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
Acutrak® Features

**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.

**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.

**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

- Radial Styloid Fracture
- Scaphoid Fracture/Nonunion
- MCP Fusion
- Metacarpal Head Fracture
- DIP Fusion
- Phalangeal Fracture
- Four Corner Fusion
- Scaphoid Fracture/Nonunion
- Radial Styloid Fracture
Lower Extremity Indications

- Malleolar Fracture
- Calcaneocuboid Fusion
- Subtalar Fusion
- Lapidus
- Hammertoe Fusion
- MTP Fusion
- Jones Fracture
- Calcaneal Osteotomy
- Ankle Arthrodesis
- Talonaviclar Fusion
- Lapidus
- MTP Fusion
- Hammertoe Fusion
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
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
**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.
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 antgrade 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.
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.

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.
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

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- **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® Standard

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- **Cannulated Drill Tip**: AT-7032
- **2.0 mm Cannulated Driver**: HDL-2011
- **Cannulated Dense Bone Drill**: HDL-2000
- **.045” x 4” Wire Nitinol**: WN-1104ST
- **.045” x 6” Wire Stainless**: WS-1106DT

### Acutrak® Mini

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- **Short Cannulated Drill**: ATM-078
- **Long Cannulated Drill**: ATM-099
- **1.5 mm Cannulated Driver**: HD-1509
- **1.5 mm Solid Driver**: HDM-1500
## Ordering Information

### 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® 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

### 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

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References