skeletal dynamics®

UNDERSTANDING THE UPPER EXTREMITY

SURGICAL TECHNIQUE GUIDE

PROXIMAL HUMERUS FIXATION SYSTEM



PROXIMAL HUMERUS FIXATION SYSTEM

As described by: **Jorge L. Orbay, M.D.** Miami Hand & Upper Extremity Institute

Description

The Proximal Humerus Fixation (PHFS) system is designed around the natural anatomy of the proximal humerus to address varus collapse. Divergent fixed angle pegs are centered around the natural 135° neck-shaft angle of the proximal humerus. The central guiding k-wire provides visual confirmation for plate positioning, ensuring that the pre-determined trajectories will provide consistent spatial distribution within the humeral dome. This unique concept of humeral fixation helps resist varus forces throughout the full range of motion.

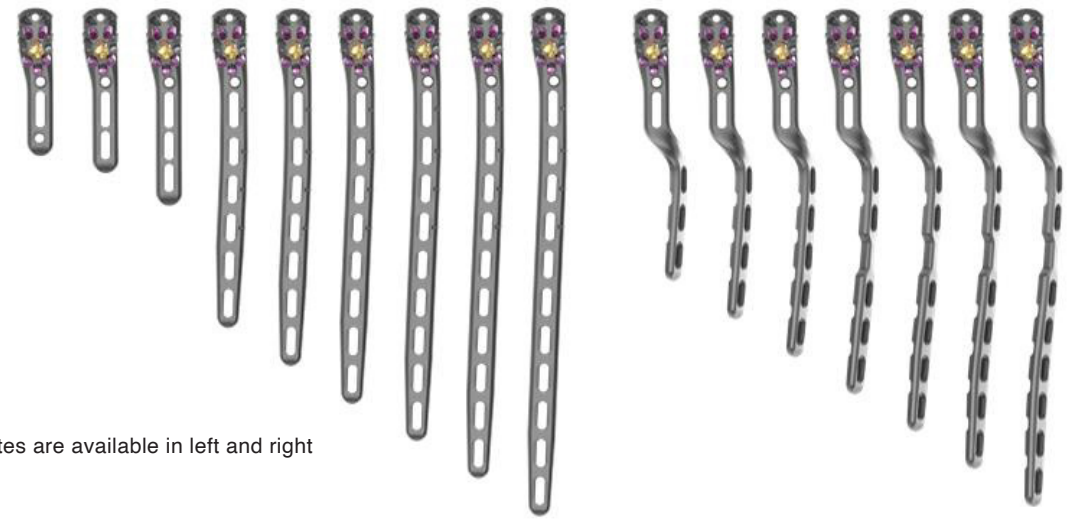
The Proximal Humerus Plate (PHP) has been designed to help prevent subacromial impingement. The unique design of the PHP allows the plate to be positioned more distally, minimizing the risk of impingement.

The PHP pegs and screws utilize blunt smooth ends so that fixation can be provided directly below the hard articular shell. Engaging the subchondral bone with blunt fixation and the use of a manually inserted blunt-tipped drill bit reduces the risk for articular surface penetration.

Indications for Use

The Skeletal Dynamics Proximal Humerus Fixation System is indicated for fractures and fracture dislocations, osteotomies, and non-unions of the proximal humerus.

SYSTEM INFORMATION



Plates are available in left and right

STRAIGHT PLATE DIMENSIONS (mm)

Plate	Length	Head Width	Head Thickness	Shaft Width	Shaft Thickness
Proximal Humerus Plate, 1 Slot	75	18.6	7.2	14	4.8
Proximal Humerus Plate, 2 Slot	84	18.6	7.2	14	4.8
Proximal Humerus Plate, 3 Slot	101	18.6	7.2	14	4.8
Proximal Humerus Plate, 6 Slot	163	18.6	7.4	14	5.5
Proximal Humerus Plate, 7 Slot	182	18.6	7.4	14	5.5
Proximal Humerus Plate, 8 Slot	202	18.6	7.4	14	5.5
Proximal Humerus Plate, 9 Slot	221	18.6	7.4	14	5.5
Proximal Humerus Plate, 10 Slot	240	18.6	7.4	14	5.5
Proximal Humerus Plate, 11 Slot	259	18.6	7.4	14	5.5

CURVED PLATE DIMENSIONS (mm)

Plate	Length	Head Width	Head Thickness	Shaft Width	Shaft Thickness
Proximal Humerus Plate, Curved, 4 Slot	138	18.6	7.4	14	5.1
Proximal Humerus Plate, Curved, 5 Slot	158	18.6	7.4	14	5.1
Proximal Humerus Plate, Curved, 6 Slot	177	18.6	7.4	14	5.1
Proximal Humerus Plate, Curved, 6 Slot Plus	196	18.6	7.4	14	5.1
Proximal Humerus Plate, Curved, 7 Slot	215	18.6	7.4	14	5.1
Proximal Humerus Plate, Curved, 8 Slot	235	18.6	7.4	14	5.1
Proximal Humerus Plate, Curved, 9 Slot	254	18.6	7.4	14	5.1

HEAD SCREWS/PEGS


3.5mm Variable Angle Locking Screw, 20mm-70mm


3.7mm Metaphyseal Locking Screw, 20mm-70mm


3.7mm Metaphyseal Compression Screw, 20mm-70mm


3.5mm Smooth Locking Peg, 20mm-70mm


6.0mm Smooth Locking Peg, 30mm-70mm

AP BUTTRESS TAB SCREW


3.0mm Polyaxial Locking Screw, 20mm-50mm

SHAFT SCREWS


4.5mm FreeFix Compression Screw, 14mm-40mm


4.5mm FreeFix Locking Screw, 14mm-34mm

LAG SCREW

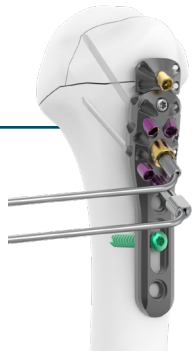

3.5mm FreeFix Compression Screw, 14mm-40mm

1 EXPOSURE & PROVISIONAL PLATE FIXATION



Position patient in the beach-chair or supine position and make incision. Position the plate 2.5-3.0cm distal to the greater tuberosity. It is recommended to attach the accessory plate before fixation and remove after if it is not necessary. Drill through mid-point of the proximal slot with either the 3.2mm or 3.5mm drill. Measure and insert 4.5mm FreeFix compression screw.

2 DRILL CENTRAL WIRE



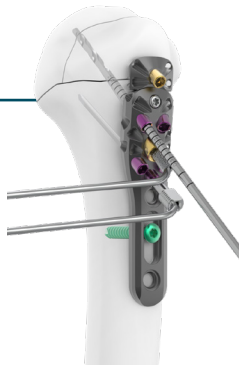
Screw in the thread-in k-wire guide to the central post PDG and drill the 2.4mm k-wire towards the center of the humeral head. Confirm that the k-wire is center/center on AP & lateral views.

3 PROXIMAL PLATE FIXATION



Drill through all metaphyseal PDG's to perforate the near cortex. Use the 3.5mm drill for smooth pegs, and the 3.0mm drill for screws.

4 MANUAL DRILL FOR PEGS/SCREWS



Drill by hand with the 3.5mm blunt drill for pegs or the 3.0mm blunt drill for screws. Make sure not to perforate the subchondral bone. Use either the drill or AIMing Guide/depth gauge to determine peg/screw length and insert peg/screw. Subtract 4mm from measured length.

5 CENTRAL PEG PREPARATION



Remove the 2.4mm k-wire and use the 6.0mm drill to perforate the near cortex. Use the 6.0mm blunt-tip drill under manual power to drill through the drill guide. Measure using the drill to determine the peg length and insert 6.0mm peg. Subtract 4mm from measured length.

6 SHAFT SCREWS



Use either the 3.2mm or 3.5mm drill to fill the remaining distal screw holes with 4.5mm FreeFix compression or locking screws.

PEG/SCREW	DRILL
3.5mm Smooth Locking Peg	3.5mm x 70mm Drill
3.7mm Metaphyseal Compression Screw 3.7mm Metaphyseal Locking Screw 3.5mm Variable Angle Locking Screw	3.0mm x 70mm Drill
6.0mm Smooth Locking Peg	6.0mm x 70mm Drill

01 PATIENT POSITIONING AND APPROACH

The procedure can be performed in the beach-chair position or supine position as per the surgeon's discretion. If necessary, a sterile Mayo stand can be used to assist during dissection.

02 ASSESS THE FRACTURE FLUOROSCOPICALLY

Examine the fracture based on intraoperative fluoroscopy. Internal rotation, external rotation and sometimes axillary views are necessary.



03 EXPOSURE

Make an incision approximately 12–14cm over the coracoid process, extending down to the deltoid insertion in an oblique fashion. Identify and retract the cephalic vein.



04 IDENTIFY THE BICEPS TENDON

Gently retract the coracobrachialis medially. Find the pectoralis insertion at the floor of the delto-pectoral interval. If necessary, release the proximal third of the pectoralis tendon to expose the biceps.

Note: Consider partial or total release of the deltoid insertion when using the straight plate.



05 COMPLETE EXPOSURE

Develop the subacromial space and mobilize the proximal deltoid.

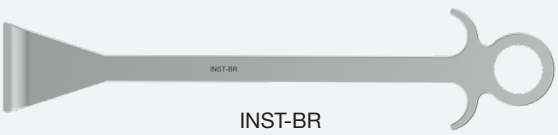
Note: Use of a large, blunt humeral head depressor can facilitate exposure.

06 FRACTURE DEBRIDEMENT AND REDUCTION

Thoroughly debride the fracture and fully mobilize the fragments. Using traction and manipulation, confirm that you can reduce the humeral head fragments. Check the reduction under fluoroscopy.

Note: In the case of severe comminution, securing the tuberosities with suture will help reduction. To facilitate healing, bone graft should be considered.





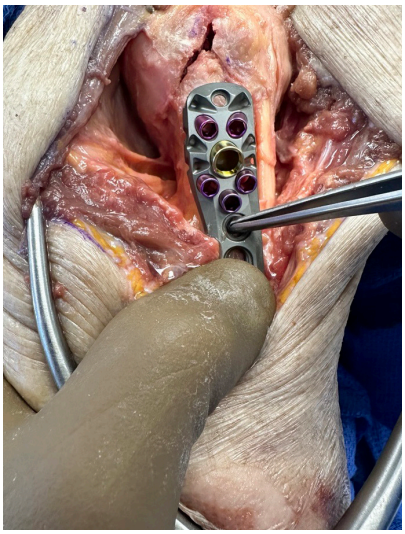
INST-BR

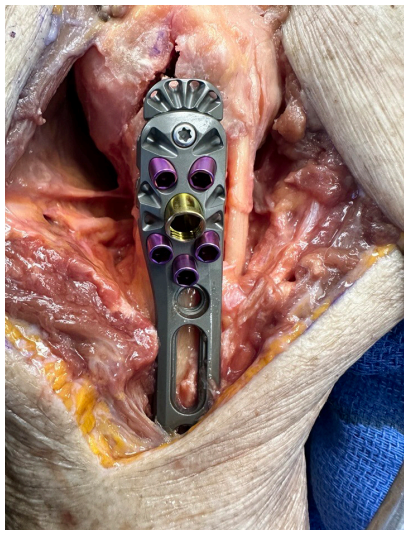
07 PLATE SELECTION & POSITIONING

Select the appropriate side proximal humerus plate (PHP) and accessory plate, if needed.

Position the PHP 2.5-3.0cm distal to the greater tuberosity, not including accessory plate if attached.

The anterior border of the plate (straight border) should be immediately lateral to the bicepital groove.

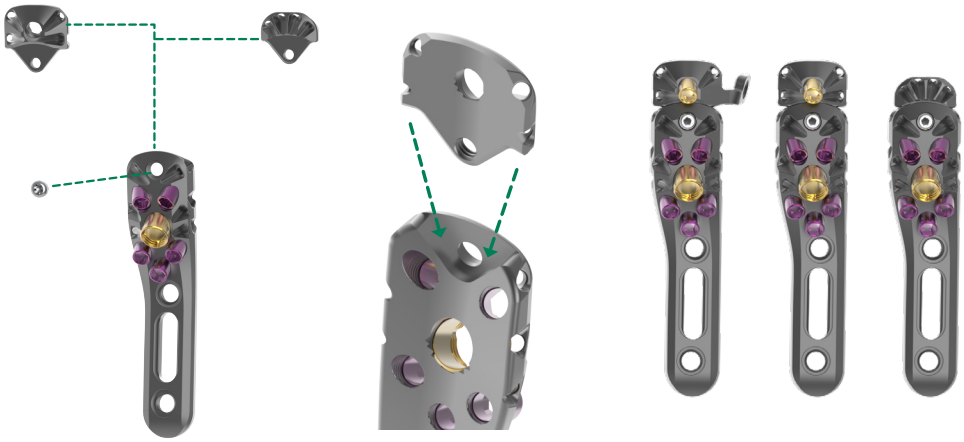




OPTIONAL: ACCESSORY PLATE ATTACHMENT

Attach accessory plate to the construct. Align the “V” on either accessory plate to the “V” channel located under the proximal edge of the plate. Once inserted into the channel, secure using the buttress plate screw.

Note: It is recommended to attach the accessory plate before fixation and remove after if not necessary. The 3.0mm cannulated polyaxial locking screw is intended to be used through the arm of the AP tab.





PHP-BPAPR



PHP-BP



PHP-SP



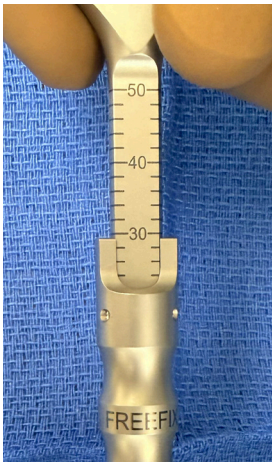
PHP-BPS

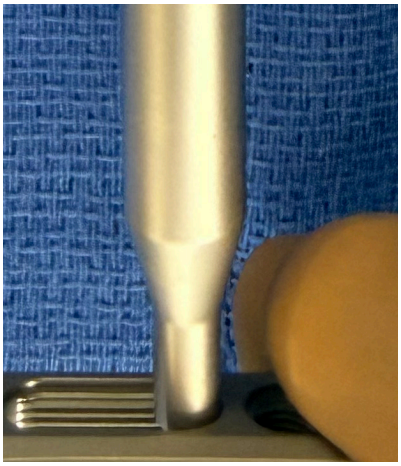
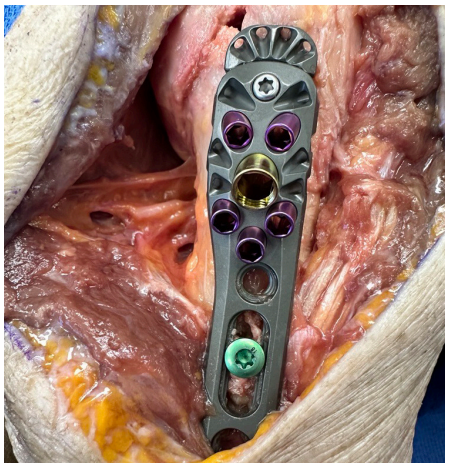
08 PROVISIONAL PLATE FIXATION

Drill through the mid-point of the proximal slot of the plate shaft with the 3.2mm or 3.5mm drill bit. Determine the required screw length using the depth gauge, measuring off the FreeFix scale.

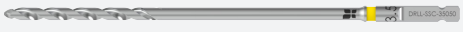
Fix the plate into place with a 4.5mm FreeFix compression screw using the T-15 driver.

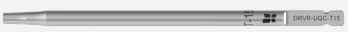
Note: Make sure to fully tighten the compression screw.


DRLL-SSC-32050


DRLL-SSC-35050


DRVR-UQC-T15

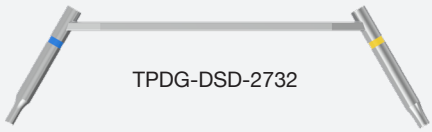


DPGA-FF-050

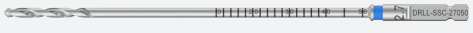
OPTIONAL: LAG SCREW

If the fracture does not require use of a lag screw, proceed to Step 9.

Place the lag screw perpendicular to the fracture line. Use the 3.5mm x 50mm drill bit with the tissue protector drill guide to drill the near cortex. Insert the 2.7mm end of the guide into the hole previously drilled and use the 2.7mm x 50mm drill bit to drill through the far cortex. Countersinking the near cortex may be required to limit screw head prominence. Measure using the FreeFix Depth Gauge and insert the corresponding 3.5mm FreeFix compression screw.


TPDG-DSD-2732


DRLL-SSC-35050


DRLL-SSC-27050


DRVR-PHP-T10


DRLL-CSK-65


FFC-35XXX-TS

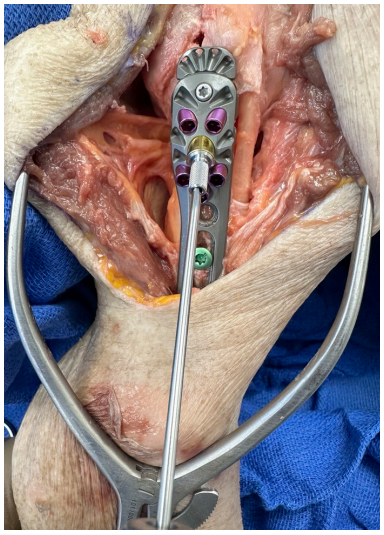
09 DRILL CENTRAL WIRE

With the plate secured to the distal fragment, reduce the fragment using the plate as a template.

Screw in the thread-in k-wire guide to the central post hole. Drill the 2.4mm k-wire through the guide on the proximal portion of the plate towards the center of the humeral head.

Note: Be sure not to penetrate the articular surface. The 2.4mm snap-fit AIMing guides can be placed in any peripheral PDG.







PDG-AIM-24

SPIN-SD-24229



AIM-PHP-24SF

10 VERIFY CENTRAL WIRE

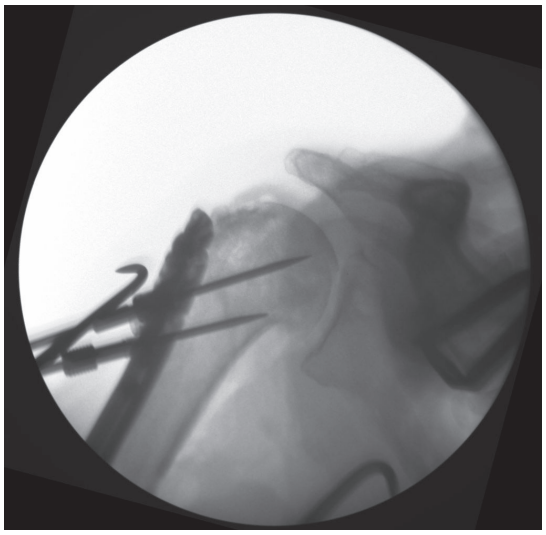
Check the 135° trajectory of the central k-wire under fluoroscopy.

Verify the positioning of the central k-wire, it should be in the center/center position on AP and lateral views.

If there's a deviation from the center, remove the k-wire, reduce and redrill until it's located in the center.

The plate may need to be adjusted proximal/distal or anterior/posterior so the k-wire is centered.

Note: A second 2.4mm Steinmann Pin can be placed to confirm calcar screw placement. Insert 2.4mm snap-fit AIMing guide for steinmann pin placement.

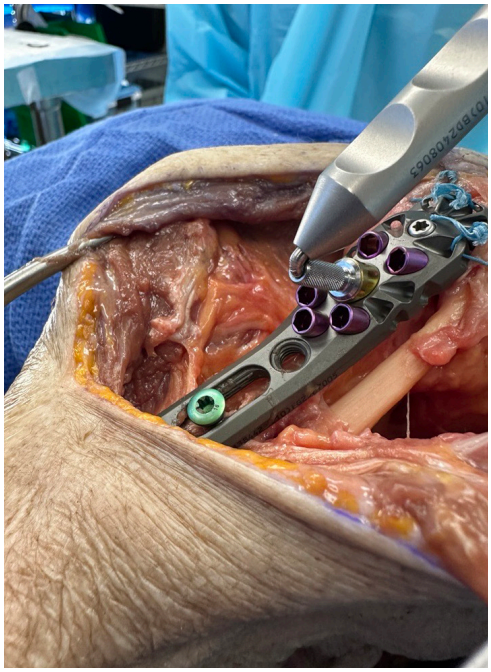


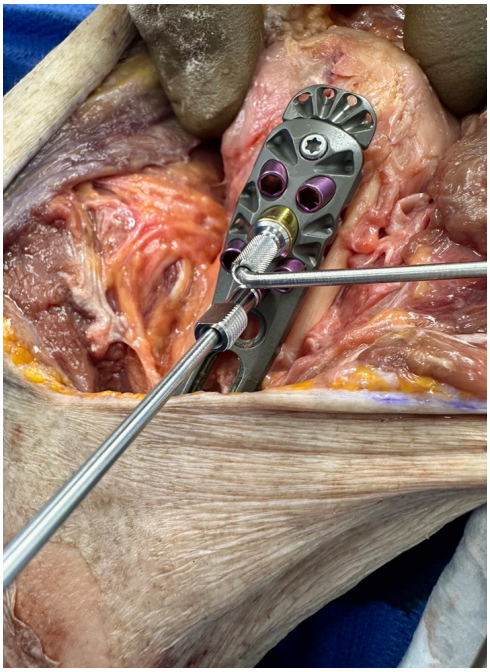
11 PROXIMAL PLATE FIXATION

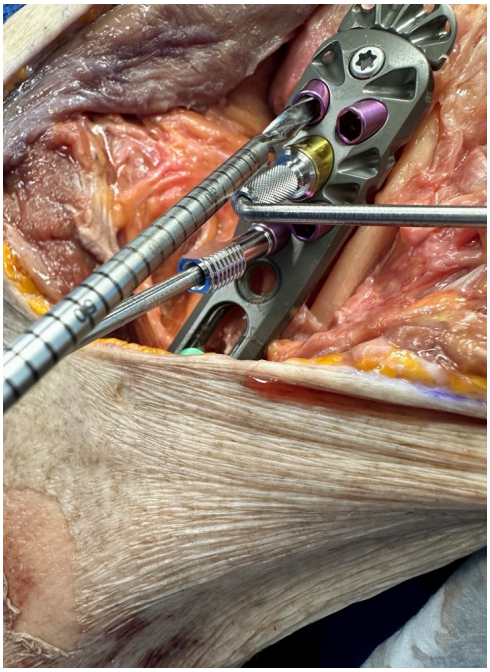
When preparing for the 3.5mm smooth locking pegs, drill through all metaphyseal PDG's with the 3.5mm x 70mm drill bit to perforate the near cortex. Do not insert drill past the cutting flutes to avoid penetrating the joint surface.

If preparing for screw fixation, use the 3.0mm x 70mm drill and 3.0mm snap-fit AIMing guide as showin in the table below.

Note: The central k-wire can be bent using the bullet end of the hand probe tool to avoid drill bit obstruction.







PEG/SCREW	DRILL
3.5mm Smooth Locking Peg	3.5mm x 70mm Drill
3.7mm Metaphyseal Compression Screw 3.7mm Metaphyseal Locking Screw 3.5mm Variable Angle Locking Screw	3.0mm x 70mm Drill
6.0mm Smooth Locking Peg	6.0mm x 70mm Drill



DRLL-35070



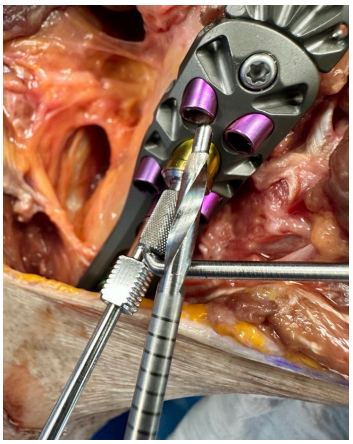
DRLL-30070

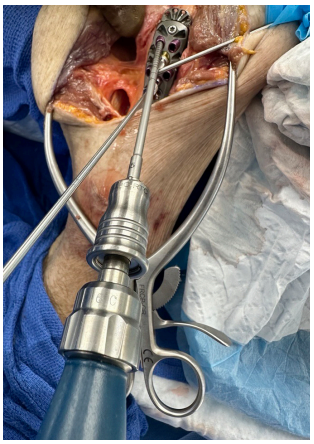
12 MANUAL DRILL FOR SUBCHONDRAL SUPPORT PEGS/SCREWS

To prevent the drill from protruding through the joint surface, use the following manual drilling technique.

Starting with the two most proximal holes, use the 3.5mm blunt drill (safe-tip drill) for pegs, and the 3.0mm blunt drill (safe-tip drill) for screws attached to the driver handle and manually advance through the PDG. Make sure you don't perforate the subchondral bone. When measuring off the drill subtract 4mm.

Note: Make multiple passes with the hand drill to remove all material before inserting pegs.







DRLL-BT-35070



DRLL-BT-30070

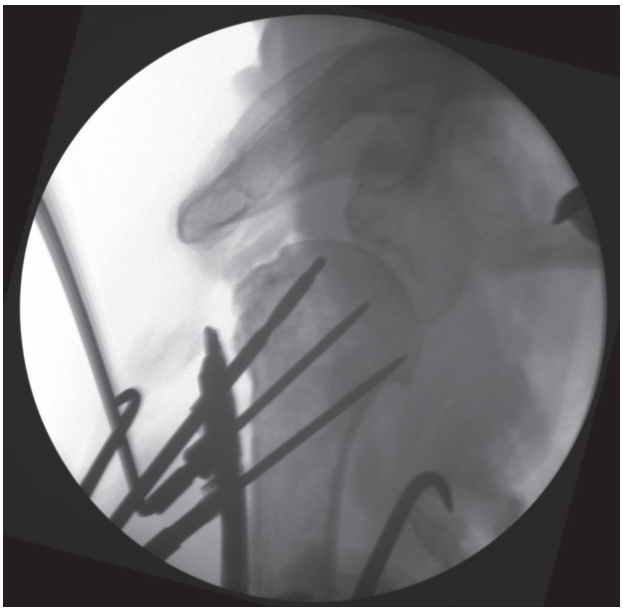


HNDL-UQC-FXD

13 DETERMINE PEG/SCREW LENGTH

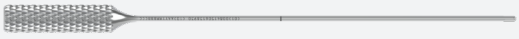
Once resistance is felt, fluoroscopic imaging should verify that the tip of the safe-tip drill is close to the subchondral bone. Care should be taken not to penetrate the subchondral bone. Use the scale on the side of the drill to determine the peg/screw length. Alternatively, the AIMing guide/depth gauge can be used for measurement. It is recommended to subtract 4mm from the measured length.

Note: We do not recommend using the DPGA-FF-050 in the head of the plate.





PRBH-24



PING-DPGA

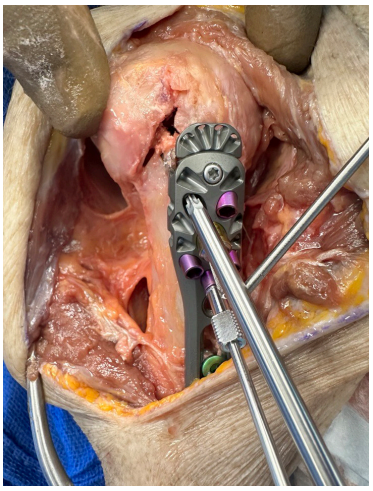


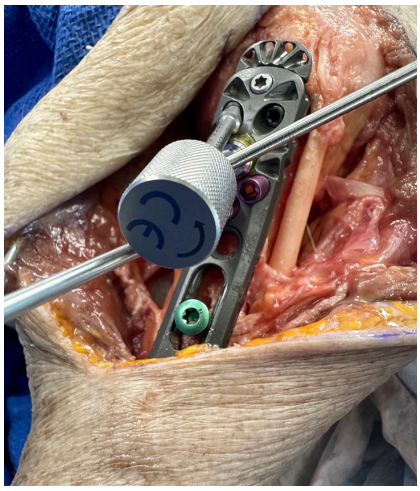
DPGA-PHP

14 PEG/SCREW INSERTION

Remove and discard the respective PDGs and insert the appropriate size peg/screw using the T-10 driver.

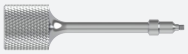
The smooth peg removal tool can be used to remove smooth pegs from the plate. Loosen peg with T10 driver and thread the removal tool clockwise into the peg recess, once engaged remove peg.







DRVP-PHP-T10



SPEG-REM

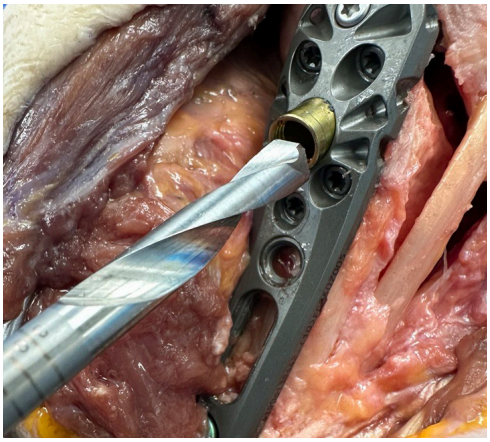
15 CENTRAL PEG PREPARATION

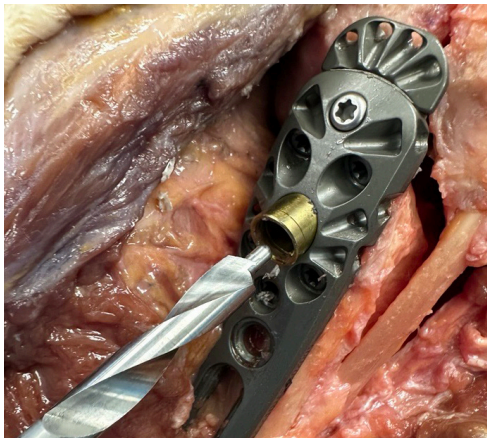
Remove the 2.4mm k-wire and k-wire guide.

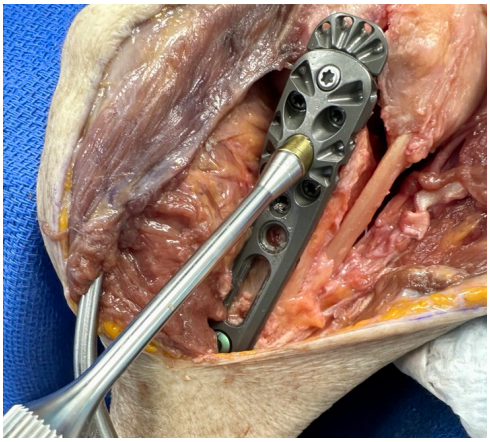
Perforate the near cortex using the 6.0mm drill bit under power through the PDG.

With the 6.0mm blunt drill (safe-tip) drill attached to the handle, drill through the drill guide, making sure you don't perforate the subchondral bone.

Measure off of the scale on the drill to determine the central peg length, substracting 4mm from the reading. Use the central peg driver to remove the PDG.









DRLL-60070



DRLL-BT-60070



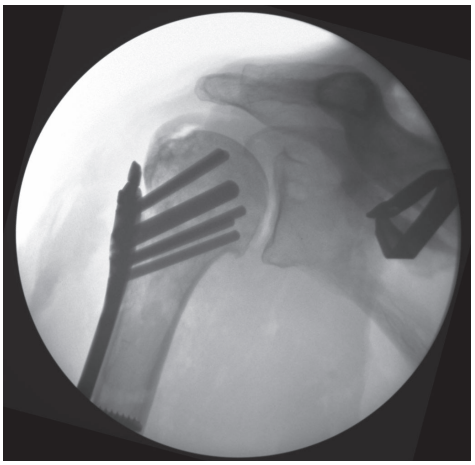
DRVR-PDG

16 CENTRAL PEG APPLICATION

Using the appropriate length peg, insert into the prepared hole and lock into the plate using the T-10 driver. Confirm under fluoroscopy.

Note: The smooth peg removal tool can be used to remove the central post if necessary. The PHP T-10 driver is designed to work with all proximal screws/pegs including the 6.0mm central peg.





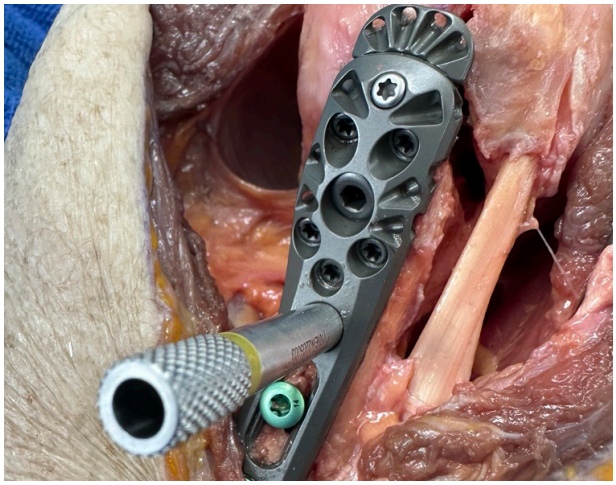
17 INSERT DISTAL SCREWS

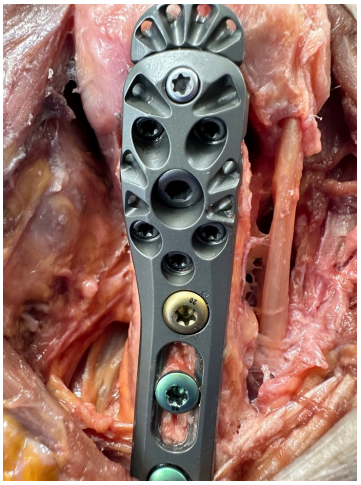
Use the 4.5mm thread-in drill guide or appropriate end of the soft tissue protector and drill to the far cortex with the 3.2mm or 3.5mm drill bit. Measure with the FreeFix depth gauge.

Fix the remaining holes or slots with either FreeFix 4.5mm locking or compression screws.



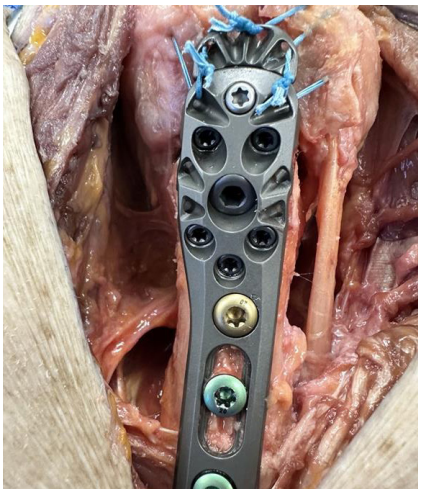
TPDG-FF45





18 ATTACH TUBEROSITIES TO PLATE

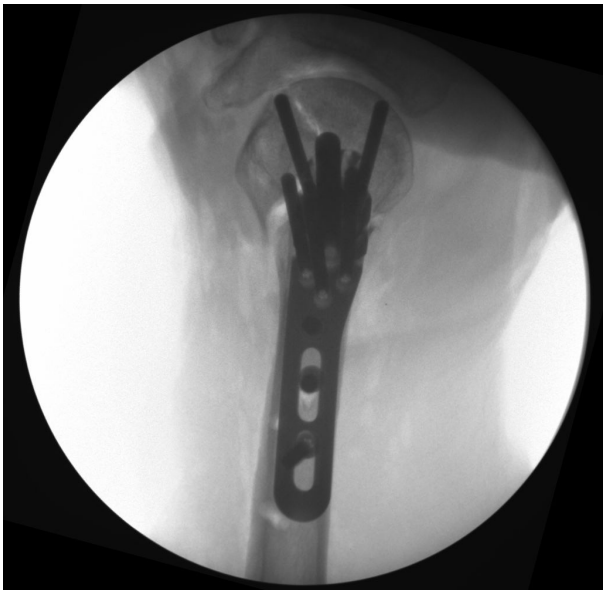
Secure the tuberosities to the plate and/or accessory plate by passing the needles close to the insertion of the tendon and then through to side, front or top loading suture attachment points found on the proximal end of the plate.



19 FINAL VERIFICATION

Evaluate the humerus under fluoroscopy to assess the reduction, to assure there is no joint penetration, and to confirm proper plate positioning.





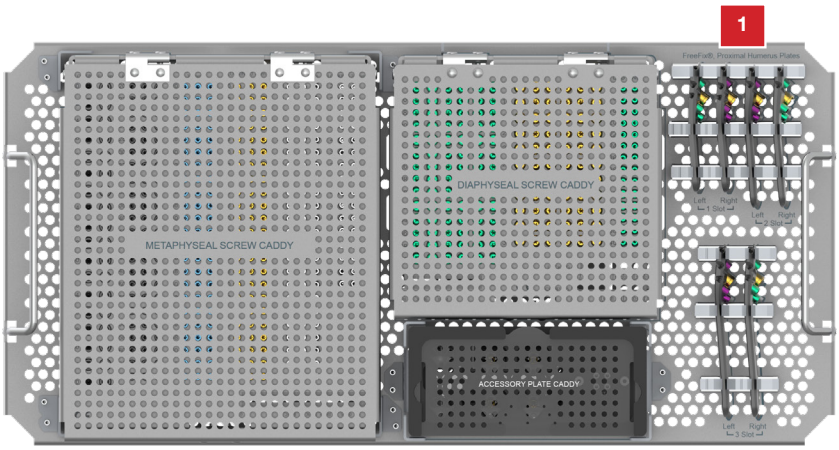
20 CLOSURE

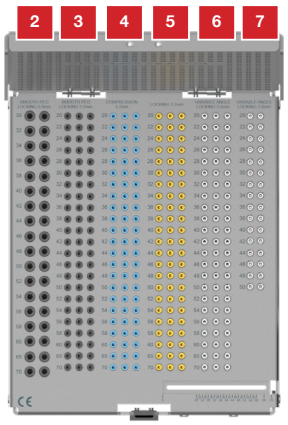
Close deep to superficial in your normal fashion. Apply dressings as necessary.

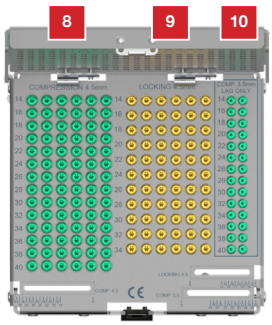
21 PLATE REMOVAL

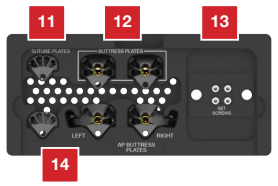
Position the patient and expose via the surgeon's preferred exposure. Remove hardware using provided instrumentation. Close wound in preferred fashion.

TRAY





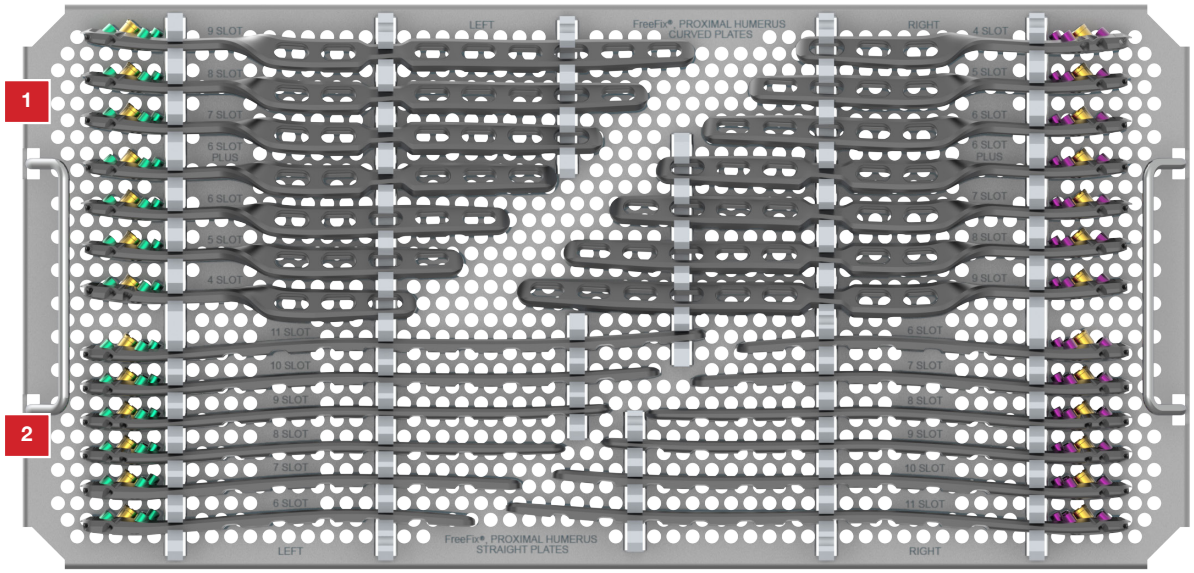




LOC#	CATALOG #	DESCRIPTION
1	PHPF-1R	FreeFix, Proximal Humerus Plate, 1 Slot, Right, Ti
	PHPF-1L	FreeFix, Proximal Humerus Plate, 1 Slot, Left, Ti
	PHPF-2R	FreeFix, Proximal Humerus Plate, 2 Slot, Right, Ti
	PHPF-2L	FreeFix, Proximal Humerus Plate, 2 Slot, Left, Ti
	PHPF-3R	FreeFix, Proximal Humerus Plate, 3 Slot, Right, Ti
	PHPF-3L	FreeFix, Proximal Humerus Plate, 3 Slot, Left, Ti
2	SPL-60300-TS	Smooth Peg, Locking, 6.0mm x 30mm, Ti
	SPL-60320-TS	Smooth Peg, Locking, 6.0mm x 32mm, Ti
	SPL-60340-TS	Smooth Peg, Locking, 6.0mm x 34mm, Ti
	SPL-60360-TS	Smooth Peg, Locking, 6.0mm x 36mm, Ti
	SPL-60380-TS	Smooth Peg, Locking, 6.0mm x 38mm, Ti
	SPL-60400-TS	Smooth Peg, Locking, 6.0mm x 40mm, Ti
	SPL-60420-TS	Smooth Peg, Locking, 6.0mm x 42mm, Ti
	SPL-60440-TS	Smooth Peg, Locking, 6.0mm x 44mm, Ti
	SPL-60460-TS	Smooth Peg, Locking, 6.0mm x 46mm, Ti
	SPL-60480-TS	Smooth Peg, Locking, 6.0mm x 48mm, Ti
	SPL-60500-TS	Smooth Peg, Locking, 6.0mm x 50mm, Ti
	SPL-60520-TS	Smooth Peg, Locking, 6.0mm x 52mm, Ti
	SPL-60540-TS	Smooth Peg, Locking, 6.0mm x 54mm, Ti
	SPL-60560-TS	Smooth Peg, Locking, 6.0mm x 56mm, Ti
	SPL-60580-TS	Smooth Peg, Locking, 6.0mm x 58mm, Ti
	SPL-60600-TS	Smooth Peg, Locking, 6.0mm x 60mm, Ti
	SPL-60650-TS	Smooth Peg, Locking, 6.0mm x 65mm, Ti
	SPL-60700-TS	Smooth Peg, Locking, 6.0mm x 70mm, Ti
3	SPL-35200-TS	Smooth Peg, Locking, 3.5mm x 20mm, Ti
	SPL-35220-TS	Smooth Peg, Locking, 3.5mm x 22mm, Ti
	SPL-35240-TS	Smooth Peg, Locking, 3.5mm x 24mm, Ti
	SPL-35260-TS	Smooth Peg, Locking, 3.5mm x 26mm, Ti
	SPL-35280-TS	Smooth Peg, Locking, 3.5mm x 28mm, Ti
	SPL-35300-TS	Smooth Peg, Locking, 3.5mm x 30mm, Ti
	SPL-35320-TS	Smooth Peg, Locking, 3.5mm x 32mm, Ti
	SPL-35340-TS	Smooth Peg, Locking, 3.5mm x 34mm, Ti
	SPL-35360-TS	Smooth Peg, Locking, 3.5mm x 36mm, Ti
	SPL-35380-TS	Smooth Peg, Locking, 3.5mm x 38mm, Ti
	SPL-35400-TS	Smooth Peg, Locking, 3.5mm x 40mm, Ti
	SPL-35420-TS	Smooth Peg, Locking, 3.5mm x 42mm, Ti
	SPL-35440-TS	Smooth Peg, Locking, 3.5mm x 44mm, Ti
	SPL-35460-TS	Smooth Peg, Locking, 3.5mm x 46mm, Ti
	SPL-35480-TS	Smooth Peg, Locking, 3.5mm x 48mm, Ti
	SPL-35500-TS	Smooth Peg, Locking, 3.5mm x 50mm, Ti
	SPL-35520-TS	Smooth Peg, Locking, 3.5mm x 52mm, Ti
	SPL-35540-TS	Smooth Peg, Locking, 3.5mm x 54mm, Ti
	SPL-35560-TS	Smooth Peg, Locking, 3.5mm x 56mm, Ti
	SPL-35580-TS	Smooth Peg, Locking, 3.5mm x 58mm, Ti
	SPL-35600-TS	Smooth Peg, Locking, 3.5mm x 60mm, Ti
	SPL-35650-TS	Smooth Peg, Locking, 3.5mm x 65mm, Ti
	SPL-35700-TS	Smooth Peg, Locking, 3.5mm x 70mm, Ti
4	MTC-37200-TS	Screw, Metaphyseal Compression, 3.7mm x 20mm, Ti
	MTC-37220-TS	Screw, Metaphyseal Compression, 3.7mm x 22mm, Ti
	MTC-37240-TS	Screw, Metaphyseal Compression, 3.7mm x 24mm, Ti
	MTC-37260-TS	Screw, Metaphyseal Compression, 3.7mm x 26mm, Ti
	MTC-37280-TS	Screw, Metaphyseal Compression, 3.7mm x 28mm, Ti
	MTC-37300-TS	Screw, Metaphyseal Compression, 3.7mm x 30mm, Ti
	MTC-37320-TS	Screw, Metaphyseal Compression, 3.7mm x 32mm, Ti
	MTC-37340-TS	Screw, Metaphyseal Compression, 3.7mm x 34mm, Ti
	MTC-37360-TS	Screw, Metaphyseal Compression, 3.7mm x 36mm, Ti
	MTC-37380-TS	Screw, Metaphyseal Compression, 3.7mm x 38mm, Ti
	MTC-37400-TS	Screw, Metaphyseal Compression, 3.7mm x 40mm, Ti
	MTC-37420-TS	Screw, Metaphyseal Compression, 3.7mm x 42mm, Ti
	MTC-37440-TS	Screw, Metaphyseal Compression, 3.7mm x 44mm, Ti
	MTC-37460-TS	Screw, Metaphyseal Compression, 3.7mm x 46mm, Ti
	MTC-37480-TS	Screw, Metaphyseal Compression, 3.7mm x 48mm, Ti
	MTC-37500-TS	Screw, Metaphyseal Compression, 3.7mm x 50mm, Ti
	MTC-37520-TS	Screw, Metaphyseal Compression, 3.7mm x 52mm, Ti
	MTC-37540-TS	Screw, Metaphyseal Compression, 3.7mm x 54mm, Ti
	MTC-37560-TS	Screw, Metaphyseal Compression, 3.7mm x 56mm, Ti
	MTC-37580-TS	Screw, Metaphyseal Compression, 3.7mm x 58mm, Ti
	MTC-37600-TS	Screw, Metaphyseal Compression, 3.7mm x 60mm, Ti
	MTC-37650-TS	Screw, Metaphyseal Compression, 3.7mm x 65mm, Ti
	MTC-37700-TS	Screw, Metaphyseal Compression, 3.7mm x 70mm, Ti

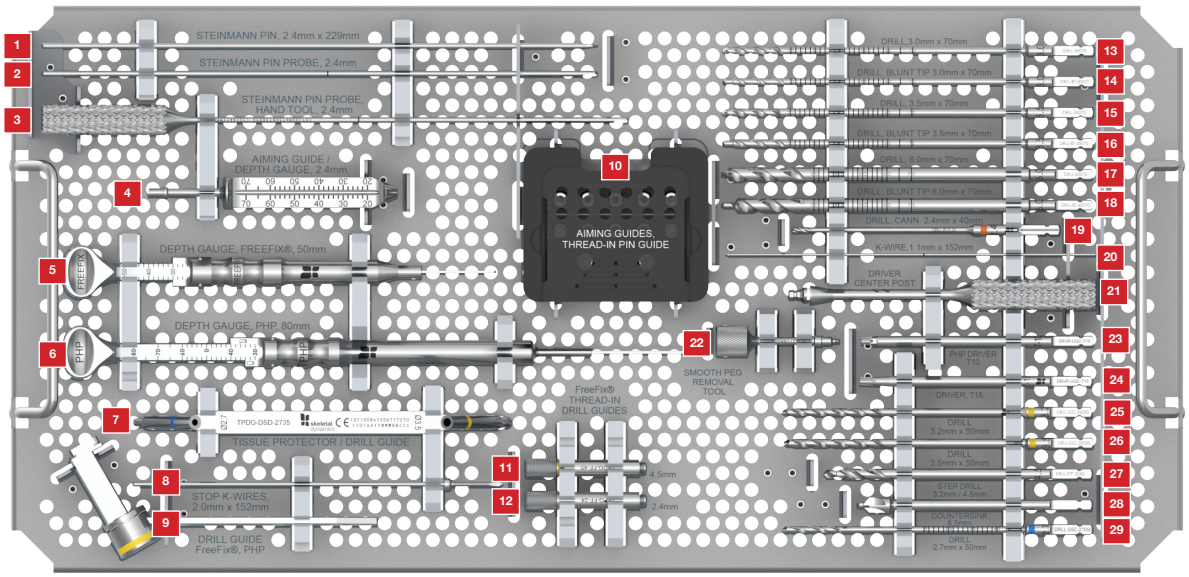
LOC#	CATALOG #	DESCRIPTION
5	MTLS-37200-TS	Screw, Metaphyseal Locking, 3.7mm x 20mm, Ti
	MTLS-37220-TS	Screw, Metaphyseal Locking, 3.7mm x 22mm, Ti
	MTLS-37240-TS	Screw, Metaphyseal Locking, 3.7mm x 24mm, Ti
	MTLS-37260-TS	Screw, Metaphyseal Locking, 3.7mm x 26mm, Ti
	MTLS-37280-TS	Screw, Metaphyseal Locking, 3.7mm x 28mm, Ti
	MTLS-37300-T	Screw, Metaphyseal Locking, 3.7mm x 30mm, Ti
	MTLS-37320-T	Screw, Metaphyseal Locking, 3.7mm x 32mm, Ti
	MTLS-37340-T	Screw, Metaphyseal Locking, 3.7mm x 34mm, Ti
	MTLS-37360-T	Screw, Metaphyseal Locking, 3.7mm x 36mm, Ti
	MTLS-37380-T	Screw, Metaphyseal Locking, 3.7mm x 38mm, Ti
	MTLS-37400-T	Screw, Metaphyseal Locking, 3.7mm x 40mm, Ti
	MTLS-37420-T	Screw, Metaphyseal Locking, 3.7mm x 42mm, Ti
	MTLS-37440-T	Screw, Metaphyseal Locking, 3.7mm x 44mm, Ti
	MTLS-37460-T	Screw, Metaphyseal Locking, 3.7mm x 46mm, Ti
	MTLS-37480-T	Screw, Metaphyseal Locking, 3.7mm x 48mm, Ti
	MTLS-37500-T	Screw, Metaphyseal Locking, 3.7mm x 50mm, Ti
	MTLS-37520-T	Screw, Metaphyseal Locking, 3.7mm x 52mm, Ti
	MTLS-37540-T	Screw, Metaphyseal Locking, 3.7mm x 54mm, Ti
	MTLS-37560-T	Screw, Metaphyseal Locking, 3.7mm x 56mm, Ti
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	MTLS-37600-T	Screw, Metaphyseal Locking, 3.7mm x 60mm, Ti
	MTLS-37650-T	Screw, Metaphyseal Locking, 3.7mm x 65mm, Ti
	MTLS-37700-T	Screw, Metaphyseal Locking, 3.7mm x 70mm, Ti
6	VAL-35200-CC	Screw, Variable Angle Locking, 3.5mm x 20mm, CoCr
	VAL-35220-CC	Screw, Variable Angle Locking, 3.5mm x 22mm, CoCr
	VAL-35240-CC	Screw, Variable Angle Locking, 3.5mm x 24mm, CoCr
	VAL-35260-CC	Screw, Variable Angle Locking, 3.5mm x 26mm, CoCr
	VAL-35280-CC	Screw, Variable Angle Locking, 3.5mm x 28mm, CoCr
	VAL-35300-CC	Screw, Variable Angle Locking, 3.5mm x 30mm, CoCr
	VAL-35320-CC	Screw, Variable Angle Locking, 3.5mm x 32mm, CoCr
	VAL-35340-CC	Screw, Variable Angle Locking, 3.5mm x 34mm, CoCr
	VAL-35360-CC	Screw, Variable Angle Locking, 3.5mm x 36mm, CoCr
	VAL-35380-CC	Screw, Variable Angle Locking, 3.5mm x 38mm, CoCr
	VAL-35400-CC	Screw, Variable Angle Locking, 3.5mm x 40mm, CoCr
	VAL-35420-CC	Screw, Variable Angle Locking, 3.5mm x 42mm, CoCr
	VAL-35440-CC	Screw, Variable Angle Locking, 3.5mm x 44mm, CoCr
	VAL-35460-CC	Screw, Variable Angle Locking, 3.5mm x 46mm, CoCr
	VAL-35480-CC	Screw, Variable Angle Locking, 3.5mm x 48mm, CoCr
	VAL-35500-CC	Screw, Variable Angle Locking, 3.5mm x 50mm, CoCr
	VAL-35520-CC	Screw, Variable Angle Locking, 3.5mm x 52mm, CoCr
	VAL-35540-CC	Screw, Variable Angle Locking, 3.5mm x 54mm, CoCr
	VAL-35560-CC	Screw, Variable Angle Locking, 3.5mm x 56mm, CoCr
	VAL-35580-CC	Screw, Variable Angle Locking, 3.5mm x 58mm, CoCr
	VAL-35600-CC	Screw, Variable Angle Locking, 3.5mm x 60mm, CoCr
	VAL-35650-CC	Screw, Variable Angle Locking, 3.5mm x 65mm, CoCr
	VAL-35700-CC	Screw, Variable Angle Locking, 3.5mm x 70mm, CoCr
7	PALS-30200-CC	Screw, Polyaxial Locking, 3.0mm x 20mm, CoCr
	PALS-30220-CC	Screw, Polyaxial Locking, 3.0mm x 22mm, CoCr
	PALS-30240-CC	Screw, Polyaxial Locking, 3.0mm x 24mm, CoCr
	PALS-30260-CC	Screw, Polyaxial Locking, 3.0mm x 26mm, CoCr
	PALS-30280-CC	Screw, Polyaxial Locking, 3.0mm x 28mm, CoCr
	PALS-30300-CC	Screw, Polyaxial Locking, 3.0mm x 30mm, CoCr
	PALS-30320-CC	Screw, Polyaxial Locking, 3.0mm x 32mm, CoCr
	PALS-30340-CC	Screw, Polyaxial Locking, 3.0mm x 34mm, CoCr
	PALS-30360-CC	Screw, Polyaxial Locking, 3.0mm x 36mm, CoCr
	PALS-30380-CC	Screw, Polyaxial Locking, 3.0mm x 38mm, CoCr
	VAL-30400-CC	Screw, Variable Angle Locking, 3.0mm x 40mm, CoCr
	VAL-30420-CC	Screw, Variable Angle Locking, 3.0mm x 42mm, CoCr
	VAL-30440-CC	Screw, Variable Angle Locking, 3.0mm x 44mm, CoCr
	VAL-30460-CC	Screw, Variable Angle Locking, 3.0mm x 46mm, CoCr
	VAL-30480-CC	Screw, Variable Angle Locking, 3.0mm x 48mm, CoCr
	VAL-30500-CC	Screw, Variable Angle Locking, 3.0mm x 50mm, CoCr
8	FFC-45140-TS	Screw, FreeFix Compression, 4.5mm x 14mm, Ti
	FFC-45160-TS	Screw, FreeFix Compression, 4.5mm x 16mm, Ti
	FFC-45180-TS	Screw, FreeFix Compression, 4.5mm x 18mm, Ti
	FFC-45200-TS	Screw, FreeFix Compression, 4.5mm x 20mm, Ti
	FFC-45220-TS	Screw, FreeFix Compression, 4.5mm x 22mm, Ti
	FFC-45240-TS	Screw, FreeFix Compression, 4.5mm x 24mm, Ti
	FFC-45260-TS	Screw, FreeFix Compression, 4.5mm x 26mm, Ti
	FFC-45280-TS	Screw, FreeFix Compression, 4.5mm x 28mm, Ti
	FFC-45300-TS	Screw, FreeFix Compression, 4.5mm x 30mm, Ti
	FFC-45320-TS	Screw, FreeFix Compression, 4.5mm x 32mm, Ti
	FFC-45340-TS	Screw, FreeFix Compression, 4.5mm x 34mm, Ti
	FFC-45360-TS	Screw, FreeFix Compression, 4.5mm x 36mm, Ti
	FFC-45380-TS	Screw, FreeFix Compression, 4.5mm x 38mm, Ti
	FFC-45400-TS	Screw, FreeFix Compression, 4.5mm x 40mm, Ti
9	FFL-45140-TS	Screw, FreeFix Locking, 4.5mm x 14mm, Ti
	FFL-45160-TS	Screw, FreeFix Locking, 4.5mm x 16mm, Ti
	FFL-45180-TS	Screw, FreeFix Locking, 4.5mm x 18mm, Ti
	FFL-45200-TS	Screw, FreeFix Locking, 4.5mm x 20mm, Ti
	FFL-45220-TS	Screw, FreeFix Locking, 4.5mm x 22mm, Ti
	FFL-45240-TS	Screw, FreeFix Locking, 4.5mm x 24mm, Ti
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	FFL-45280-TS	Screw, FreeFix Locking, 4.5mm x 28mm, Ti
	FFL-45300-TS	Screw, FreeFix Locking, 4.5mm x 30mm, Ti
	FFL-45320-TS	Screw, FreeFix Locking, 4.5mm x 32mm, Ti
	FFL-45340-TS	Screw, FreeFix Locking, 4.5mm x 34mm, Ti
10	FFC-35140-TS	Screw, FreeFix Compression, 3.5mm x 14mm, Ti
	FFC-35160-TS	Screw, FreeFix Compression, 3.5mm x 16mm, Ti
	FFC-35180-TS	Screw, FreeFix Compression, 3.5mm x 18mm, Ti
	FFC-35200-TS	Screw, FreeFix Compression, 3.5mm x 20mm, Ti
	FFC-35220-TS	Screw, FreeFix Compression, 3.5mm x 22mm, Ti
	FFC-35240-TS	Screw, FreeFix Compression, 3.5mm x 24mm, Ti
	FFC-35260-TS	Screw, FreeFix Compression, 3.5mm x 26mm, Ti
	FFC-35280-TS	Screw, FreeFix Compression, 3.5mm x 28mm, Ti
	FFC-35300-TS	Screw, FreeFix Compression, 3.5mm x 30mm, Ti
	FFC-35320-TS	Screw, FreeFix Compression, 3.5mm x 32mm, Ti
	FFC-35340-TS	Screw, FreeFix Compression, 3.5mm x 34mm, Ti
	FFC-35360-TS	Screw, FreeFix Compression, 3.5mm x 36mm, Ti
	FFC-35380-TS	Screw, FreeFix Compression, 3.5mm x 38mm, Ti
	FFC-35400-TS	Screw, FreeFix Compression, 3.5mm x 40mm, Ti
11	PHP-SP	Proximal Humerus, Suture Plate, Ti
12	PHP-BP	Proximal Humerus, Buttress Plate, Ti
13	PHP-BPS	Proximal Humerus, Buttress Plate Screw, CoCr
14	PHP-BPAPR	Proximal Humerus , AP Buttress Plate, Right, Ti
	PHP-BPAPL	Proximal Humerus , AP Buttress Plate, Left, Ti

TRAY



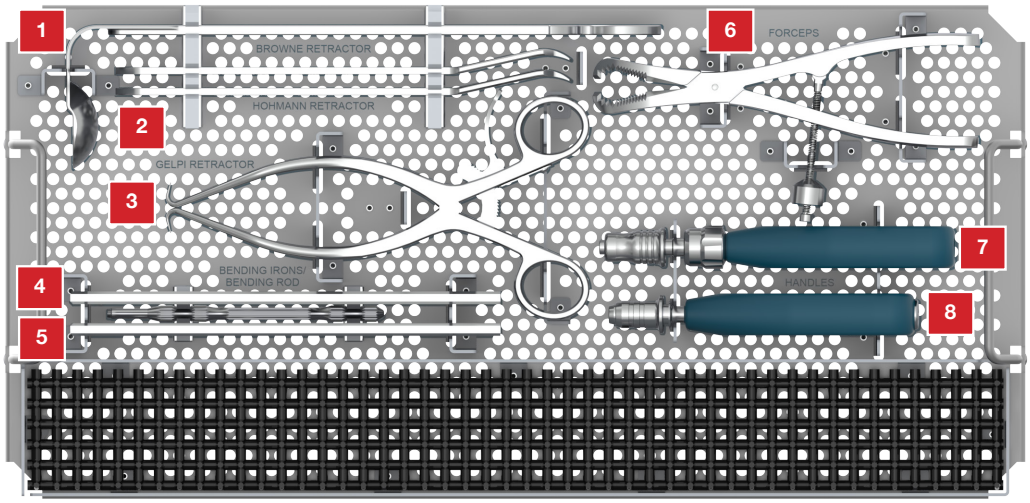
LOC#	CATALOG #	DESCRIPTION
1	PHPF-C4R	FreeFix, Proximal Humerus Plate, Curved, 4 Slot, Right, Ti
	PHPF-C4L	FreeFix, Proximal Humerus Plate, Curved, 4 Slot, Left, Ti
	PHPF-C5R	FreeFix, Proximal Humerus Plate, Curved, 5 Slot, Right, Ti
	PHPF-C5L	FreeFix, Proximal Humerus Plate, Curved, 5 Slot, Left, Ti
	PHPF-C6R	FreeFix, Proximal Humerus Plate, Curved, 6 Slot, Right, Ti
	PHPF-C6L	FreeFix, Proximal Humerus Plate, Curved, 6 Slot, Left, Ti
	PHPF-C6PR	FreeFix, Proximal Humerus Plate, Curved, 6 Slot Plus, Right, Ti
	PHPF-C6PL	FreeFix, Proximal Humerus Plate, Curved, 6 Slot Plus, Left, Ti
	PHPF-C7R	FreeFix, Proximal Humerus Plate, Curved, 7 Slot, Right, Ti
	PHPF-C7L	FreeFix, Proximal Humerus Plate, Curved, 7 Slot, Left, Ti
	PHPF-C8R	FreeFix, Proximal Humerus Plate, Curved, 8 Slot, Right, Ti
	PHPF-C8L	FreeFix, Proximal Humerus Plate, Curved, 8 Slot, Left, Ti
	PHPF-C9R	FreeFix, Proximal Humerus Plate, Curved, 9 Slot, Right, Ti
	PHPF-C9L	FreeFix, Proximal Humerus Plate, Curved, 9 Slot, Left, Ti
2	PHPF-S6R	FreeFix, Proximal Humerus Plate, Straight, 6 Slot, Right, Ti
	PHPF-S6L	FreeFix, Proximal Humerus Plate, Straight, 6 Slot, Left, Ti
	PHPF-S7R	FreeFix, Proximal Humerus Plate, Straight, 7 Slot, Right, Ti
	PHPF-S7L	FreeFix, Proximal Humerus Plate, Straight, 7 Slot, Left, Ti
	PHPF-S8R	FreeFix, Proximal Humerus Plate, Straight, 8 Slot, Right, Ti
	PHPF-S8L	FreeFix, Proximal Humerus Plate, Straight, 8 Slot, Left, Ti
	PHPF-S9R	FreeFix, Proximal Humerus Plate, Straight, 9 Slot, Right, Ti
	PHPF-S9L	FreeFix, Proximal Humerus Plate, Straight, 9 Slot, Left, Ti
	PHPF-S10R	FreeFix, Proximal Humerus Plate, Straight, 10 Slot, Right, Ti
	PHPF-S10L	FreeFix, Proximal Humerus Plate, Straight, 10 Slot, Left, Ti
	PHPF-S11R	FreeFix, Proximal Humerus Plate, Straight, 11 Slot, Right, Ti
	PHPF-S11L	FreeFix, Proximal Humerus Plate, Straight, 11 Slot, Left, Ti

TRAY



LOC#	CATALOG #	DESCRIPTION
1	SPIN-SD-24229	Steinmann Pin, Single Diamond, 2.4 mm x 229 mm
2	PRB-24	2.4mm Steinmann Pin Probe
3	PRBH-24	2.4mm Steinmann Pin Probe, Hand Tool
4	PING-DPGA	2.4mm Pin Guide, Depth Gauge
5	DPGA-FF-050	Depth Gauge, FreeFix, 50mm
6	DPGA-PHP	Depth Gauge, PHP
7	TPDG-DSD-2735	Tissue Protector/Drill Guide, Dual Sided, 2.7mm x 3.5mm
8	KWIR-DTS-20152	K-Wire, Single Diamond Tip, Threaded with Stop, 2.0 mm x 152 mm
9	TPDG-FF-PHP	Drill Guide, FreeFix, PHP
10	AIM-PHP-24SF	AIMing Guide, 2.4mm, Snap Fit
	AIM-PHP-30SF	AIMing Guide, 3.0mm, Snap Fit
	PDG-AIM-24	AIMing Guide, 2.4mm
11	TPDG-FF-45	Thread-in Drill Guide, FreeFix, 4.5mm
12	TPPG-FF-24	Thread-In Pin Guide, FreeFix, 2.4mm
13	DRLL-30070	Stop Drill, 3.0mm x 70mm
14	DRLL-BT-30070	Drill, Blunt Tip, 3.0mm x 70mm
15	DRLL-35070	Stop Drill, 3.5mm x 70mm
16	DRLL-BT-35070	Drill, Blunt Tip, 3.5mm x 70mm
17	DRLL-60070	Drill, 6.0mm x 70mm
18	DRLL-BT-60070	Drill, Blunt Tip, 6.0mm x 70mm
19	DRLL-PLS-24	Drill, Cannulated, PLS, 2.4mm x 40mm
20	KWIR-HPS-PLS	K-Wire, Standard Tip, HPS PLS, 1.1mm x 152mm
21	DRVR-PDG	Driver, PDG
22	SPEG-REM	Smooth Peg Removal Tool
23	DRVR-PHP-T10	Driver, PHP T10
24	DRVR-UQC-T15	Driver, Universal Quick Connect, T15
25	DRLL-SSC-32050	Drill, 3.2mm x 50mm
26	DRLL-SSC-35050	Drill, 3.5mm x 50mm
27	DRLL-STP-3245	Drill, 3.2mm/4.5mm
28	DRLL-CSK-65	Countersink, 6.5mm
29	DRLL-SSC-27050	Drill, 2.7mm x 50mm

TRAY



LOC#	CATALOG #	DESCRIPTION
1	INST-BR	Instrument, Browne Retractor
2	INST-HR-LRG	Instrument, Hohmann Retractor, Large
3	FRCP-GR	Forceps, Gelpi Retractor
4	UNV-BND-45	Universal Bending Irons, 4.5mm
5	BND-ROD-MT	Bending Rod, MT
6	FRCP-BHL-SL	Forceps, Bone Holding Large, Speed Lock
7	HNDL-UQC-RTC	Handle, Universal QC, Ratcheting
8	HNDL-UQC-FXD	Handle, Universal QC, Fixed

skeletal dynamics®

CE 2797
MKT-00485-00 V.4
February 2026

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7300 North Kendall Drive, Suite 800, Miami, Florida 33156, 877-753-5396
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