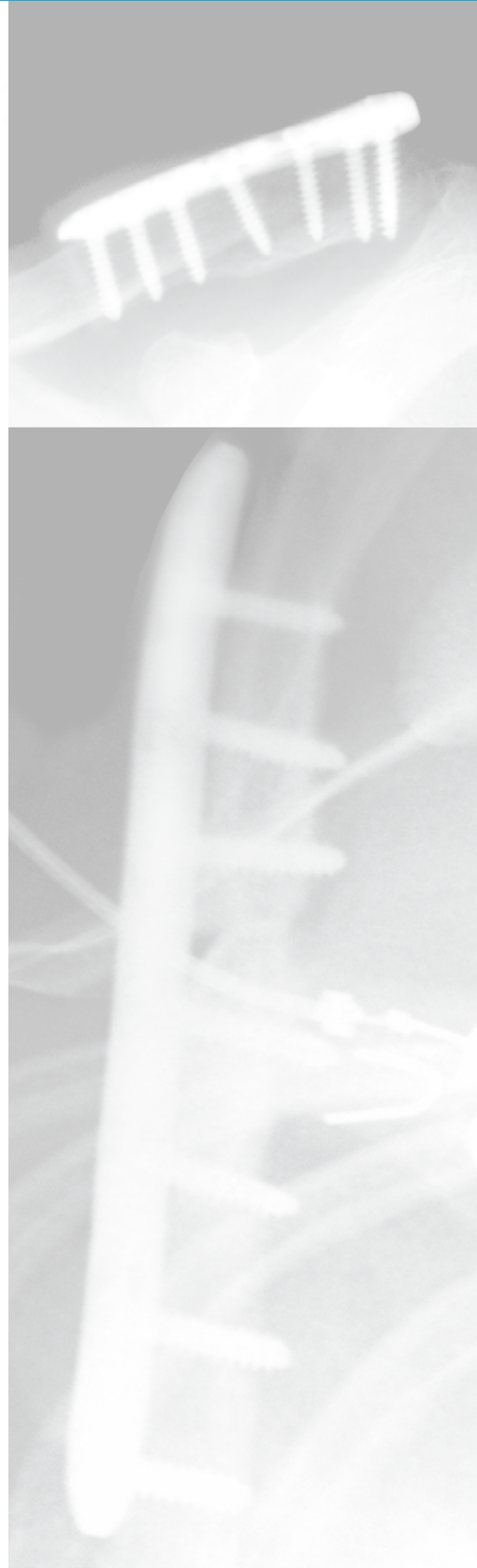
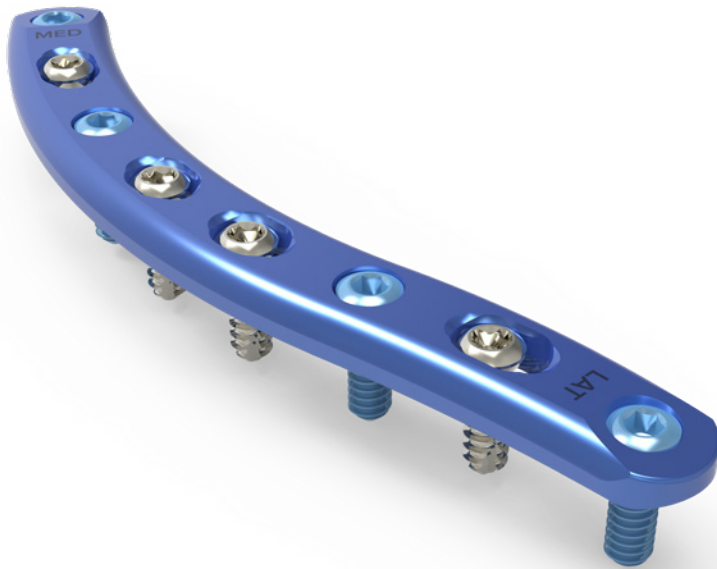
Surgical Technique



Acumed® is a global leader of innovative orthopaedic and medical solutions.



We are dedicated to developing products, service methods, and approaches that improve patient care.



Acumed® Locking Clavicle Plating System

The Acumed Locking Clavicle Plating System is designed to treat simple and complex fractures, malunions, and nonunions. Designed in conjunction with William B. Geissler, MD, the Clavicle Plating System offers a variety of low-profile and narrow-profile plating solutions, precontoured to match the natural S-shape of the clavicle.

This achievement affords surgeons the opportunity to choose the most appropriate option for the patient, could help reduce surgery time spent contouring a plate, designed to act as a template by replicating clavicular anatomy compared to straight plates, all of which may reduce the need for additional surgical procedures.

The system can be used with either hex or hexalobe screws.

Indications for Use

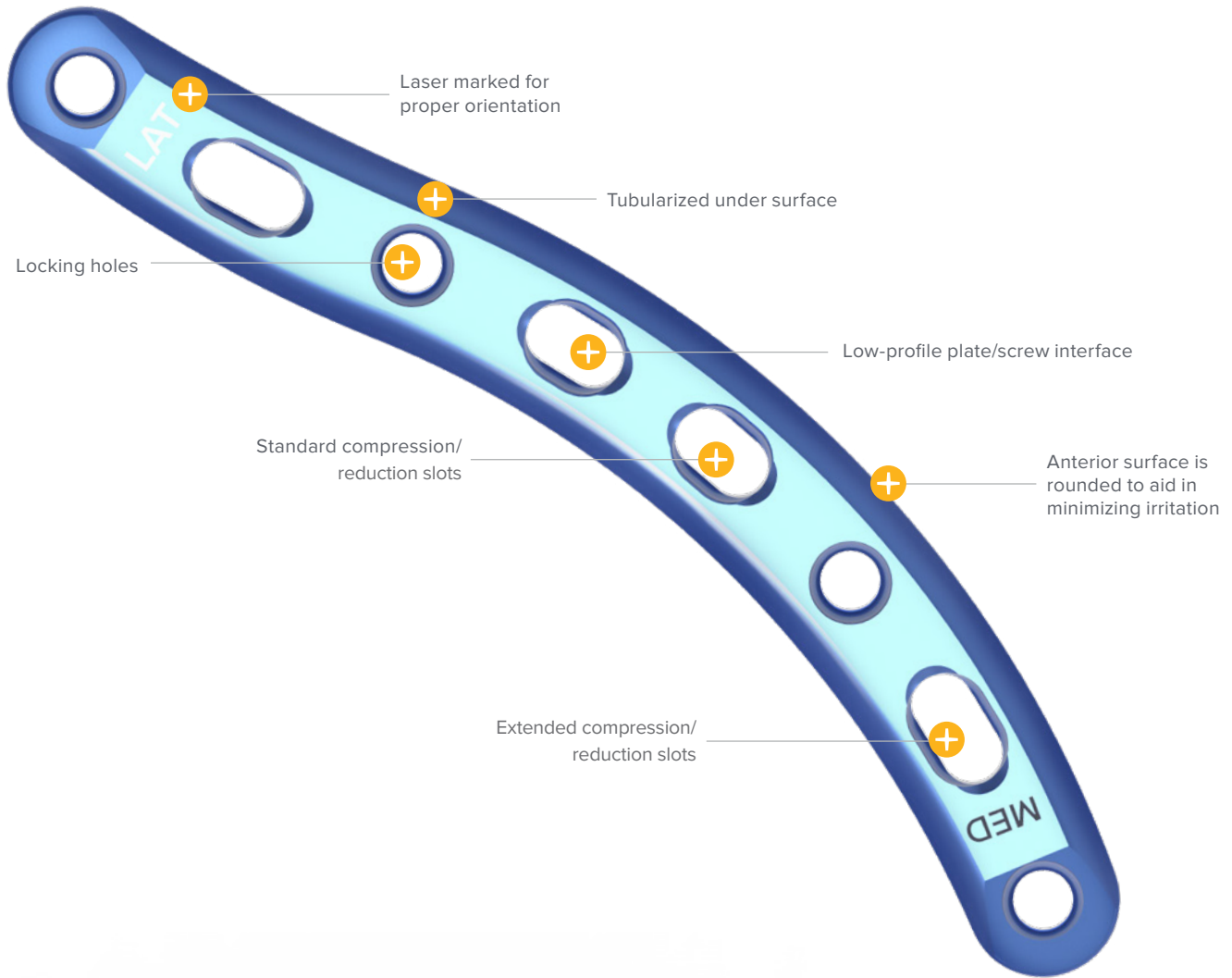
The Acumed Locking Clavicle Plating System is intended to provide fixation for fractures, malunions, and nonunions of the clavicle.

	Definition
Warning	Indicates critical information about a potential serious outcome to the patient or the user.
Caution	Indicates instructions that must be followed in order to ensure the proper use of the device.
Note	Indicates information requiring special attention.

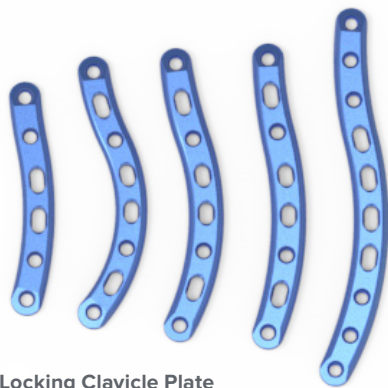
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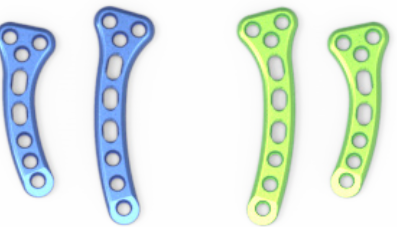
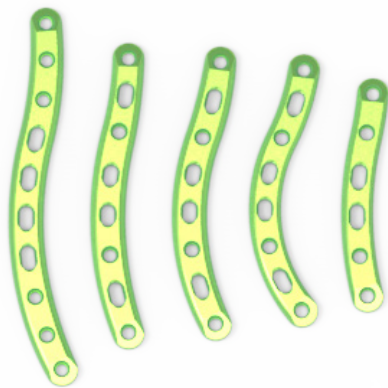
System Features



Beveled medial and lateral profile aimed to minimize irritation



Locking Clavicle Plate



Locking Clavicle J-Plate

Color-coded for left (blue) and right (green) application.

Instrument Overview



Reduction Forceps with Serrated Jaw
(PL-CL04)



Plate Bender
(PL-2040)



Plate Bender, Large
(PL-2045)



Large Cannulated Quick Release Driver Handle
(MS-3200)



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



2.0 mm x 5" Quick Release Drill
(MS-DC5020)



3.0 mm x 5" Quick Release Drill
(80-1088)



2.3 mm Quick Release Drill
(80-0627)



3.5 mm Locking Drill Guide
(MS-LDG35)



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



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



Offset Drill Guide
(PL-2095)



Clavicle Retractor
(PL-CL03)



2.5 mm Quick Release Hex Driver
(HPC-0025)



T15 Stick Fit Hexalobe Driver
(80-0760)



2.7 mm Cortical Screw Bone Tap
(MS-LTT27)



3.5 mm Cortical Screw Bone Tap
(MS-LTT35)



.045" x 6" ST Guide Wire
(WS-1106ST)



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

Surgical Technique Overview

Preoperative
Planning and
Patient Positioning



Exposure

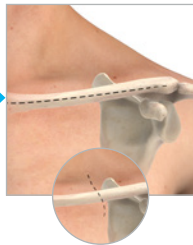
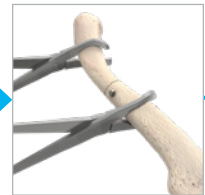
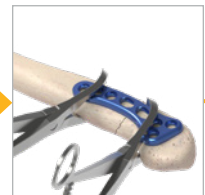


Plate Selection

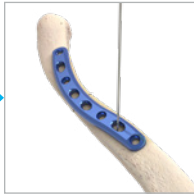


Superior Midshaft
Plate Surgical
Technique

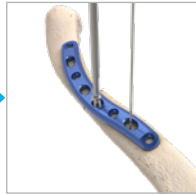


J-Plate Surgical
Technique

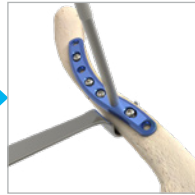
Plate Placement



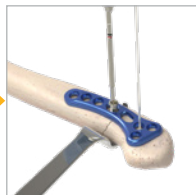
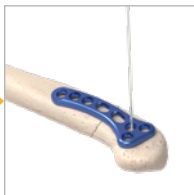
Nonlocking Screw Insertion



Locking Screw Insertion



Final Plate and Screw Position



Superior Midshaft Plate Surgical Technique

William B. Geissler, MD

Figure 1



1 Radiographic Options for Midshaft Clavicle Fractures

Radiographic evaluation begins with an anteroposterior (AP) view to evaluate the acromioclavicular (AC) and sternoclavicular (SC) joints as well as the coracoclavicular (CC) ligaments. If thoracic structures obstruct the image, a 20° to 60° cephalic tilted view may be utilized. For displaced fracture fragments, especially in the event of a vertically oriented butterfly fragment, a 45° AP oblique view may be helpful. If subluxation or dislocation of the medial clavicle or the SC joint is suspected, a 40° cephalic tilted view (serendipity view) of the SC joint or CT scan is recommended.¹ If the decision on operative treatment is influenced by shortening of the clavicle, a posteroanterior (PA) 15° caudal X-ray is suggested to assess the difference compared to the non-injured side.

2 Preoperative Planning and Patient Positioning

After completion of a thorough radiographic evaluation, the patient is placed in a beach chair position with the head rotated and tilted 5 to 10 degrees away from the operative side. A bolster is placed between the shoulder blades and head, allowing the injured shoulder girdle to retract posteriorly. This will facilitate reduction by bringing the clavicle anterior to restore length and improve exposure. The patient's involved upper extremity is prepped and draped in a sterile fashion, allowing the arm to be manipulated to help further reduce the fracture if required.

Superior Midshaft Plate Surgical Technique [continued]

3 Exposure

Surgeons may choose one of two incisions. Option one, make a 4 cm transverse (medial to lateral) intraclavicular incision parallel to the long axis and inferior to the clavicle so that the scar does not lie over the plate. This approach may provide convenient access to the entire length of the bone. Option two, an incision along Langer's lines running perpendicular to the long axis may provide better cosmetic results and less damage to the supraclavicular cutaneous nerves.

Incise the subcutaneous fat together with any fibers of the platysma. Identify and protect branches of the supraclavicular nerves to preserve cutaneous sensation inferior to the incision.

Divide the pectoralis fascia in line with the incision and elevate with electrocautery to create thick flaps that can be closed over the plate at the end of the procedure.

Note: It is important to keep soft tissue attachments to the butterfly fragments to maintain vascularity.



Figure 2

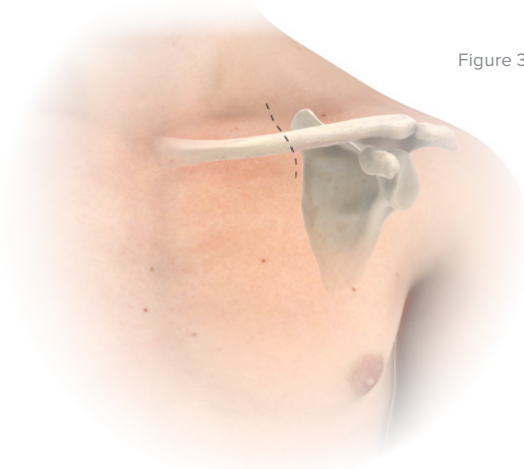
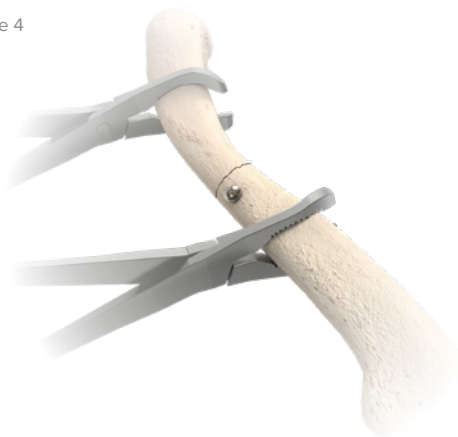


Figure 3

Superior Midshaft Plate Surgical Technique [continued]

Figure 4



4 Plate Selection

Reduce the fracture by placing the Reduction Forceps With Serrated Jaw (PL-CL04) on both the medial and lateral fragments. Distract, elevate, and rotate the lateral fragment to obtain reduction. Select an appropriate size left or right Locking Clavicle Plate (PL-CLXXX) from the different lengths and curvatures in the system. Place the two middle screw slots or holes on either side of the fracture line, ideally leaving three locking and/or nonlocking holes both medial and lateral to the fracture fragments.

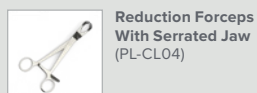
The plate may be positioned medially or laterally to achieve the best fit. In cases of nonunion or malunion, the curve of the plate may assist in anatomic reduction of the clavicle, reducing strain on the SC and AC joints.

Notes: For a more anatomical fit, the plate may be rotated 180 degrees or a plate of the opposite dexterity may be used if the patient's anatomy requires a different curvature than that provided by the designated plate.

Prior to placement of the plate, lag screw fixation across the major fracture fragments may be performed. Reduction forceps or .045" or .059" K-wires (WS-1106ST or WS-1505ST) may be used to reduce and stabilize butterfly fragments to the main medial and lateral clavicle fragments.

To lag a 2.7 mm Nonlocking Hex Screw (CO-27XX), drill with a 2.8 mm x 5" Quick Release Drill (MS-DC28) for the near cortex, followed by a 2.0 mm x 5" Quick Release Drill (MS-DC5020) for the far cortex. Insert the appropriate length 2.7 mm nonlocking hex screw across the fracture to lag.

To lag a 3.0 mm Nonlocking Hexalobe Screw (30-X2XX), drill using a 3.0 mm x 5" Quick Release Drill (80-1088) for the near cortex, followed by a 2.3 mm Quick Release Drill (80-0627) for the far cortex. Insert the appropriate length 3.0 mm nonlocking hexalobe screw across the fracture to lag.



Reduction Forceps With Serrated Jaw (PL-CL04)



Locking Clavicle Plate (PL-CLXXX)



.045" x 6" ST Guide Wire (WS-1106ST) Also used as a K-wire



.059" x 5" ST Guide Wire (WS-1505ST) Also used as a K-wire



2.7 mm Nonlocking Hex Screw (CO-27XX)



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



2.0 mm x 5" Quick Release Drill (MS-DC5020)



3.0 mm Nonlocking Hexalobe Screw (30-X2XX)



3.0 mm x 5" Quick Release Drill (80-1088)



2.3 mm Quick Release Drill (80-0627)

Superior Midshaft Plate Surgical Technique [continued]

Note: The reduction forceps should be used only for plate placement and are not designed to be used to reduce the plate to the bone or to hold the plate while attempting to bend or contour it to match the patient's anatomy. Plate Benders (PL-2040 or PL-2045) are available in the event that plate contouring is required to achieve an exact fit to the clavicle.

Caution: If bending of the plate is necessary, please observe the following:

- ▶ Do not bend plates more than 30 degrees
- ▶ Bend radii should be greater than 1 inch
- ▶ Do not bend more than once
- ▶ Avoid bending across locking holes

5 Plate Placement

Once the plate's position has been selected, provisionally stabilize it to the clavicle with .045" or .059" K-wires (WS-1106ST or WS-1505ST).

To reduce the risk of delayed union or nonunion, apply the plate in compression mode using the Offset Drill Guide (PL-2095). The plate may be applied to one of the major fracture fragments and used as a tool to reduce other major fragments to this bone-plate construct. Take care to ensure that the intervening fragments are not stripped.

Preservation of soft-tissue attachments helps ensure that the length and rotation of the clavicle are correct.

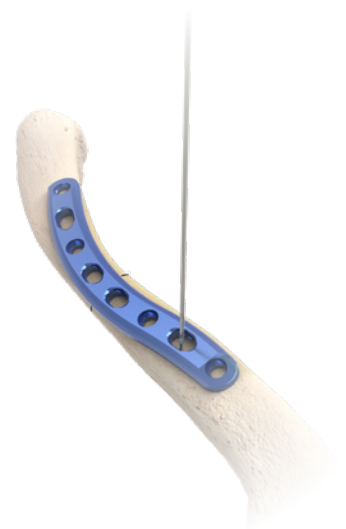


Figure 5



Plate Bender
(PL-2040)



Plate Bender,
Large
(PL-2045)



.045" x 6" ST
Guide Wire
(WS-1106ST)
Also used as a K-wire



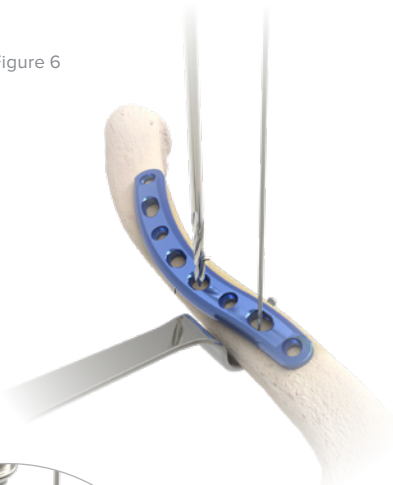
.059" x 5" ST
Guide Wire
(WS-1505ST)
Also used as a K-wire



Offset Drill Guide
(PL-2095)

Superior Midshaft Plate Surgical Technique [continued]

Figure 6



6 Nonlocking Screw Insertion

For early stability, place the first two 3.5 mm Cortical Screws (CO-3XXX) or 3.5 mm Nonlocking Hexalobe Screws (30-02XX) 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 over-penetration when drilling.

Assemble the 2.5 mm Quick Release Hex Driver (HPC-0025) or T15 Stick Fit Hexalobe Driver (80-0760) to the Large Cannulated Quick Release Driver Handle (MS-3200). Using the 2.8 mm x 5" Quick Release Drill (MS-DC28) and the Drill Guide (PL-2095 or PL-2196), drill, measure for depth, and place the selected 3.5 mm nonlocking screws through the slots with the assembled driver.

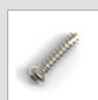
After at least two screws have been installed, the K-wires holding the plate to the clavicle may be removed.

Caution: Replace the 2.8 mm drill if it comes in contact with the clavicle retractor.

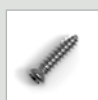
Note: 3.5 mm nonlocking hex or hexalobe screws can be used in the slot.



Figure 7



3.5 mm Cortical Screw (CO-3XXX)



3.5 mm Nonlocking Hexalobe Screws (30-02XX)



Clavicle Retractor (PL-CL03)



2.5 mm Quick Release Hex Driver (HPC-0025)



T15 Stick Fit Hexalobe Driver (80-0760)



Large Cannulated Quick Release Driver Handle (MS-3200)



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



Offset Drill Guide (PL-2095)



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

Superior Midshaft Plate Surgical Technique [continued]

7 Locking Screw Insertion

To drill locking holes, place the 3.5 mm Locking Drill Guide (MS-LDG35) or the 2.8 mm Hexalobe Locking Drill Guide (80-0668) into the desired hole until the guide fully threads into the plate. Drill to the appropriate depth using the 2.8 mm x 5" Quick Release Drill (MS-DC28). When between sizes, it is recommended to choose the shorter screw option. Remove the drill guide and insert the proper screw length. To place the 3.5 mm Locking Cortical Screw (COL-3XXX) or 3.5 mm Locking Hexalobe Screw (30-02XX) into the threaded holes, use the Large Cannulated Quick Release Driver Handle (MS-3200) with the 2.5 mm Quick Release Hex Driver (HPC-0025) or the T15 6" Long Stick Fit Hexalobe Driver (80-1065).

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, cancellous bone graft may be used to fill bone defects and restore devitalized bone. In hypertrophic nonunions, callus from the nonunion site may be sufficient to provide graft material.¹

Note: 3.5 mm locking hex or hexalobe screws can be used in the locking holes.

8 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.



Figure 8

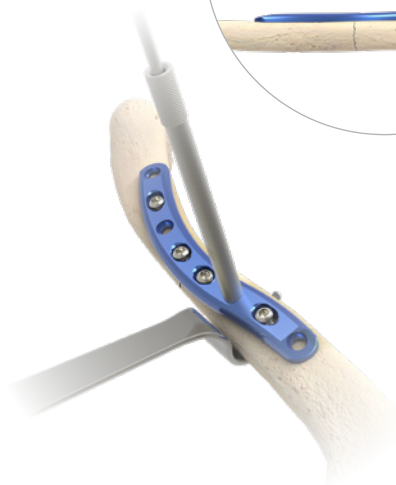


Figure 9



Superior Midshaft Plate Surgical Technique [continued]

9 Optional: Removal Instructions

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



T15 Stick Fit
Hexalobe Driver
(80-0760)



2.5 mm
Quick Release
Hex Driver
(HPC-0025)



Large Cannulated
Quick Release
Driver Handle
(MS-3200)

J-Plate Surgical Technique

William B. Geissler, MD

1 Preoperative Planning and Patient Positioning

After completion of a thorough radiographic evaluation, place the patient in a beach chair position with the head rotated and tilted 5 to 10 degrees away from the operative side. Place a bolster between the shoulder blades and head, allowing the injured shoulder girdle to retract posteriorly. This helps facilitate reduction by bringing the clavicle anterior to restore length and improve exposure. Prep the patient's involved upper extremity and drape in a sterile fashion, allowing the arm to be manipulated to help further reduce the fracture if required.

Caution: After axial trauma to the shoulder, it is important to complete a full clinical workup, as this injury is not only a bony injury but also usually a soft-tissue event involving the disruption of the coracoclavicular (CC) ligaments and acromioclavicular (AC) joint.² Thus, examination of the AC joint and CC ligaments is important in the success of the repair.

Note: Step 1 of the Superior Midshaft Plate surgical technique provides a complete profile of options for radiographic evaluation. It is important to note that an AP radiograph can underestimate the displacement of the distal clavicle. If AC joint widening is visualized on the AP view, an axillary radiograph should be taken to determine the anteroposterior position of the clavicle in relation to the acromion.²



Figure 1

J-Plate Surgical Technique [continued]

Figure 2



Figure 3

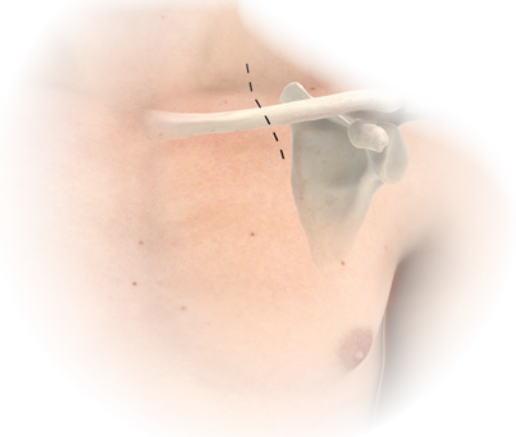


Figure 4

2 Exposure

Surgeons may choose one of two incisions. Option one, make a 4 cm transverse incision inferior to the distal clavicle and AC joint. The incision is usually placed midway between the medial and lateral migrations of the proximal fragment. Option two, an incision along Langer's lines running perpendicular to the long axis may provide better cosmetic results and less damage to the supraclavicular cutaneous nerves.

Carry dissection down to the fascia and elevate the skin flaps, ensuring the cutaneous nerves are protected. Then subperiosteally elevate the trapezial deltoid musculature off the bone fragments, avoiding the infraclavicular nerve branches below the clavicle.

Note: It is important to keep soft-tissue attachments to the butterfly fragments to maintain vascularity. Then reduce the fracture.

3 Plate Selection

Select the appropriate size Locking Clavicle J-Plate (PL-CLXXX) from the different lengths and curvatures in the system. The curve of the plate may assist in anatomic reduction of the clavicle, reducing strain on the SC and AC joints.

Note: Prior to placement of the plate, lag screw fixation across the major fracture fragments may be performed. Many Type IIB clavicle fractures have a horizontal cleavage fracture that extends into the AC joint, which may be fixed in this manner. The Reduction Forceps With Serrated Jaw (PL-CL04) or .045" or .059" K-wires (WS-1106ST or WS-1505ST) may be used to reduce and stabilize butterfly fragments to the main medial and lateral clavicle fragments.

To lag a 2.7 mm Nonlocking Hex Screw (CO-27XX), drill with a 2.8 mm x 5" Quick Release Drill (MS-DC28) for the near cortex, followed by a 2.0 mm x 5" Quick Release Drill (MS-DC5020) for the far cortex. Insert the appropriate length 2.7 mm nonlocking hex screw across the fracture to lag.

To lag a 3.0 mm Nonlocking Hexalobe Screw (30-03XX), drill with a 3.0 mm x 5" Quick Release Drill (80-1088) for the near cortex, followed by a 2.3 mm Quick Release Drill (80-0627) for the far cortex. Insert the appropriate length 3.0 mm nonlocking hexalobe screw across the fracture to lag.



Locking Clavicle J-Plate (PL-CLXXX)



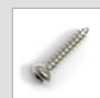
Reduction Forceps With Serrated Jaw (PL-CL04)



.045" x 6" ST Guide Wire (WS-1106ST) Also used as a K-wire



.059" x 5" ST Guide Wire (WS-1505ST) Also used as a K-wire



2.7 mm Nonlocking Hex Screw (CO-27XX)



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



2.0 mm x 5" Quick Release Drill (MS-DC5020)



3.0 mm Nonlocking Hexalobe Screw (30-03XX)



3.0 mm x 5" Quick Release Drill (80-1088)



2.3 mm Quick Release Drill (80-0627)

J-Plate Surgical Technique [continued]

4 Plate Placement

Once the plate's ideal position has been selected, provisionally stabilize it to the clavicle with .045" or .059" K-wires (WS-1106ST or WS-1505ST). To reduce the risk of delayed union or nonunion, apply the plate in compression mode using the Offset Drill Guide (PL-2095). The plate may be applied to one of the major fracture fragments and used as a tool to reduce other major fragments to this bone-plate construct. Take care to ensure that the intervening fragments are not stripped.

Preservation of soft-tissue attachments helps ensure that the length and rotation of the clavicle are correct.

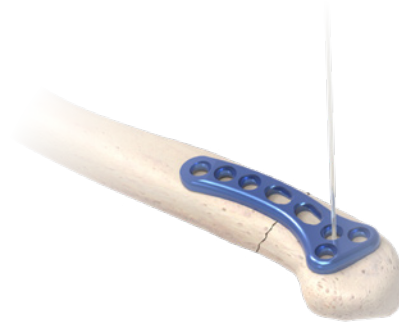


Figure 5

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 superior cortex. Place the Clavicle Retractor (PL-CL03) under the posterior surface of the clavicle to protect the neurovascular structures from over-penetration when drilling.

Assemble the 2.5 mm Quick Release Hex Driver (HPC-0025) or T15 Stick Fit Hexalobe Driver (80-0760) to the Large Cannulated Quick Release Driver Handle (MS-3200). Using the 2.8 mm x 5" Quick Release Drill (MS-DC28) and the Drill Guide (PL-2095 or PL-2196), drill, measure for depth, and place the selected 3.5 mm nonlocking screws through the slots with the assembled driver.

Once at least two screws have been installed, the K-wires holding the plate to the clavicle may be removed.

Caution: Replace the 2.8 mm drill if it comes into contact with the clavicle retractor.

Note: 3.5 mm nonlocking hex or hexalobe screws can be used in the slots.

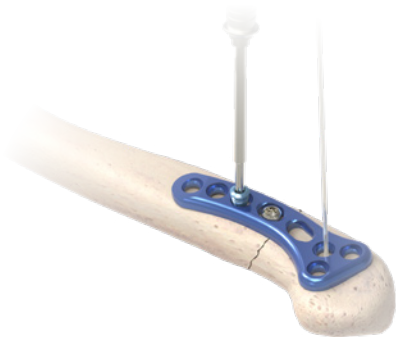


Figure 6



J-Plate Surgical Technique [continued]

Figure 7



6 Locking Screw Insertion

To drill locking holes, place the 3.5 mm Locking Drill Guide (MS-LDG35) or the 2.8 mm Hexalobe Locking Drill Guide (80-0668) into the desired hole until the guide fully threads into the plate. Drill to the appropriate depth using the 2.8 mm x 5" Quick Release Drill (MS-DC28). When between sizes, it is recommended to choose the shorter screw option. Remove the drill guide and insert the proper screw length. To place the 3.5 mm Locking Cortical Screw (COL-3XXX) or 3.5 mm Locking Hexalobe Screw (30-02XX) into the threaded holes, use the Large Cannulated Quick Release Driver Handle (MS-3200) with the 2.5 mm Quick Release Hex Driver (HPC-0025) or the T15 6" Long Stick Fit Hexalobe Driver (80-1065).

Note: Depending on the degree of comminution, cancellous bone graft may be used to fill bone defects and restore devitalized bone. In hypertrophic nonunions, callus from the nonunion site may be sufficient to provide graft material.¹

Note: 3.5 mm locking hex or hexalobe screws can be used in the locking holes.

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.



3.5 mm Locking Drill Guide (MS-LDG35)



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



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



3.5 mm Locking Screw (COL-3XXX)



3.5 mm Locking Hexalobe Screw (30-02XX)



Large Cannulated Quick Release Driver Handle (MS-3200)



2.5 mm Quick Release Hex Driver (HPC-0025)



T15 6" Long Stick Fit Hexalobe Driver (80-1065)

J-Plate Surgical Technique [continued]

8 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.³ 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 post-op, and initiate active strengthening at six to eight weeks post-op, once healing is seen radiographically. A full return to activities is permitted once healing has occurred.

9 Optional: Removal Instructions

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



T15 Stick Fit
Hexalobe Driver
(80-0760)



2.5 mm
Quick Release
Hex Driver
(HPC-0025)



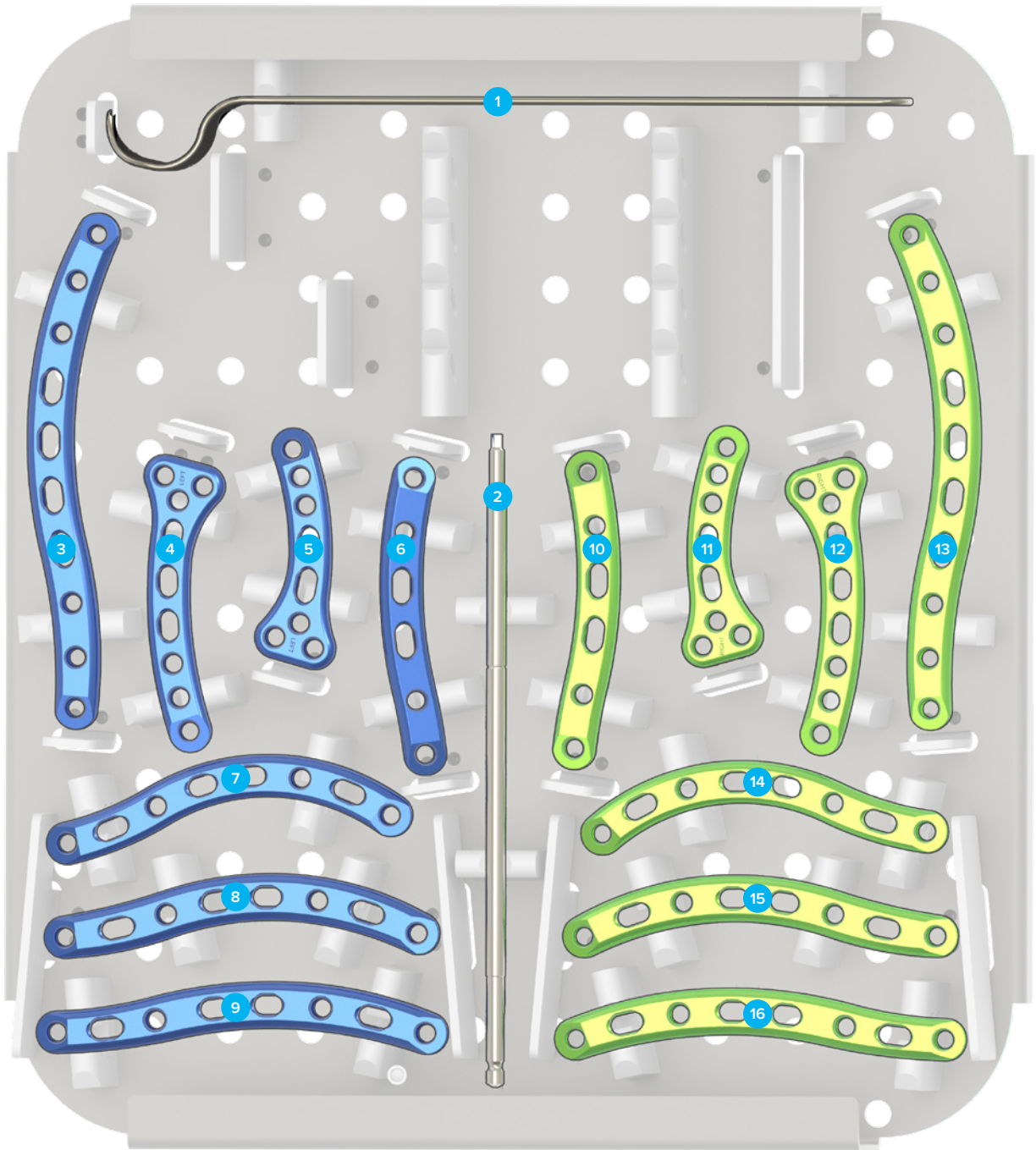
Large Cannulated
Quick Release
Driver Handle
(MS-3200)

Ordering Information

Tray Components	
Instrumentation	
1 Clavicle Retractor	PL-CL03
2 2.5 mm Solid, Quick Release, Driver Tip	HT-2502
Optional Components from Locking Clavicle Plating System	
Instrumentation	
3.0 mm x 5" Quick Release Drill	80-1088
2.3 mm Quick Release Drill	80-0627
T15 Stick Fit Hexalobe Driver	80-0760
2.8 mm Hexalobe Locking Drill Guide 6–65 mm	80-0668
Locking Clavicle Plates	
3 Locking Clavicle Plate, 10 Hole Large Left	PL-CL10LL
4 Locking Clavicle J-Plate, 9 Hole, Left	PL-CL9JL
5 Locking Clavicle J-Plate, 8 Hole, Left	PL-CL8JL
6 Locking Clavicle Plate, 6 Hole Small Left	PL-CL6SL
7 Locking Clavicle Plate, 8 Hole Small Left	PL-CL8SL
8 Locking Clavicle Plate, 8 Hole Medium Left	PL-CL8ML
9 Locking Clavicle Plate, 8 Hole Large Left	PL-CL8LL
10 Locking Clavicle Plate, 6 Hole Small Right	PL-CL6SR
11 Locking Clavicle J-Plate, 8 Hole, Right	PL-CL8JR
12 Locking Clavicle J-Plate, 9 Hole, Right	PL-CL9JR
13 Locking Clavicle Plate, 10 Hole Large Right	PL-CL10LR
14 Locking Clavicle Plate, 8 Hole Small Right	PL-CL8SR
15 Locking Clavicle Plate, 8 Hole Medium Right	PL-CL8MR
16 Locking Clavicle Plate, 8 Hole Large Right	PL-CL8LR

Note: To learn more about the full line of Acumed innovative surgical solutions, please contact your authorized Acumed distributor, call 888.627.9957, or visit www.acumed.net.

These implants are available nonsterile or sterile-packed. Add –S to the product number to designate sterile products. To order, contact your particular authorized Acumed distributor.



Ordering Information [continued]

Tray Components

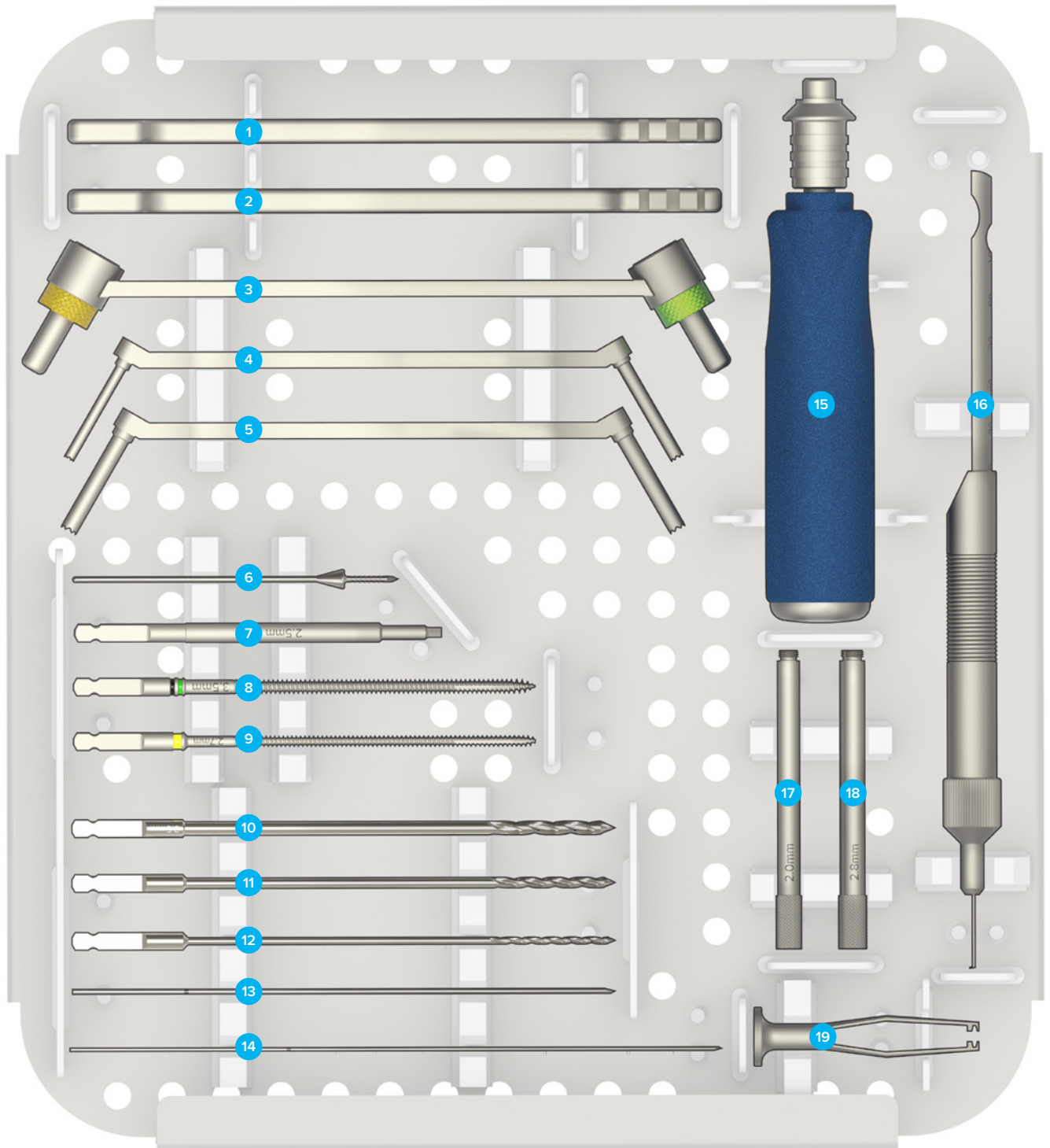
Instrumentation

1	Plate Bender	PL-2040	11	2.8 mm x 5" Quick Release Drill	MS-DC28
2	Plate Bender, Large	PL-2045	12	2.0 mm x 5" Quick Release Drill	MS-DC5020
3	Offset Drill Guide	PL-2095	13	.059" x 5" ST Guide Wire*	WS-1505ST
4	2.0 mm/2.8 mm Thin Drill Guide	PL-2118	14	.045" x 6" ST Guide Wire*	WS-1106ST
5	2.8 mm/3.5 mm Thin Drill Guide	PL-2196	15	Large Cannulated Quick Release Driver Handle	MS-3200
6	Plate Tack	PL-PTACK	16	6 mm–70 mm Depth Gauge, 2 mm Increments	MS-9022
7	2.5 mm Quick Release Hex Driver	HPC-0025	17	2.7 mm Locking Drill Guide	MS-LDG27
8	3.5 mm Cortical Screw Bone Tap	MS-LTT35	18	3.5 mm Locking Drill Guide	MS-LDG35
9	2.7 mm Cortical Screw Bone Tap	MS-LTT27	19	3.5 mm Screw Driver Sleeve	MS-SS35
10	3.5 mm x 5" Quick Release Drill	MS-DC35			

*Also used as a K-wire

Additional Components

T15 6" Long Stick Fit Hexalobe Driver	80-1065
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Ordering Information [continued]

Tray Components					
Instrumentation					
1	15 mm Hohmann Retractor	MS-46827	5	Reduction Forceps With Serrated Jaw	PL-CL04
2	Periosteal Elevator	MS-46212	6	Small Pointed Reduction Forceps	OW-1200
3	Plate Clamp	80-0223	7	Freer Elevator, 7.5	MS-57614
4	Quick Release Handle	MS-1210			



Ordering Information [continued]

Screws			
2.7 mm (Nonlocking) Cortical (Hex) Screws		3.0 mm Nonlocking Hexalobe Screws	
2.7 mm x 8 mm Cortical Screw	CO-2708	3.0 mm x 8 mm Nonlocking Hexalobe Screw	30-0301
2.7 mm x 10 mm Cortical Screw	CO-2710	3.0 mm x 10 mm Nonlocking Hexalobe Screw	30-0302
2.7 mm x 12 mm Cortical Screw	CO-2712	3.0 mm x 12 mm Nonlocking Hexalobe Screw	30-0303
2.7 mm x 14 mm Cortical Screw	CO-2714	3.0 mm x 14 mm Nonlocking Hexalobe Screw	30-0304
2.7 mm x 16 mm Cortical Screw	CO-2716	3.0 mm x 16 mm Nonlocking Hexalobe Screw	30-0305
2.7 mm x 18 mm Cortical Screw	CO-2718	3.0 mm x 18 mm Nonlocking Hexalobe Screw	30-0306
2.7 mm x 20 mm Cortical Screw	CO-2720	3.0 mm x 20 mm Nonlocking Hexalobe Screw	30-0307
2.7 mm x 22 mm Cortical Screw	CO-2722	3.0 mm x 22 mm Nonlocking Hexalobe Screw	30-0308
2.7 mm x 24 mm Cortical Screw	CO-2724	3.0 mm x 24 mm Nonlocking Hexalobe Screw	30-0309
2.7 mm x 26 mm Cortical Screw	CO-2726	3.0 mm x 26 mm Nonlocking Hexalobe Screw	30-0310
2.7 mm x 28 mm Cortical Screw	CO-2728		
2.7 mm x 30 mm Cortical Screw	CO-2730		
2.7 mm x 32 mm Cortical Screw	CO-2732		
2.7 mm x 34 mm Cortical Screw	CO-2734		
2.7 mm x 36 mm Cortical Screw	CO-2736		
2.7 mm x 38 mm Cortical Screw	CO-2738		
2.7 mm x 40 mm Cortical Screw	CO-2740		
2.7 mm x 45 mm Cortical Screw	CO-2745		
2.7 mm x 50 mm Cortical Screw	CO-2750		
2.7 mm x 55 mm Cortical Screw	CO-2755		
2.7 mm x 60 mm Cortical Screw	CO-2760		
2.7 mm x 65 mm Cortical Screw	CO-2765		

Ordering Information [continued]

Screws			
3.5 mm (Nonlocking) Cortical (Hex) Screws		3.5 mm Locking Cortical (Hex) Screws	
3.5 mm x 12.0 mm Cortical Screw	CO-3120	3.5 mm x 8.0 mm Locking Cortical Screw	COL-3080
3.5 mm x 14.0 mm Cortical Screw	CO-3140	3.5 mm x 10.0 mm Locking Cortical Screw	COL-3100
3.5 mm x 16.0 mm Cortical Screw	CO-3160	3.5 mm x 12.0 mm Locking Cortical Screw	COL-3120
3.5 mm x 18.0 mm Cortical Screw	CO-3180	3.5 mm x 14.0 mm Locking Cortical Screw	COL-3140
3.5 mm x 20.0 mm Cortical Screw	CO-3200	3.5 mm x 16.0 mm Locking Cortical Screw	COL-3160
3.5 mm x 22.0 mm Cortical Screw	CO-3220	3.5 mm x 18.0 mm Locking Cortical Screw	COL-3180
3.5 mm x 24.0 mm Cortical Screw	CO-3240	3.5 mm x 20.0 mm Locking Cortical Screw	COL-3200
3.5 mm x 26.0 mm Cortical Screw	CO-3260	3.5 mm x 22.0 mm Locking Cortical Screw	COL-3220
3.5 mm Nonlocking Hexalobe Screws		3.5 mm x 24.0 mm Locking Cortical Screw	COL-3240
3.5 mm x 8 mm Nonlocking Hexalobe Screw	30-0255	3.5 mm x 26.0 mm Locking Cortical Screw	COL-3260
3.5 mm x 10 mm Nonlocking Hexalobe Screw	30-0256	3.5 mm Locking Hexalobe Screws	
3.5 mm x 12 mm Nonlocking Hexalobe Screw	30-0257	3.5 mm x 8 mm Locking Hexalobe Screw	30-0232
3.5 mm x 14 mm Nonlocking Hexalobe Screw	30-0258	3.5 mm x 10 mm Locking Hexalobe Screw	30-0233
3.5 mm x 16 mm Nonlocking Hexalobe Screw	30-0259	3.5 mm x 12 mm Locking Hexalobe Screw	30-0234
3.5 mm x 18 mm Nonlocking Hexalobe Screw	30-0260	3.5 mm x 14 mm Locking Hexalobe Screw	30-0235
3.5 mm x 20 mm Nonlocking Hexalobe Screw	30-0261	3.5 mm x 16 mm Locking Hexalobe Screw	30-0236
3.5 mm x 22 mm Nonlocking Hexalobe Screw	30-0262	3.5 mm x 18 mm Locking Hexalobe Screw	30-0237
3.5 mm x 24 mm Nonlocking Hexalobe Screw	30-0263	3.5 mm x 20 mm Locking Hexalobe Screw	30-0238
3.5 mm x 26 mm Nonlocking Hexalobe Screw	30-0264	3.5 mm x 22 mm Locking Hexalobe Screw	30-0239
		3.5 mm x 24 mm Locking Hexalobe Screw	30-0240
		3.5 mm x 26 mm Locking Hexalobe Screw	30-0241

References

1. Renner et al. Scapula and Clavicle. *AO Principles of Fracture Management*. AO Publishing (Theime). 2007. 557-571.
2. Yeh PC, Miller SR, Cunningham JG, Sethi PM; Midshaft clavicle fracture and acromioclavicular dislocation: a case report of a rare injury. *J Shoulder Elbow Surg*. 2009;18(5):1-4.
3. Altamimi SA, McKee MD, Canadian Orthopaedic Trauma Society. Nonoperative treatment compared with plate fixation of displaced clavicular fractures. Surgical technique. *J Bone Joint Surg Am*. 2008;90 Suppl 2 Pt 1:1.



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