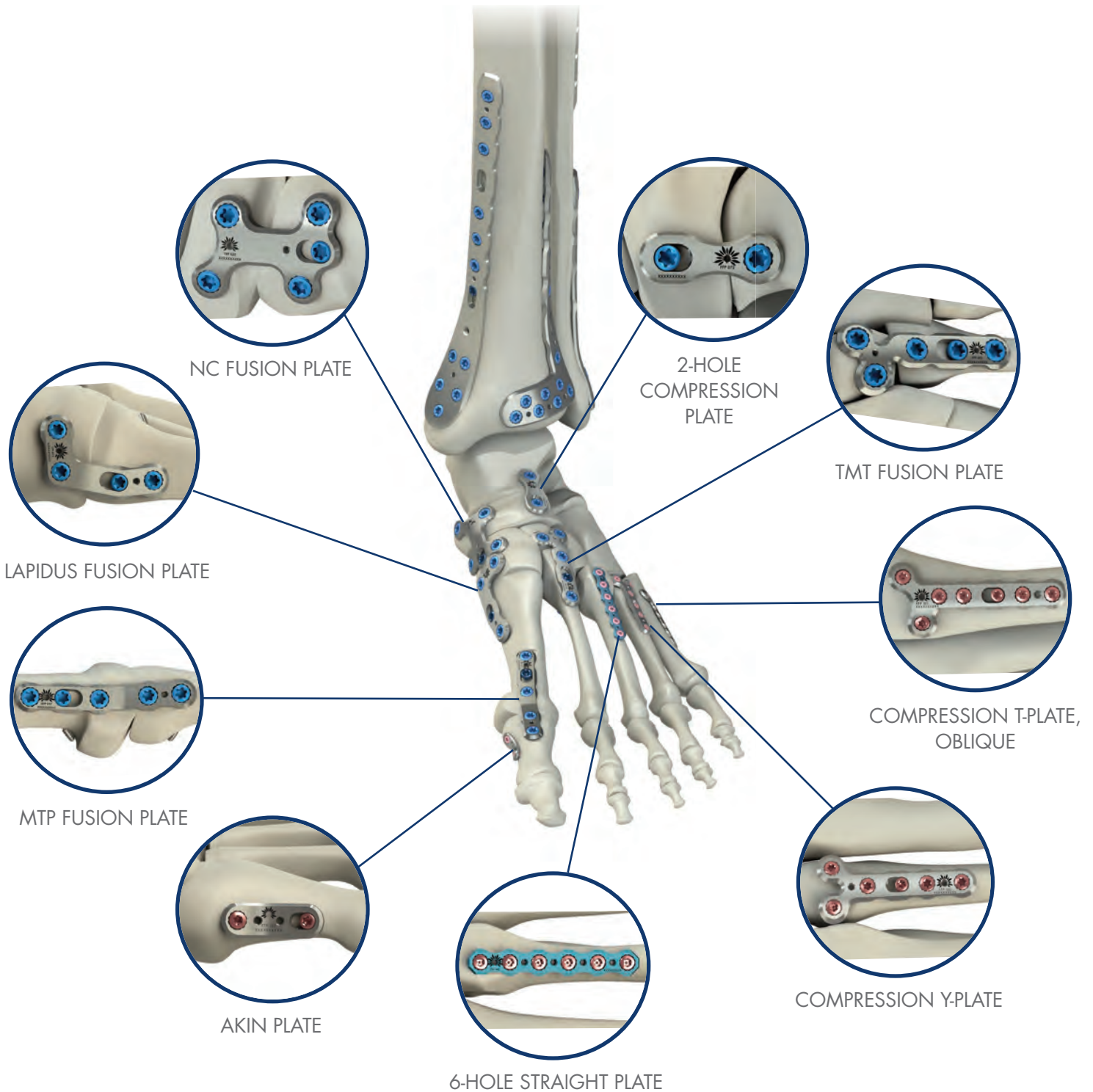


# The Flower Forefoot

PROCEDURE GUIDE

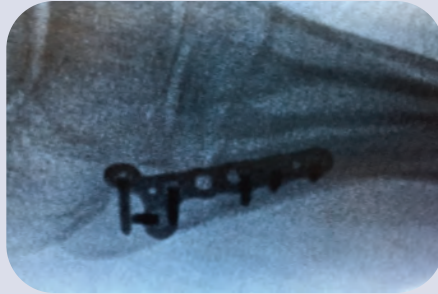
# The Flower Foot & Ankle Application



## INDICATIONS FOR USE:

The Flower Small and Medium Implants set is intended for use for internal fixation of fractures and reconstruction of bones, including the scapula, olecranon, humerus, radius, ulna, pelvis, distal tibia, fibula, hand and foot in adults and for use in long bones in adolescents (12-21) in whom the growth plates have fused. Examples of these internal fixations and reconstructions include compression fractures, intra-articular and extra-articular fractures, displaced fractures, osteotomies, non-unions and mal-unions. This system can be used for palmar, ventral, dorsal and orthogonal application. The Flower Orthopedics Bone Screw set is intended to be used for the fixation of bone structures, fusion of joints of bone reconstruction.

## The Flower Forefoot – Product Rationale



The Flower Forefoot plate portfolio contains low profile stabilization plates, designed to provide robust fixation while reducing implant prominence.

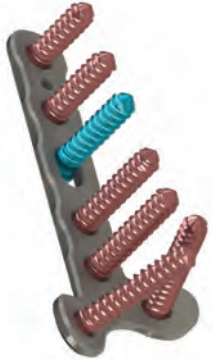
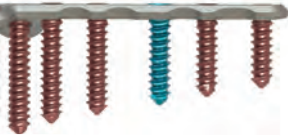
Both anatomic plate configurations with compression slots and all locking plates are available in multiple lengths and sizes to treat a wide variety of fractures and osteotomies.

Flower Forefoot plates allow for the use of variable angle locking and compression screws which both sit flush in the holes of the plate.

## The Flower Forefoot – Design Features

### PLATE RATIONALE

### SURGICAL BENEFIT

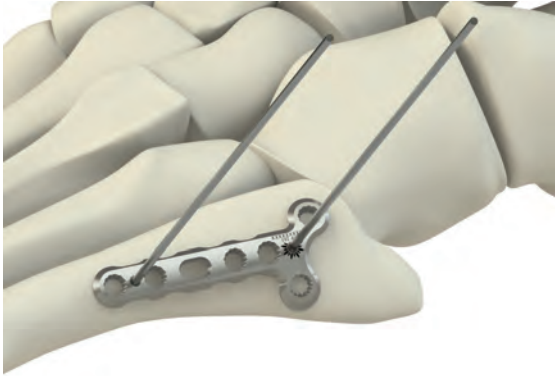
	<p>Broad range of plates to address various fracture patterns</p>	<p>Multiple surgical options</p>
	<p>Low profile and anatomically contoured</p>	<p>Reduces soft tissue irritation and minimizes bone contact</p>
	<p>Plates accept 1.5mm, 2.0mm and 2.4mm locking and compression screws</p>	<p>Provides multiple screw options for intraoperative fracture management</p>
	<p>The patented Flower Locking Mechanism and variable angle locking screw holes allow for +/- 10° of freedom</p>	<p>Allows surgeon to aim and lock the screw where appropriate given the anatomy and pathology</p>

# The Flower Forefoot – Surgical Strategy

Flower offers a full range of partially threaded cannulated screws for lag screw fixation. Screws are available in diameters of 2.0 and 2.4mm and in lengths of 10-24mm and 10mm-30mm, respectively.

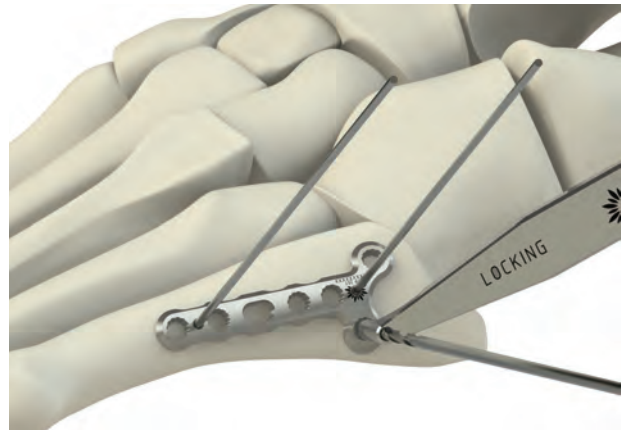
## Step 1 – Fracture Reduction

- With the fracture properly reduced, Flower K-Wires (KWK 001) are directed through the fracture line to provide provisional stability.



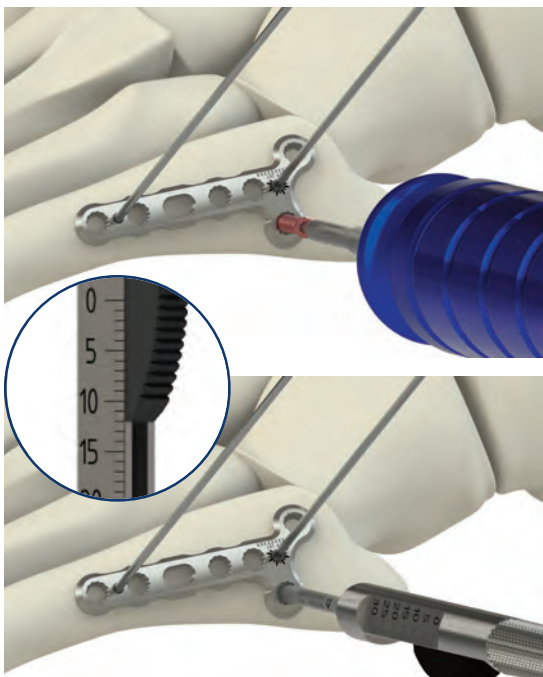
## Step 2 – Plate Selection and Provisional Fixation

- Plate Trials (FIS 300 and FIS 614) are available to determine the appropriate plate length and configuration for the fracture. The Plate Trial may also be used as a bending template if bending is required.
- The Flower plate is placed over the fracture site, generally with at least two locking holes positioned on either side of the fracture.
- The plate can be temporarily fixed to the bone using the Flower K-Wires, placed through the k-wire holes in the plate.



## Step 3 – Drill Pilot Holes

- 2.4mm variable angle locking screws are recommended for the Flower Forefoot construct.
- 2.0mm variable angle locking screws are also available depending on the anatomy and pathology.
- Starting on one side of the fracture and using a 1.8mm Drill Bit (DBK 024) pilot holes are drilled. Use the locking end of the drill guide for all holes in the plate. All holes are drilled bicortically.



## Step 4 – Screw Insertion

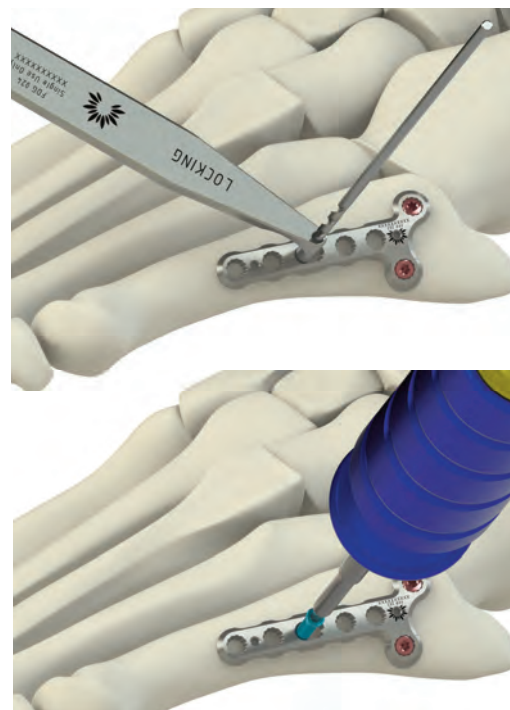
The depth gauge is part of the K-Wire Kit (KWK 001).

- Ensure that the instrument is fully seated into the screw hole before the hook probe is advanced into the pilot hole.
- The hook of the depth gauge is engaged behind the opposite cortex of the pilot hole and the pilot hole depth is read off the distal end of the slider.
- Insert the locking screws into the distal screw holes using the Flower Torque limiting Screwdriver that is part of the Flower K-Wire Kit (KWK 001). The torque limiting feature does not need to be engaged to guarantee sufficient locking.
- If inserting compression screws, the screws should be inserted until flush with the top of the plate, and the torque limiting feature should not be engaged.

## The Flower Forefoot – Surgical Strategy

### Step 5 – Axial Compression Through the Plate

- a. If dynamic compression is desired, drill a pilot hole in the slot with the drill guide away from the fracture line.
- b. Remove any provisional plate fixation k-wires prior to compression screw insertion.
- c. When using a compression technique the following steps must be followed.
  - i. Place a minimum of 2 locking screws on the opposite side of the fracture
  - ii. Remove any k-wires provisionally holding the plate or fracture prior to inserting the compression screws
- d. Place the drill guide in the end of the slot farthest away from the fracture line.
- e. Drill pilot hole bicortically.
- f. Insert a 2.4mm compression screw until the screw is flush with the top of the plate. Do not engage the torque limiting feature when inserting a compression screw.



### Step 6 – Place Remaining Locking Screws

- a. Repeat Step 4 to place additional locking or compression screws.

### Step 7 – The Final Construct

The Flower forefoot plates are anatomically designed to best fit the bones of the foot. They are available in a variety of sizes to accommodate the unique pathology of forefoot fractures and osteotomies.



# The Flower Forefoot – Implant Selection

## VARIABLE ANGLE LOCKING SCREWS

Screw Diameters	Product Description	Lengths
1.5mm*	1.5mm Variable Angle Locking Screw	6mm-16mm
2.0mm	2.0mm Variable Angle Locking Screw	6mm-16mm
2.4mm	2.4mm Variable Angle Locking Screw	6mm-22mm

\*Additionally available. Not included in the Forefoot IndicationCube™.

## VARIABLE ANGLE COMPRESSION SCREW

Screw Diameter	Product Description	Lengths
2.4mm	2.4mm Variable Angle Compression	6mm-16mm

## PARTIALLY THREADED CANNULATED SCREWS

Screw Diameters	Product Description	Lengths
2.0mm	2.0mm Partially Threaded Cannulated Screw	10mm-24mm
2.4mm	2.4mm Partially Threaded Cannulated Screw	10mm-30mm

## FLOWER FOREFOOT PORTFOLIO

### Lesser Metatarsal Plates

Part #	Product Description
FFP 107	Compression T-Plate, Oblique, Left, 7 Holes
FFP 207	Compression T-Plate, Oblique, Right, 7 Holes
FFP 302	Akin Plate, 2 Holes
FFP 306	Compression Y-Plate, 6 Holes
FFP 307	Compression Y-Plate, 7 Holes
FFP 317	Compression T-Plate, 7 Holes
FFP 318	Compression T-Plate, 8 Holes

### Small Bone Plates

Part #	Product Description
FHF 405	Straight Plate, 4 Holes
FHF 406	Straight Plate, 6 Holes
FHF 408	Straight Plate, 8 Holes
FHF 410	Straight Plate, 4 Holes with Bar
FHF 420	L-Plate (R), 6 Holes
FHF 425	L-Plate (L), 6 Holes
FHF 430	Oblique T-Plate (R), 6 Holes
FHF 435	Oblique T-Plate (L), 6 Holes
FHF 440	T-Plate, 6 Holes
FHF 445	T-Plate, 7 Holes



# The Flower Forefoot – Single-Use Instrument Overview

## FOREFOOT TRIALS

Part #	Contents of Kit
FIS 614	Lesser Metatarsal Plate Trials
FIS 300	Small Bone Plate Trials

## DRILL BIT KITS

Part #	Contents of Kit
DBK 020	1.5mm Drill Bit and Drill Guide
DBK 024	1.8mm Drill Bit and Drill Guide

## LAG SCREW KITS

Part #	Contents of Kit
LSK 020	2.0mm Drill Bit and Lag Drill Guide
LSK 124	2.5mm Drill Bit and Lag Drill Guide

## CANNULATED DRILL BIT KIT

Part #	Contents of Kit
CDB 017	1.7mm Cannulated Drill Bit

## SMALL K-WIRE KIT

Part #	Contents of Kit
KWK 001	Torque Wrench (Small) Depth Gauge (Small) 0.8mm K-Wires (2)

## SMALL GUIDE WIRE KIT

Part #	Contents of Kit
GWK 100	Cannulated Screw Driver (Small) Cannulated Depth Gauge and Countersink 0.8mm CoCr Guide Wires (2)

## ADDITIONAL GUIDE WIRES

Part #	Contents of Kit
GWK 108	Additional CoCr Guide Wires 0.8mm x 160mm (2)

## PLATE BENDERS

Part #	Contents of Kit
FIS 231	Plate Benders



# FlowerCube™: Schedule. Treat. Turn.



## Schedule Case Sooner.

(Ready-for-Surgery™)

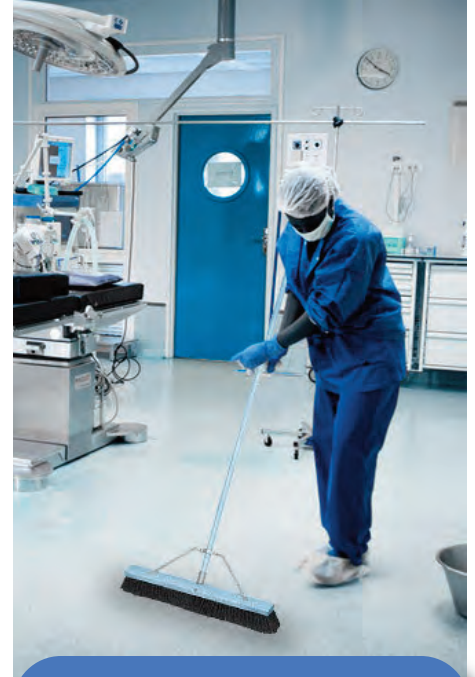
- No cleaning and sterilization
- FlowerCube is always ready to complete the case
- No time consuming set drop off



## Treat Confidently.

(Sterile & Single-Use)

- Instrument kits are always complete
- Drill bits are always sharp
- Reliable sterility



## Turn OR Faster.

(FlowerCube)

- FlowerCube is always ready for the next surgery
- No delay with back to back cases
- Enough sterile inventory for multiple cases

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[www.flowerortho.com](http://www.flowerortho.com)