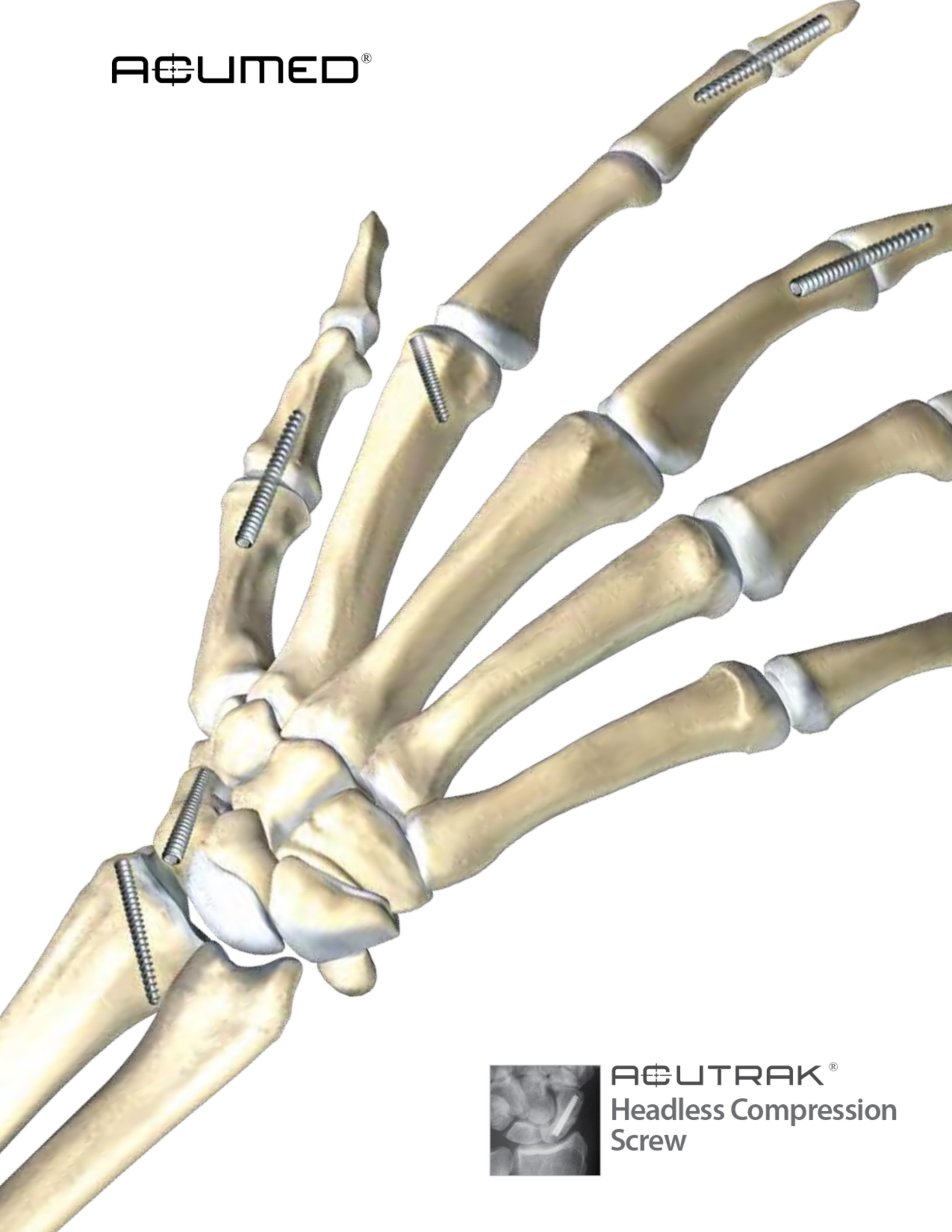


ACUMED®



ACUTRAK®  
Headless Compression  
Screw

# Acutrak® Headless Compression Screw

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.

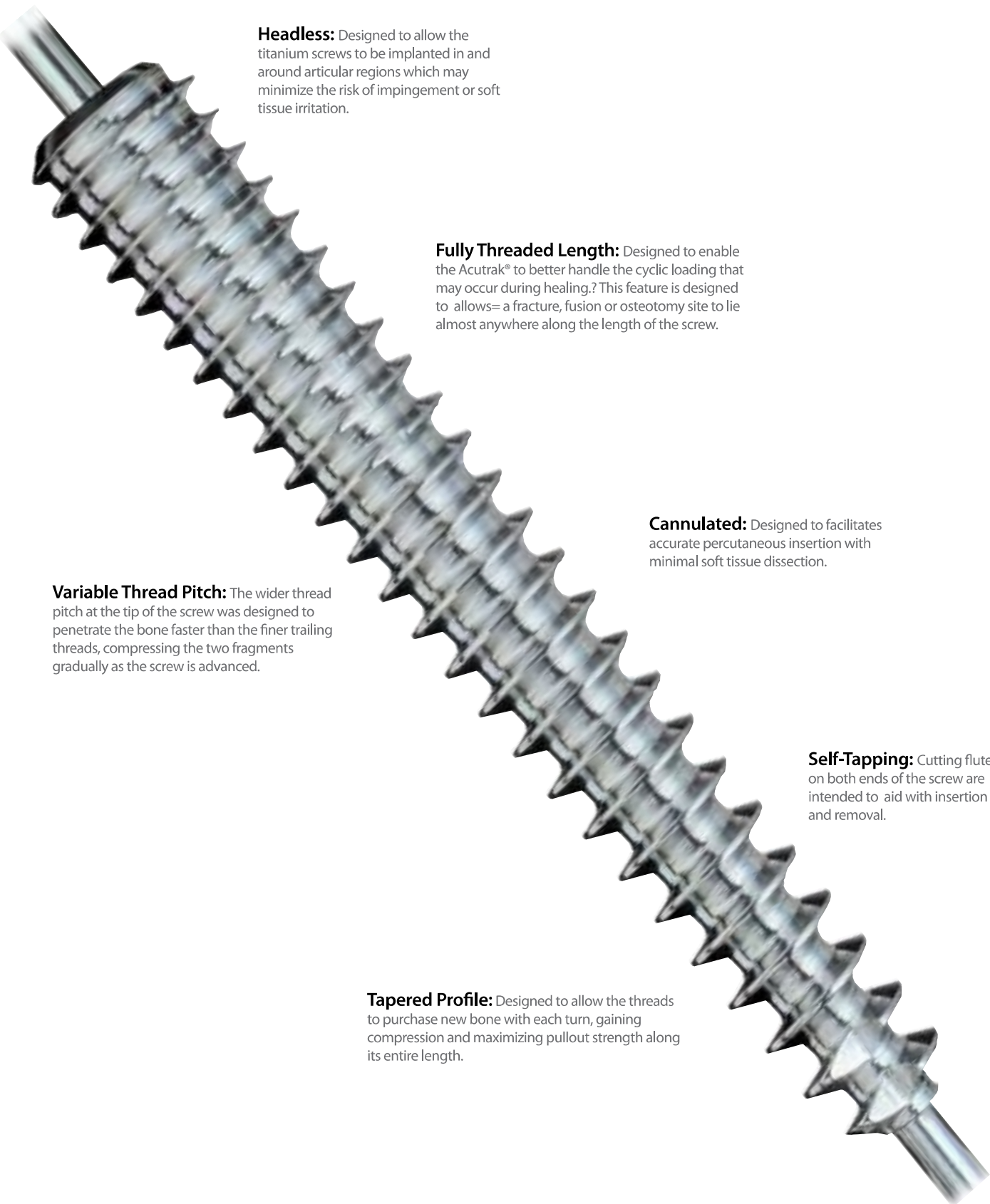


Since its introduction, the Acutrak® Headless Compression Screw has revolutionized the way surgeons gain fixation. The Acutrak® System is designed to eliminate the need to countersink a head, drill a glide hole or, in many cases, make large incisions. With the Acutrak® Headless Compression Screw, Acumed® has designed a solution for repairing fractures, performing joint fusions, and fixing osteotomies throughout the upper and lower extremities. Advanced implant technology and straightforward instrumentation enable the Acutrak® systems to be an effective means of fixation for the following indications:

- Scaphoid Fractures
- Subtalar Fusions
- Radial Head Fractures
- IP Fusions

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A detailed image of an Acutrak screw, a long, tapered, headless titanium screw with a variable thread pitch and self-tapping flutes. The screw is shown diagonally, highlighting its length and the varying width of the threads.

**Headless:** Designed to allow the titanium screws to be implanted in and around articular regions which may minimize the risk of impingement or soft tissue irritation.

**Fully Threaded Length:** Designed to enable the Acutrak® to better handle the cyclic loading that may occur during healing. This feature is designed to allow a fracture, fusion or osteotomy site to lie almost anywhere along the length of the screw.

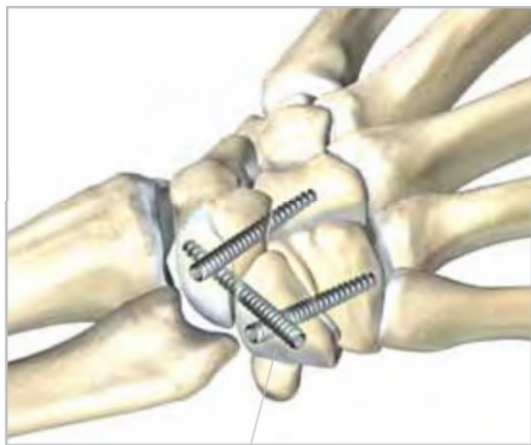
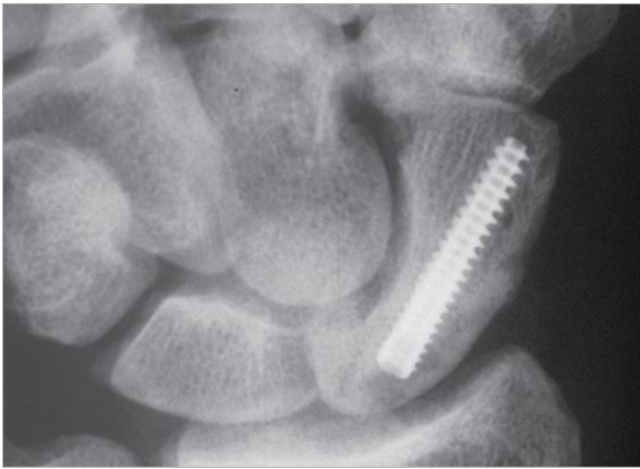
**Cannulated:** Designed to facilitate accurate percutaneous insertion with minimal soft tissue dissection.

**Variable Thread Pitch:** The wider thread pitch at the tip of the screw was designed to penetrate the bone faster than the finer trailing threads, compressing the two fragments gradually as the screw is advanced.

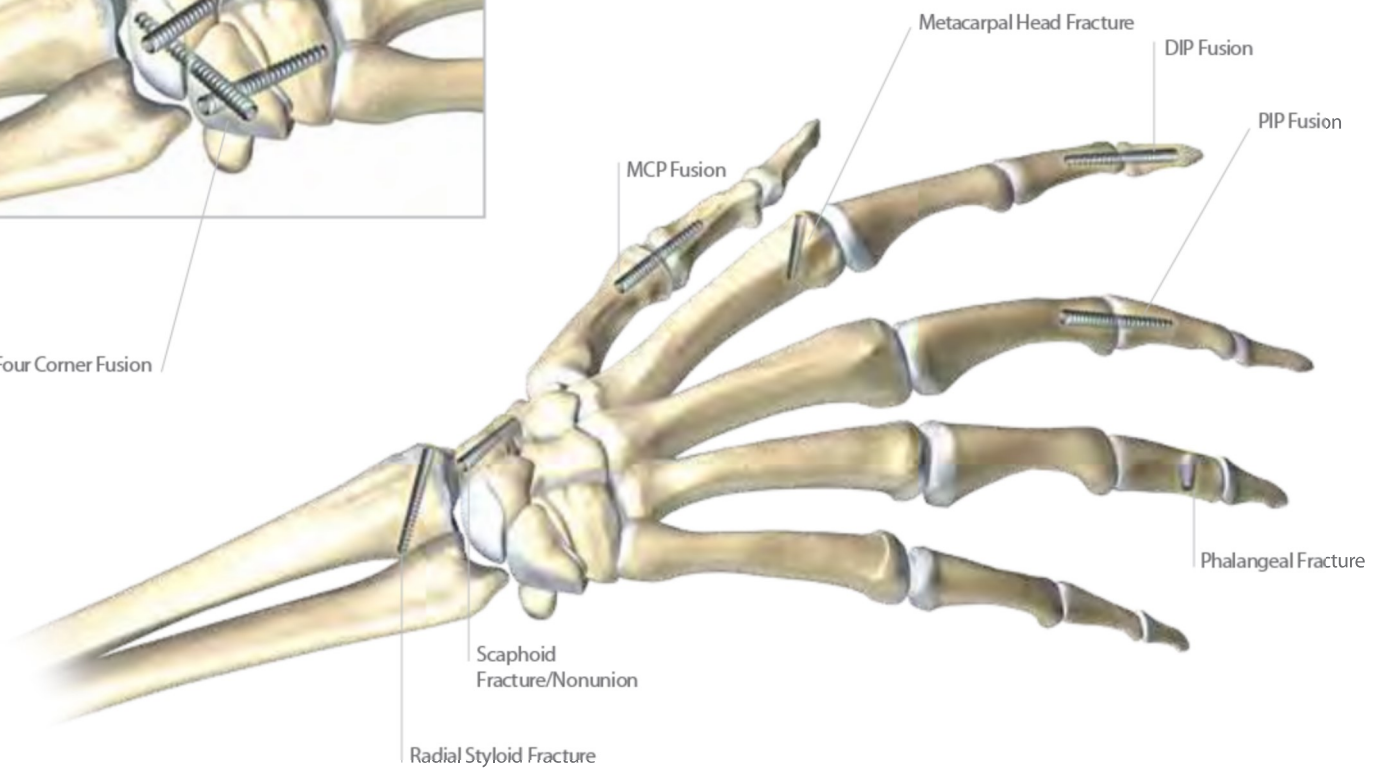
**Self-Tapping:** Cutting flutes on both ends of the screw are intended to aid with insertion and removal.

**Tapered Profile:** Designed to allow the threads to purchase new bone with each turn, gaining compression and maximizing pullout strength along its entire length.

## Upper Extremity Indications

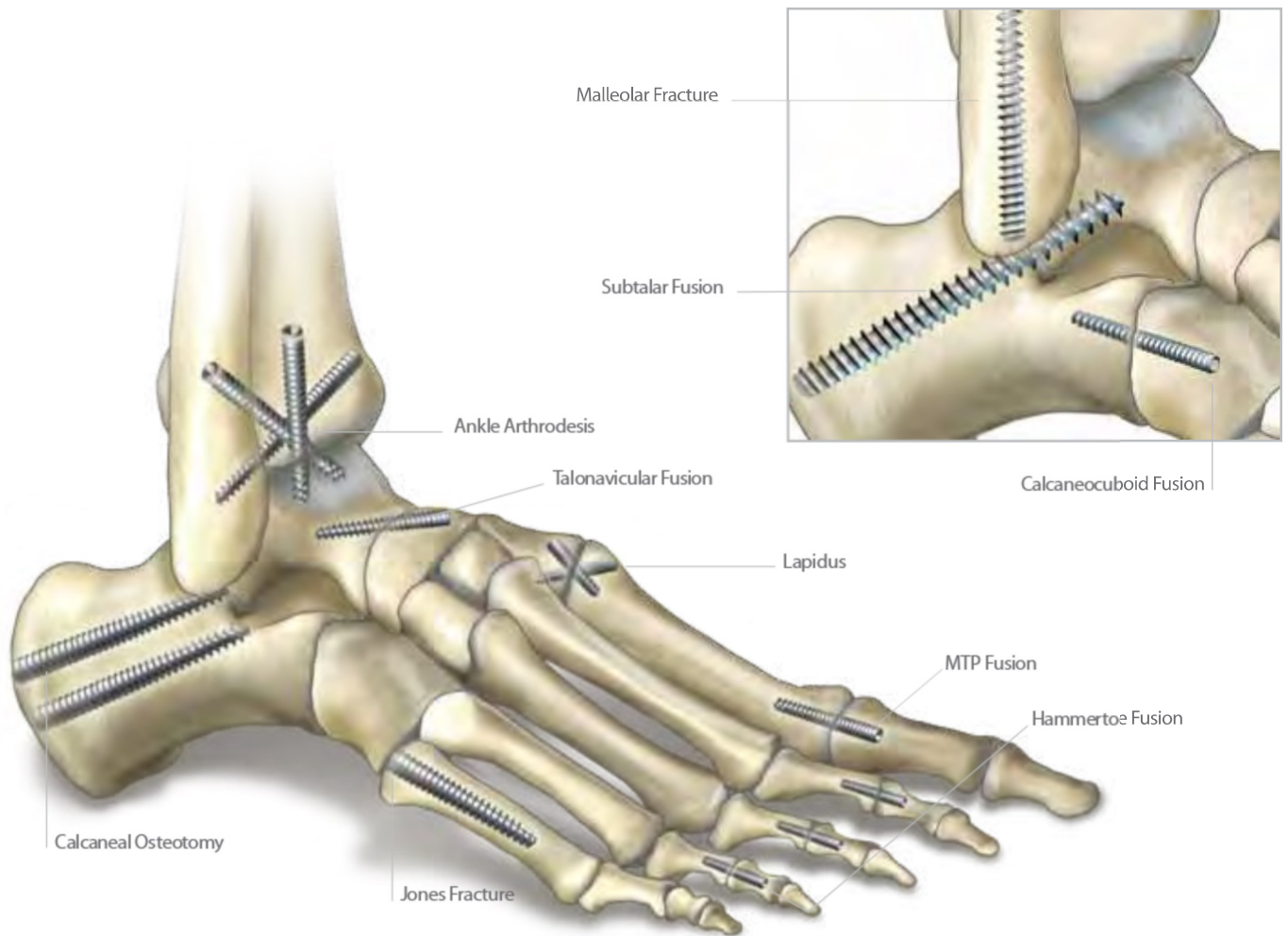


Four Corner Fusion





## Lower Extremity Indications



# Acutrak® Fusion



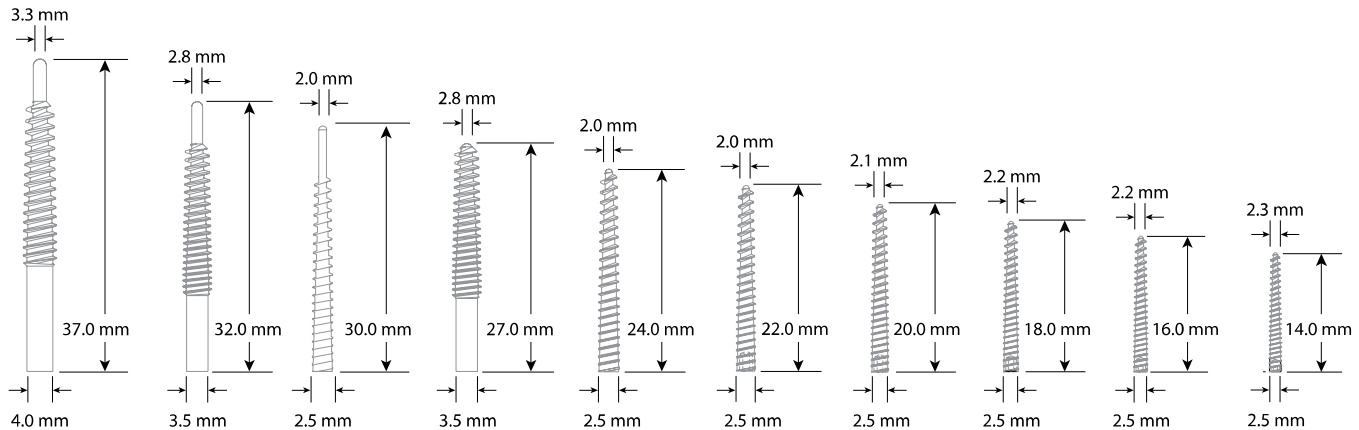
Fixation of interphalangeal fusions in both the hand and the foot.

## Indications:

- Interphalangeal joint arthrodesis

## Properties:

- Hex Size:** 1.5 mm and 2.0 mm
- Material:** Titanium alloy



# Acutrak® Mini



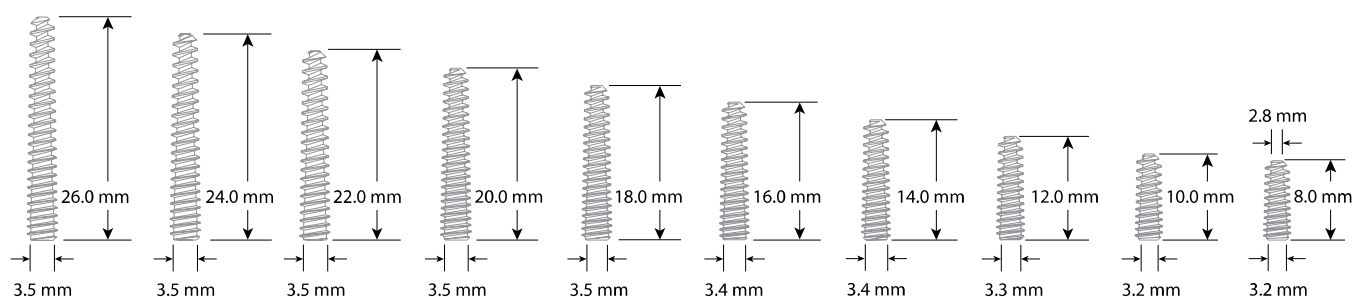
Fixation of small bones where a traditional 2.7-3.0 mm headed screw or equivalent sized headless screw could be used.

## Indications:

- Scaphoid fractures
- Phalangeal fractures
- Carpal fusions
- MCP fusions
- Radial Head fractures
- Chevron, Akin and Weil Osteotomies
- Bunionectomies
- OCD repair

## Properties:

- Guide Wire:** .035" (.88 mm)
- Hex Size:** 1.5 mm
- Material:** Titanium alloy



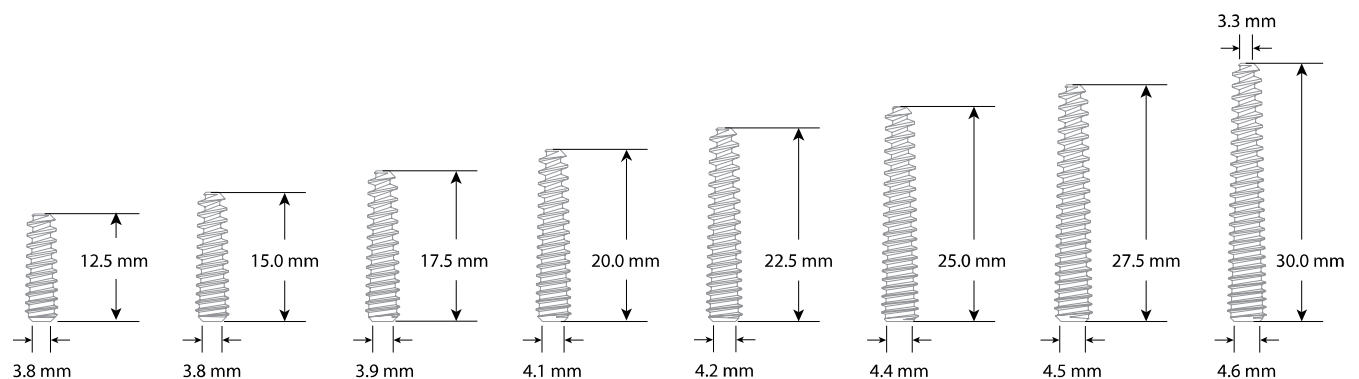
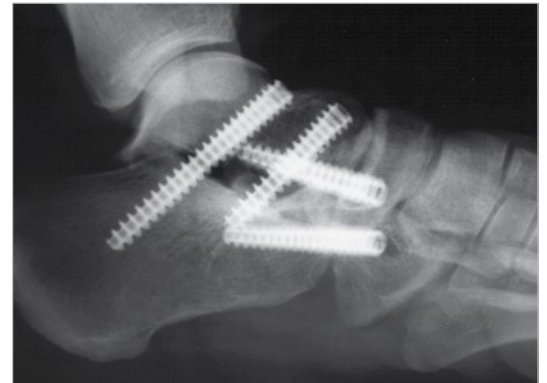
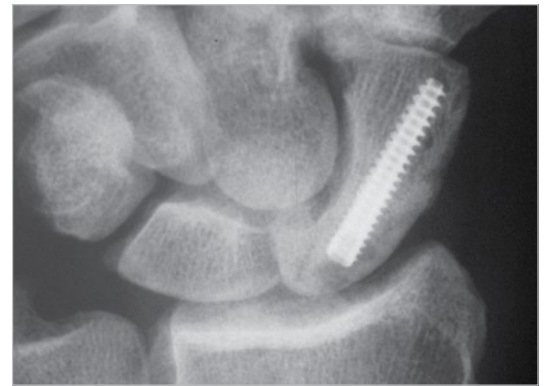
Fixation of the small to medium bones of the hand and foot where a 3.5-4.0 mm headed screw or an equivalent sized headless screw could be used.

## Indications:

- Scaphoid fractures and nonunions
- Carpal fusions
- Radial styloid fractures
- MCP fusions
- Capitellum fractures
- Bunionectomies - proximal and distal
- Tarsal fractures
- 5th Metatarsal fractures
- Midfoot fusions
- OCD repair
- Osteotomies

## Properties:

- **Guide Wire:** .045" (1.1 mm)
- **Hex Size:** 2.0 mm
- **Material:** Titanium alloy



# Acutrak® 4/5



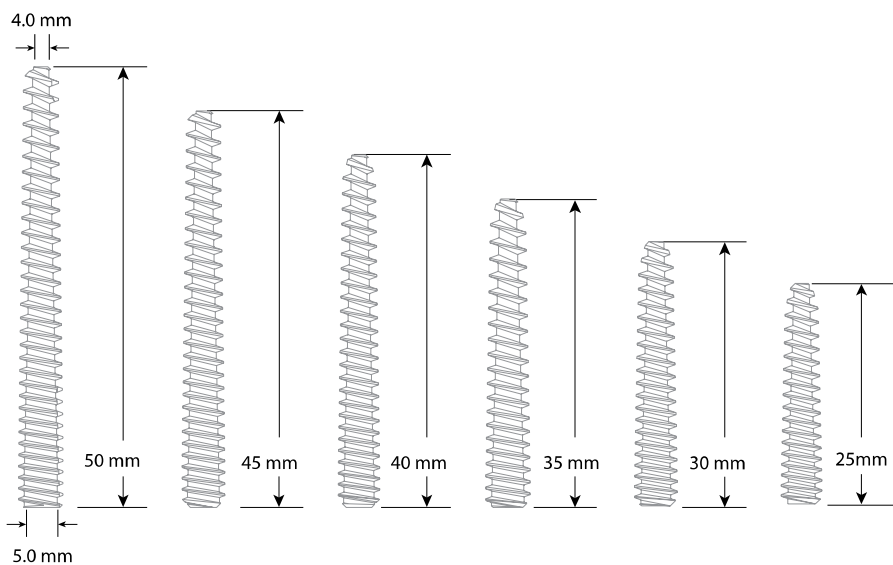
Fixation of medium to large bones where a traditional 4.5 mm headed screw or equivalent sized headless screw could be used.

## Indications:

- Jones fractures
- Talus fractures
- Malleolar fractures
- Midfoot fusions
- MTP fusions
- Greater tuberosity fractures

## Properties:

- Guide Wire: .054" (1.4 mm)
- Hex Size: 2.5 mm
- Material: Titanium alloy





Fixation of medium to large bones where a traditional 6.5 mm headed screw or equivalent sized headless screw could be used.

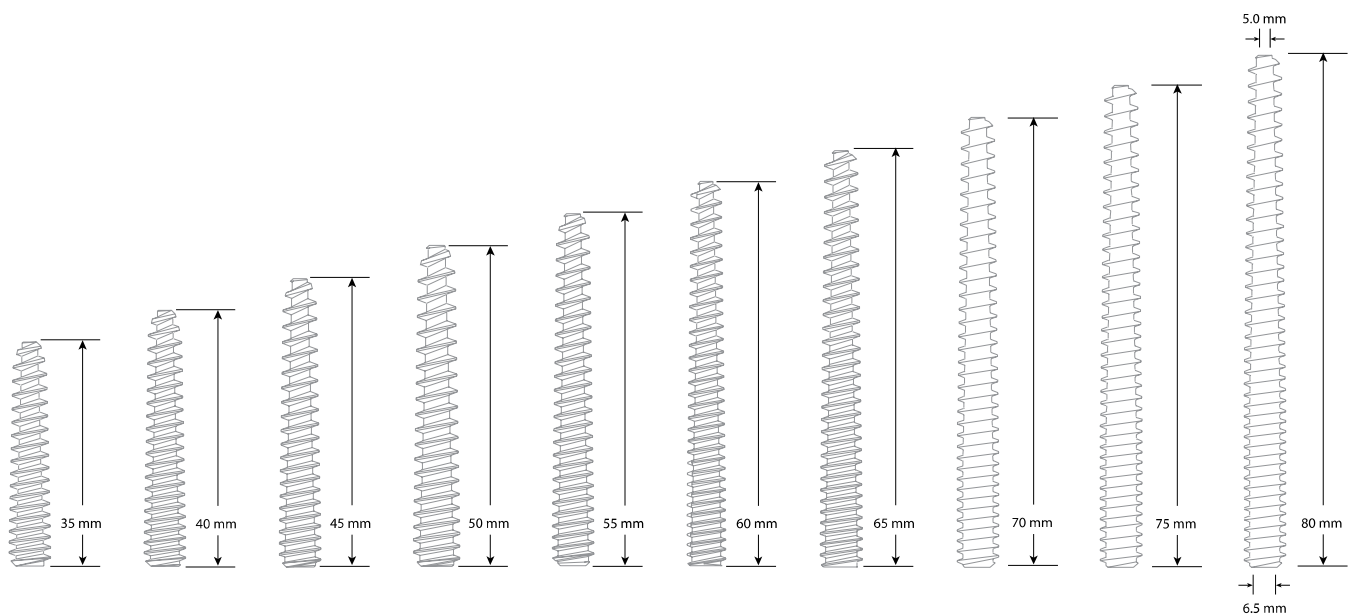
## Indications:

- Hindfoot arthrodesis
- Ankle arthrodesis
- Calcaneal osteotomies
- Greater tuberosity fractures
- Tibial plateau fractures
- Femoral condyle fractures



## Properties:

- **Guide Wire:** .062" (1.6 mm)
- **Hex Size:** 3.0 mm
- **Material:** Titanium alloy





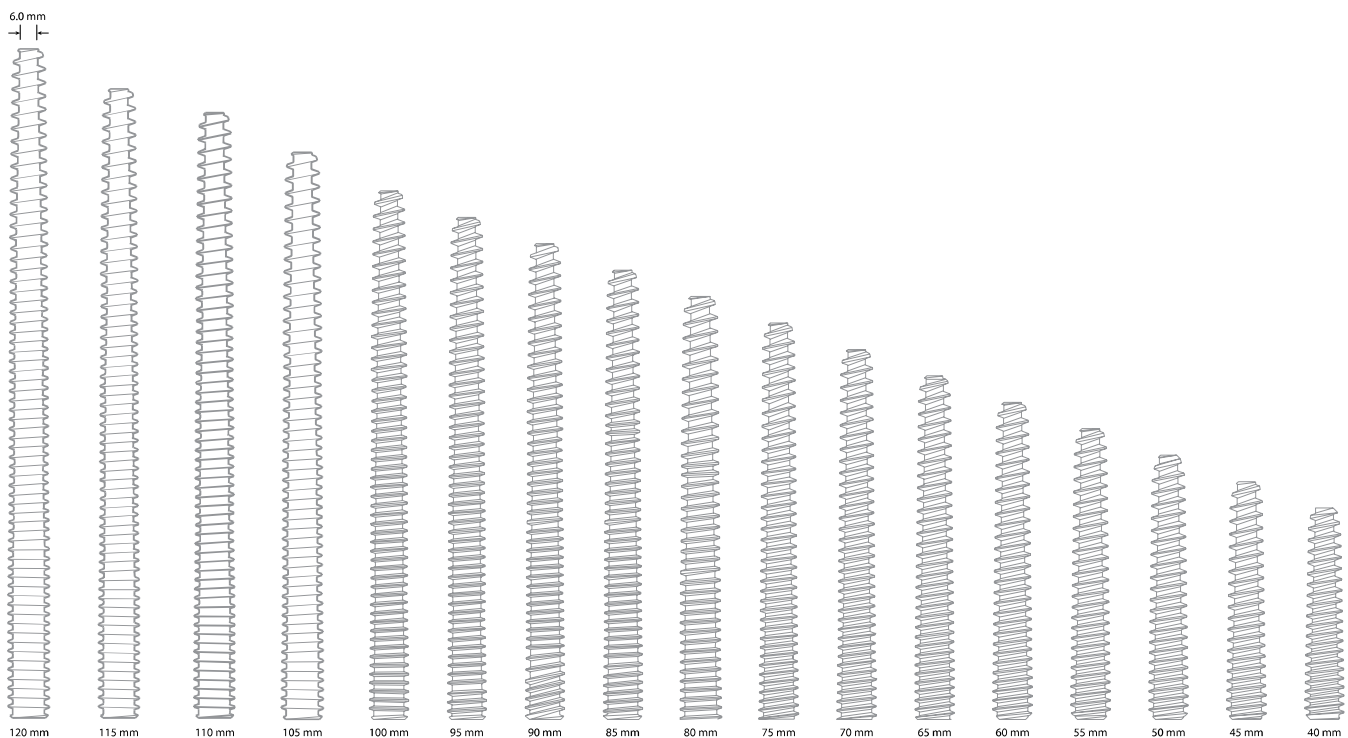
Fixation in large bones where a traditional 7-7.3 mm headed screw or equivalent sized headless screw could be used.

## Indications:

- Hindfoot Arthrodesis
- Ankle Arthrodesis
- Calcaneal Osteotomies
- Greater Tuberosity Fractures
- Tibial Plateau Fractures
- Femoral Condyle Fractures

## Properties:

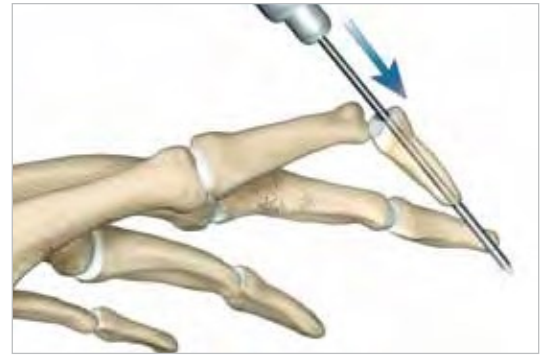
- **Guide Wire:** .094" (2.4 mm)
- **Hex Size:** 4.0 mm
- **Material:** Titanium alloy



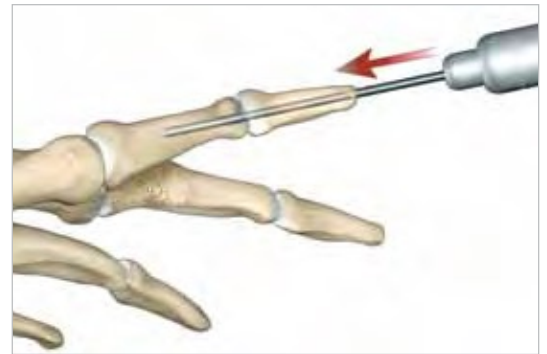
# DIP Fusion Surgical Technique

**Pre-op planning:** Template to estimate screw length. Establish screw placement position, using drill scale as a reference.

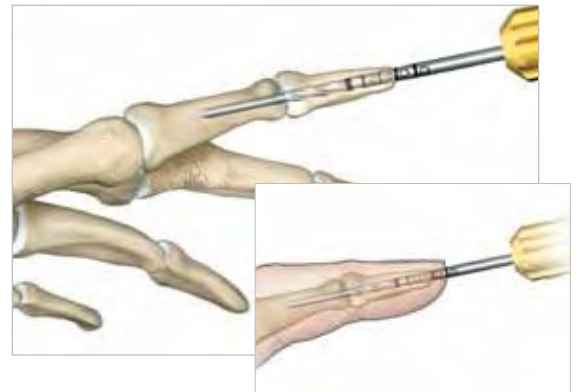
- 1 A double ended trocar k-wire is advanced into the distal phalanx through a transverse incision over the distal interphalangeal joint.



- 2 The joint is then reduced and the k-wire is driven proximally into the middle phalanx.

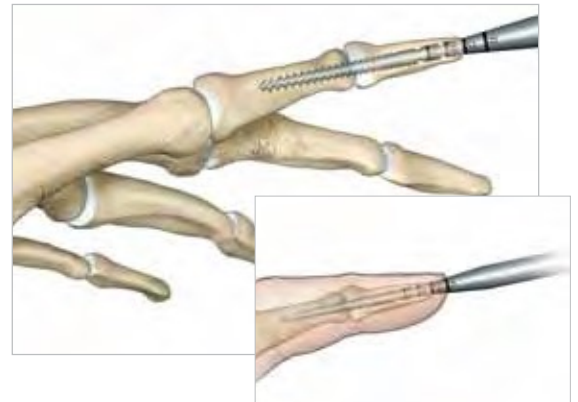


- 3 Make a short transverse (fish-mouth) incision in the tip of the distal phalanx and spread using a small clip (snap). Select the appropriate drill and drill across the joint into the middle phalanx to the desired depth. The depth can be observed by the alphabetical markings on the drill.



- 4 Withdraw the drill and remove the guide wire. Install the chosen fusion screw ensuring that the trailing end is buried within the tuft of the distal phalanx.

**Tip:** The alphabetical mark on the driver will be the same letter as on the drill once screw is fully seated.



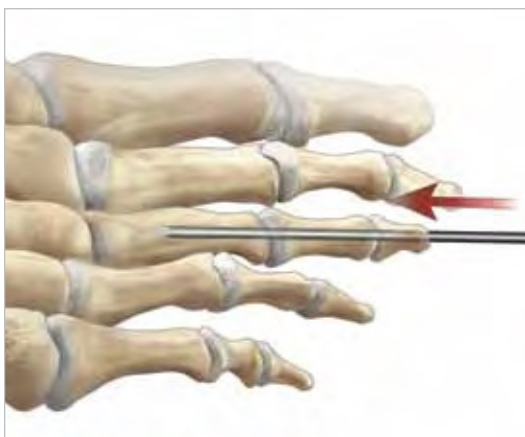
# Hammertoe Fusion Set



**1** A transverse incision is made centered over the PIP joint. Alternatively for mallet toes it is over the DIP joint. If there is a combination mallet and hammertoe then a T incision is made. (Short horizontal portion over the DIP joint and the vertical portion residing proximal to the PIP joint.) The collateral ligament at the PIP joint on the proximal phalanx are incised. The extensor tendon is transected prior to this step in a horizontal fashion. It is peeled back sharply to expose the condyles as well as the juxtaarticular surfaces with a microsagittal small saw blade. 3 mm are resected proximally and 1-2 mm distally.



**2** Under fluoroscopy the 1.6 mm K-wire is then used to pre-drill. The wire is drilled antegrade through the center of the middle phalanx exiting the top of the toe resting plantar to the nail. The IP joint is aligned in neutral extension while the PIP joint is reduced into neutral extension and translation.



**3** The wire is driven retrograde to provide provisional fixation. Its position is checked with imaging in both planes to ensure proper alignment and wire position.

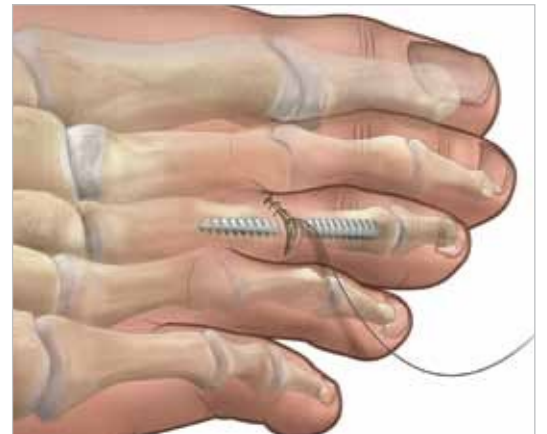
**Note:** If resistance is met upon insertion: STOP, remove the screw and drill at least one (1) size deeper or install a smaller screw. Dense bone can make a screw more difficult to bury.



**4** The guide wire is removed and the Acutrak® Hammertoe Screw is inserted. Reduce one joint at a time. Observe the tip as it passes through the middle phalanx until it protrudes 2-3mm. Then engage it into the proximal phalanx with the screwdriver in place and advance the screw. If only the PIP joint is being fused, the screw should be advanced to ensure proximal end is buried proximal to the IP joint. Otherwise for mallet as well as combination mallet and hammertoes, the screw should be flush with the distal tuft.



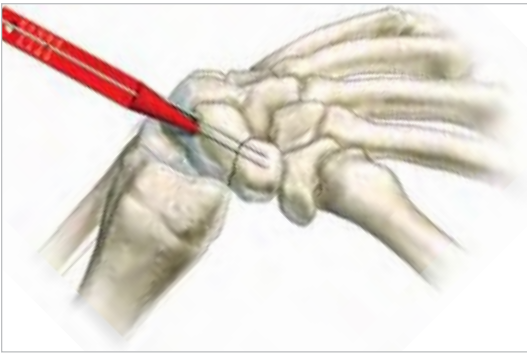
**5** The extensor tendon is closed with a horizontal 2-0 vicryl mattress suture and the skin with a 4-0 nylon. A bulky compression dressing is applied. The dressing and sutures are removed at 10-14 days postoperatively. A stiff sole postoperative shoe is used for 4 weeks. The smaller 24 mm screw without tip may be used for the shorter 4th and 5th toes. Also for isolated DIP fusions a shorter screw is used.



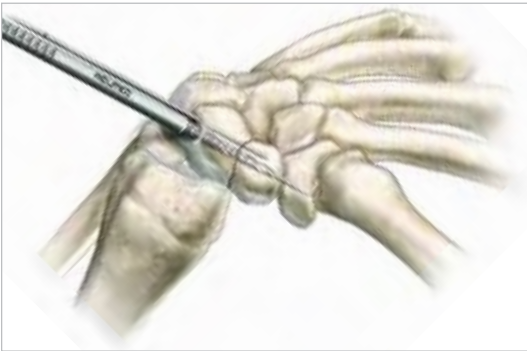
## Acutrak® Mini Surgical Technique



**1** Secure the fracture with a guide wire.



**2** Place second guide wire at screw placement location until guide wire is 2 mm from the far cortex. Measure guide wire to estimate drill depth and advance the guide wire through the far cortex.



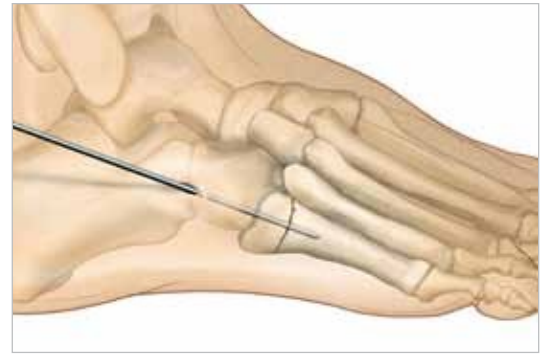
**3** Drill to determined length. Advance drill slowly, clearing debris regularly.



**4** Install an implant that is one size (2 mm) under drill depth so the screw can be buried 2 mm without overt pressure on the near cortex.

**Note:** If resistance is met upon insertion: STOP, remove the screw and drill at least one (1) size deeper or install a smaller screw. Dense bone can make a screw more difficult to bury.

**1** Insert a guide wire at desired screw placement location and advance through the near cortex and into the medullary canal. Check for proper guide wire placement and continue advancing guide wire to desired depth.

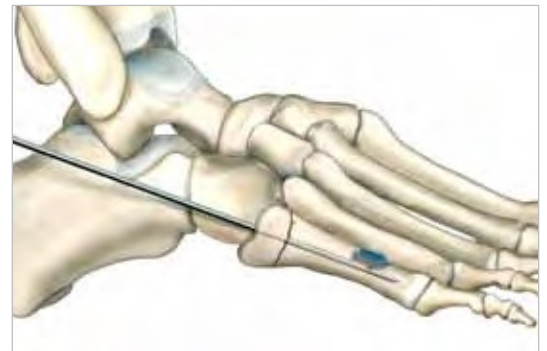


**2** Measure wire depth to indicate screw length.

**Tip:** Measure off laser mark closest to the end of the guide wire.



**3** Advance the guide wire past desired drill depth prior to drilling.

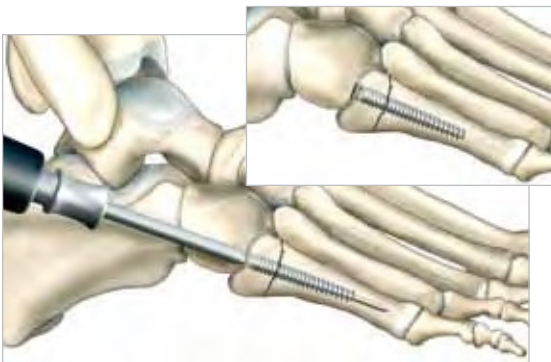


## Acutrak® 4/5 Surgical Technique



**4** Drill to measured depth, advancing drill slowly, clearing debris regularly.

**Tip:** Use standard or dense bone drill based on surgeon preference. The drill with green epoxy banding, gold coloring and/or DENSE BONE lasermarking identifies the dense bone drill.



**5** Select an implant that is one size under drill depth in order to bury the screw below the cortical surface. If excessive resistance is met upon insertion: STOP, remove the screw and drill at least one size deeper or install a smaller screw.



- 1** Place guide wire at screw placement location. If needed, use the soft issue protector.



- 2** Measure guide wire to estimate screw depth. Advance guide wire through far cortex.

**Tip:** Measure off laser mark closest to the end of the guide wire.



- 3** Drill to measured depth, advancing drill slowly, clearing debris regularly.

**Tip:** Use standard or dense bone drill based on surgeon preference. The drill with green epoxy banding, gold coloring and/or DENSE BONE lasermarking identifies the dense bone drill.



- 4** Select an implant that is one size under drill depth in order to bury the screw below the cortical surface.

**Tip:** The T-handle driver has a ratcheting feature. If desired, adjust metal housing to engage ratcheting feature.



- 5** If excessive resistance is met upon insertion: STOP, remove the screw and drill at least one size deeper or install a smaller screw.



### Acutrak® Fusion

14.0 mm Acutrak® Fusion	ATF-140-S
16.0 mm Acutrak® Fusion	ATF-160-S
18.0 mm Acutrak® Fusion	ATF-180-S
20.0 mm Acutrak® Fusion	ATF-200-S
22.0 mm Acutrak® Fusion	ATF-220-S
24.0 mm Acutrak® Fusion	ATF-240-S
27.0 mm Acutrak® Fusion	ATF-270-S
30.0 mm Acutrak® Fusion 6 mm Nose	30-0033-S
32.0 mm Acutrak® Fusion	ATF-320-S
37.0 mm Acutrak® Fusion	ATF-370-S
.0625" Guide Wires	WS-1606DT
Drill for 24 mm Screw	ATF-024
Drill for 27 mm & 32 mm Screw	ATF-032
Drill for 37 mm Screw	ATF-037
1.5 mm Solid Driver	HDF-1500
2.0 mm Solid Driver	HD-2000

### Acutrak® Mini

8 mm Acutrak® Mini	ATM-008-S
10 mm Acutrak® Mini	ATM-100-S
12 mm Acutrak® Mini	ATM-120-S
14 mm Acutrak® Mini	ATM-140-S
16 mm Acutrak® Mini	ATM-160-S
18 mm Acutrak® Mini	ATM-180-S
20 mm Acutrak® Mini	ATM-200-S
22 mm Acutrak® Mini	ATM-220-S
24 mm Acutrak® Mini	ATM-240-S
26 mm Acutrak® Mini	ATM-260-S
.035" x 6" Guide Wire	WS-0906ST
Long Cannulated Drill	ATM-099
1.5 mm Cannulated Driver	HD-1509
1.5 mm Solid Driver	HDM-1500

### Acutrak® Standard

12.5 mm Acutrak® Standard	AT-1125-S
15.0 mm Acutrak® Standard	AT-1150-S
17.5 mm Acutrak® Standard	AT-1175-S
20.0 mm Acutrak® Standard	AT-1200-S
22.5 mm Acutrak® Standard	AT-1225-S
25.0 mm Acutrak® Standard	AT-1250-S
27.5 mm Acutrak® Standard	AT-1275-S
30.0 mm Acutrak® Standard	AT-1300-S
.045" Guide Wires	WS-1106ST
Cannulated Drill Tip	AT-7032
2.0 mm Cannulated Driver	HD-2011
2.0 mm Solid Driver	HDL-2000
Cannulated Dense Bone Drill	AT-7044
.045" x 4" Wire Nitinol	WN-1104ST
.045" x 6" Wire Stainless	WS-1106DT

4 Short 78

## Acutrak® 4/5

25 mm Acutrak® 4/5	AM-0025-S
30 mm Acutrak® 4/5	AM-0030-S
35 mm Acutrak® 4/5	AM-0035-S
40 mm Acutrak® 4/5	AM-0040-S
45 mm Acutrak® 4/5	AM-0045-S
50 mm Acutrak® 4/5	AM-0050-S
.054" x 7" Guide Wire	WS-1407ST
4/5 Cannulated Drill	AM-5010
4/5 Cannulated Dense Drill	AM-5014
2.5 mm Cannulated Driver	HD-2515
4/5 Solid Drill	AM-5012
4/5 Solid Dense Drill	AM-5016
4/5 Cannulated Power Driver	HP-2515

## Acutrak® Plus

35 mm Acutrak® Plus	AP-0035-S
40 mm Acutrak® Plus	AP-0040-S
45 mm Acutrak® Plus	AP-0045-S
50 mm Acutrak® Plus	AP-0050-S
55 mm Acutrak® Plus	AP-0055-S
60 mm Acutrak® Plus	AP-0060-S
65 mm Acutrak® Plus	AP-0065-S
70 mm Acutrak® Plus	AP-0070-S
75 mm Acutrak® Plus	AP-0075-S
80 mm Acutrak® Plus	AP-0080-S
.062" x 9" Guide Wire	WS-1609STT
Cannulated Drill	AP-0100
Cannulated Dense Drill	AP-0104
3.0 mm Cannulated Driver	HD-3016
3.0 mm Cannulated Driver	HD-3016
3.0 mm T-Handle Driver	TH-3000
ATP Solid Drill	AP-0102
ATP Solid Dense Drill	AP-0106
.062" x 9" Smooth Wires	WS-1609ST
3.0 mm Cannulated Power Tip	HP-3016
3.0 mm Solid Power Tip	HP-3000

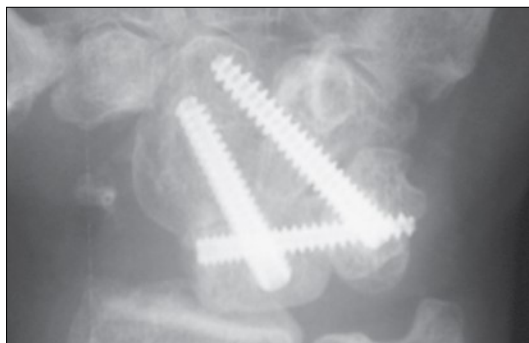
## Acutrak® 6/7

40 mm Acutrak® 6/7	AP-6740-S
45 mm Acutrak® 6/7	AP-6745-S
50 mm Acutrak® 6/7	AP-6750-S
55 mm Acutrak® 6/7	AP-6755-S
60 mm Acutrak® 6/7	AP-6760-S
65 mm Acutrak® 6/7	AP-6765-S
70 mm Acutrak® 6/7	AP-6770-S
75 mm Acutrak® 6/7	AP-6775-S
80 mm Acutrak® 6/7	AP-6780-S
85 mm Acutrak® 6/7	AP-6785-S
90 mm Acutrak® 6/7	AP-6790-S
95 mm Acutrak® 6/7	AP-6795-S
100 mm Acutrak® 6/7	AP-67100-S
105 mm Acutrak® 6/7	AP-67105-S
110 mm Acutrak® 6/7	AP-67110-S
115 mm Acutrak® 6/7	AP-67115-S
120 mm Acutrak® 6/7	AP-67120-S
.094" x 8" Guide Wire	WS-2408ST
Cannulated Drill Small	AP-67011
Cannulated Drill Medium	AP-67012
Cannulated Drill Large	AP-67013
Cannulated Dense Drill Small	AP-67014
Cannulated Dense Drill Medium	AP-67015
Cannulated Dense Drill Large	AP-67016
4.0 mm Cannulated Driver	HT-4000
4.0 mm Solid Driver	HT-4001

To learn more about the full line of Acumed® innovative surgical solutions, please contact your local Acumed® Sales Representative or call 888-627-9957.

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3. Fox J., Weikert D. Compression Screw Fixation of Scaphoid Fractures (Scientific Paper). Presented at the American Association for Hand Surgery Meeting, Hawaii, 1999.
4. Hoy G., Powell G. Scaphoid Fixation Using the Acutrak Screw. Presented at the Australian/New Zealand Hand Surgery Meeting, Cairns, Australia, 1996.
5. Wheeler D.L., McLoughlin S.W. Biomechanical Assessment of Compression Screws. Clin Orthop. 350:237-245, 1998.
6. Data on file at Acumed®.



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