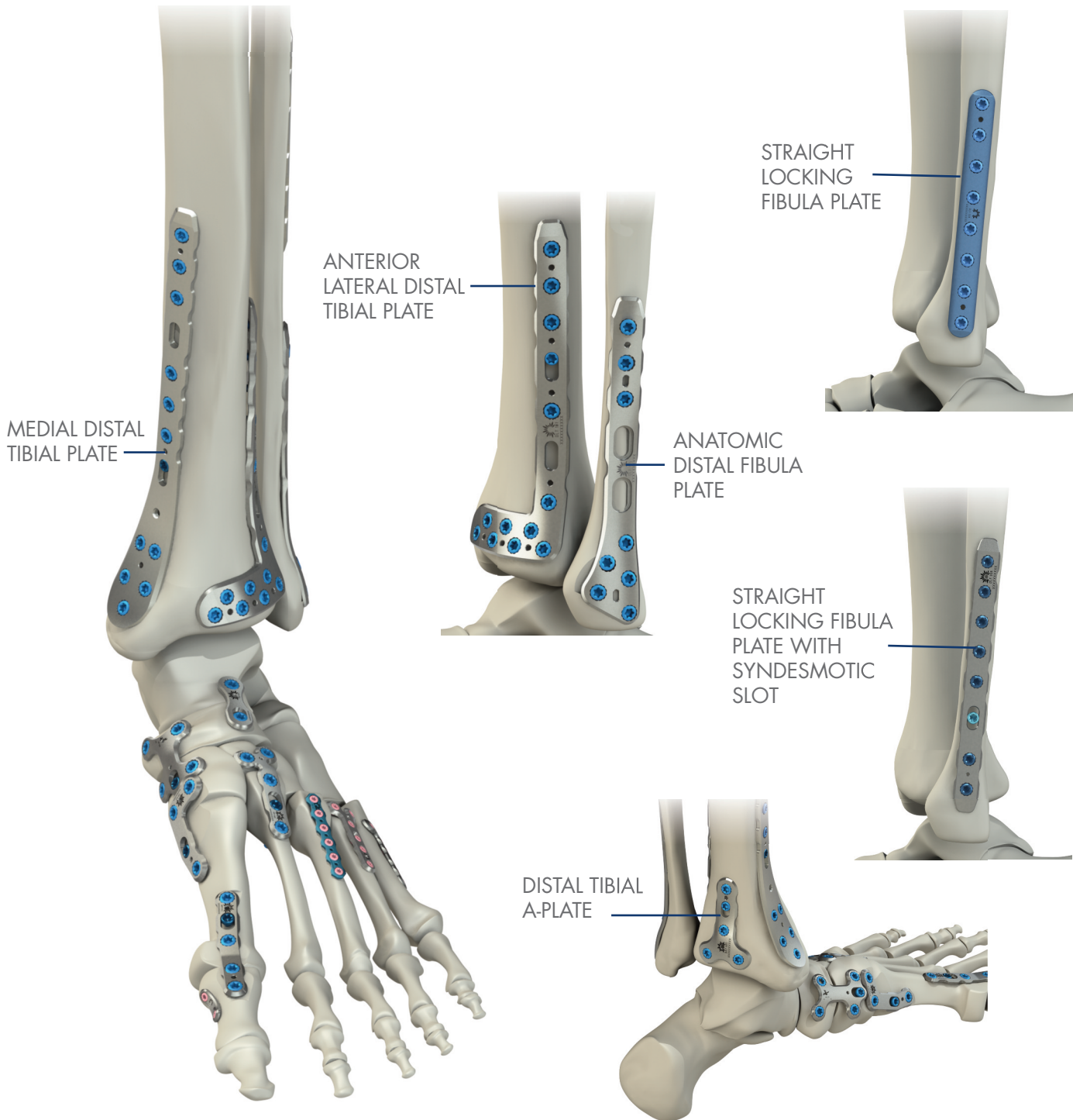


# The Flower Straight Fibula Plate

PROCEDURE GUIDE

## The Flower Foot & Ankle Application

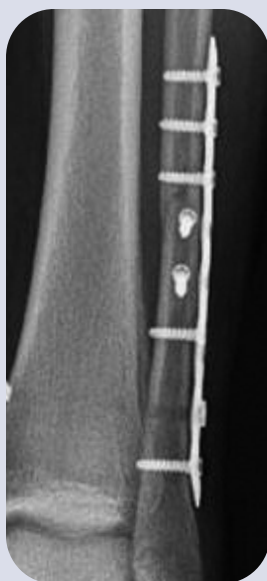


### INDICATIONS FOR USE:

The Flower Ankle Plating Set is intended for use for fixation of the ankle in adults and adolescents (12-21) in whom the growth plates have fused, and particularly in osteopenic bone. Specifically,

- Distal Medial and Lateral Tibia Plates are intended for fixation of osteotomies, fractures, non-unions, and replantations of bones and bone fragments of the diaphyseal and metaphyseal regions of the distal tibia.
- Distal Tibia A-Plates are intended to buttress partial articular fractures and bone fragments of the distal tibia.
- Straight and Distal Lateral Fibula Plates are intended for fixation of osteotomies, fractures, non-unions, mal-unions, and replantations of bones and bone fragments of the diaphyseal and metaphyseal regions on the distal fibula.

## The Flower Straight Fibula Plate – Product Rationale

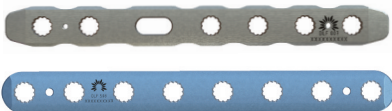
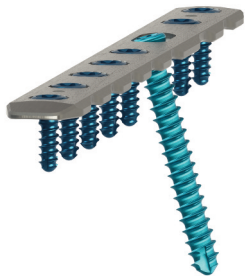


Flower offers two straight fibula plate designs; straight all locking plates and locking plates with syndesmotomic slot.

The Flower Straight Fibula Plates allow for the use of variable angle locking and compression screws. The slot in the locking plate with syndesmotomic slots is designed to accommodate variable placement of syndesmotomic fixation, when required. The plate is compatible with titanium endo buttons if flexible syndesmotomic fixation is desired.

It is recommended to use the Flower Straight Fibula Plate in combination with a 3.5mm compression screw to lag the fracture outside of the plate.

## The Flower Straight Fibula Plate – Design Features

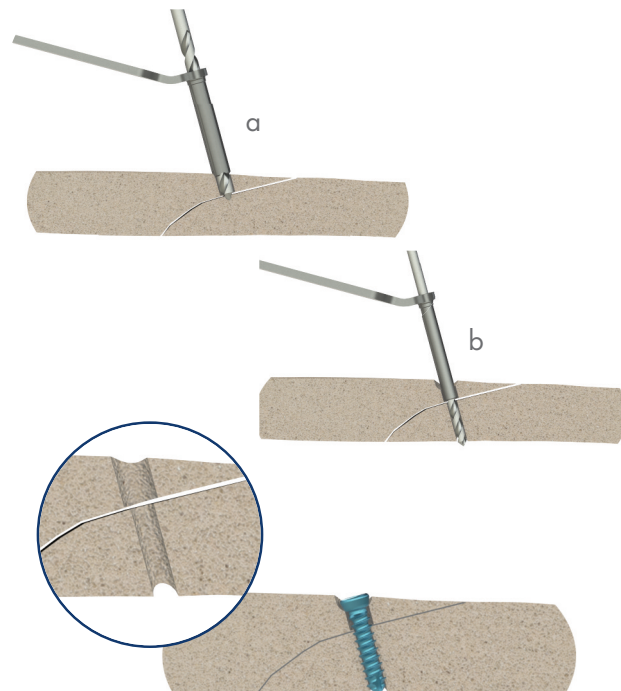
	PLATE RATIONALE	SURGICAL BENEFIT
	Plates are available in 5, 6, 7, 8 and 10 hole configurations	Multiple surgical options
	Straight Locking Fibula Plate with Syndesmotomic Slot	Allows for variable placement of syndesmotomic fixation
	Plate accepts 2.7mm, 3.0mm and 3.5mm locking screws & 2.7mm, 3.5mm and 4.0mm compression screws	Provides multiple screw options for intraoperative fracture management
	Anatomic, low-profile plate	Minimizes plate prominence reducing potential soft tissue irritation

# The Flower Straight Fibula Plate – Surgical Strategy

*Surgical Strategy shown using the Flower Straight Locking Fibular Plate with Syndesmotomic Slot. This same strategy applies to Flower Straight Locking Fibula Plate (omit Step #5).*

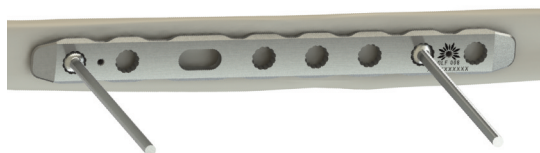
## Step 1 – Fracture Reduction using the Flower Lag Technique

- With the fracture properly reduced, use the Flower Lag Drill Guide (LSK 035) for 3.5mm screws to drill the gliding hole and pilot hole when lagging a fracture. Use the 3.5mm drill bit (LSK 035) and the 3.5mm end of the drill guide to drill the gliding hole in the near cortex.
- Place the 2.5mm end of the drill guide into the previously drilled gliding hole and use the 2.5mm drill bit (DBK 035) to drill the pilot hole bicortically through the far cortex. By placing the 2.5mm end of the drill guide into the 3.5mm drilled hole, the pilot hole and gliding hole are ensured to be concentric.
- The depth gauge is part of the Flower Olive Wire Kit (OWK 200).
- The hook of the depth gauge is engaged behind the far cortex of the pilot hole and the hole depth can be read off the distal end of the slider.
- Insert the 3.5mm variable angle compression screw using the screw driver from the Flower Olive Wire Kit (OWK 200).



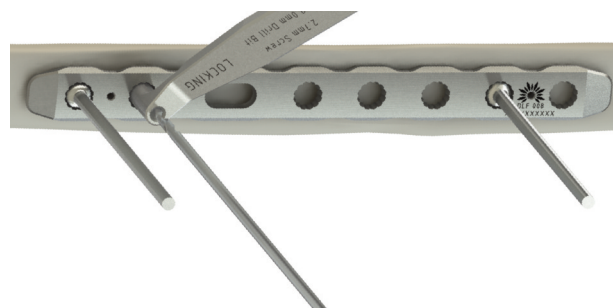
## Step 2 – Plate Selection and Provisional Fixation

- The Flower Straight Fibula Plate is placed on the lateral or posterior aspect of the fibula.** The plate trial may be used as a bending template if bending is required. A plate trial (FIS 652) is available to determine the appropriate plate length before opening the sterile packaged plate.
- The plate can be temporarily fixed to the bone using the olive wires, placed through the screw holes in the plate.



## Step 3 – Drill Pilot Holes

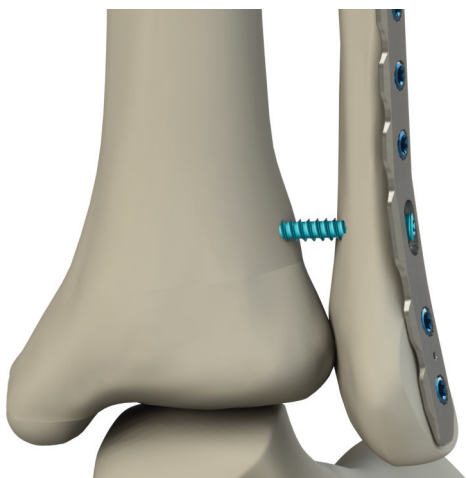
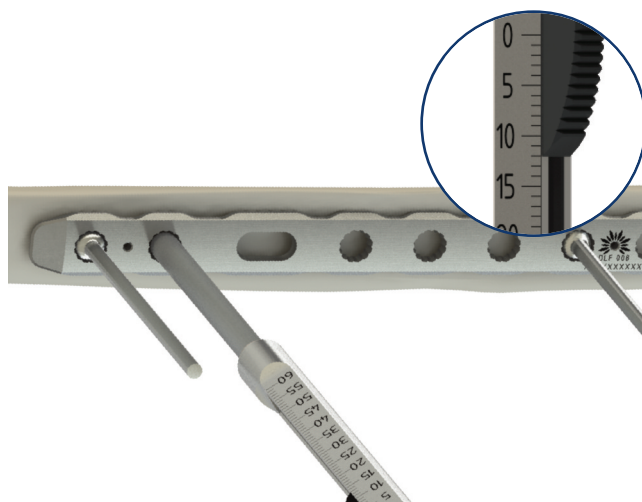
- 3.5mm variable angle locking or compression screws are recommended for the Flower Straight Fibula Plate Construct, depending on the surgeon's preference.
- Starting with the distal locking holes use a 2.5mm drill bit (DBK 035) to drill pilot holes. Use the locking end of the drill guide for all locking holes in the plate. All pilot holes are drilled bi-cortically.



## The Flower Straight Fibula Plate – Surgical Strategy

### Step 4 – Screw Measurement and Insertion

- The Depth Gauge is part of the Flower Olive Wire Kit (OWK 200)
- Ensure that the instrument is fully seated into the drill hole before the hook probe is advanced in to the pilot hole.
- The hook of the depth gauge is engaged behind the opposite cortex of the pilot hole and the pilot hole depth can be read off the distal end of the slider.
- Insert the locking screws into the proximal screw holes using the Flower Screw Driver that is part of the Flower Olive Wire Kit (OWK 200).

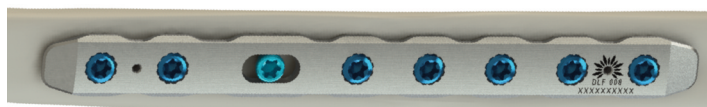


### Step 5 – Syndesmotic Fixation

- If syndesmotic fixation is required, the surgeon may use a 4.0mm Flower Compression Screw through the slot hole. Four point cortical fixation is recommended. If desired, the plate is compatible with other forms of suture-based stabilization. Only titanium products should be utilized.
- The slot is designed to allow the surgeon variability in the placement of the syndesmotic fixation, without being restricted to using a locking hole.
- When placing a 4.0mm compression screw through the syndesmotic slot, drill through the plate, anteriorly into the tibia using a 3.0mm drill bit (DBK 040).
- Measure the screw length as described above.
- Place the 4.0mm compression screw until the top of the screw is flush with the top of the plate.

### Step 6 – The Final Construct

The slot hole allows for positioning of the plate relative to the tibiofibular syndesmosis. Up to 40% of all ankle fractures have syndesmotic instability and therefore require some type of syndesmotic stabilization. The Flower plate allows variability of fixation for these common fracture patterns.



## The Flower Straight Fibula Plate – Implant Selection

### VARIABLE ANGLE LOCKING SCREWS

Screw Diameters	Product Description	Lengths
2.7mm	2.7mm Variable Angle Locking Screw	8mm-30mm
3.5mm	3.5mm Variable Angle Locking Screw	8mm-30mm



### VARIABLE ANGLE COMPRESSION SCREW

Screw Diameters	Product Description	Lengths
2.7mm	2.7mm Variable Angle Compression Screw	10mm-30mm
3.5mm	3.5mm Variable Angle Compression Screw	10mm-30mm
4.0mm	4.0mm Variable Angle Compression Screw	10mm-60mm



### FLOWER STRAIGHT LOCKING FIBULA PLATE WITH SYNDESMOTIC SLOT

- 1/4 tubular design
- 6, 7, 8 hole lengths
- Low profile
- Designed for variable placement of syndesmotic fixation and accommodates suture based fixation

Part #	Product Description	Lengths
DLF 006	6-Hole Plate	86mm
DLF 007	7-Hole Plate	98mm
DLF 008	8-Hole Plate	110mm



### FLOWER STRAIGHT LOCKING FIBULA PLATE

- 1/3 tubular design
- 5,6,8,10 hole lengths
- Low profile
- Designed for traditional fibular plating

Part #	Product Description	Lengths
DLF 505	5-Hole Plate	59mm
DLF 506	6-Hole Plate	71mm
DLF 508	8-Hole Plate	92mm
DLF 510	10-Hole Plate	119mm





# The Flower Straight Fibula Plate – Single Use Instrument Overview

## STRAIGHT FIBULA PLATE TRIALS

Part #	Contents of Kit
FIS 652	Straight Locking Fibula Plate with Syndesmotomic Slot Trials
FIS 657	Straight Locking Fibula Plate Trials



## DRILL BIT KITS

Part #	Contents of Kit
DBK 027	2.0mm Drill Bit and Drill Guide
DBK 035	2.5mm Drill Bit and Drill Guide
DBK 040	3.0mm Drill Bit and Drill Guide



## LAG SCREW KITS

Part #	Contents of Kit
LSK 027	2.7mm Lag Screw Drill Bit and Drill Guide
LSK 035	3.5mm Lag Screw Drill Bit and Drill Guide



## OLIVE WIRE KIT

Part #	Contents of Kit
OWK 200	T15 Medium Screw Driver Medium Depth Gauge Olive Wires D: 1.0mm (2)



## PLATE BENDERS

Part #	Contents of Kit
FIM 234	Plate Benders





### **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