



# Acutrak® Family Headless Compression Screw System

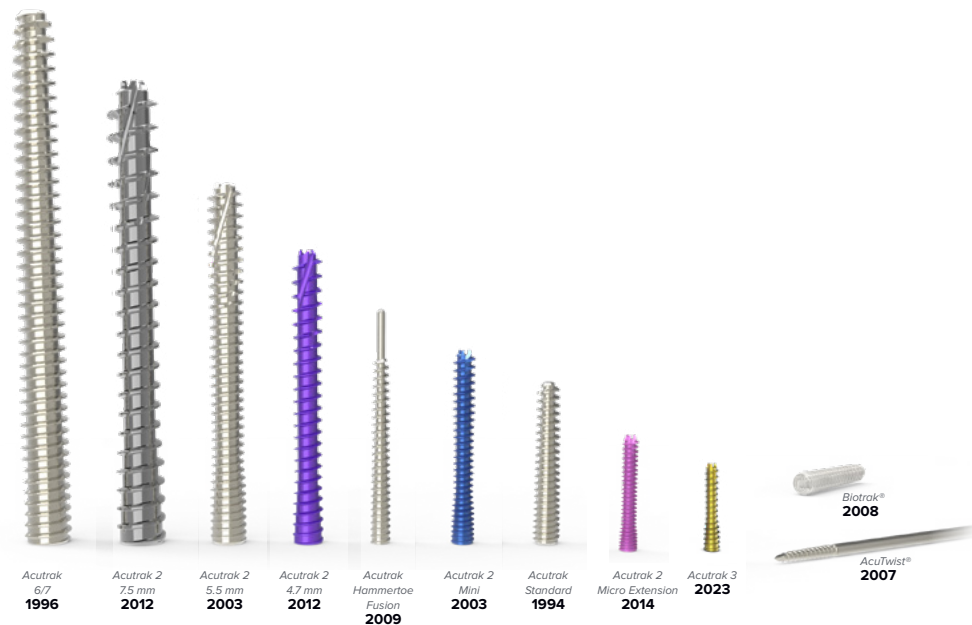
Acutrak, Acutrak 2®, and Acutrak 3

## Value Analysis Committee Resource Guide

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.



## Acutrak® 3 Headless Compression Screw System

The Acutrak 3 Headless Compression Screw (HCS) System is composed of 93 unique screws, an expansion from the 65 screws offered with Acutrak 2. The expansion comes from the introduction of a smaller diameter size and the increase in lengths of the existing product portfolio.

The 2.0 mm Nano screw is the newest addition and is offered in 1 mm increments from 8–14 mm and in 2 mm increments from 14–40 mm. The 2.5 mm Micro screws have expanded from 8–30mm to 8–50 mm in length. The 2.5 mm Mini screws have expanded from 16–30 mm to 2–60 mm in length. The Standard screws have expanded from 16–34 mm to 6–60 mm in length.

These extensions increase the surgical indications that can be treated with the Acutrak 3 HCS system. Backed by more than 25 years of clinical data and referenced in more than 100 studies in peer-reviewed journals, the Acutrak family of screws has demonstrated efficacy in hand, wrist, foot, and ankle applications.



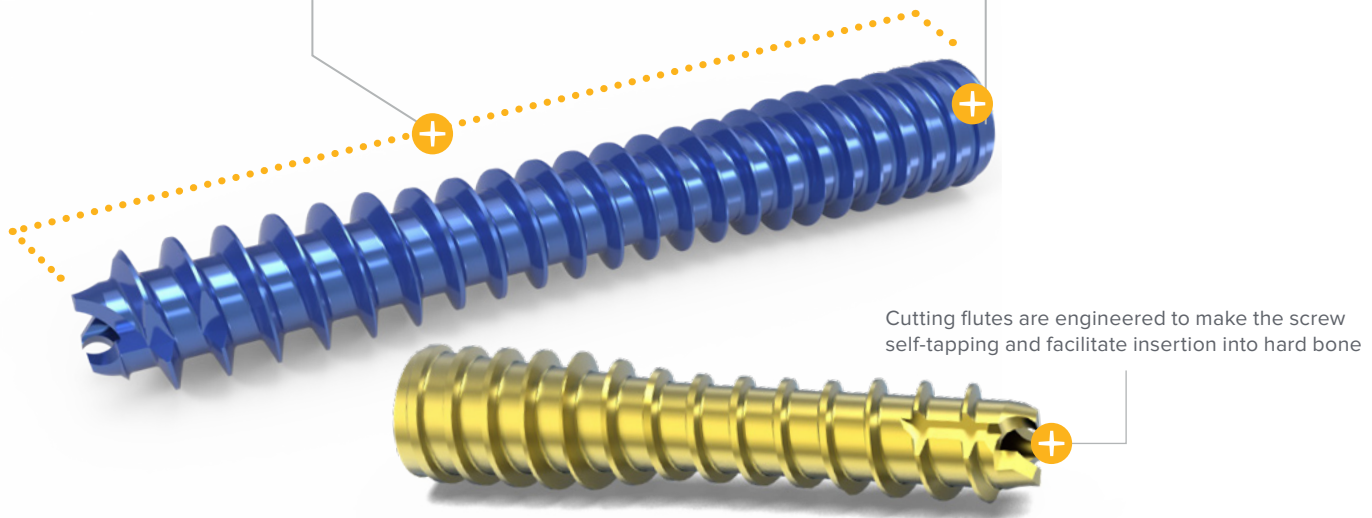
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# System Features

Fully threaded, continuously variable thread pitch allows each thread along the entire length of the screw to aid in the reduction and compression of the fracture

Headless screw design is intended to minimize soft tissue irritation



Cutting flutes are engineered to make the screw self-tapping and facilitate insertion into hard bone

## The Design of the Acumed Acutrak Headless Compression Screws

### Primary Design Objectives

1. Achieve optimal compression regardless of fracture location
2. Expand surgical indications by extending the length and diameter offerings
3. Increase operating room efficiency by streamlining the instrumentation for ease of use

### Fully Threaded Continuously Variable Pitch

Designed to meet the above objectives, Acutrak screws deliver a new category of bone screw fixation that goes beyond differential pitch and headed screw options. It features a unique, patented thread pitch that varies continuously from tip to tail. This enables each screw rotation to engage threads into new bone along the screw's entire length. As each successive individual thread advances faster than the trailing thread counterpart, the conical shape becomes seated into bone.

### Acutrak 3 Headless Compression Screws



[go.acumed.net/AT3](http://go.acumed.net/AT3)

### Acutrak 2 Headless Compression Screws



[go.acumed.net/AT2](http://go.acumed.net/AT2)



[go.acumed.net/AT3-BR](http://go.acumed.net/AT3-BR)  
SPF10-27



[go.acumed.net/AT3-ST](http://go.acumed.net/AT3-ST)  
SPF00-15



[go.acumed.net/AT2-BR](http://go.acumed.net/AT2-BR)  
SPF00-12

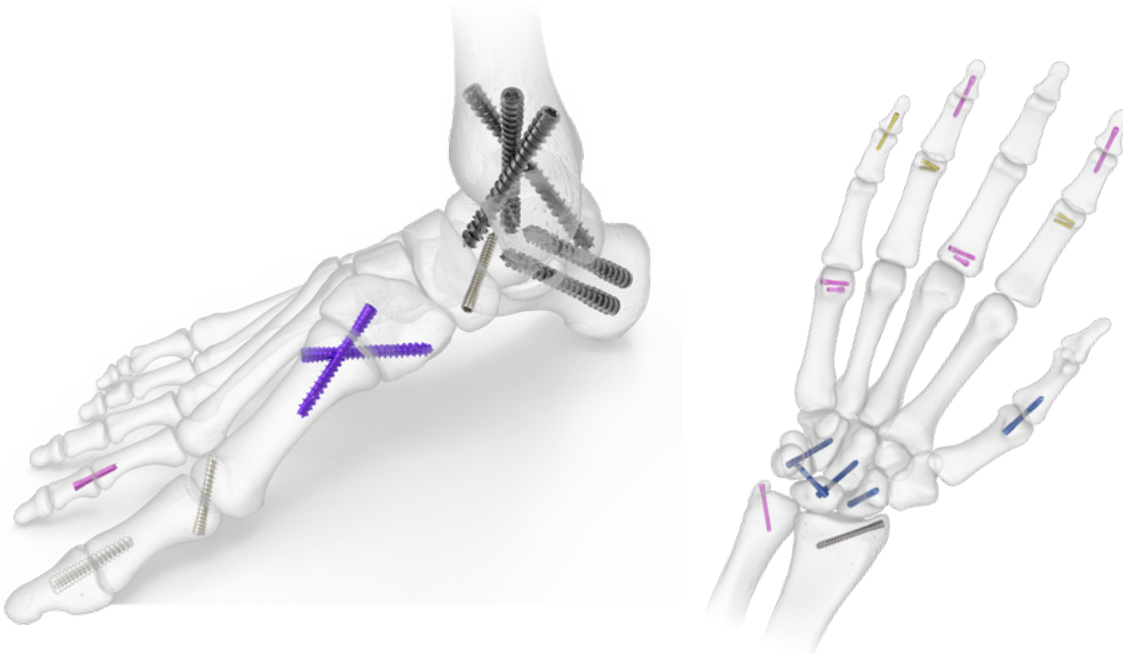


[go.acumed.net/AT2-ST](http://go.acumed.net/AT2-ST)  
SPF00-02

# System Features [continued]

## Key Features of the Acumed Acutrak Screw System

- ▶ Sterile and non-sterile implants
- ▶ Compression
  - Continuously variable pitch is created by having a wider thread pitch at the tip of the screw followed by finer trailing threads. This allows the screw to penetrate the bone faster at the tip than at the tail, which generates compression across the fracture site.
- ▶ Headless feature
  - Intended to reduce risk of impingement or soft tissue irritation compared to that of headed screws when implanted in or around articular regions.
- ▶ Soft tissue dissection may be minimized through percutaneous insertion, which is facilitated by cannulation of the screw.
- ▶ Refinements when compared to the original Acutrak® screw
  - When used with the long drill, the cutting flutes at the tip of the Acutrak screws feature self-cutting capabilities to aid during screw insertion.
  - Decreased screw depth sensitivity is achieved through pairing a cylindrical drill with a tapered profile drill. This eliminates the requirement of “downsizing” as described for the original Acutrak screw and other headless compression screws.
  - Surgical technique is consistent between screw families.
- ▶ Biomechanical performance
  - When compared to traditional (AO) and differential (Herbert) screws in cadaveric and synthetic bone material, Acutrak screws were shown to have:
    - Greater push-out force<sup>1</sup>
    - Highest amount of retained compression after cyclic loading<sup>1</sup>
    - Highest resistance to torsional loading<sup>1</sup>
- ▶ Broad base of patient indications addressed
  - The Acutrak families of products address nearly twenty of the most common indications in the hand, wrist, foot, and ankle.
- ▶ Clinical and biomechanical data breadth
  - More than 100 published studies offer biomechanical and clinical usage analysis.



# Indications for Use

The Acumed Acutrak Screw System is intended as a fixation device for small bones, bone fragments, and osteotomies. It is not intended for interference or soft tissue fixation.

## Acutrak Usage Across the Anatomy

**Acutrak 3: Nano, Micro, Mini, and Standard**  
**Acutrak 2: 4.7, 5.5, and 7.5**



### Shoulder

- ▶ Greater Tuberosity Fractures
- ▶ Proximal Humerus Fractures
- ▶ Shoulder Instability

### Elbow

- ▶ Radial Head
- ▶ Capitellum
- ▶ Distal Humeral Fixation
- ▶ Medial and Lateral Condyle

### Hand/Wrist

- ▶ Scaphoid Fusion
- ▶ Radial Styloid
- ▶ Ulnar Styloid
- ▶ 4-corner Fusion
- ▶ DIP/PIP Fusion
- ▶ MCP Fusion
- ▶ Capitate Hamate
- ▶ Bennett's Fracture
- ▶ Radiolunate Fusion
- ▶ Phalangeal Fracture
- ▶ Metacarpal Head Fracture

### Knee

- ▶ Patella
- ▶ OCD Lesion
- ▶ Lateral Femoral Condyle Fracture
- ▶ Medial Femoral Condyle Fracture

### Hindfoot/Ankle

- ▶ Ankle Fusion
- ▶ Subtalar Fusion
- ▶ Triple Arthrodesis
- ▶ Calcaneal Osteotomy
- ▶ Calcaneal Fracture
- ▶ Malleolar Fracture
- ▶ Talar Navicular Fusion
- ▶ Calcaneal Cuboid Fusion

### Forefoot/Midfoot

- ▶ Austin Bunionectomy
- ▶ Jones Fracture
- ▶ DIP/PIP Fusion
- ▶ Lapidus Bunionectomy
- ▶ MTP Fusion
- ▶ TMT Fusion
- ▶ Chevron Osteotomy
- ▶ Scarf Osteotomy
- ▶ Weil Osteotomy
- ▶ Hammertoe Fusion
- ▶ Akin Osteotomy

## Clinical Evidence



### Biomechanical Assessment of Compression Screws

Wheeler DL, McLoughlin SW. Biomechanical assessment of compression screws. *Clin Orthop Relat Res.* 1998;350:237–245.

[go.acumed.net/A2-RP-3](http://go.acumed.net/A2-RP-3)



### A Comparison of Two Headless Compression Screws for Operative Treatment of Scaphoid Fractures

Grewal R, Assini J, Sauder D, Ferreira L, Johnson J, Faber K. A comparison of two headless compression screws for operative treatment of scaphoid fractures. *J Orthop Surg Res.* 2011;6:27.

[go.acumed.net/Headless-Comparison](http://go.acumed.net/Headless-Comparison)



### Acutrak vs Herbert Screw Fixation for Scaphoid Nonunion and Delayed Union

Oduwale KO, Cichy B, Dillon JP, Wilson J, O'Beirne J. Acutrak versus Herbert screw fixation for scaphoid non-union and delayed union. *J Orthop Surg (Hong Kong).* 2012;20(1):61–65.

[go.acumed.net/Acutrak-vs-Herbert](http://go.acumed.net/Acutrak-vs-Herbert)



### Arthrodesis of the Thumb IPJ and Finger DIPJ with a Headless Compression Screw

Cox C, Earp BE, Floyd WE, Blazar PE. Arthrodesis of the thumb interphalangeal joint and finger distal interphalangeal joints with a headless compression screw. *J Hand Surg Am.* 2014;39(1):24–28.

[go.acumed.net/Arthrodesis-IPJ-DIPJ](http://go.acumed.net/Arthrodesis-IPJ-DIPJ)



### Lateral Fixation of AO Type-B2 Ankle Fractures: The Acutrak Plus Compression Screw Technique

Chen SH, Huang CR, Hsu TL, Lee YS. Lateral fixation of AO type-B2 ankle fractures: the Acutrak Plus compression screw technique. *Int Orthop.* 2010;34(6):903–907.

[go.acumed.net/B2-Ankle-Fractures](http://go.acumed.net/B2-Ankle-Fractures)



### Headless Compression Screw Fixation Prevents Symptomatic Metalwork in Arthroscopic Ankle Arthrodesis

Odutola A, Sheridan B, Kelly AJ. Headless compression screw fixation prevents symptomatic metalwork in arthroscopic ankle arthrodesis. *Foot Ankle Surg.* 2012;18(2):111–113.

[go.acumed.net/Prevents-Symptomatic](http://go.acumed.net/Prevents-Symptomatic)

# The Facts on Surgical Intervention with Screw Fixation

## Partially Threaded Versus Fully Threaded Compression Screws

Historically, studies supported the belief that screw threads across the fracture site would prevent compression across the fracture. Therefore, the industry standard was to use a screw with partial threading.<sup>1</sup> Later studies presented evidence that fully threaded, headed screws were able to maintain more interfragmentary compression than partially threaded, headless screws. However, interest in partially threaded, headless screws continued, due to the elimination of exposed hardware.<sup>1,2</sup>

Acumed recognized the market need and designed the Acumed Acutrak Headless Compression Screw, the first fully threaded headless compression screw with continuously varying thread. It was generally accepted that in order for a fracture to heal, there needed to be adequate compression between the two fractured fragments. Designers hypothesized that enhanced compression could be achieved with continuous variable threads that would create compression forces across the fracture site. When this fully threaded, headless screw was introduced to the market, several biomechanical studies were conducted to assess the impact of the continuous variable thread feature on push-out and compression.

*“In foam, the Acutrak screw showed significantly greater push-out force than did the AO or Herbert screw. The Acutrak and AO screws had significantly greater push-out force than did the Herbert screw in cancellous bone. The Acutrak screw maintained an average of 91.3% of its pretest compression in fresh scaphoid bone, whereas the AO and Herbert screw maintained averages of 65.4% and 72.2% of initial compression, respectively. The torque required to break fragment contact was significantly greater for the Acutrak screw than the torques required for the AO or Herbert screws.”<sup>1</sup>*

## Interfragmentary Compression and Durability of Interfragmentary Compression

At least one animal study suggests that fractures may fail to heal because of micro-motion at the fracture site causing shearing and subsequent fibrous tissue formation.<sup>7</sup> Cadaveric studies have demonstrated that carpal and metacarpal fractures may also fail to heal due to bending, rotational, and translational forces that strain the fracture site and cause shearing.<sup>9-12</sup> These studies indicate that internal fixation should be as rigid as possible. A previous study by Wheeler et al. demonstrated that the Acutrak screw enabled fracture fragment stability in terms of compression achieved, pullout, and resistance to torque.<sup>1</sup> In comparison with Herbert screws, the Acutrak screws achieved greater compression, maintained compression over a greater depth, and had a greater push-out force.<sup>1</sup> The Acutrak screw also required greater torque to break fragment contact and maintained compression after cyclic loading better than either AO or Herbert screws.<sup>1</sup>

## Improved Compression in Second-Generation Headless Screws

Prior to the headless compression screw, internal fixation options included open or percutaneous guide wire fixation or open reduction with headed lag screws. Guide wire fixation had a propensity for fracture distraction, fracture instability, and secondary loss of reduction.<sup>13</sup> Open lag screw fixation could result in either poor compression or joint arthrosis, as the head of the screw could reside on the articular surface and therefore cause secondary joint injury.<sup>13</sup> During the 1990s, cannulated headless compression screws were popular, when used with an open or percutaneously placed guide wire, from the volar and dorsal approach. Soroush et al. assessed the biomechanical characteristics of the first-generation Herbert/Whipple screw versus various next-generation headless compression technologies.<sup>13</sup> The Acutrak 3 Mini was cited as generating the maximum compressive force when compared with these other second-generation technologies.<sup>13</sup> In the same study, the Acutrak 3 Mini was shown to have no reduction in compression due to over-fastening, unlike some of the other screws studied.<sup>13</sup>

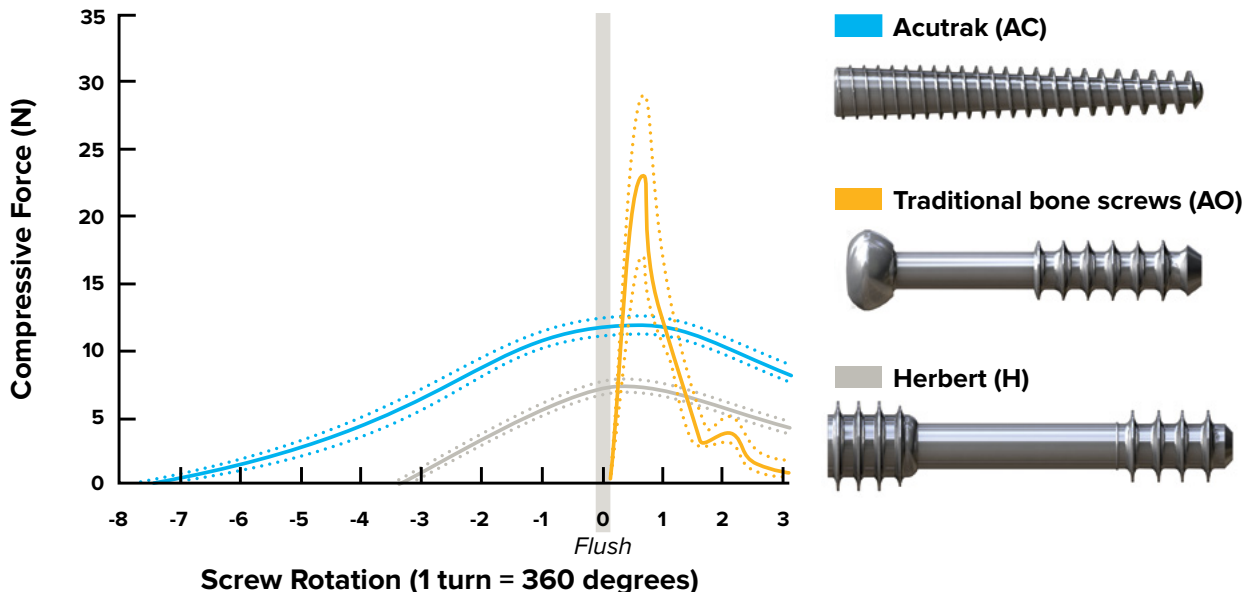
## Acutrak Technology’s Larger “Window of Compression”

All bone screw technologies have a “window of compression” that determines the number of screw rotations needed to reach a maximum compressive force (beyond which further rotations decrease this value). Traditional bone screws have a narrow window of compression as compared to differential pitched screws. This narrow window results in a fixation construct that is more sensitive to loss of compression due to over-rotation and the stripping of thread purchase. Conversely, Acutrak technology has a wide window of compression, which is less sensitive to stripping the bone and is more flexible in its placement depth, enabling a maximum amount of compression.<sup>1</sup>

The diagram that follows illustrates the window of compression for Acutrak technology, traditional bone screws (AO) and differential pitch screws (Herbert).<sup>1</sup>



# The Facts on Surgical Intervention with Screw Fixation [continued]

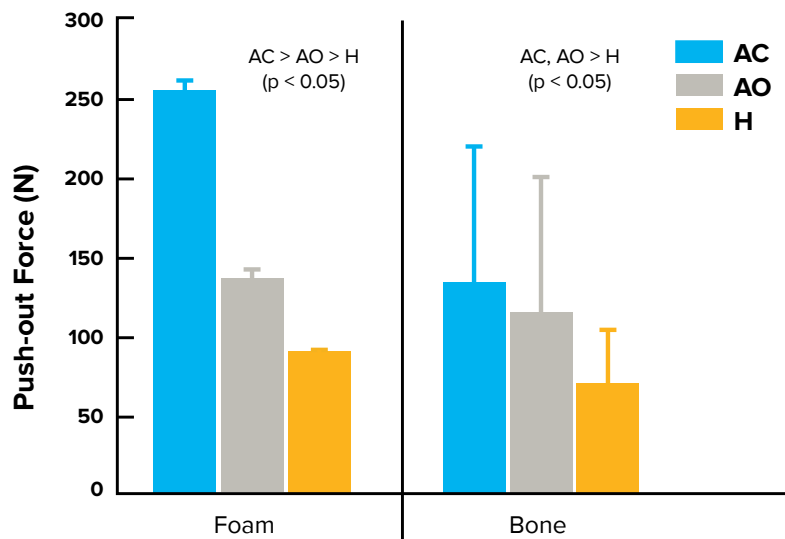


The above graph illustrates the window of screw rotations during which each screw delivers maximum compressive force. The Acutrak screw has the largest window of compression, which is attributed to the additive property of each variable thread pitch providing compression on the fully threaded screw.

## Enhanced Fracture Fixation Biomechanics

Pullout strength and resistance to cyclic and torsional loading are key measurable elements of bone screw fixation performance. The performance of Acutrak (AC) in each of these elements was compared to traditional (AO) and differential (Herbert/H) bone screws. A summary of the results is shown in the figures below:

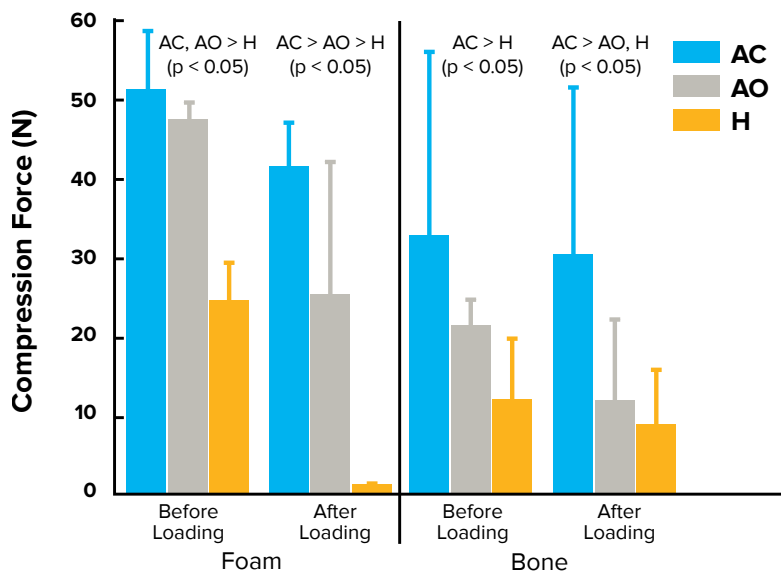
### 1. Greater Push-out Strength



Acutrak® screws have the highest push-out force when compared to AO & Herbert bone screws (AC).<sup>1</sup>

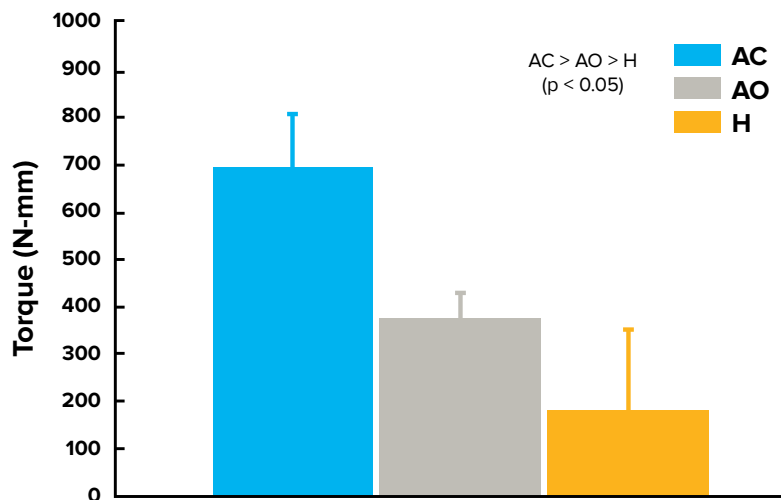
# The Facts on Surgical Intervention with Screw Fixation [continued]

## 2. Greater Resistance to Cyclic Leading



Acutrak® screws have the highest amount of retained compression after cyclic loading when compared with AO & Herbert bone screws (AC).<sup>1</sup>

## 3. Greater Resistance to Torsional Loading



Acutrak® screws have the highest resistance to torsional loading when compared with AO & Herbert bone screws (AC).<sup>1</sup>

## Small Bone Fracture Incidence and Operative Rates

It is estimated that nearly 17.6 million fractures occurred in the United States in 2013. This figure was determined by multiplying the rate of fractures treated in 2000 in Edinburgh (5,593 fractures per 100,000 people).<sup>3</sup> by the 2013 U.S. population (315.1M people).<sup>8</sup> The most common fractures identified in Edinburgh in 2000 were:

- ▶ Distal radius – 17.5%
- ▶ Metacarpal – 11.7%
- ▶ Proximal femur – 11.6%
- ▶ Finger phalanx – 9.6%
- ▶ Ankle – 9.0%
- ▶ Metatarsal – 6.8%

### The most common methods of repair for these procedures are:

- ▶ Open and closed reduction with and without fixation
- ▶ Internal fixation without reduction
- ▶ Application of external fixator<sup>4</sup>

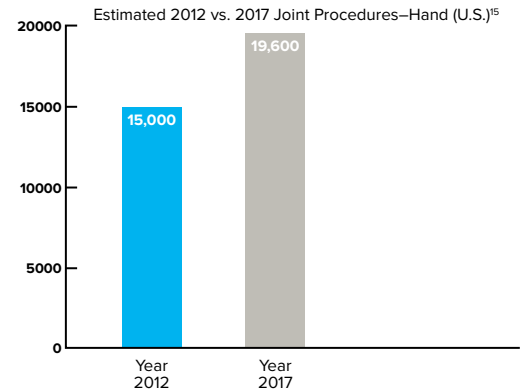
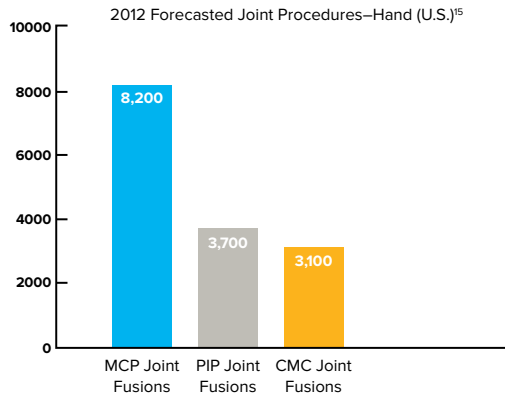
# Incidence and Operative Rates

The tables and charts below estimate the number of fractures occurring as well as operative rates identified in the literature. Children and the elderly are the most affected populations, with the most common mechanism of injury being falls at nearly 50%.<sup>5</sup> These numbers have been used to estimate the number of operations expected to occur in the U.S. for each fracture type.<sup>3,14</sup>

## Hand and Wrist Incidence and Operative Rates

### Average Incidence Rates<sup>14</sup>

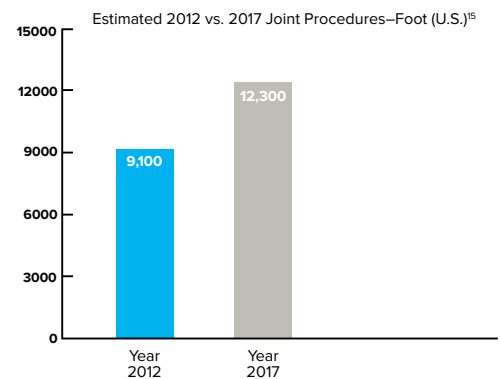
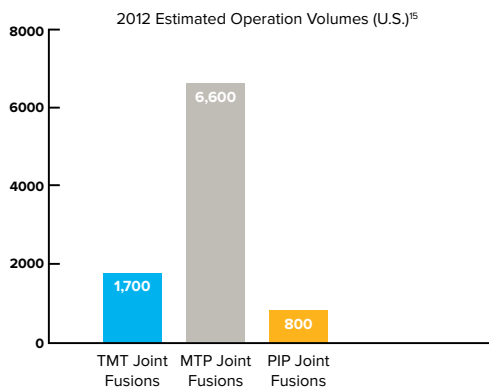
Carpal Fractures	29.7/100,000
Metacarpal Fractures	130.3/100,000
Phalangeal Fractures	107.3/100,000



## Foot and Ankle Incidence and Operative Rates

### Average Incidence Rates<sup>14</sup>

Tarsal/Metatarsal	75.4/100,000
Ankle	100.8/100,000
Calcaneus	13.7/100,000



## Global Foot and Ankle Internal Fixation Devices Market Volume By Product, 2010–2017 (No. of Units)

	2010	2011	2012	2017	CAGR% (2012–2017)
Plates	635,513	690,157	749,595	1,135,372	8.7
Screws	1,779,733	1,915,482	2,061,604	2,977,902	7.6
Wires & Pins	1,509,869	1,650,698	1,804,594	2,816,847	9.3
Fusion Nails	81,485	89,379	98,052	156,157	9.8
Total	4,006,600	4,347,727	4,713,845	7,088,295	7.6

# Competitive Comparison

	Acumed®	Arthrex	Depuy Synthes
<b>Product Name</b>	Acutrak 3: Nano Acutrak 3: Micro Acutrak 3: Mini Acutrak 3: Standard Acutrak 2: 4.7 mm Acutrak 2: 5.5 mm Acutrak 2: 7.5 mm	Compression FT Screw System	Cannulated Compression Headless Screws (CCHS)
<b>Available Diameter</b>	Nano: 2.0 Micro: 2.5 Mini: 3.5 Standard: 4.0 4.4 mm 5.5 mm 7.5 mm	Micro: 2.5 mm Mini: 3.5 mm Standard: 4.0 mm	2.0 mm short & long thread 2.5 mm short & long thread 3.0 mm short & long thread 3.5 mm short & long thread 4.0 mm short & long thread 4.5 mm short & long thread 5.5 mm short & long thread 6.5 mm short & long thread 7.5 mm short & long thread
<b>Available Lengths</b>	<b>Nano:</b> 1–14 mm (1 mm increments) 14–40 mm (2 mm increments) <b>Micro:</b> 8–14 mm (1 mm increments) 14–50 mm (2 mm increments) <b>Mini:</b> 12–60 mm (2 mm increments) <b>Standard:</b> 16–60 mm (2 mm increments) <b>4.7 mm:</b> 20–30 (2 mm increments) 30–50 mm (5 mm increments) <b>5.5 mm:</b> 25–60 (5 mm increments) <b>7.5 mm:</b> 40–120 mm (5 mm increments)	Micro: 8–14 mm (1 mm increments) 16–30 mm (2 mm increments) Mini: 12–60 mm (2 mm increments) Standard: 16–60 mm (2 mm increments)	2.0 short: 10–30 mm long: 20–30 mm 2.5 short: 10–40 mm long: 20–40 mm 3.0 short: 10–40 mm long: 20–40 mm 3.5 short: 14–50 mm long: 24–50 mm 4.0 short: 14–60 mm long: 24–60 mm (2 mm increments) 4.5 short: 20–50 mm (2 mm increments) 55–110 mm (5 mm increments) long: 30–50 mm (2 mm increments) 55–110 mm (5 mm increments) 5.5 short: 20–50 mm (2 mm increments) 55–100 mm (5 mm increments) long: 30–50 mm (2 mm increments) 55–100 mm (5 mm increments) 6.5 short: 30–130 mm long: 45–130 mm (5 mm increments) 7.5 short: 30–140 mm long: 45–140 mm (5 mm increments)
<b>Screw Design</b>	Headless Fully threaded Continuously Variable Pitch (CVP)	Headless Fully threaded Variable Stepped Pitch	Headless Herbert-style thread Differential thread pitch Short and long thread lengths
<b>Material</b>	Titanium	Titanium	Titanium

## Competitive Comparison [continued]

	Acumed®	Medartis	Skeletal Dynamics
<b>Product Name</b>	Acutrak 3: Nano Acutrak 3: Micro Acutrak 3: Mini Acutrak 3: Standard Acutrak 2: 4.7 mm Acutrak 2: 5.5 mm Acutrak 2: 7.5 mm	APTUS SpeedTip Cannulated Compression Screws (CCS)	REDUCT Headless Compression Screw System
<b>Available Diameter</b>	Nano: 2.0 Micro: 2.5 Mini: 3.5 Standard: 4.0 4.4 mm 5.5 mm 7.5 mm	1.7 mm: Long & Full Thread 2.2 mm: Short & Long Thread 3.0 mm: Short & Long Thread 4.0 mm: Short, Long, & Full Thread 5.0 mm: Short, Long, & Full Thread 7.0 mm: Short, Long, & Full Thread	2.5 mm 3.5 mm 4.5 mm
<b>Available Lengths</b>	<b>Nano:</b> 1–14 mm (1 mm increments) 14–40 mm (2 mm increments) <b>Micro:</b> 8–14 mm (1 mm increments) 14–50 mm (2 mm increments) <b>Mini:</b> 12–60 mm (2 mm increments) <b>Standard:</b> 16–60 mm (2 mm increments) <b>4.7 mm:</b> 20–30 (2 mm increments) 30–50 mm (5 mm increments) <b>5.5 mm:</b> 25–60 (5 mm increments) <b>7.5 mm:</b> 40–120 mm (5 mm increments)	1.7 Long: 8–16 mm (1 mm increments) 18–20 mm (2 mm increments) Full: 6–16 mm (1 mm increments) 2.2 Short: 10–30 mm (1 mm increments) Long: 22–40 mm (2 mm increments) 3.0 Short: 10–30 mm (1 mm increments) Long: 26–40 mm (2 mm increments) 4.0 Short: 16–50 mm (2 mm increments) 55–60 mm (5 mm increments) Long: 20–50 mm (2 mm increments) 55–60 mm (5 mm increments) Full: 16–50 mm (2 mm increments) 55–60 mm (5 mm increments) 5.0 Short: 24–40 mm (2 mm increments) 45–70 mm (5 mm increments) Long: 30–40 mm (2 mm increments) 45–70 mm (5 mm increments) Full: 24–40 mm (2 mm increments) 45–70 mm (5 mm increments) 7.0 Short: 40–110 (5 mm increments) 120–140 mm (10 mm increments) Long: 40–110 mm (5 mm increments) 120–140 mm (10 mm increments) Full: 40–110 mm (5 mm increments) 120–140 mm (10 mm increments)	2.5 mm: 10–18 mm (1 mm increments) 20–30 mm (2 mm increments) 3.5 mm: 10–18 mm (1 mm increments) 20–30 mm (2 mm increments) 4.5 mm: 20–30 (2 mm increments) 35–50 mm (5 mm increments)
<b>Screw Design</b>	Headless Fully threaded Continuously Variable Pitch (CVP)	Headless Short distal thread, long distal thread, & fully threaded	Headless Fully threaded
<b>Material</b>	Titanium	Titanium	Titanium

## Competitive Comparison [continued]

	Acumed®	Stryker	Zimmer Biomet	Zimmer Biomet
<b>Product Name</b>	Acutrak 3: Nano Acutrak 3: Micro Acutrak 3: Mini Acutrak 3: Standard Acutrak 2: 4.7 mm Acutrak 2: 5.5 mm Acutrak 2: 7.5 mm	FIXOS Compression Screw	MAX Variable Pitch Compression (VPC)	Headless Compression & Twist Off Screw System
<b>Available Diameter</b>	Nano: 2.0 Micro: 2.5 Mini: 3.5 Standard: 4.0 4.4 mm 5.5 mm 7.5 mm	2.5 mm 3.0 mm 3.5 mm 4.0 mm	2.5 mm 3.4 mm 4.0 mm	2.5 mm Partially Threaded 2.5 mm Fully Threaded 2.5 mm Fully Threaded
<b>Available Lengths</b>	<b>Nano:</b> 1–14 mm (1 mm increments) 14–40 mm (2 mm increments) <b>Micro:</b> 8–14 mm (1 mm increments) 14–50 mm (2 mm increments) <b>Mini:</b> 12–60 mm (2 mm increments) <b>Standard:</b> 16–60 mm (2 mm increments) <b>4.7 mm:</b> 20–30 (2 mm increments) 30–50 mm (5 mm increments) <b>5.5 mm:</b> 25–60 (5 mm increments) <b>7.5 mm:</b> 40–120 mm (5 mm increments)	2.5 mm: 10–30 mm 3.0 mm: 10–30 mm 3.5 mm: 14–36 mm 4.0 mm: 18–60 mm (2 mm increments)	2.5 mm: 8–14 mm (1 mm increments) 16–30 mm (2 mm increments) 3.4 mm: 14–34 mm 4.0 mm: 16–40 mm (2 mm increments)	2.5 mm Partial: 28–40 mm (2 mm increments) 2.5 mm Full: 10–40 mm (2 mm increments) 3.5 Full: 10–40 mm (2 mm increments)
<b>Screw Design</b>	Headless Fully threaded Continuously Variable Pitch (CVP)	Headless Herbert-style thread	Fully threaded Constant pitch tip, variable pitch tail	Headless Partial and Full threads
<b>Material</b>	Titanium	Titanium	Titanium	Titanium

## Competitive Comparison [continued]

	Acumed®	Smith + Nephew	Wright Medical	Trimed
<b>Product Name</b>	Acutrak 3: Nano Acutrak 3: Micro Acutrak 3: Mini Acutrak 3: Standard Acutrak 2: 4.7 mm Acutrak 2: 5.5 mm Acutrak 2: 7.5 mm	3.0 mm Headless Compression Screw	CHARLOTTE Multi-use Compression Screw (MUC)	Small Headless Screw
<b>Available Diameter</b>	Nano: 2.0 Micro: 2.5 Mini: 3.5 Standard: 4.0 4.4 mm 5.5 mm 7.5 mm	3.0 mm	3.0 mm 4.3 mm – Short & Long 7.0 mm	1.7 mm 2.3 mm 3.0 mm 3.5 mm
<b>Available Lengths</b>	<b>Nano:</b> 1–14 mm (1 mm increments) 14–40 mm (2 mm increments) <b>Micro:</b> 8–14 mm (1 mm increments) 14–50 mm (2 mm increments) <b>Mini:</b> 12–60 mm (2 mm increments) <b>Standard:</b> 16–60 mm (2 mm increments) <b>4.7 mm:</b> 20–30 (2 mm increments) 30–50 mm (5 mm increments) <b>5.5 mm:</b> 25–60 (5 mm increments) <b>7.5 mm:</b> 40–120 mm (5 mm increments)	8–40 mm (1 mm increments)	3.0 mm: 10–34 mm (2 mm increments) 4.3 mm Short: 14–50 mm (2 mm increments) 4.3 mm Long: 36–50 mm (2 mm increments) 55 mm & 60 mm 7.0 mm Stainless Steel: 40–110 mm 7.0 mm Titanium: 40–110 mm (5 mm increments)	1.7 mm: 8–14 mm (1 mm increments) 2.3 mm: 10–20 mm (2 mm increments) 20–26 mm (1 mm increments) 26–28 mm 3.0 mm: 10–20 mm (2 mm increments) 20–26 mm (1 mm increments) 26–36 mm (2 mm increments) 3.5 mm: 20–32 mm (2 mm increments) 35–45 mm (5 mm increments)
<b>Screw Design</b>	Headless Fully threaded Continuously Variable Pitch (CVP)	Headless 40% screw length threaded	Headless Double-lead helical thread at tip Herbert-style thread	Headless Herbert-style thread
<b>Material</b>	Titanium	Stainless Steel	Stainless Steel	Titanium

## Who We Are

For more than 35 years, Acumed has developed innovative orthopaedic solutions designed to serve the needs of the entire health care community. Our mission is to aid the afflicted through the ingenuity of our minds, the labor of our hands, and the compassion of our hearts.

As a global market leader, our products are rooted in evidence-based design, and show positive patient outcomes and superior biomechanical performance.

We are 100% compliant with the rules and regulations that guide our industry.

## Our Foundations of Excellence

### Education

At Acumed, education is not just a cool buzzword, but something we take great pride in. It is at the heart of who we are. We believe surgeon education and training are essential to elevating patient standard of care and improving outcomes. That is why we are committed to supporting surgeons throughout their entire educational journey from residency to advanced medical professional.

Choose from a myriad of learning options, everything from participating in one of our Surgical Skills courses, diving deep into an ELITE Resident and Fellow Program, gleaned expertise with a virtual PRO Series, or getting hands-on experience in our Acumed Mobile Cadaver Labs circulating the United States.

### Evidence

We educate and conduct ongoing clinical and biomechanical research, using this information for validation and continuous improvement to deliver the greatest value to our customers.

### Innovation

Innovation has been a cornerstone of Acumed's success for the past 35 years.

For Acumed to continue to earn the goodwill brand of innovation, we must continue to launch new "industry first" and market-leading products that address unmet clinical needs. In addition to advances in plate and screw design, Acumed strives to simplify procedures through the innovation of novel instruments and technologies that improve surgical efficiency and approaches.

### Quality

Acumed is recognized by our surgeon customers for our commitment to quality.

Our Quality Management System is embedded in our everyday activities and it drives our quality-first culture. In the spirit of continuous improvement, we monitor and act upon data related to manufacturing, suppliers, and customer feedback. We use this data to enhance the quality of our design, product realization, medical education, and customer experiences to deliver optimal patient outcomes.





## Dedicated to Excellence

From manufacturing to business practices to product innovation, Acumed has an unwavering commitment to excellence. It is reflected in the honors received from industry peers and in the performance of our suite of surgical fixation solutions.



### The AME Manufacturing Excellence Award

In 2011, Acumed received the AME Manufacturing Excellence Award, an honor recognizing North American manufacturing sites that have demonstrated operational excellence through continuous improvement, best practices, creativity, and innovation. This award supports AME's vision, mission, and values of inspiring commitment to enterprise excellence through shared learning and access to best practices.

The Association for Manufacturing Excellence is North America's premier organization for the exchange of knowledge in Organizational Excellence through the implementation of techniques such as Lean Tools, Leadership, Lean Product Development, Lean Supply Chain, and Lean Accounting.



### The Frost & Sullivan Manufacturing Leadership 100 Operational Excellence Award

In 2013, Acumed received the Frost & Sullivan Manufacturing Leadership 100 award for Operational Excellence, an honor recognizing the top 100 global manufacturing companies who are shaping the future through projects that deliver outstanding value, innovation, and return on investment.

Frost & Sullivan Manufacturing Leadership 100 is the world's first member-driven leadership network with knowledge in manufacturing leadership. It was created through a global community of executives working within the manufacturing industry.

### A Leader in Product Development and Innovation

Since its introduction in 1994, the Acutrak® headless compression screw has revolutionized the way surgeons gain fixation. The Acumed Acutrak Screw System was 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 designed a solution for repairing fractures, performing joint fusions, and fixing osteotomies throughout the upper and lower extremities unlike any other product in the marketplace.

Acumed will continue to devote resources to the development of implants that aid in improving patient outcomes and advancing the field of orthopaedic surgery.

## Dedicated to Excellence [continued]

### Industry Compliance

As a logo member of the Advanced Medical Technology Association (AdvaMed), Acumed endorses the AdvaMed Code of Ethics. Adherence to this Code ensures ethical interaction with healthcare professionals. Acumed requires anti-corruption training for employees interacting with healthcare professionals or government officials (foreign or domestic). In addition, Acumed sales representatives in the United States as well as international distribution partners must complete anti-corruption training programs.

Acumed also supports the United Nations Global Compact and Boston College Center for Corporate Citizenship organizations.



### Transparency in Business Practice

Acumed tracks and reports spending in accordance with the Physician Payment Sunshine Act. In order to become an Acumed partner, all distributors must go through a due diligence analysis and a robust training and education program to ensure they share Acumed's values with respect to anti-corruption and compliance. Acumed maintains ethical behaviors with respect to compliance standards and laws.

### A Commitment to Social Responsibility

At Acumed we understand that being an outstanding orthopaedics company is about more than creating top-quality products: it's about being aware of the contributions we as an organization make to the world around us. Our company culture puts a great amount of emphasis on responsible business practices, the mindful stewardship of resources, and support for local and global humanitarian efforts.



The Charitable Giving Committee supports Acumed's commitment to helping those in need through educational initiatives, community action, and volunteerism. Beneficiaries include the Oregon Food Bank, STEM (Science, Technology, Engineering, Math) Connect, and SIGN Fracture Care International.

The Green Team educates and engages employees in sustainable practices that make a difference both at Acumed and at home. Eco-friendly landscaping, recycling events, weather-smart irrigation controls, and dedicated efforts to reduce power consumption are just a few of our green initiatives. In 2015, Acumed received special recognition for Excellence in Employee Engagement from the Energy Trust of Oregon. This recognition was the result of the work of the Acumed Green Team and the strategies they developed and enacted in order to bring more awareness to issues related to energy savings and environmental stewardship.

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