stryker

Evolve® EPS Elbow Plating System

Operative technique

Evolve EPS
Elbow Plating System

Contents

Surgical Technique as described by:

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This publication sets forth detailed recommended procedures for using Stryker devices and instruments. It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

Important

- The patient should be advised that the device cannot and does not replicate a normal healthy bone, that the device can break or become damaged as a result of strenuous activity or trauma and that the device has a finite expected service life.
- Removal or revision of the device may be required sometime in the future.
- Cleaning and sterilization information is provided in the applicable instructions for use.
- Non-sterile devices, including implants and instruments, must be cleaned and sterilized prior to use, in accordance with validated methods.
- Devices that are able to be disassembled should be disassembled prior to point-of-use processing. Additionally, devices with movable components that do not facilitate disassembly should be manually articulated during the point-of-use processing step in order to evacuate additional soils.
- Please remember that the compatibility of different product systems has not been tested unless specified otherwise in the product labeling.
- Consult Instructions for Use (https://ifu.wright.com) for a complete list of potential adverse effects and adverse events, contraindications, warnings and precautions.
- The surgeon must advise patients of surgical risks, and make them aware of adverse effects and alternative treatments.
- An implant whose packaging is open or damaged or whose expiration date has passed must not be used. Every precaution must be taken to ensure sterility when opening the packaging of the implant and during implantation.

Intended use

Indications

The Evolve EPS Ortholoc System is intended for fixation of fractures, osteotomies and non-unions of the olecranon, humerus, radius and ulna.

Contraindications

The Evolve EPS Ortholoc System is contraindicated for the following:

- Infection
- Physiologically or psychologically inadequate patient
- Inadequate skin, bone, or neurovascular status
- Irreparable tendon system
- Possibility for conservative treatment
- Growing patients with open epiphyses
- Patients with high levels of activity
- In patients with probable history of infection or current infection
- Overt infection
- Skeletally immature patient

Prior to use of the system, the surgeon should refer to the product package insert for complete warnings, precautions, indications, contraindications and adverse effects. Package inserts are also available by contacting the manufacturer. Contact information can be found on the back of this surgical technique and the package insert is available on the website listed.

Device description

System features

Anatomically contoured low profile design

The Evolve Elbow Plating System (EPS) was designed using a proprietary CT database to closely match patient anatomy to reduce the need for bending and act as a guide for reconstruction of complex fractures. The surgeon designers also believe that the minimal soft tissue coverage of the elbow necessitates low profile plates, especially in the metaphyseal areas. (Figure 1)

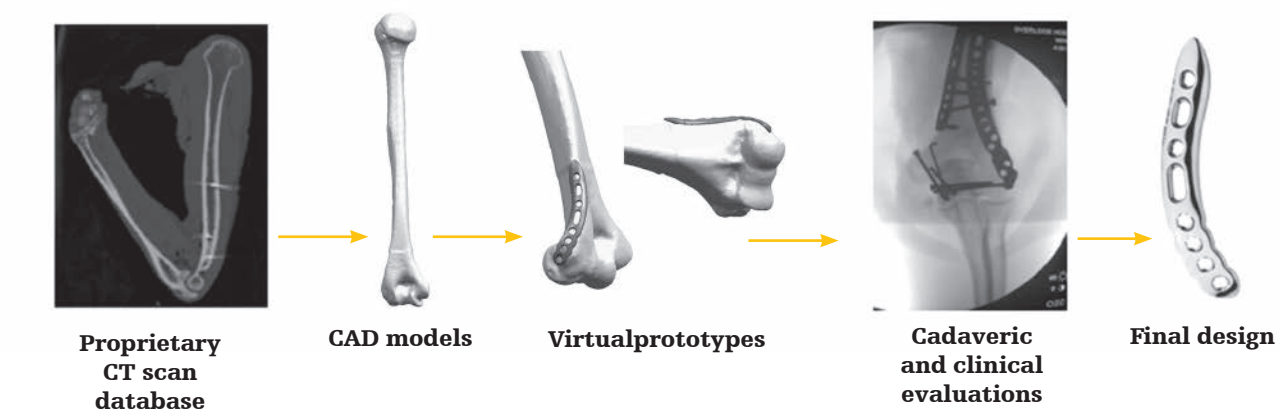

Figure 1

Comprehensive plate and screw options

The Evolve EPS system consists of 25 plates to address individual fracture patterns. For the distal humerus, both orthogonal and parallel plating is supported so that the surgeon may choose the best approach and fixation method for the situation at hand. For each plate type, multiple lengths are available to match the extent of the fracture. All of the plates accommodate 2.7mm cortical and 3.5mm cortical and cancellous locking and non-locking screws in every threaded hole.

Device description

Ortholoc 3DSI polyaxial locking

The Ortholoc polyaxial locking allows for screw placement in a 30 degree cone, 15 degrees from the center axis. (Figure 2)

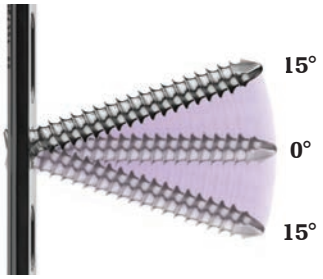

Figure 2

Plates

The plates are undercut to reduce the overall thickness when applied to the curved surface of the bone while maintaining strength. (Figure 3) The plates are thinned in the metaphyseal region to further lower their profile and ease contouring where required. Multiple, nonparallel metaphyseal screw holes accommodate a variety of fracture patterns.

Figure 3

Medial

Medial plates are designed for right or left applications and available in three lengths (standard, medium and long). (Figure 4) The standard length plate has two extended head lengths with additional holes (extended 1 and 2). (Figure 5)

Figure 4

Figure 5

Lateral

Lateral plates are designed specifically for right and left applications and available in three (3) lengths (standard, long, and extra long). (Figure 6)

Figure 6

Posterolateral

Posterolateral plates are designed specifically for right and left applications and available in three (3) lengths (standard, medium and long). (Figure 7)

Figure 7

Device description

Proximal ulna

The proximal ulna plates are available in four (4) lengths (short, standard, medium, long). The short and standard plates are for right or left application. (Figures 8 and 9) The medium and long plates have individual right and left plates to accommodate the normal radial bow of the proximal ulna. (Figure 10)

The short plate does not require splitting the triceps; the standard, medium, and long plates require a triceps split.

Does not split the triceps (slight curvature - short)

Figure 8

Does split the triceps (longer curvature - standard)

Figure 9

Figure 10

Straight

The straight plate is designed for bone fixation and is designed for a right or a left application and is available in one length. This plate can accommodate extended diaphyseal fractures. (Figure 11)

Capitellum (coronal shear)

This unique plate is designed to address complicated shear fractures of the capitellum. Its “fingers” are designed to capture fragments while its stem anchors the plate to more proximal cortical bone. This plate is bendable to accommodate variable anatomy and is universal for right or left applications. The “fingers” of the plate may be contoured and removed as required to avoid interfering with the joint space. (Figure 12)

A listing of the plates can be found in Appendix A on page 18.

Figure 11

Figure 12

Device description

Screws

Evolve EPS screw design

The system offers both non-locking and polyaxial locking screws. Screws are available in 2.7 and 3.5mm diameters and may be used interchangeably in all plate holes; locking screw only works in the threaded holes (does not work in the oval holes). All screw heads are a standard T10 hexalobe or "Star Drive" design that has been used with the self retaining driver. The screws also are available with both cortical (2.7 and 3.5mm diameter) and cancellous threads (3.5mm diameter) for flexibility during surgery.

	Screw type	Lengths (increment)	Color code
	2.7mm Locking cortical	10-40mm (2mm) 40-50 (5mm)	
	2.7mm Non-locking cortical	10-40mm (2mm) 40-50 (5mm)	
	3.5mm Locking cortical	10-40mm (2mm) 40-60 (5mm)	
	3.5mm Non-locking cortical	10-40mm (2mm) 40-60 (5mm)	
	3.5mm Locking cancellous	10-40mm (2mm) 40-60 (5mm)	
	3.5mm Non-locking cancellous	10-40mm (2mm) 40-60 (5mm)	

Figure 13

Non-locking screws

Non locking screws are designed with rounded low profile heads to allow for polyaxial insertion with minimal head prominence. The non-locking screws are available in 2.7mm and 3.5mm diameters and a wide selection of lengths. (Figure 13)

Polyaxial locking screws

The locking screws are designed for engagement into the Ortholoc 3DSI threads of the plates. The geometry of the screw head allows it to be placed in a locked polyaxial orientation in any screw hole at angles from 0-15° off axis. Both the 2.7mm and the 3.5mm locking screws should only be inserted into the plate once and not reused. Do not use locking screws in the oval plate holes. Available lengths may be found in the chart above. (Figure 13)

Device description

Screw measurement and type determination

A screw length gauge, found in the screw caddy (4954-0003), is designed to measure the length of the 3.5 and 2.7mm screws. (Figure 14) The diameter of the screw can be confirmed by attempting to insert the screw into each diameter gauge, also found in the screw caddy. (Figure 15) To determine screw type, the screw can be compared to the images on the screw caddy. Cancellous screws have deeper threads when compared to the cortical screws. Locking screws have a tapered, threaded head. (Figure 14)

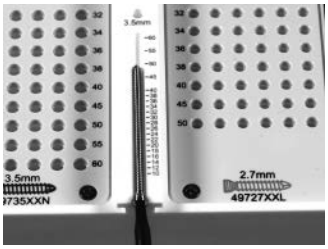

Figure 14

Screw caddy
4954-0003

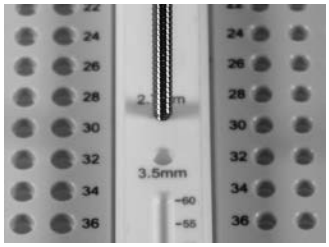

Figure 15

Screw caddy
4954-0003

Plate adjustment

The plates in the Evolve Elbow Plating System (EPS) have been designed using a proprietary CT database to match most patients' anatomy. However, in certain situations small amounts of bending may be required. Several options are available to assist in bending.

Back table bending

Bending irons

The bending irons (4951-0043) may be used at the back table prior to implantation. The benders have two slots of different widths. Use the slot that most appropriately fits the plate and bend as required. (Figure 16)

Figure 16

Bending irons
4951-0043

Bending pliers

The bending pliers (4954-0003) are used for the thinner metaphyseal portions of the plate. Align the circular points inside the mouth of the pliers with the holes to prevent sliding of the plate and bend as required. (Figure 17)

Figure 17

Bending pliers
4951-0007

Device description

In-situ bending

Toe benders

If plate contouring is required in-situ, specialized "Toe" benders (4951-0020) may be used. These benders feature a "toe" that allows the bender to engage the plate without damaging the threads of the hole. (Figure 18) The plate must be slightly raised off the bone in order for the "toe" to fit into the plate hole. The bender allows the plate to be contoured in the opposite direction to the orientation of the toe. If there is not enough space between the plate and the bone for the bender's toe to be engaged, then bending may not be required. (Figures 19 and 20)

Figure 18

Toe bender
4951-0020

Figure 19

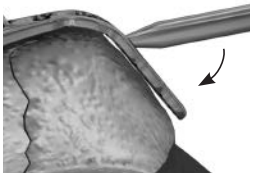

Figure 20

Threaded benders

The in-situ threaded benders (4951-0032) are threaded into the circular locking holes of the plate and used to contour the plate to the bone. Ensure the threaded bender is fully inserted into the locking hole before bending. The in-situ benders should be used in the thinner metaphyseal areas of the plates to avoid stripping the locking holes in the thicker and stronger diaphyseal portions of the plate. (Figure 21)

Figure 21

Threaded bender
4951-0032

Plate cutting

The plates are anatomically contoured and sized to match variable anatomy. However, occasionally cutting is required to better fit the patient's anatomy. When plate cutting is necessary, align the cutting blade on a scored line to more easily cut the plate. Thicker unscored areas require placing the cutter over a screw hole to cut. Cover or shield the piece to be cut to prevent projection. Ensure sharp edges are trimmed using the plate cutter (4951-0005). (Figure 22)

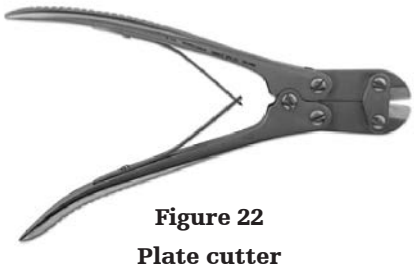

Figure 22

Plate cutter
4951-0005

Screw insertion and instrument color coding

The Evolve EPS system was designed to be intuitive and easy to use in the selection of the screws and the accompanying instruments. Drills, drill guides and taps are color coded to match the respective screw color on the screw caddies. The color coding is referenced at right. (Figure 23)

Desired screw	Color code
2.7mm Cortical	Green
3.5mm Cortical	Blue
3.5mm Cancellous	Magenta
Overdrill to lag screws	Black* + Above color code

***The black color designates use for lagging ONLY.**

Figure 23

Device description

Always pre-drill with the appropriate size bit to ensure proper insertion of the screws. The drills and drill guides marked with black are used to overdrill when lagging is desired. Screws used outside the plate may require a countersink (2490-2013) to be flush with the bone. (Figure 24)

Figure 24

Countersink
4951-0005

Threaded drill guides (4951-0003 / 4951 0004) may be used for on axis trajectories. (Figure 25) To place screws in an off axis trajectory, a handled drill guide (4951-0040 / 4951-0039) may be used. (Figure 26) Locking screws will lock into the plate at angles up to 15 degrees from the standard screw trajectory. The slotted drill guide (4951-0042) may be used to place 3.5mm screws either eccentrically (gold) or centrally (green) in the oval diaphyseal holes of the plate. (Figure 27)

Threaded drill guide
2.0mm
4951-0003

Threaded drill guide
2.5mm
4951-0004

Figure 25

3.5mm

Handled drill guide
4951-0040

2.5mm

Figure 26

2.7mm

2.0mm

Handled drill guide
4951-0039

Figure 27

Slotted drill guide
4951-0042

Surgical technique

Distal humerus plates

Patient position

A supine, lateral decubitus or prone position can be used at the surgeon's discretion. A sterile tourniquet is employed.

Surgical approach

The posterior approach is recommended, with a longitudinal skin incision curving slightly medially off the olecranon. Raise full thickness skin flaps medially and laterally, staying superficial to the triceps fascia. Identify and protect the ulnar nerve. Depending on surgeon preference and fracture pattern, the ulnar nerve may need to be mobilized from the cubital tunnel for fracture reduction and placement of the medial plate. Many surgeons routinely transpose the ulnar nerve when placing a medial plate on the distal humerus. Expose the medial and lateral supracondylar ridges but avoid detaching the humeral attachments of the collateral ligaments and common extensor and flexor origins. If the fracture pattern requires exposure more than 10cm proximal to the lateral epicondyle, then the radial nerve should be identified and protected. Depending on the fracture pattern, the triceps can be left intact, elevated off the olecranon or an olecranon osteotomy can be performed for adequate exposure of the fracture, which is essential to ensure reduction and internal fixation.

Fragment reduction

Intra-articular fragments (if present) require anatomic reduction. The reduction is provisionally maintained with .045 or .062 K-wires (24900091/59410625) found in the kit. Placement of the wires should not interfere with the subsequent placement of the plates and screws. The entire articular segment is then reduced to the shaft fragment with additional provisional wires. (Figure 28)

K-wires

.045″ x 5″ – 24900091
.062″ x 5″ – 59410625

Figure 28

Surgical technique

Plate selection and provisional fixation

Fixation of the distal humerus normally requires dual plating using a medial plate and a posterolateral plate (orthogonal). (Figure 29) or a medial plate and lateral plate (parallel). (Figure 30) Depending on the fracture pattern and surgeon preference, fixation of either column can be done first, or the plates may be applied simultaneously. If the fracture is distal and additional screw purchase into the trochlea is needed, then an extended medial plate is chosen. In cases of severe comminution, three plates may be employed.

The ulnar nerve is carefully protected while applying the medial plate. On the lateral column, the surgeon has a choice of a lateral plate or a posterolateral plate that contours distally onto the non-articular portion of the capitellum.

Select a plate length to have at least 3 holes proximal to the most proximal extent of the fracture. Proximally, it is important that the plates end at different levels of the humerus to avoid the creation of a stress riser and reduce the risk of secondary fractures.

Due to variations in elbow anatomy, minor contouring of the plate(s) may be necessary for it to fit in direct apposition against the surface of the distal humerus. Hold the plates in place using a plate tack (49510050) (provided in kit) to provisionally attach the plate to the bone. Placing the plate tack into an oval hole will allow for minor proximal or distal plate adjustments, if needed. (Figure 31)

Note:
Plate tack requires subsequent use of 3.5mm screw in plate tack hole.

Figure 29

Figure 30

Plate tack
49510050

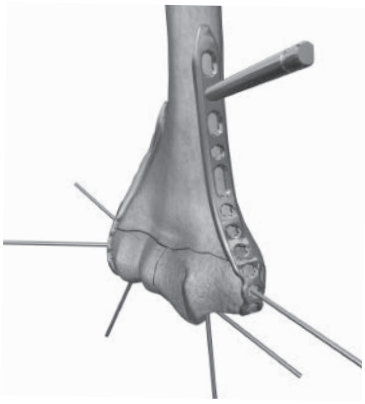

Figure 31

Surgical technique

Distal screw placement

Drill, measure for proper length, and insert the distal-most screws on the plate selected. 2.7 or 3.5mm non-locking or locking cortical screws or 3.5mm non- locking or locking cancellous screws can be used at the surgeons discretion. Ensure the distal screws do not penetrate into the olecranon fossa, coronoid fossae or the articular surface. (Figure 32)

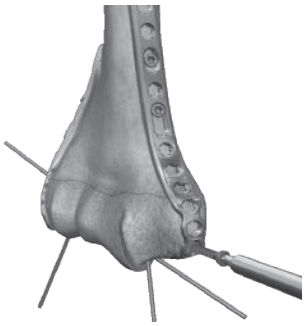

Figure 32

Proximal screw placement

After obtaining distal fixation, place a 3.5mm non-locking cortical screw into the shaft eccentrically through an oval hole of the plate to achieve supracondylar compression. Insert sufficient 3.5mm non-locking or locking cortical screws to ensure secure diaphyseal fixation. (Figures 33, 34, and 35)

Any temporary fixation is removed and all the screws are re-tightened. The elbow is taken through a range of motion to ensure the fracture construct is stable and there is no block to motion.

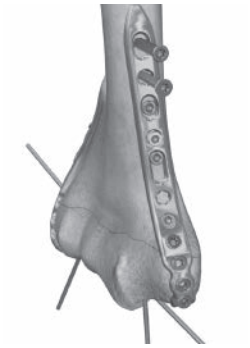

Figure 33

Closure

After final irrigation, the ulnar nerve is transposed anteriorly, if mobilized during the case. If an olecranon osteotomy is performed, choose the appropriate size proximal ulna plate for fixation. The skin closure is done in the standard fashion. A drain may be used as needed.

Figure 34

Postoperative protocol

Mobilization and post-operative exercise is up to the discretion of the patient's surgeon and/or therapist. As a general guide, if secure fixation is obtained, the patient can begin exercises to regain elbow motion the day after surgery, but it is reasonable to rest the soft tissues for a few days to let the swelling settle. For less secure fixation (e.g. complex fractures or poor bone quality) the elbow can be immobilized for up to a month prior to starting elbow motion exercises. Active, self-assisted (and often gravity-assisted) elbow motion exercises can be done under the direction of the surgeon or a physical or occupational therapist.

Figure 35

Surgical technique

Capitellum (coronal shear)

Patient position

The patient is placed in the supine position for an extended lateral exposure or lateral decubitus for an olecranon osteotomy. A sterile tourniquet is applied.

Surgical approach

Most apparent capitellum fractures are more complex than anticipated and may have an associated fracture of the lateral epicondyle, the posterior aspect of the lateral column, or the trochlea. These fractures are often stable/impacted and it may not be obvious that these areas are fractured or out of place. Three dimensional CT scans with reconstructions of the distal humerus with the radial head and proximal ulna subtracted are often helpful in planning for this complex procedure. The fractured lateral epicondyle has the origins of the lateral collateral ligament and the common extensor muscles on it. Mobilization of this fracture fragment, along with opening of the interval between the extensor carpi radialis longus and brevis, can provide good exposure of the capitellum and the trochlea. Elevate the triceps posteriorly to access the posterior aspect of the lateral column and the posterior trochlea. If the posterior trochlea or the medial epicondyle is fractured, it may be more appropriate to perform an olecranon osteotomy.

Fragment reduction

If the anterior fracture fragments (capitellum and trochlea) do not fit in the fracture bed, there is likely impaction (fracture into a stable position) of the posterior part of the lateral column and possibly the posterior trochlea. It may take some force to realign these fragments. It is important to realign the posterior elements of the fracture until the anterior elements fit appropriately. If there is a void after realignment of the fracture, bone graft or bone graft substitute should be considered. Small articular fracture fragments can be secured with small threaded K-wires drilled along the subchondral bone of adjacent fragments. Provisional fixation is secured with smooth K-wires. Small headed or headless screws can be used to secure the coronal shear fragments from anterior to posterior or posterior to anterior.

Surgical technique

Plate fixation

Reposition the lateral epicondyle if fractured and apply the plate over the lateral and posterior surfaces of the lateral column of the distal humerus. Do not detach the soft tissues, which consist of the common extensor origin and lateral collateral ligament. Bend the fingers of the plate to hug the capitellum on the lateral side. Trim and contour the plate as needed to ensure the plate does not interfere with joint motion (particularly in extension or cause impingement onto the joint. Position the plate so it will push the fracture fragments against the intact lateral column of the distal humerus. Fragments should be secured with screws when possible. Insert the appropriate size screws and ensure stability. (Figures 39, 40, and 41)

Figure 39

Closure

If an olecranon osteotomy is performed choose the appropriate size proximal ulna plate for fixation. The skin closure is done in the standard fashion over a drain.

Figure 40

Postoperative protocol

Mobilization and post-operative exercise is up to the discretion of the patient's surgeon and/or therapist. As a general guide, a splint is applied in the operating room for comfort. Active assisted elbow exercises are initiated within a few days, when the patient is comfortable. If the fracture is complex or osteoporotic it is reasonable to immobilize the elbow for up to one month. Alternatively a static or hinged external fixator may be applied to protect the internal fixation by limiting forces on the fracture. The patient is instructed to avoid shoulder abduction (varus stress on the elbow) for 1 month. A sling is provided for comfort, but the patient should be instructed to remove it and use the elbow for light functional activity.

Figure 41

Surgical technique

Proximal ulnar plates

Positioning

Surgery is performed with the patient in the supine or lateral decubitus position. The lateral position is preferred for more comminuted fractures. A sterile tourniquet is applied.

Surgical approach

The incision is either a direct midline incision or made just medial or lateral to the tip of the olecranon, avoiding an incision placed on the subcutaneous border of the ulna. Elevate full thickness skin flaps and work through the fracture sites to identify the fragments for fixation. Minimize stripping of the fracture fragments. Bone forceps are included in the system to help maintain the bone position.

Fragment reduction

Reduce the fracture by extension of the elbow and maintain the reduction with one or more 2.0mm K-wires. Position the K-wire(s) medially and/or laterally to avoid interference with plate placement. Confirm the reduction by fluoroscopically and visually inspecting the articular surface.

Plate selection and provisional fixation

Choose plate lengths that offer sufficient fixation proximal and distal to the fracture lines. Typically the plate should provide at least three screws proximal and distal to the fracture. For more proximal fractures, the triceps is split and the plate applied beneath the triceps. More distal fractures may use the short olecranon plate, which does not split the triceps.

Due to varying patient anatomy, slight bending may be necessary for plate application to bone, particularly when longer plates are utilized to accommodate for the normal apex posterior bow in the proximal ulna, which averages 5 degrees. After the provisional reduction is accomplished, insert a screw or plate tack through the slotted hole distal to the fracture and into the ulnar shaft.

Note:
Only a 3.5mm screw may be used to fill a hole made by the plate tack. (Figure 36)

Partially tighten and compress later.

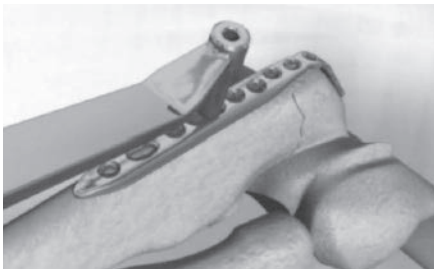

Figure 36

Surgical technique

Screw placement

Insert unicortical 3.5mm non-locking or locking cancellous screws into the proximal holes, aiming ulnarly to avoid placement into the proximal radioulnar joint. Ensure the screw tips remain inside the bone. Insert an eccentric 3.5mm non-locking screw into a compression slot through a distal slot along the ulnar shaft. The provisional screws may require loosening to obtain better compression. Place additional screws in the remaining holes directed slightly ulnarly to avoid the proximal radioulnar joint. Locking screws are used to create maximum fixation in the small fragments. After removing the temporary k-wire, a long fixation screw may be placed from the tip of the plate along the radial cortex and across the fracture to improve rotational control and add additional fixation.
(Figures 37 and 38)

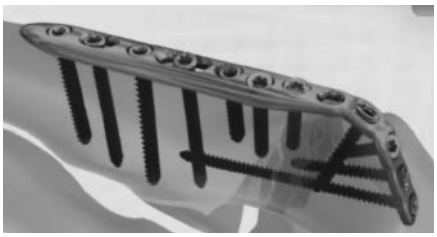

Figure 37

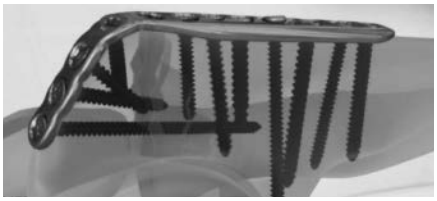

Figure 38

Surgical technique

Explant information

If removal of the implant is required due to medical reasons, the surgeon should contact the manufacturer using the contact information located on the back cover of this surgical technique to receive instructions for returning the explanted device to the manufacturer for investigation.

Postoperative management

Postoperative care is the responsibility of the medical professional.

Closure

The muscular fascia is closed over the plate as far as possible. If the triceps was split to allow plate placement, a side to side closure is performed. The subcutaneous tissue and skin are closed in layers and the elbow is splinted in some extension to avoid pressure over the posterior skin incision.

Mobilization and post-operative exercise is up to the discretion of the patient's surgeon and/or therapist. As a general guide, if secure fixation is obtained, the patient can begin exercises to regain elbow motion the day after surgery, but it is reasonable to rest the soft tissues for a few days and let the swelling subside. For less secure fixation (e.g. complex fractures or poor bone quality) the elbow can be immobilized for up to a month prior to starting elbow motion exercises. Active, self-assisted (and often gravity-assisted) elbow motion exercises can be done under the direction of the surgeon or a physical or occupational therapist.

Appendix A: plating chart

Plating chart

Part No.	Plate	Length (mm)	Hole count	Orientation
495319RL	Straight	127	13	Right or left
495315RL	Olecranon short	76	9	Right or left
495316RL	Olecranon standard	86	12	Right or left
4953109R	Olecranon medium	126	16	Right
4953110R	Olecranon long	162	19	Right
4953109L	Olecranon medium	126	16	Left
4953110L	Olecranon long	162	19	Left
495318RL	Coronal	49	13	Right or left
495410RL	Medial standard	94	11	Right or left
495411RL	Medial medium	131	15	Right or left
495312RL	Medial long	163	19	Right or left
495413RL	Medial extended 1	94	12	Right or left
495414RL	Medial extended 2	94	12	Right or left
4953105R	Lateral	70	8	Right
4953111R	Lateral long	95	11	Right
4953112R	Lateral X-long	120	14	Right
4953105L	Lateral	70	8	Left
4953111L	Lateral long	95	11	Left
4953112L	Lateral X-long	120	14	Left
4953106R	Posterolateral standard	91	13	Right
4953107R	Posterolateral medium	125	17	Right
4953108R	Posterolateral long	160	21	Right
4953106L	Posterolateral standard	91	13	Left
4953107L	Posterolateral medium	125	17	Left
4953108L	Posterolateral long	160	21	Left

Appendix B: ordering information

Evove EPS implant kit (4954KITA)

Part No.	Description	
495410RL	Medial standard	Right or left plate
495411RL	Medial medium	Right or left plate
495312RL	EPS Ortholoc Medial Long	Right or left plate
495413RL	Medial extended sz 1	Right or left plate
495414RL	Medial extended sz 2	Right or left plate
495315RL	EPS Ortholoc Olecranon Short	Right or left plate
495316RL	EPS Ortholoc Olecranon Standard	Right or left plate
495318RL	EPS Ortholoc Coronal	Right or left plate
495319RL	EPS Ortholoc Straight	Right or left plate
4953105R	EPS Ortholoc Lateral	Right plate
4953111R	EPS Ortholoc Lateral Long	Right plate
4953112R	EPS Ortholoc Lateral X-Long	Right plate
4953106R	EPS Ortholoc Postlateral Standard	Right plate
4953107R	EPS Ortholoc Postlateral Medium	Right plate
4953108R	EPS Ortholoc Postlateral Long	Right plate
4953109R	EPS Ortholoc Olecranon Medium	Right plate
4953110R	EPS Ortholoc Olecranon Long	Right plate
4953105L	EPS Ortholoc Lateral	Left plate
4953111L	EPS Ortholoc Lateral Long	Left plate
4953112L	EPS Ortholoc Lateral X-Long	Left plate
4953106L	EPS Ortholoc Postlateral Standard	Left plate
4953107L	EPS Ortholoc Postlateral Medium	Left plate
4953108L	EPS Ortholoc Postlateral Long	Left plate
4953109L	EPS Ortholoc Olecranon Medium	Left plate
4953110L	EPS Ortholoc Olecranon Long	Left plate
4973510N	Evolve EPS cortical screw 3.5X10mm	Non-locking
4973512N	Evolve EPS cortical screw 3.5X12mm	Non-locking
4973514N	Evolve EPS cortical screw 3.5X14mm	Non-locking
4973516N	Evolve EPS cortical screw 3.5X16mm	Non-locking
4973518N	Evolve EPS cortical screw 3.5X18mm	Non-locking
4973520N	Evolve EPS cortical screw 3.5X20mm	Non-locking
4973522N	Evolve EPS cortical screw 3.5X22mm	Non-locking
4973524N	Evolve EPS cortical screw 3.5X24mm	Non-locking
4973526N	Evolve EPS cortical screw 3.5X26mm	Non-locking
4973528N	Evolve EPS cortical screw 3.5X28mm	Non-locking
4973530N	Evolve EPS cortical screw 3.5X30mm	Non-locking
4973532N	Evolve EPS cortical screw 3.5X32mm	Non-locking

Part No.	Description	
4973534N	Evolve EPS cortical screw 3.5X34mm	Non-locking
4973536N	Evolve EPS cortical screw 3.5X36mm	Non-locking
4973538N	Evolve EPS cortical screw 3.5X38mm	Non-locking
4973540N	Evolve EPS cortical screw 3.5X40mm	Non-locking
4973545N	Evolve EPS cortical screw 3.5X45mm	Non-locking
4973550N	Evolve EPS cortical screw 3.5X50mm	Non-locking
4973555N	Evolve EPS cortical screw 3.5X55mm	Non-locking
4973560N	Evolve EPS cortical screw 3.5X60mm	Non-locking
4983510N	Evolve EPS cancellous screw 3.5X10mm	Non-locking
4983512N	Evolve EPS cancellous screw 3.5X12mm	Non-locking
4983514N	Evolve EPS cancellous screw 3.5X14mm	Non-locking
4983516N	Evolve EPS cancellous screw 3.5X16mm	Non-locking
4983518N	Evolve EPS cancellous screw 3.5X18mm	Non-locking
4983520N	Evolve EPS cancellous screw 3.5X20mm	Non-locking
4983522N	Evolve EPS cancellous screw 3.5X22mm	Non-locking
4983524N	Evolve EPS cancellous screw 3.5X24mm	Non-locking
4983526N	Evolve EPS cancellous screw 3.5X26mm	Non-locking
4983528N	Evolve EPS cancellous screw 3.5X28mm	Non-locking
4983530N	Evolve EPS cancellous screw 3.5X30mm	Non-locking
4983532N	Evolve EPS cancellous screw 3.5X32mm	Non-locking
4983534N	Evolve EPS cancellous screw 3.5X34mm	Non-locking
4983536N	Evolve EPS cancellous screw 3.5X36mm	Non-locking
4983538N	Evolve EPS cancellous screw 3.5X38mm	Non-locking
4983540N	Evolve EPS cancellous screw 3.5X40mm	Non-locking
4983545N	Evolve EPS cancellous screw 3.5X45mm	Non-locking
4983550N	Evolve EPS cancellous screw 3.5X50mm	Non-locking
4983555N	Evolve EPS cancellous screw 3.5X55mm	Non-locking
4983560N	Evolve EPS cancellous screw 3.5X60mm	Non-locking
4972710N	Evolve EPS cortical screw 2.7X10mm	Non-locking
4972712N	Evolve EPS cortical screw 2.7X12mm	Non-locking
4972714N	Evolve EPS cortical screw 2.7X14mm	Non-locking
4972716N	Evolve EPS cortical screw 2.7X16mm	Non-locking
4972718N	Evolve EPS cortical screw 2.7X18mm	Non-locking
4972720N	Evolve EPS cortical screw 2.7X20mm	Non-locking
4972722N	Evolve EPS cortical screw 2.7X22mm	Non-locking
4972724N	Evolve EPS cortical screw 2.7X24mm	Non-locking
4972726N	Evolve EPS cortical screw 2.7X26mm	Non-locking

Part No.	Description	
4972728N	Evolve EPS cortical screw 2.7X28mm	Non-locking
4972730N	Evolve EPS cortical screw 2.7X30mm	Non-locking
4972732N	Evolve EPS cortical screw 2.7X32mm	Non-locking
4972734N	Evolve EPS cortical screw 2.7X34mm	Non-locking
4972736N	Evolve EPS cortical screw 2.7X36mm	Non-locking
4972738N	Evolve EPS cortical screw 2.7X38mm	Non-locking
4972740N	Evolve EPS cortical screw 2.7X40mm	Non-locking
4972745N	Evolve EPS cortical screw 2.7X45mm	Non-locking
4972750N	Evolve EPS cortical screw 2.7X50mm	Non-locking
40233510	Locking cortical screw 3.5X10mm	Polyaxial locking
40233512	Locking cortical screw 3.5X12mm	Polyaxial locking
40233514	Locking cortical screw 3.5X14mm	Polyaxial locking
40233516	Locking cortical screw 3.5X16mm	Polyaxial locking
40233518	Locking cortical screw 3.5X18mm	Polyaxial locking
40233520	Locking cortical screw 3.5X20mm	Polyaxial locking
40233522	Locking cortical screw 3.5X22mm	Polyaxial locking
40233524	Locking cortical screw 3.5X24mm	Polyaxial locking
40233526	Locking cortical screw 3.5X26mm	Polyaxial locking
40233528	Locking cortical screw 3.5X28mm	Polyaxial locking
40233530	Locking cortical screw 3.5X30mm	Polyaxial locking
40233532	Locking cortical screw 3.5X32mm	Polyaxial locking
40233534	Locking cortical screw 3.5X34mm	Polyaxial locking
40233536	Locking cortical screw 3.5X36mm	Polyaxial locking
40233538	Locking cortical screw 3.5X38mm	Polyaxial locking
40233540	Locking cortical screw 3.5X40mm	Polyaxial locking
40233545	Locking cortical screw 3.5X45mm	Polyaxial locking
40233550	Locking cortical screw 3.5X50mm	Polyaxial locking
40233555	Locking cortical screw 3.5X55mm	Polyaxial locking
40233560	Locking cortical screw 3.5X60mm	Polyaxial locking
40223510	Locking cancellous screw 3.5X10mm	Polyaxial locking
40223512	Locking cancellous screw 3.5X12mm	Polyaxial locking
40223514	Locking cancellous screw 3.5X14mm	Polyaxial locking
40223516	Locking cancellous screw 3.5X16mm	Polyaxial locking
40223518	Locking cancellous screw 3.5X18mm	Polyaxial locking
40223520	Locking cancellous screw 3.5X20mm	Polyaxial locking
40223522	Locking cancellous screw 3.5X22mm	Polyaxial locking
40223524	Locking cancellous screw 3.5X24mm	Polyaxial locking
40223526	Locking cancellous screw 3.5X26mm	Polyaxial locking

Part No.	Description	
40223528	Locking cancellous screw 3.5X28mm	Polyaxial locking
40223530	Locking cancellous screw 3.5X30mm	Polyaxial locking
40223532	Locking cancellous screw 3.5X32mm	Polyaxial locking
40223534	Locking cancellous screw 3.5X34mm	Polyaxial locking
40223536	Locking cancellous screw 3.5X36mm	Polyaxial locking
40223538	Locking cancellous screw 3.5X38mm	Polyaxial locking
40223540	Locking cancellous screw 3.5X40mm	Polyaxial locking
40223545	Locking cancellous screw 3.5X45mm	Polyaxial locking
40223550	Locking cancellous screw 3.5X50mm	Polyaxial locking
40223555	Locking cancellous screw 3.5X55mm	Polyaxial locking
40223560	Locking cancellous screw 3.5X60mm	Polyaxial locking
40232710	2.7mm Cortical screw 10mm	Polyaxial locking
40232712	2.7mm Cortical screw 12mm	Polyaxial locking
40232714	2.7mm Cortical screw 14mm	Polyaxial locking
40232716	2.7mm Cortical screw 16mm	Polyaxial locking
40232718	2.7mm Cortical screw 18mm	Polyaxial locking
40232720	2.7mm Cortical screw 20mm	Polyaxial locking
40232722	2.7mm Cortical screw 22mm	Polyaxial locking
40232724	2.7mm Cortical screw 24mm	Polyaxial locking
40232726	2.7mm Cortical screw 26mm	Polyaxial locking
40232728	2.7mm Cortical screw 28mm	Polyaxial locking
40232730	2.7mm Cortical screw 30mm	Polyaxial locking
40232732	2.7mm Cortical screw 32mm	Polyaxial locking
40232734	2.7mm Cortical screw 34mm	Polyaxial locking
40232736	2.7mm Cortical screw 36mm	Polyaxial locking
40232738	2.7mm Cortical screw 38mm	Polyaxial locking
40232740	2.7mm Cortical screw 40mm	Polyaxial locking
40232745	2.7mm Cortical screw 45mm	Polyaxial locking
40232750	2.7mm Cortical screw 50mm	Polyaxial locking
40119005	K-wire 2.0X150mm	
44180230	K-wire 2.5mm X 230mm	
24900091	K-wire .045 In X 5 In	
59410625	K-wire .062 In X 5 In	
49510050	Plate tack Evolve Ortholoc	
49510051	Drill bit 2.0mm Evolve EPS	
49510052	Drill bit 2.5mm Evolve EPS	
49510053	Drill bit 3.5mm Evolve EPS	
49510054	Drill bit 2.7mm Evolve EPS	

Evolve EPS instruments (4954KIT1)

Part No.	Description
49510005	Evolve EPS plate cutter
49510007	Evolve EPS plate bender plier
49510043	Iron benders Evolve Ortholoc
49510032	Bender threaded
49510020	Evolve EPS plate bender
49510058	Tenaculum small pointed
49510059	Tenaculum medium serrated
49510057	Tenaculum small serrated
49510023	Evolve EPS forcep large
49510024	Evolve EPS bone pick
49513310	Bone tap 2.7mm cortical
49513311	Bone tap 3.5mm cortical
49513312	Bone tap 3.5mm cancellous
49510039	Drill guide double 2.0mm/2.7mm
49510040	Drill guide double 2.5mm/3.5mm
49510042	Drill guide 2.5mm slot
49510003	Evolve drill guide 2.0mm
49510004	Evolve drill guide 2.5mm
49510037	Hohmann retractor med
5362000004	Curved elevator
49510055	T-10 screw driver self retaining
5362000110	Driver star 10
40120028	Ratcheting handle
44112009	AO cannulated driver handle
49510036	Depth gauge Evolve Ortholoc
49510034	Screw gripper Evolve Ortholoc
49510056	Screw forceps Evolve
24902013	Countersink 2.7mm screws

Note: 49510018 Evolve EPS handle is being removed from EPS sets, and being replaced with 40120028 ratcheting handle (in bold text in the list at left).

Optional: 4954DRVR torque limiting handle is not in the standard set, but is available upon request, depending on current supply.

Notes:

Notes:

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