

Advanced Orthopaedic Solutions designs, manufactures, and markets orthopaedic products specializing in fixation devices for

# AOS™

ADVANCED ORTHOPAEDIC SOLUTIONS

minimally invasive surgical procedures. We rely on surgeon input to create solutions more cost effective time, without

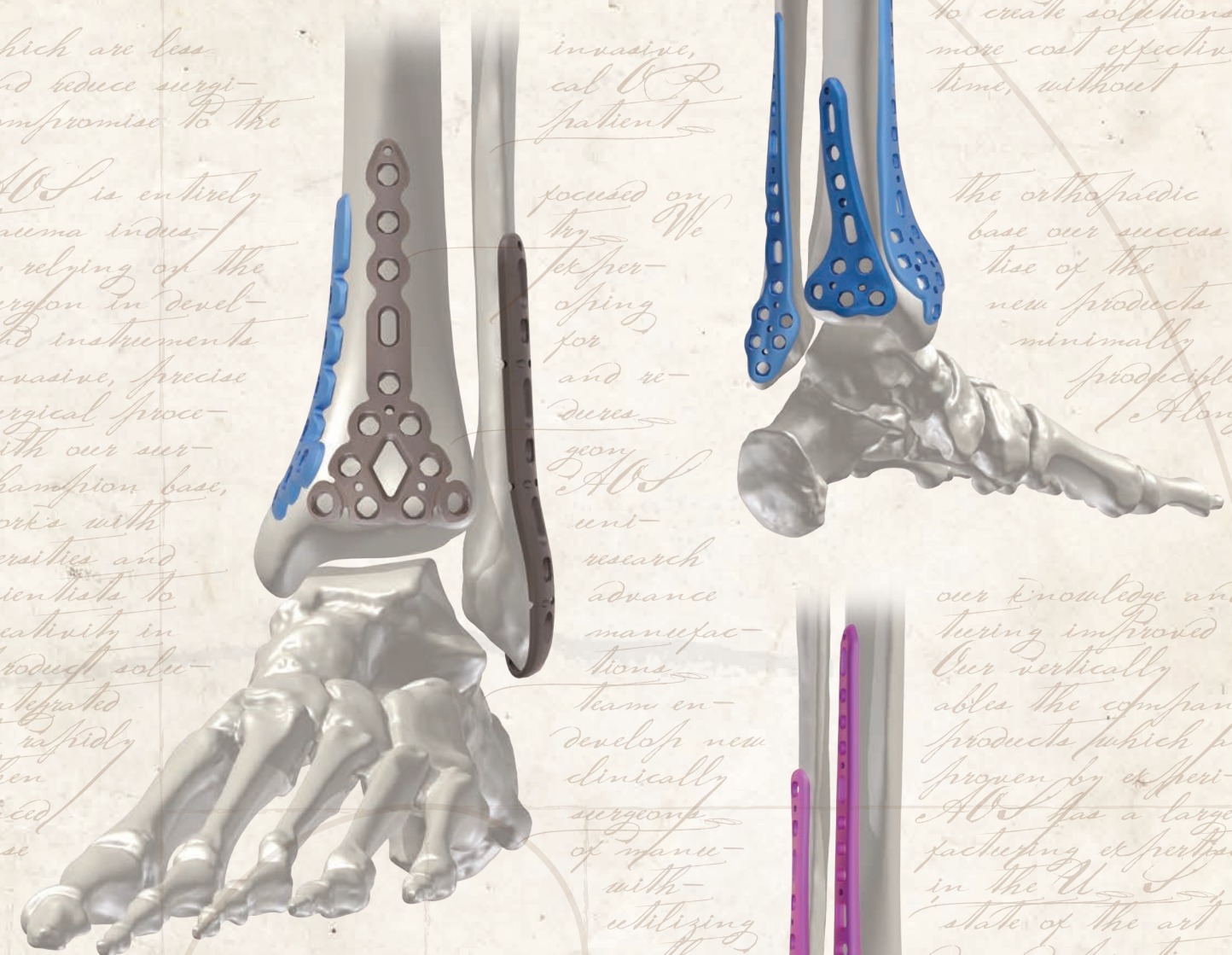
which are less and reduce surgical compromise to the

invasive, call O.P. patient

AOS is entirely trauma induced by relying on the surgeon in development instruments invasive, precise surgical procedures with our surgeon champion base, work with versatility and scientists to creativity in product solutions integrated to rapidly then

focused on try. We keep spring for and re-sure

The orthopaedic base our success rise of the new products minimally procedure Along



geon AOS unit research advance manufacturing team developed new clinically surgeons of manufacture utilizing meth that are US and great. More products are wide through

our knowledge and during improved. Our vertically able the company products which are proper by experience. AOS has a large facturing expertise in the U.S. state of the art and practices compliant with International ity systems. AOS is distributed world independent distribute and agents.

# Fibonacci™

## LOWER EXTREMITY PLATING SYSTEM

ing customer relationships, AOS strives to continue to improve every aspect of the way we do business.

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# The *Natural* Equation for Ankle Fixation

Leonard of Pisa, better known as Fibonacci, made revolutionary contributions to the mathematical world in the 13th century. The patterns that emerged from Fibonacci's sequence also impacted all of nature and the biophysical world, especially the orthopaedic trauma industry.

Fibonacci did not invent the mathematical problem he solved, but his solution, the Fibonacci sequence will forever provide a solution to the problem. In much the same way, AOS's Fibonacci Lower Extremity Fracture System provides the solution to distal tibia and fibular fractures.

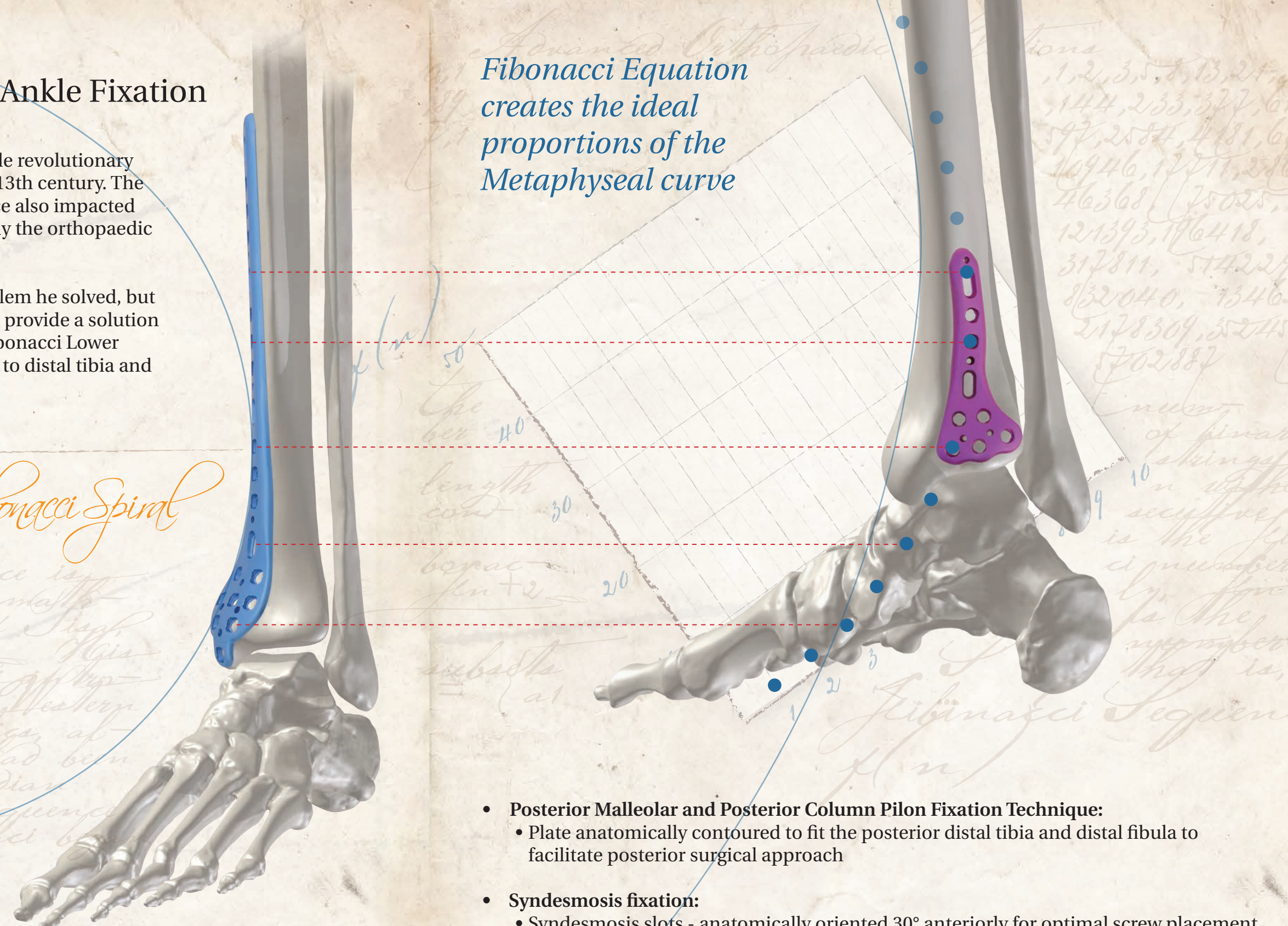
*Fibonacci Equation creates the ideal proportions of the Metaphyseal curve*

## The *Fibonacci Spiral*

*The Fibonacci sequence is a mathematical sequence of numbers known as Fibonacci. This sequence is a series of numbers where each number is the sum of the two preceding ones, starting from 0 and 1. The sequence is often represented by the letter 'F' and the formula  $F(n) = F(n-1) + F(n-2)$ .*

## The *Golden Ratio*

This same Golden Ratio is evident in the bony anatomy of the human body and is always the same. AOS applied Fibonacci's equation in the design of the pre-contoured plates of the Fibonacci Ankle Plating System, resulting in greater anatomical accuracy and superior fit.



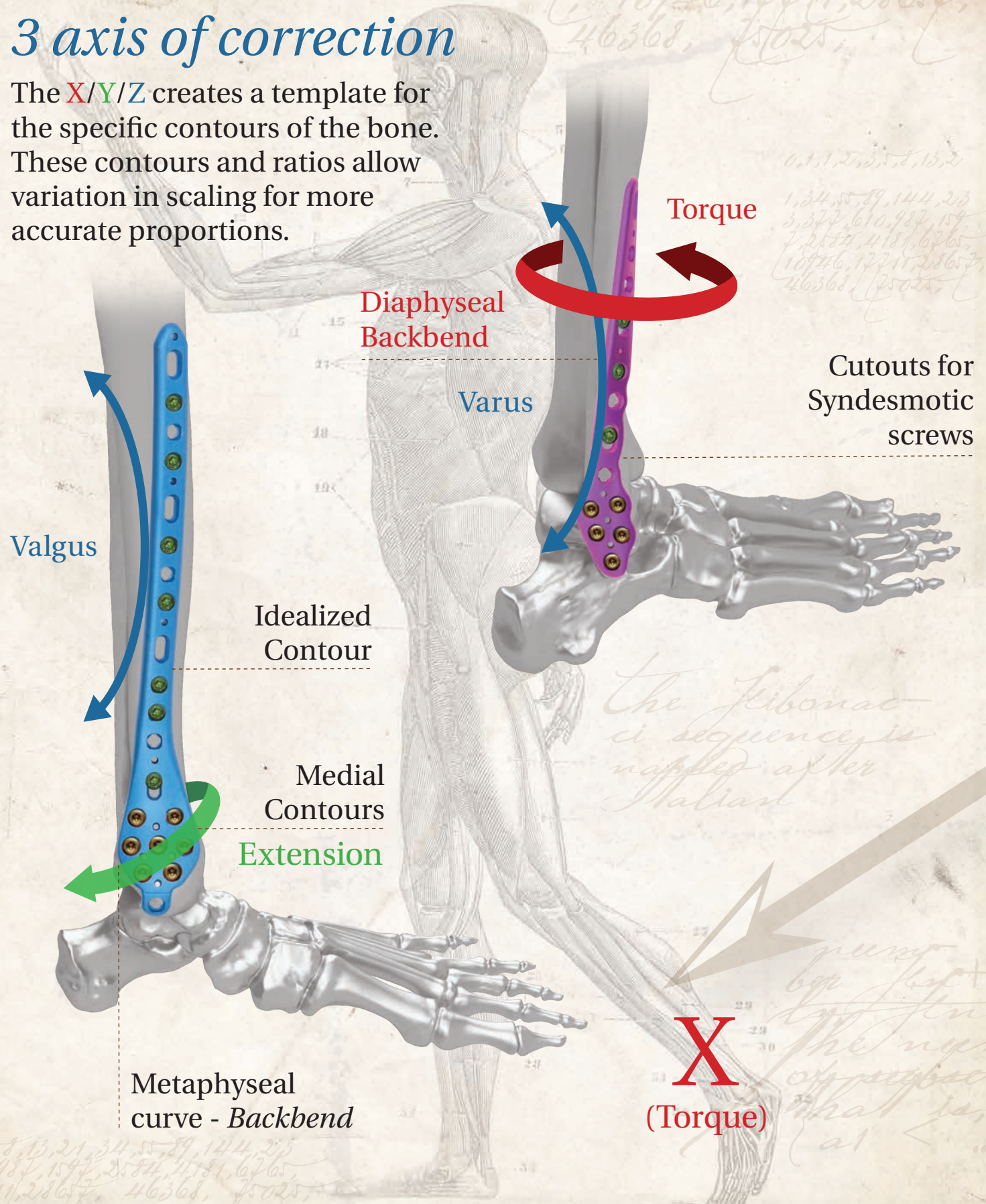
- **Posterior Malleolar and Posterior Column Pilon Fixation Technique:**
  - Plate anatomically contoured to fit the posterior distal tibia and distal fibula to facilitate posterior surgical approach
- **Syndesmosis fixation:**
  - Syndesmosis slots - anatomically oriented 30° anteriorly for optimal screw placement (lateral fibular plate)
  - Strategically placed cutouts for syndesmotic screw placement (posterior fibular plate)
- **Medial Malleolus Fixation:**
  - Multiple options, one system: fix with cancellous lag screws or headless compression screws, tension band wiring, antiglide plate, hook plate and combination of varying other plates

# Design Rationale

## Why: "Plates That Fit"

### 3 axis of correction

The X/Y/Z creates a template for the specific contours of the bone. These contours and ratios allow variation in scaling for more accurate proportions.

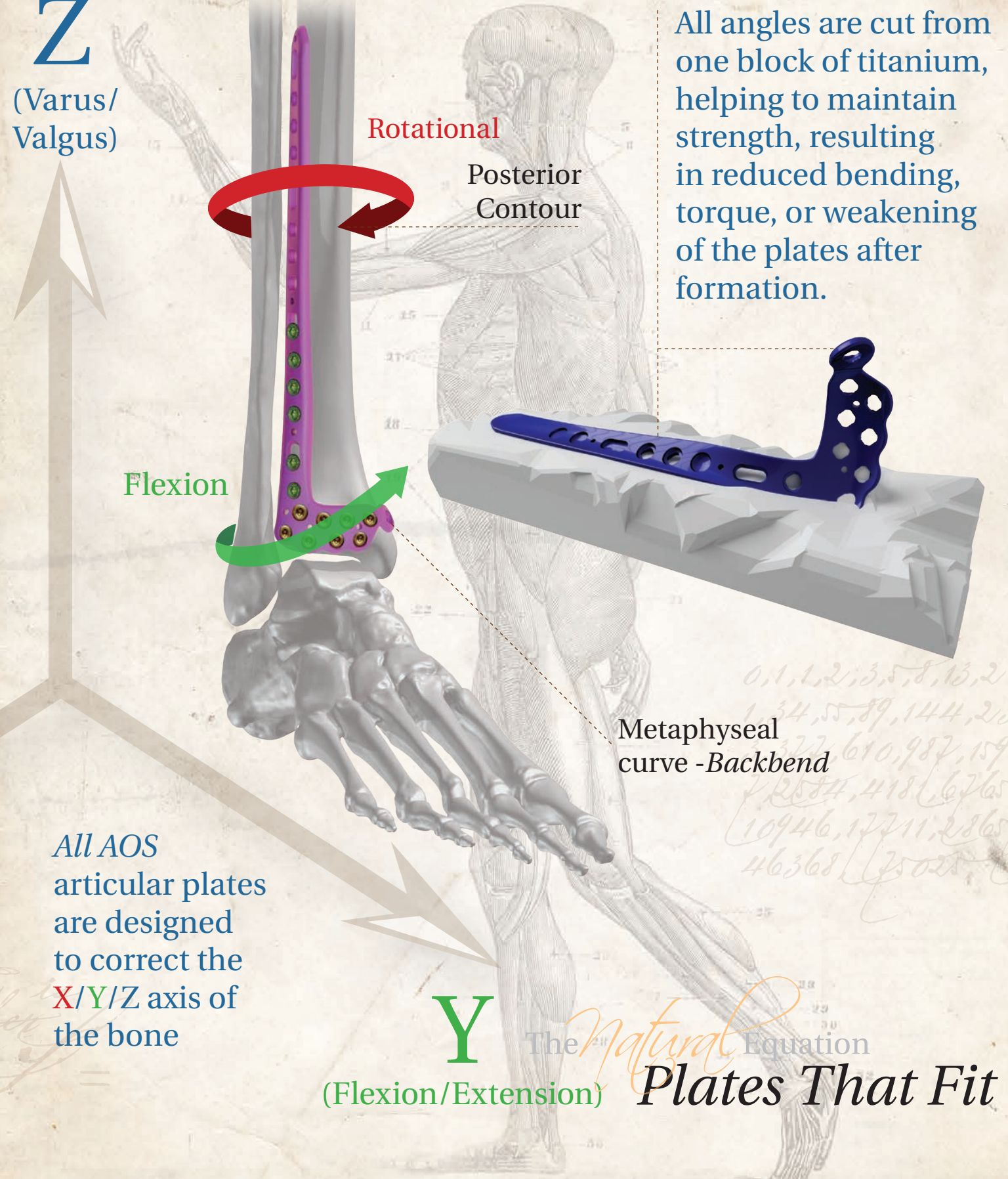


# Design Rationale

## How: "Plates That Fit"

### Z

(Varus/Valgus)



All angles are cut from one block of titanium, helping to maintain strength, resulting in reduced bending, torque, or weakening of the plates after formation.

All AOS articular plates are designed to correct the X/Y/Z axis of the bone

### Y

(Flexion/Extension)

The "Natural Equation"

# Plates That Fit

# Specialty Plates



**Medial Pilon Plates**

Sizes:  
5-Hole - 21-Hole  
(4 hole increments)  
  
Length  
91mm - 264mm  
  
\*220mm - 264mm

## Posterior Distal Fibula and Distal Tibia Technique

Plates are anatomically contoured to fit posterior distal fibula and posterior distal tibia to facilitate prone posterior technique.

*Medial Malleolus Fixation:*  
*Multiple options, one system*

**Syndesmosis slots:**  
Anatomically orientated 30° anteriorly for optimal screw placement.



**Posterior Tibia Plates**



4-Hole  
72mm

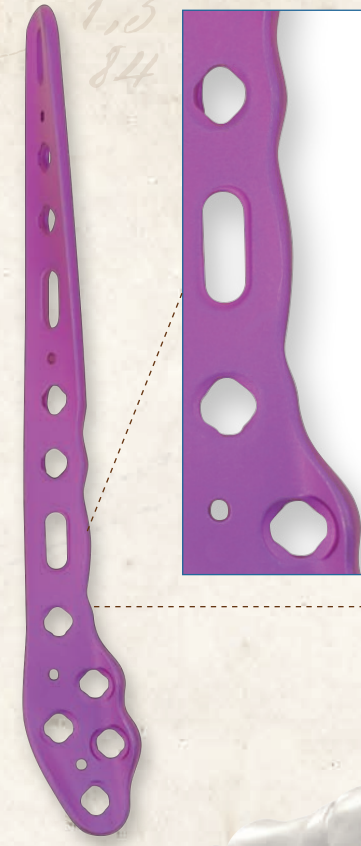
**L-Plates**



3x2 Hole  
34.5mm

3x4 Hole  
52.6mm

# "Any screw, any hole"



Strategically placed cutouts for syndesmosis screw placement.



**Oblique T-Plate**



3x3 Hole  
48.8mm

3x5 Hole  
66.8mm

**Distal Posterior Fibula Plates**



5-Hole  
83mm

7-Hole  
118mm

**Lateral Distal Fibula Plates**



Sizes:  
4-Hole,  
6 Hole - 15 Hole  
(3 hole increments)

Lengths  
74mm-198mm

\*164mm - 198mm

**Anterolateral Distal Tibia Plates**



Sizes:  
6-Hole - 22 Hole  
(4 hole increments)

Lengths  
87mm - 259mm

\*216mm - 259mm

\*Special Request Only

\*Special Request Only

# Universal Plates

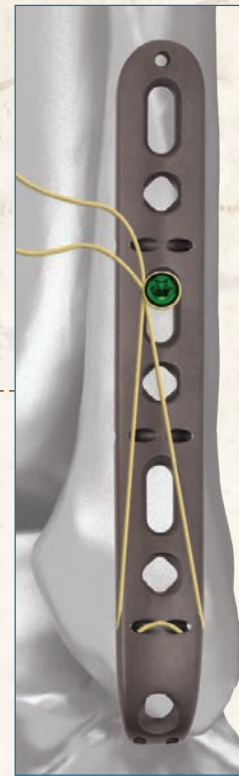
## Distal Hook Plates



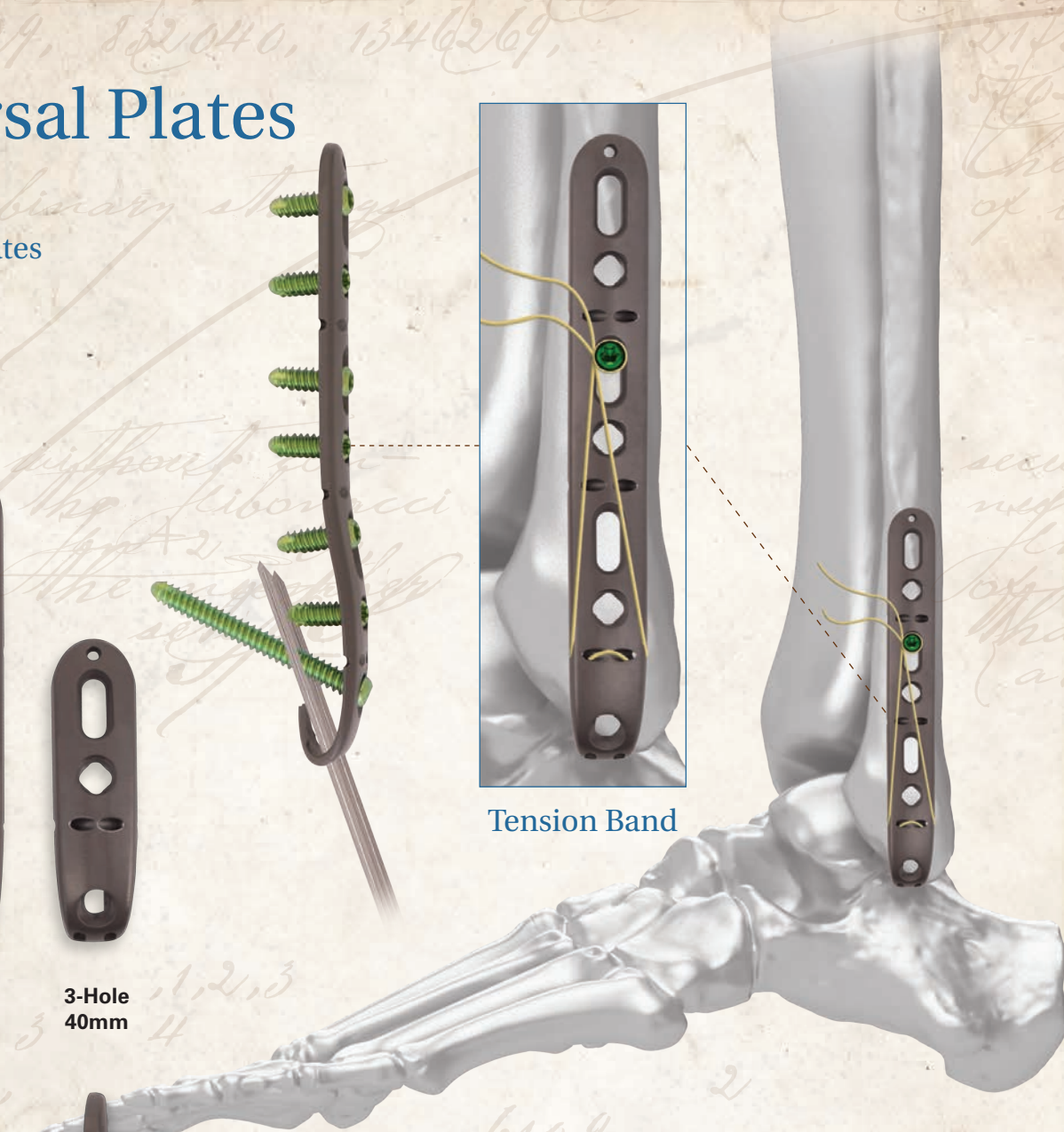
7-Hole 86mm  
5-Hole 63mm  
3-Hole 40mm



Medial Distal Hook Plate



Tension Band



## Unique Hook Plate Design aids in Fracture Reduction and Compression

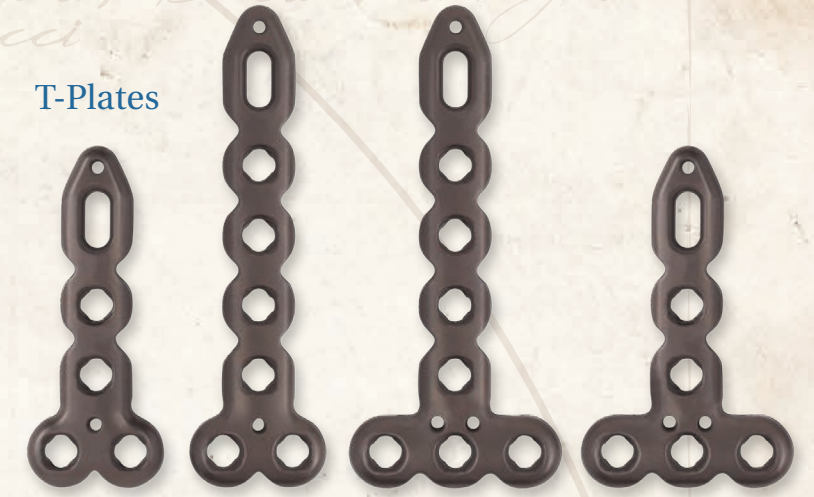
Drill guide to facilitate pre drilling for distal spikes allowing for the plate to be slipped into position rather than impacted. Suture holes in the plate allow for an easy and reproducible tension band technique to compress fractures.

## Anterior Distal Tibia Plates



3-Hole 61.2mm  
5-Hole 88.3mm

## T-Plates



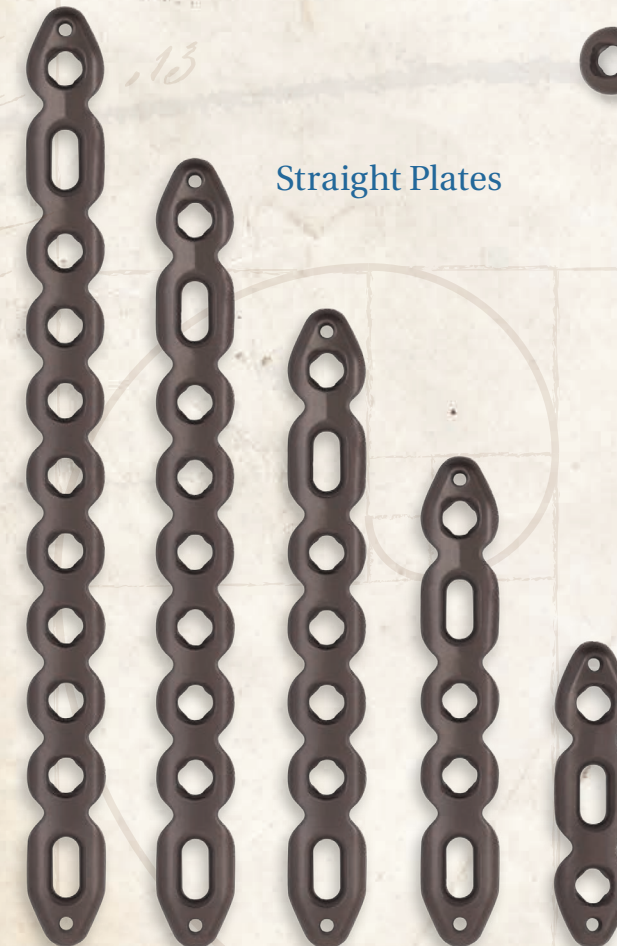
2x5 Hole 62.5mm  
2x5 Hole 44.5mm  
3x5 Hole 62.5mm  
3x3 Hole 44.5mm

## Anterior Cortical Rim Plate



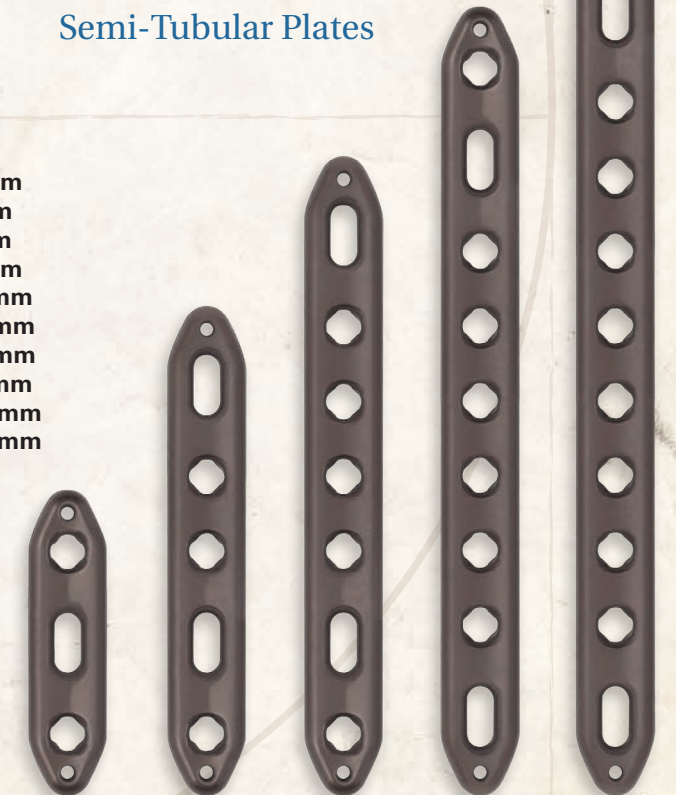
5-Hole 44.7mm

## Straight Plates



3-Hole, 36.9mm  
5-Hole, 59mm  
7-Hole, 77mm  
9-Hole, 95.1mm  
11-Hole, 113.1mm  
13-Hole, 131.1mm  
15-Hole, 149.1mm  
17-Hole, 167.2mm  
\*19-Hole, 185.2mm  
\*21-Hole, 203.2mm

## Semi-Tubular Plates



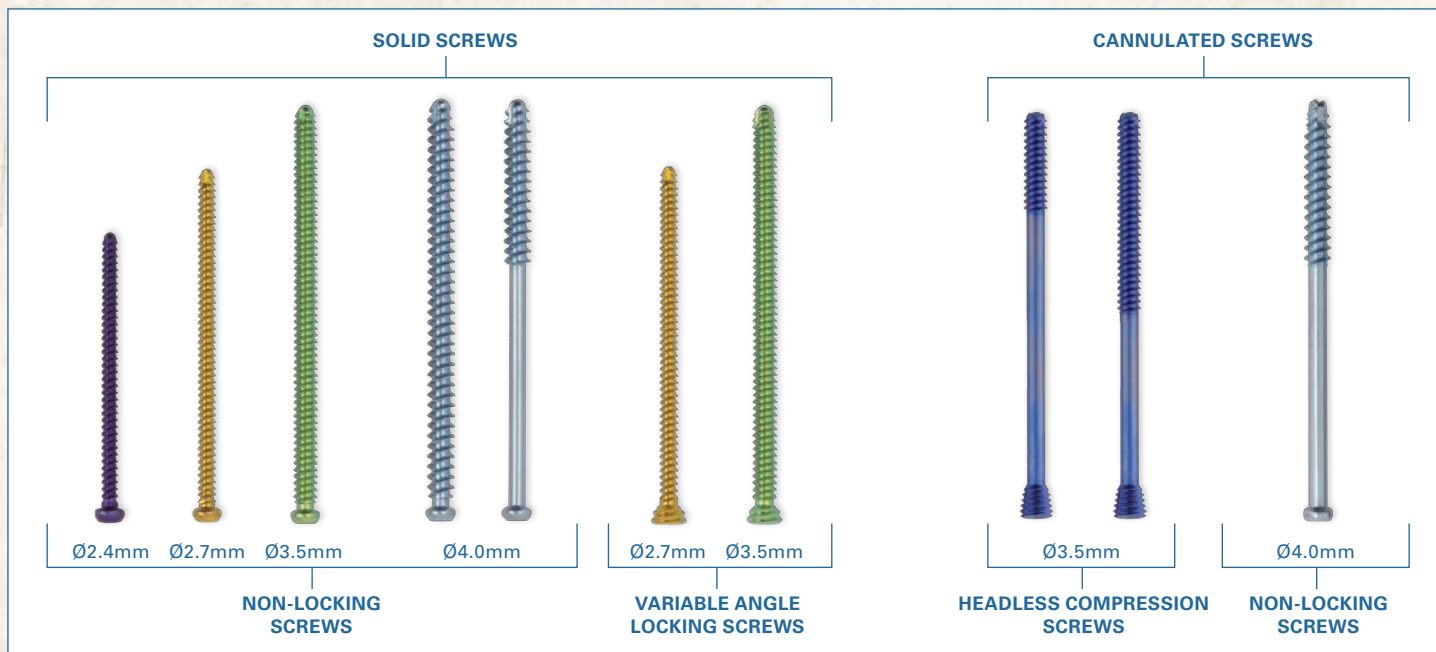
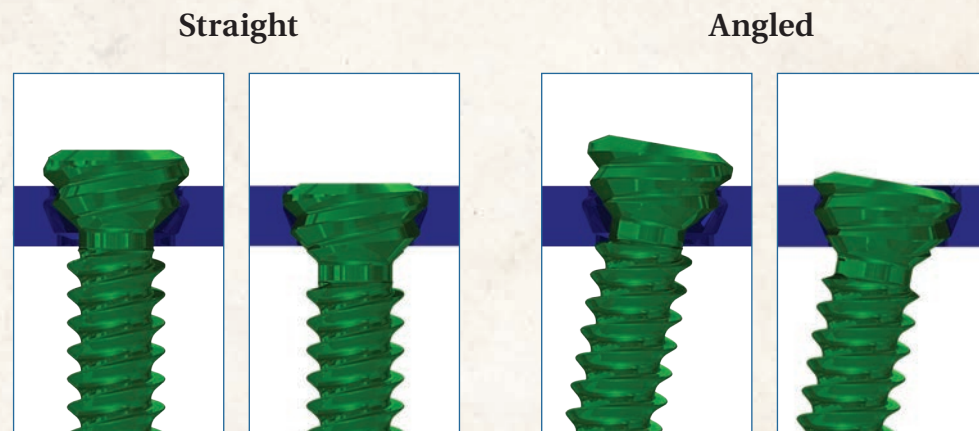
\*Special Request Only

# Screws

Screw Options to capture every fragment: with an extensive screw selection, the Fibonacci system is setup to help fix the most difficult of fractures.

- 2.4mm, 2.7mm, 3.5mm and 4.0mm non locking options
- 2.7mm and 3.5mm variable angle locking options
- 3.5mm cannulated headless compression
- 4.0mm solid and cannulated screw available in two thread lengths: 50% thread, 25% thread

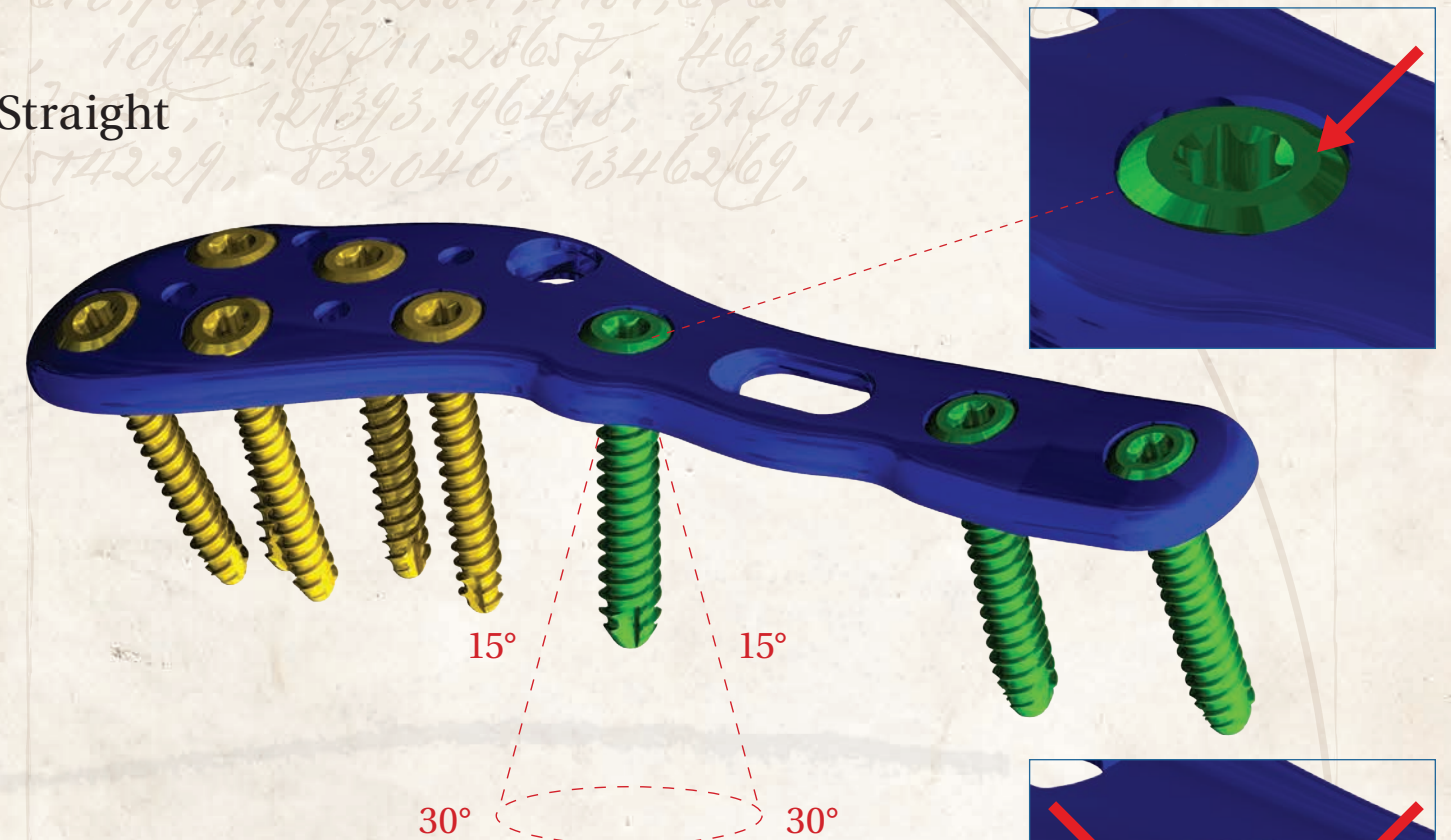
**Variable Angle Locking Technology:** Locking holes in each plate accommodate variable angle locking in a  $30^\circ$  cone utilizing 2.7mm and 3.5mm variable angle locking screws.



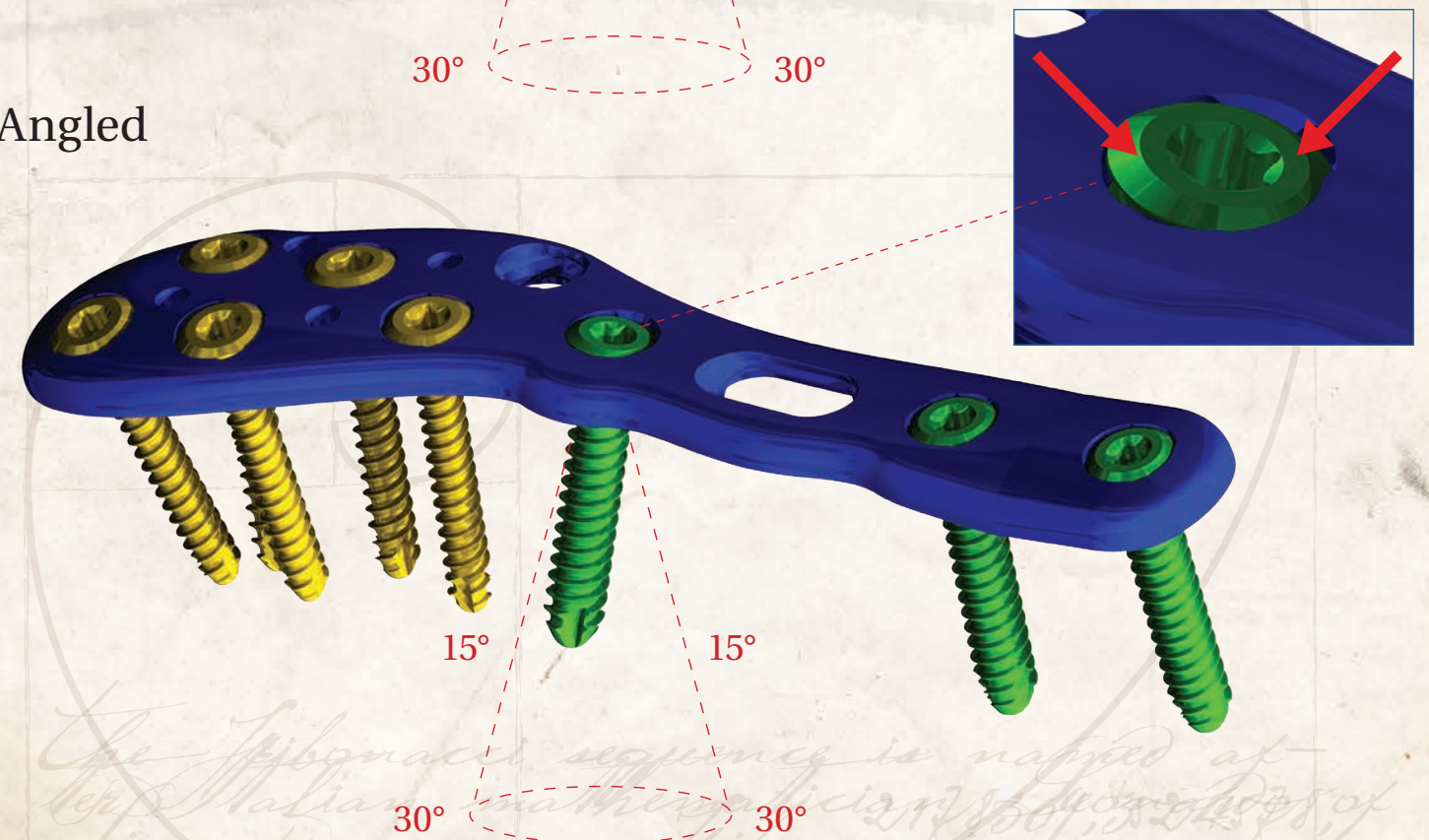
# Variable Angles

Screw heads sit flush with top surface of plate, minimizing prominent hardware and the potential for tissue irritation.

Straight



Angled



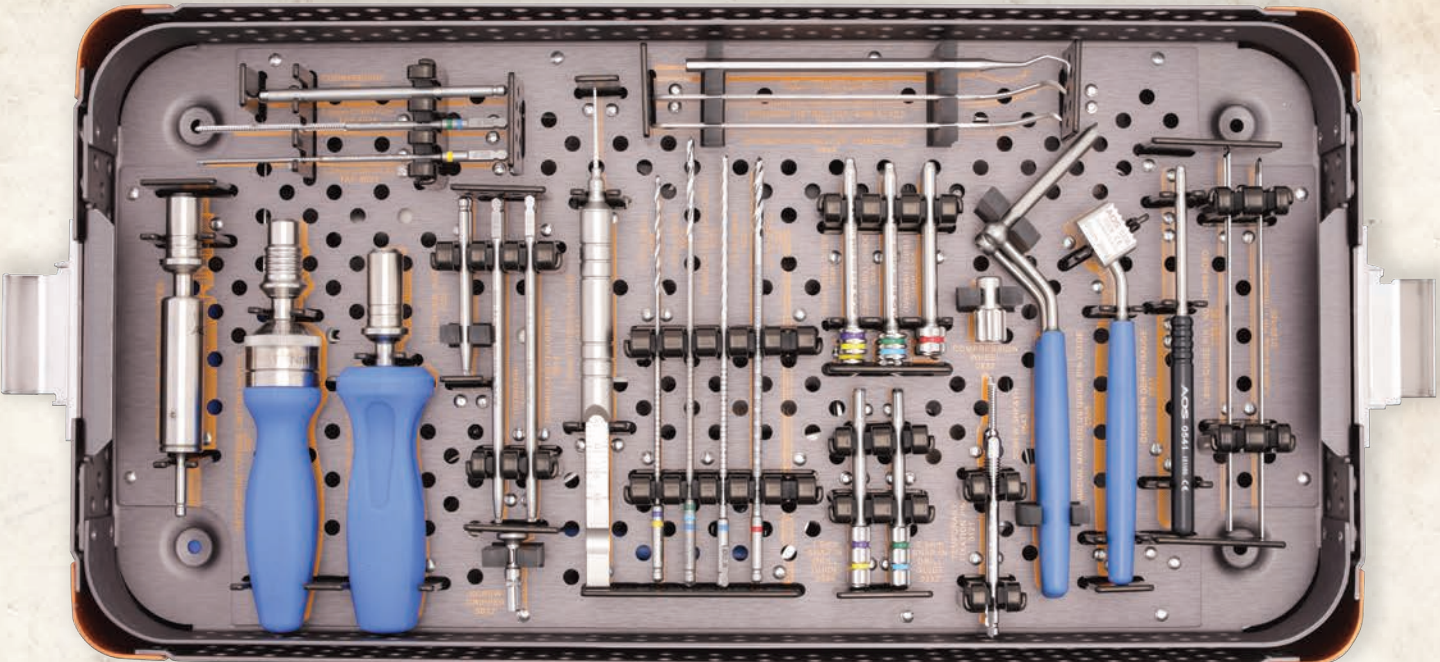
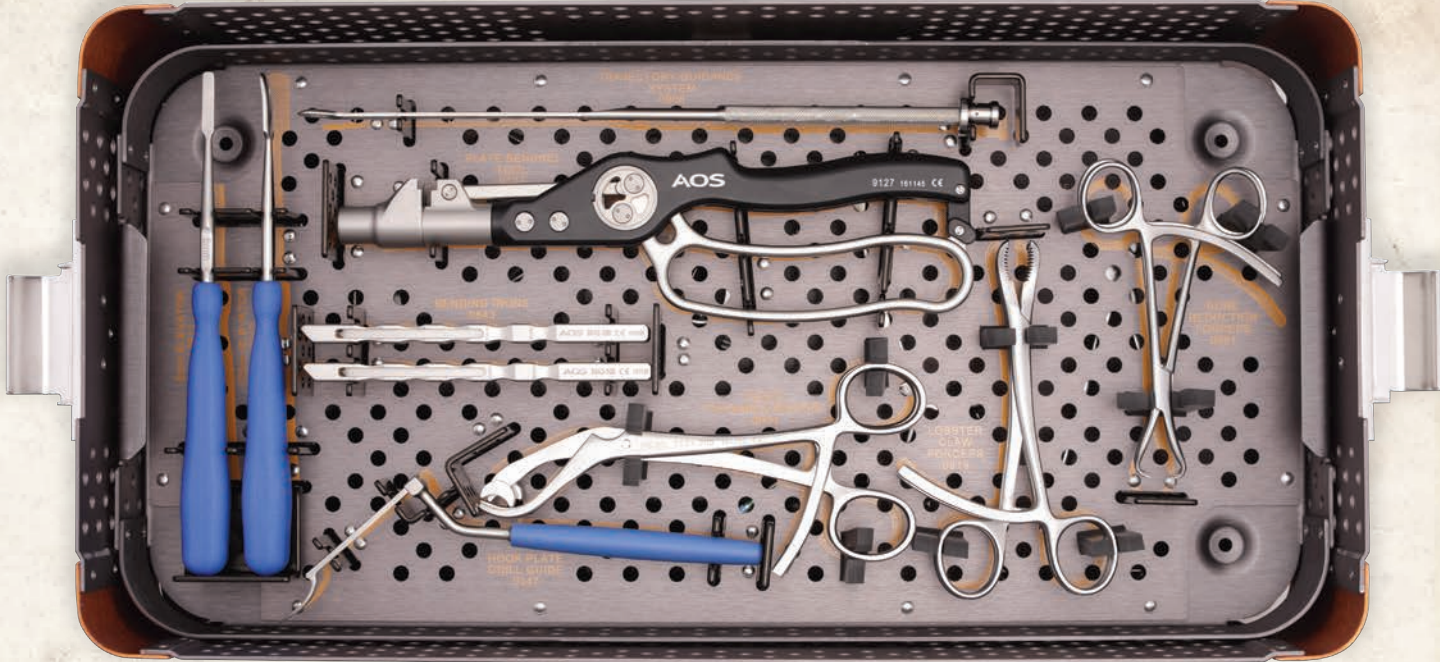
*Fibonacci Sequence*  
 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946, 17711, 28657, 46368, 75000, 121393, 196418, 317811, 514229, 832040, 1346269

*The Fibonacci sequence is named after the Italian mathematician Leonardo Fibonacci, known as Fibonacci.*

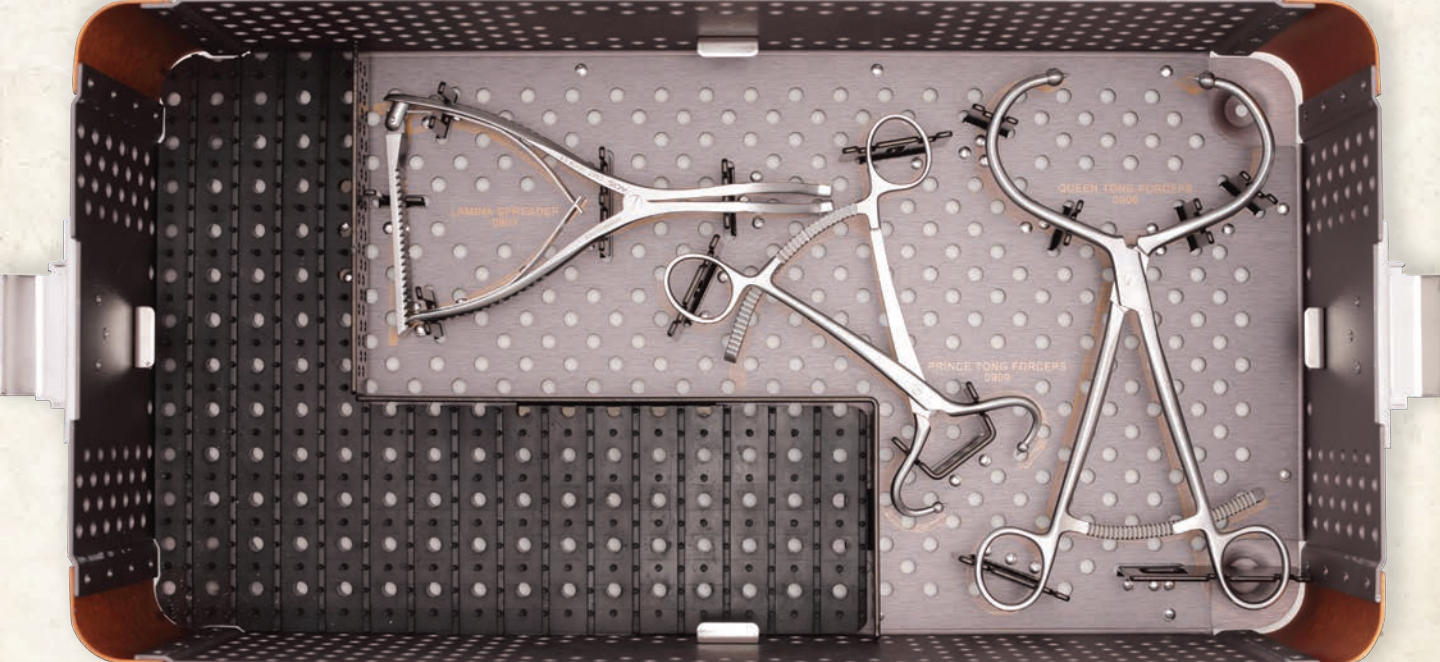
*The sum of the squares of the first n Fibonacci numbers is equal to the product of the nth Fibonacci number and the (n+1)th Fibonacci number.*

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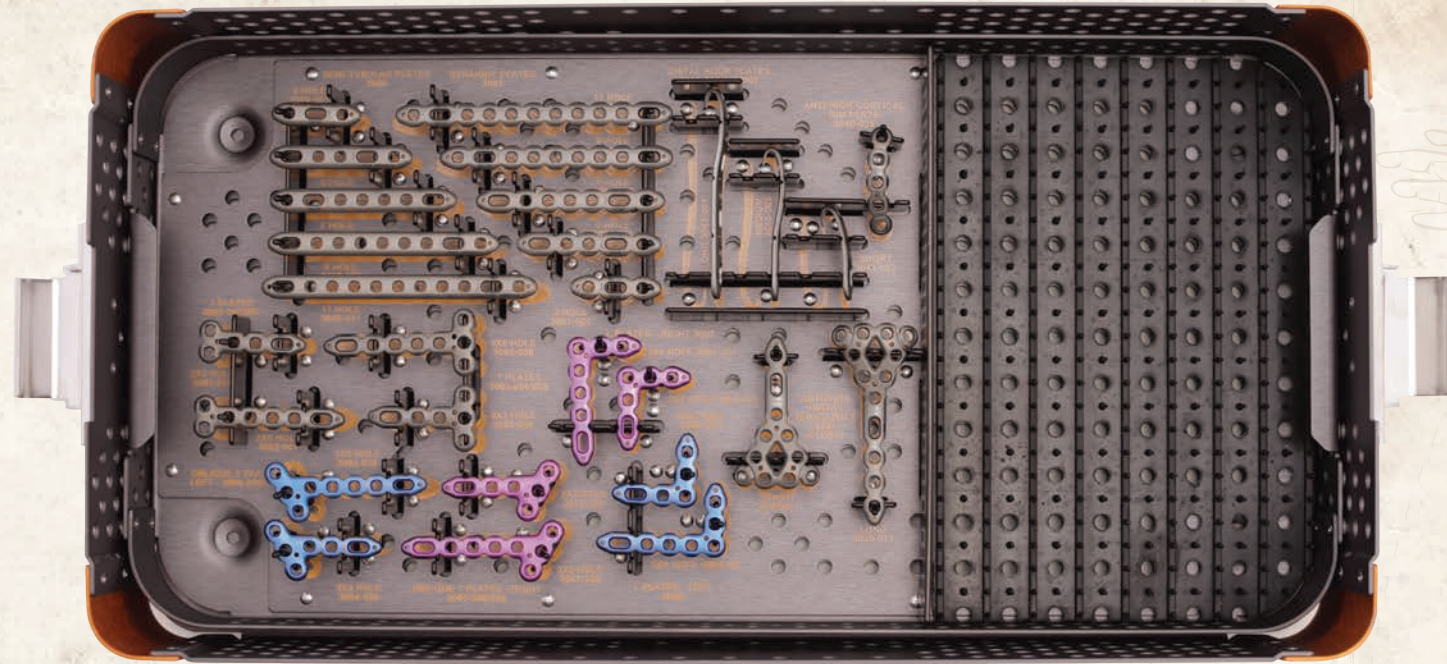
# Instrument Trays



# Specialty Plates



# Universal Plates



# Screws



# Fibonacci™ INDICATIONS

