Part of the DePuy Synthes Variable Angle
Locking Compression Plate (VA LCP®) System

2.7 mm/3.5 mm Variable Angle LCP® Ankle Trauma System

Surgical Technique

DePuy Synthes
PART OF THE Johnson&Johnson FAMILY OF COMPANIES

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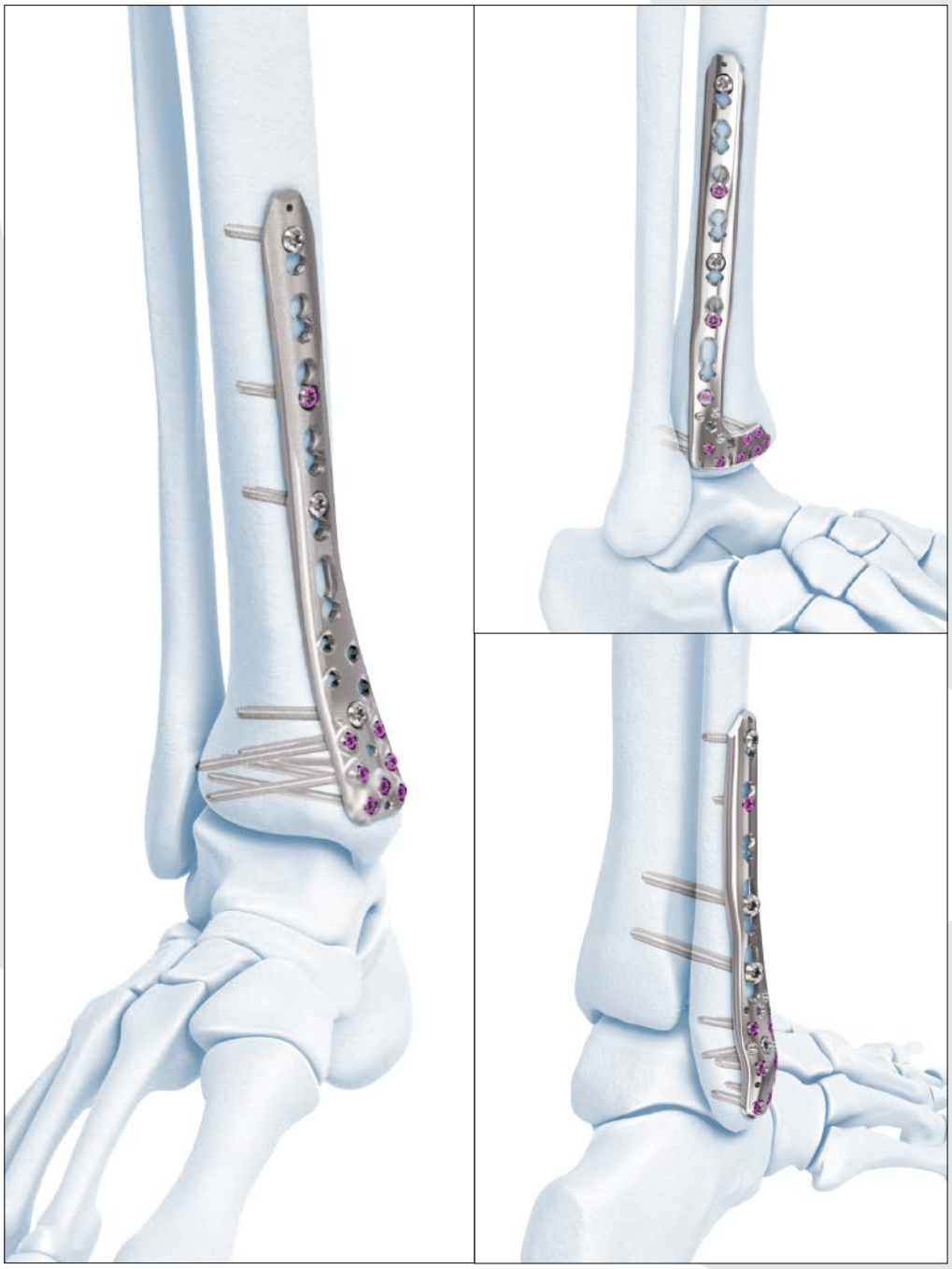
MR Information
The 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System has not been evaluated for safety and compatibility in the MR environment. It has not been tested for heating, migration or image artifact in the MR environment. The safety of the 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System in the MR environment is unknown. Scanning a patient who has this device may result in patient injury.

Image intensifier control

Introduction and Indications



2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System

The 2.7 mm/3.5 mm Variable Angle LCP® Ankle Trauma System consists of:

- Medial Distal Tibia Plates
- Anteromedial Distal Tibia Plates
- Anterolateral Distal Tibia Plates
- Distal Tibia T- and L-Plates
- Lateral Distal Fibula Plates

The plates are part of the DePuy Synthes Variable Angle Locking Compression (VA LCP) System that merges variable angle locking screw technology with conventional plating techniques.

The plates are available in stainless steel and feature an anatomic shape and profile, both distally and along the limited-contact shaft. The Combi holes in the shaft portion of the Variable Angle LCP Plate combine a dynamic compression unit (DCU) hole with a variable angle locking screw hole. Combi holes provide the flexibility of axial compression and variable angle locking capability throughout the length of the plate shaft. The Combi holes allow fixation with locking screws in the threaded section for angular stability, and cortex screws in the dynamic compression unit (DCU) section for compression. Distally, the fixed-angle construct is designed to facilitate fixation of small metaphyseal and epiphyseal segments where traditional screw fixation may be limited. The K-wire holes accept wires up to 1.6 mm in diameter to provisionally maintain the reduction of articular fragments and to confirm the location of the plate relative to the distal tibia and fibula. These are periarticular plates that are less thick in the metaphyseal region and not ideal for the treatment of primarily metaphyseal or tibial shaft fractures. These are primarily for the treatment of articular injuries.

Fixation with the system has many similarities to traditional plate fixation methods with several important improvements. Variable angle locking screws provide the ability to create a fixed-angle construct at the desired screw angle while using standard AO plating techniques. Variable angle locking provides the capability for fixed-angle constructs in osteopenic bone in multifragmentary fractures where screw purchase is compromised and in fracture patterns where the screw direction must be altered to allow maximum fragment engagement. Similar to other locking screws, the variable angle screws do not rely on plate-to-bone compression to resist patient load, but function similarly to multiple, small, angled blade plates.

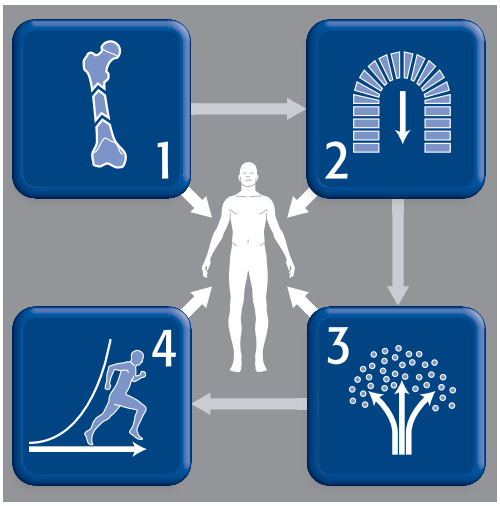
The sets are modular which allows customized selection of implants. This may reduce inventory and overall costs by eliminating seldom-used implants.

AO Principles

In 1958, the AO formulated four basic principles, which have become the guidelines for internal fixation.[1,2]

Anatomic reduction
Fracture reduction and fixation to restore anatomical relationships.

Early, active mobilization
Early and safe mobilization and rehabilitation of the injured part and the patient as a whole.



Stable fixation
Fracture fixation providing absolute or relative stability, as required by the patient, the injury, and the personality of the fracture.

Preservation of blood supply
Preservation of the blood supply to soft tissues and bone by gentle reduction techniques and careful handling.

1. Müller ME, Allgöwer M, Schneider R, Willenegger H. *Manual of Internal Fixation*. 3rd ed. Berlin, Heidelberg, New York: Springer-Verlag; 1991.
2. Rüedi TP, RE Buckley, CG Moran. *AO Principles of Fracture Management*. 2nd ed. Stuttgart New York: Thieme; 2007.

Indications

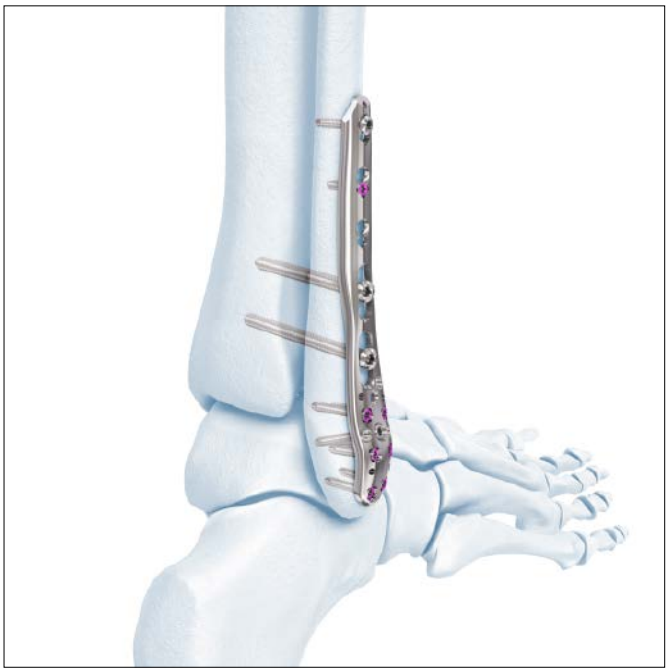
The Synthes 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System is intended for fixation of the ankle in adults and adolescents (12–21) in which the growth plates have fused, and particularly in osteopenic bone.

Medial and Anteromedial Distal Tibia Plates
Intended for fixation of osteotomies, fractures, nonunions, malunions, and replantations of bones and bone fragments of the diaphyseal and metaphyseal regions of the distal tibia.

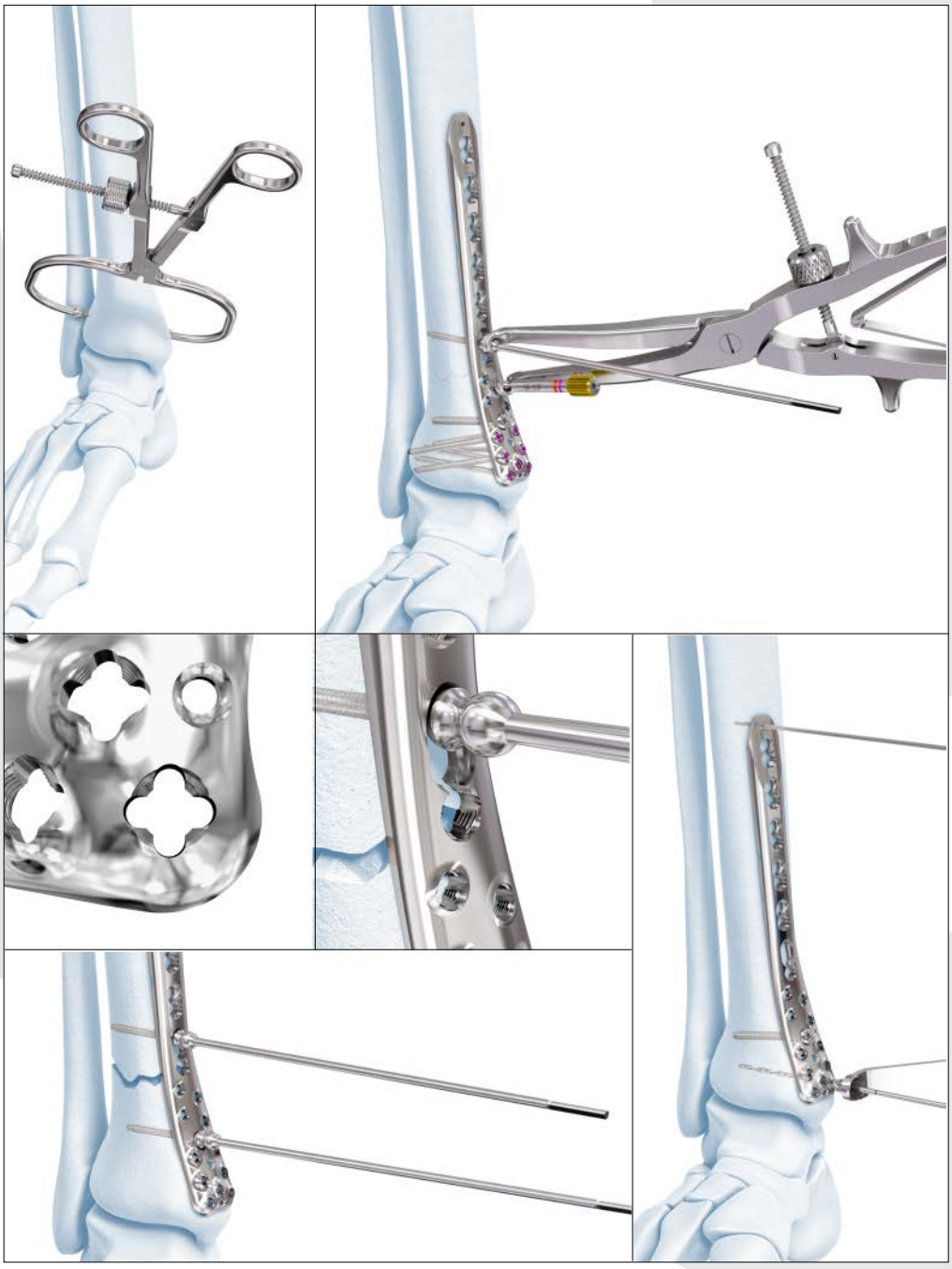
Anterolateral Distal Tibia Plates
Intended for fixation of osteotomies, fractures, nonunions, malunions, and replantations of bones and bone fragments of the diaphyseal and metaphyseal regions of the distal tibia.

Distal Tibia T-Plates and Distal Tibia L-Plates
Intended to buttress partial articular fractures and bone fragments of the distal tibia.

Lateral Distal Fibula Plates
Intended for fixation of osteotomies, fractures, nonunions, malunions, and replantations of bones and bone fragments of the diaphyseal and metaphyseal regions of the distal fibula.



System Features

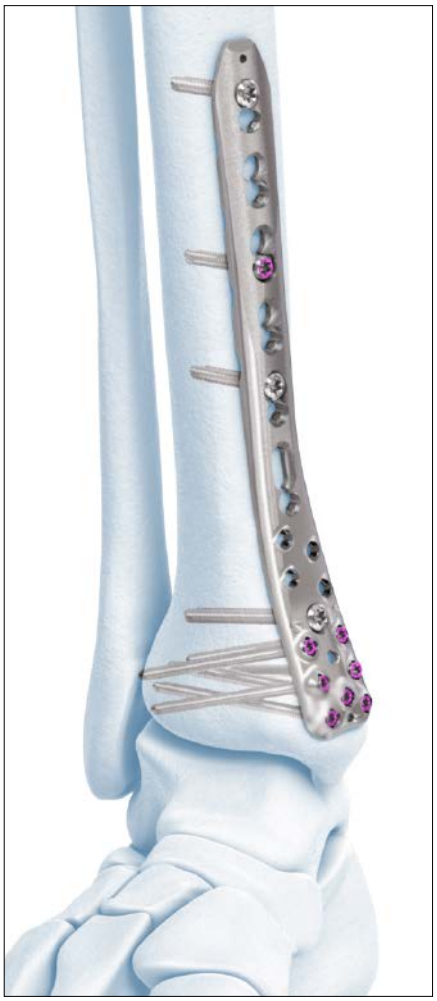


2.7 mm/3.5 mm Variable Angle LCP Technology Plates

The plates feature variable angle locking holes, with or without the dynamic compression portion. Four columns of threads in the variable angle locking hole provide four points of threaded locking between the plate and the variable angle locking screw to create a fixed-angle construct at the desired screw angle.

- Plate holes accept 2.7 mm and 3.5 mm variable angle locking screws
- 2.7 mm or 3.5 mm variable angle locking screws create a fixed-angle construct, with up to 15° off-nominal axis screw angulation (variable angulation within a 30° cone of angulation)
- **Standard 2.7 mm and 3.5 mm locking screws can be used in the variable angle holes. However, these screws can only be placed coaxially (along the nominal axis of the variable angle holes)**
- 2.7 mm or 3.5 mm cortex screws can be used in the plate positioning slots for traditional compression and fixation. The 2.7 mm cortex screws can be used in the locking holes in the head of plates
- 2.7 mm metaphyseal screws can be used in the plate head to compress the plate to the bone
- 4.0 mm or 3.5 mm cortex screws can be used in the slotted holes in the fibula plates for placement of syndesmotic screws

Note: **Refer to plate features for details on screw locations and sizes for each plate (see pages 10–14).**



Distal Tibia Plates

The head of the distal tibia plates features multiple variable angle locking holes that accept 2.7 mm VA locking, 2.7 mm locking, 2.7 mm metaphyseal, and 2.7 mm cortex screws. The Combi holes in the distal tibia plate shafts (except T- and L-plates) accept 3.5 mm VA locking, 3.5 mm locking, 3.5 mm cortex, and 4.0 mm cancellous bone screws; the screw heads are recessed in these holes to minimize screw prominence. The 1.6 mm Kirschner wire holes in the plate head and proximal tip of the plate at the shaft aid in preliminary plate placement and positioning. The system includes guide blocks for all plates (except the T- and L-plates), allowing insertion of screws in the plate head at nominal screw angles. The angulations of the multiple screws in the head of the plates allow for capture of multiple articular fragments and allow for engagement of the maximum amount of the distal tibial articular surface.

2.7 mm/3.5 mm Variable Angle LCP Medial Plates

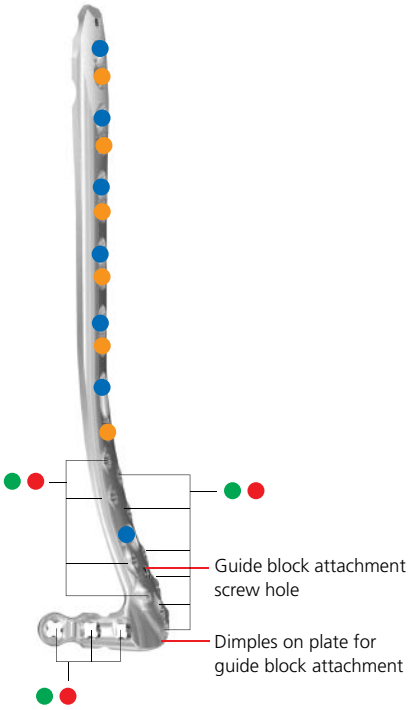
- Head of plate has eleven 2.7 mm VA locking screw holes as well as a compression screw hole that accepts a 3.5 mm cortex screw to pull distal portion of plate to bone

- 2.7 mm metaphyseal screw
  2.7 mm cortex screw
- 2.7 mm variable angle locking screw
  2.7 mm locking screw (at nominal angle)
- 3.5 mm variable angle locking screw
  3.5 mm locking screw (at nominal angle)
- 3.5 mm low profile cortex screw
  3.5 mm cortex screw

Screw Trajectories (nominal)

2.7 mm/3.5 mm Variable Angle LCP Anteromedial Plates

- Head of plate has ten 2.7 mm VA locking screw holes as well as a compression screw hole that accepts a 3.5 mm cortex screw to pull distal portion of plate to bone
- Anterior arm aids in capturing small articular bone fragments and has three 2.7 mm VA locking screw holes

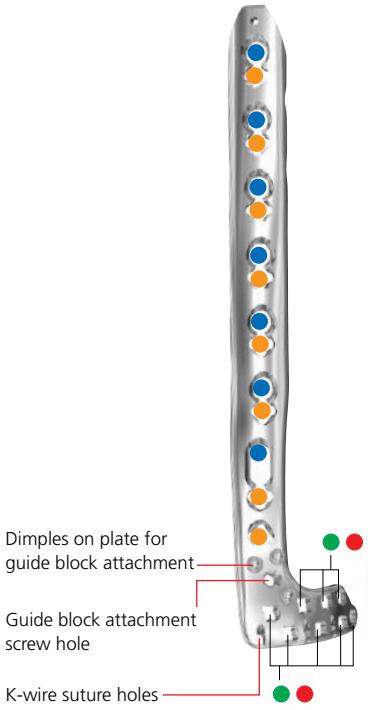


- 2.7 mm metaphyseal screw
  2.7 mm cortex screw
- 2.7 mm variable angle locking screw
  2.7 mm locking screw (at nominal angle)
- 3.5 mm variable angle locking screw
  3.5 mm locking screw (at nominal angle)
- 3.5 mm low profile cortex screw
  3.5 mm cortex screw

Screw Trajectories (nominal)

2.7 mm/3.5 mm Variable Angle LCP Anterolateral Plates

- Head of plate has eight 2.7 mm VA locking screw holes that provide support for the articular surface
- Screw angulations at nominal angle are targeted for Volkmann's triangle and the Chaput fragment
- Distal head holes angle 11–12° inferiorly to capture the posterior malleolus

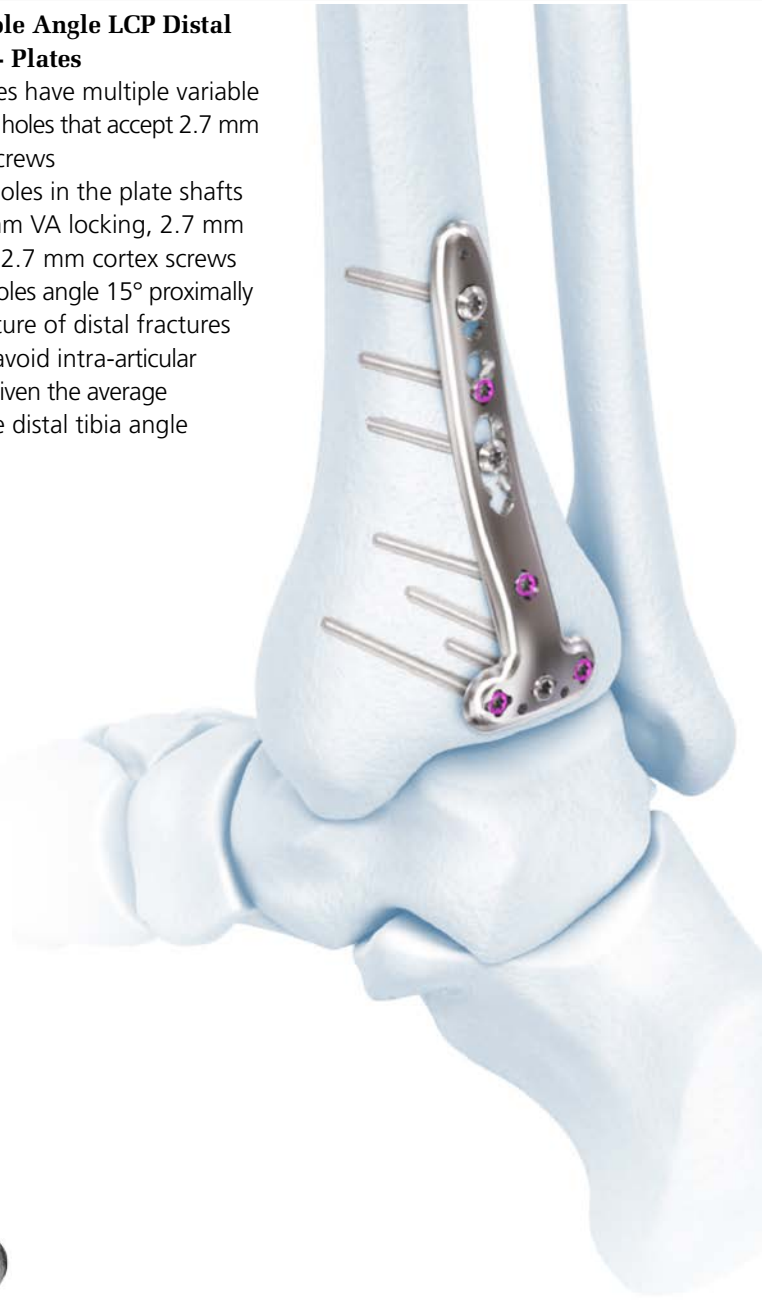


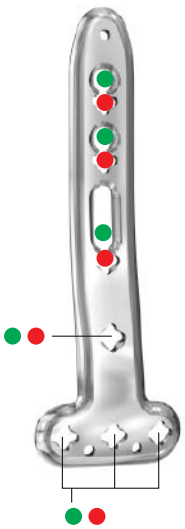
- 2.7 mm metaphyseal screw
  2.7 mm cortex screw
- 2.7 mm variable angle locking screw
  2.7 mm locking screw (at nominal angle)
- 3.5 mm variable angle locking screw
  3.5 mm locking screw (at nominal angle)
- 3.5 mm low profile cortex screw
  3.5 mm cortex screw

Screw Trajectories (nominal)

2.7 mm Variable Angle LCP Distal Tibia T- and L- Plates

- Head of plates have multiple variable angle locking holes that accept 2.7 mm VA locking screws
- The Combi holes in the plate shafts accept 2.7 mm VA locking, 2.7 mm locking, and 2.7 mm cortex screws
- Distal head holes angle 15° proximally to allow capture of distal fractures and to help avoid intra-articular penetration given the average sagittal plane distal tibia angle

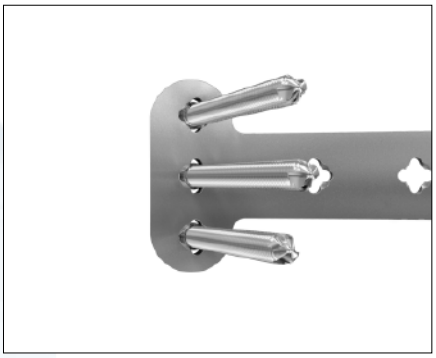




● 2.7 mm metaphyseal screw
2.7 mm cortex screw

● 2.7 mm variable angle locking screw
2.7 mm locking screw (at nominal angle)

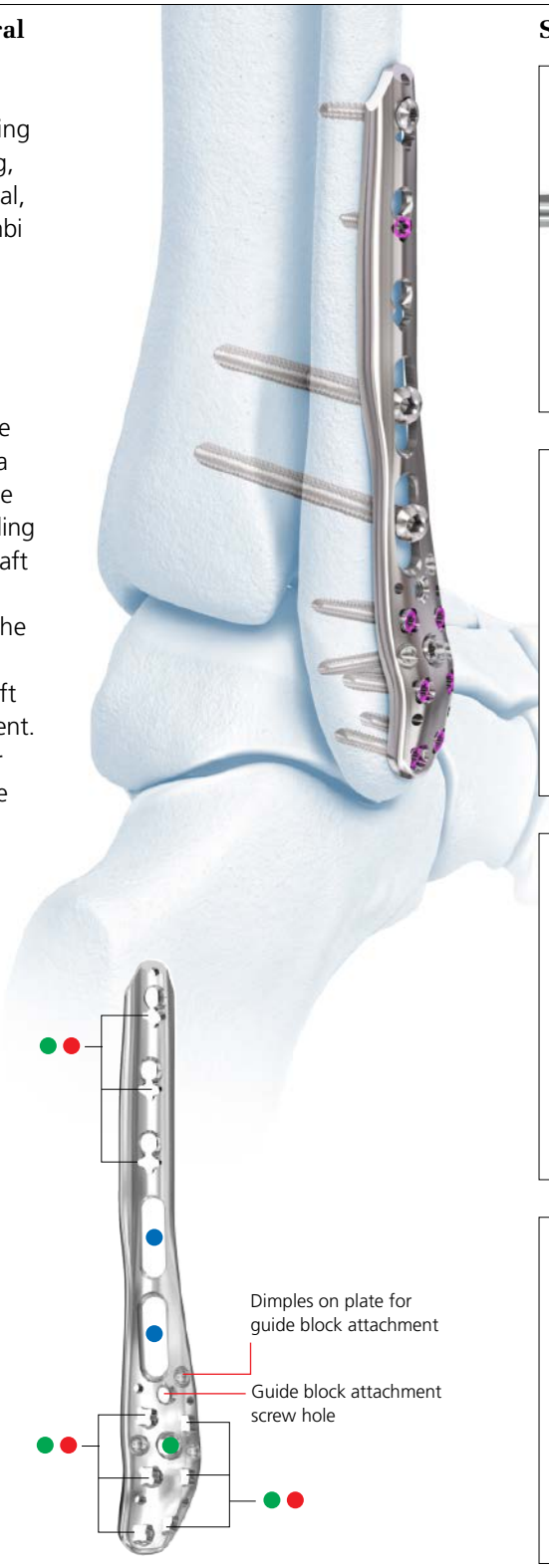
Screw Trajectories (nominal)



Distal Fibula Plates

2.7 mm Variable Angle LCP Lateral Distal Fibula Plates

The head of the distal fibula plate features multiple variable angle locking holes that accept 2.7 mm VA locking, 2.7 mm locking, 2.7 mm metaphyseal, and 2.7 mm cortex screws. The Combi holes in the distal fibula plate shaft accept 2.7 mm VA locking, 2.7 mm locking, 2.7 mm cortex and 3.5 mm or 4.0 mm cortex screws in the two syndesmotic slots. The head of the plate is low profile distally to minimize prominence at the lateral distal fibula and designed to provide a low-profile construct when using the corresponding screws. Plate features a contoured shaft to account for torsion in the distal fibula anatomy, around the area of the fibular ridge. The 1.6 mm Kirschner wire holes in the plate head and shaft tip to aid in preliminary plate placement. The system includes guide blocks for the plate for inserting screws in plate head at nominal screw angles.

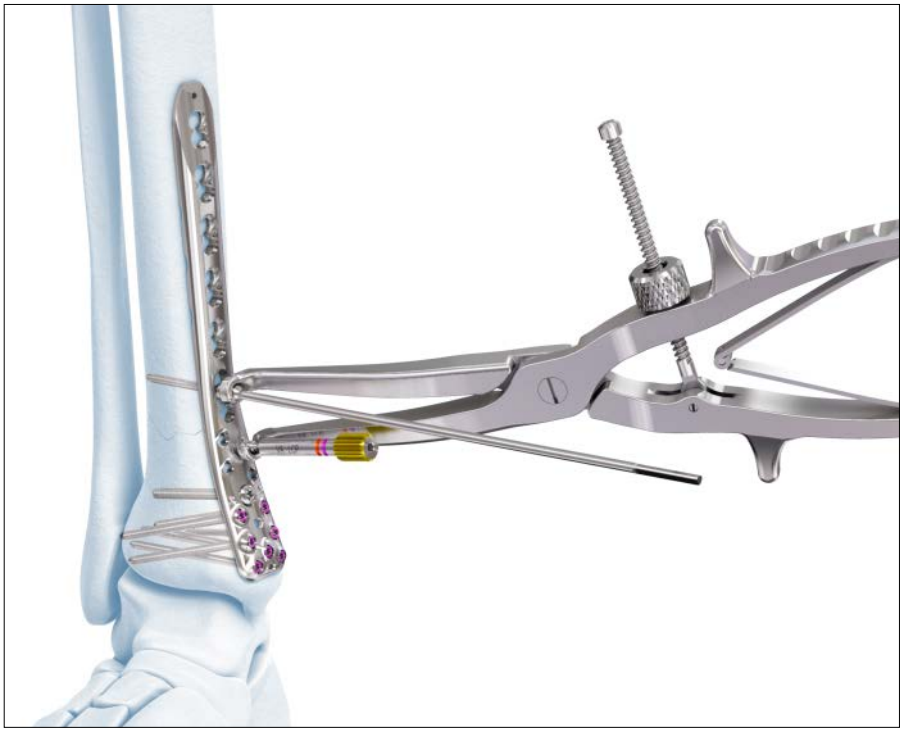


Screw Trajectories (nominal)

Compression and Distraction System

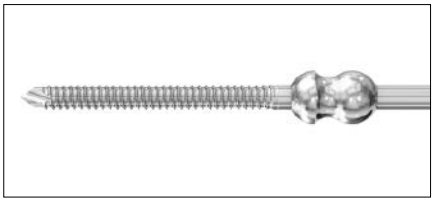
Compression and Distraction Forceps

- Provide tactile compression or distraction
- Can be used entirely within the plate through one of the elongated Combi holes or outside of the plate
- Allows for final screw fixation after compression or distraction is achieved
- Speed nut to quickly hold positioning
- Spherical recess matches the spherical stops on the compression wires and posts to ensure the forceps will grasp the stop, regardless of the wire insertion angle
- Speed lock mechanism holds compression and/or distraction during screw insertion



Compression Wires

- 2.8 mm diameter, 200 mm overall length
- Thread lengths from 10 mm to 60 mm in 5 mm increments
- Ball feature allows quick and easy preliminary fixation of the plate to the bone, eliminating the need for plate holding forceps
- Allows the distal half sphere to sit in the elongated Combi hole of the plate with the proximal ball positioned for use with the compression and distraction forceps
- Cobalt chromium alloy material that is stiffer than conventional stainless steel



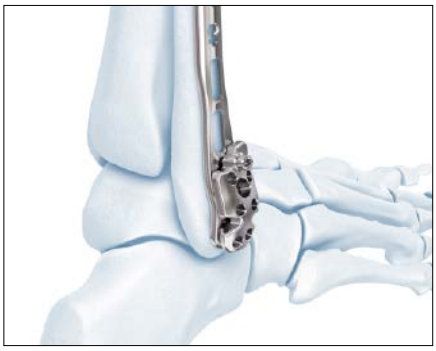
Posts for VA Locking Hole

- 2.7 mm and 3.5 mm diameters
- Thread into variable angle plate holes
- Ball feature allows use with compression and distraction forceps
- StarDrive™ Recess in head for insertion into plate and final tightening using torque limiter (1.2 Nm for 2.7 mm post, 2.5 Nm for 3.5 mm post)
- Allows for compression or distraction after plate fixation in the metaphyseal area

Guide Blocks

Guide Blocks

- Facilitate insertion of distal variable angle locking screws at the nominal screw angle ("on-axis")
- Guide block holes are designed to accept percutaneous depth gauge
- Can be used in combination with 2.0 mm threaded drill guides for percutaneous plate insertion
- Lock to plate using attachment screw with SD15 StarDrive Screwdriver shaft
- Alignment features ensure correct orientation on the plate
- Available for medial, anterolateral and fibula plates
- Medial guide block can be used on anteromedial plate; however, the distal most hole on the anterior side is not used

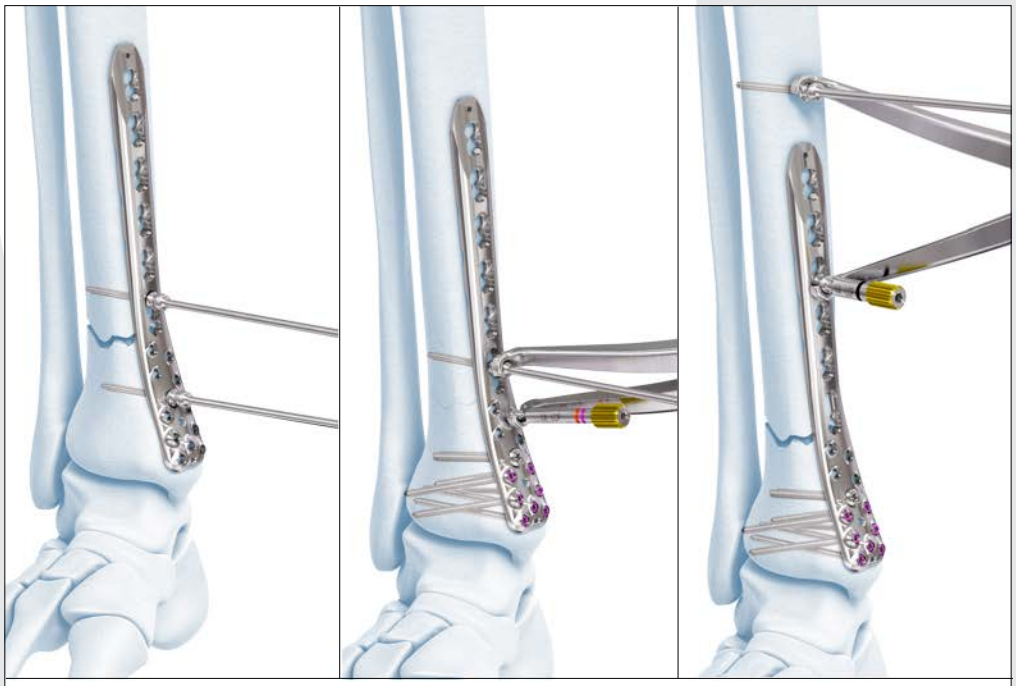


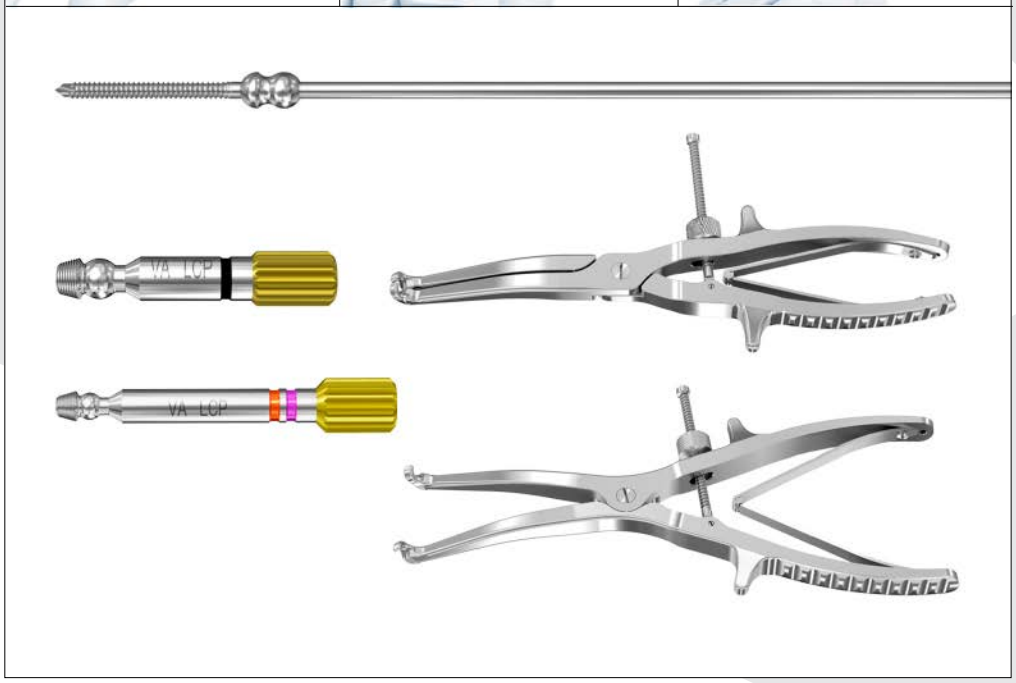
Reduction Forceps

Periarticular Reduction Forceps, Small and Medium

- Sized for distal tibia reduction and syndesmotic repair, among other fractures
- Curved tips allow access to and visualization of distal tibia while holding reduction
- Speed lock mechanism aids in holding reduction

Compression and Distraction System Technique





Compression and Distraction System Technique: Compressing or Distracting a Fracture or Osteotomy

1. Insert compression wire

Instruments	
03.118.005	3.5 mm Compression and Distraction Post for VA Locking Hole
03.118.008	2.7 mm Compression and Distraction Post for VA Locking Hole
03.118.010 – 03.118.060	2.8 mm Compression Wires, 200 mm length, 10 mm – 60 mm thread lengths

Place the plate on the bone, ensuring that the plate is placed appropriately according to the specific procedure.

Estimate the appropriate thread length needed for the plate and bone combination.

Note: Bicortical fixation is recommended.

Using a wire driver, insert the initial compression wire through the non-threaded portion of plate Combi hole and through the bone. It is recommended to use the elongated Combi hole where possible, to maximize compression or distraction distance.

To minimize stripping of the wire threads, wire insertion should proceed slowly when the spherical stop nears the plate. Control the insertion for tactile confirmation of compression between the wire, the plate and the bone.

There should be sufficient force holding the plate to the bone for stability, but the plate should not be tightly compressed as this will limit excursion of the plate relative to the bone.

The total amount of compression that can be achieved through the elongated Combi hole is 4.5 mm in the distal tibia plates, and 10 mm through the syndesmotic slots of the fibula plate.

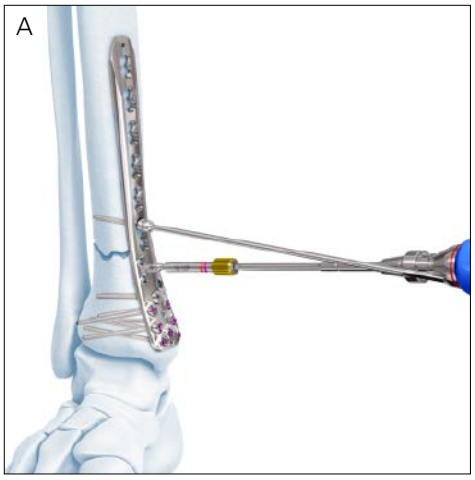
Note: Using the 2.8 mm compression wire through the Distal Tibia T- and L- plates is not recommended because the diameter is larger than the drill bit size.

A second fixation point on the bone segment opposite the fracture or osteotomy is required and can be accomplished with one of the three following techniques:

A. Using screw fixation on the opposing fragment, through the plate

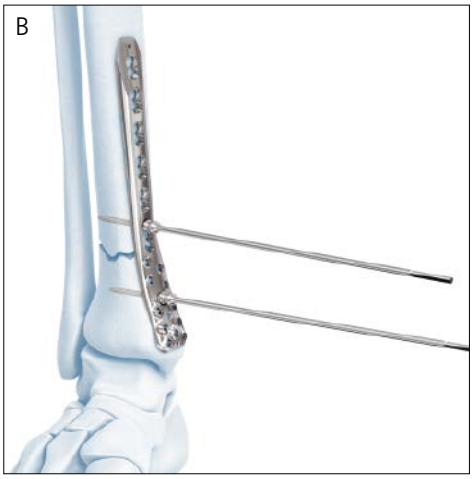
After screw fixation in the head of the plate, remove the guide block and thread a 2.7 mm compression post into an unused locking hole.

Note: The compression post needs to be inserted and locked using the appropriate torque limiter (1.2 Nm for 2.7 mm post, 2.5 Nm for 3.5 mm post).

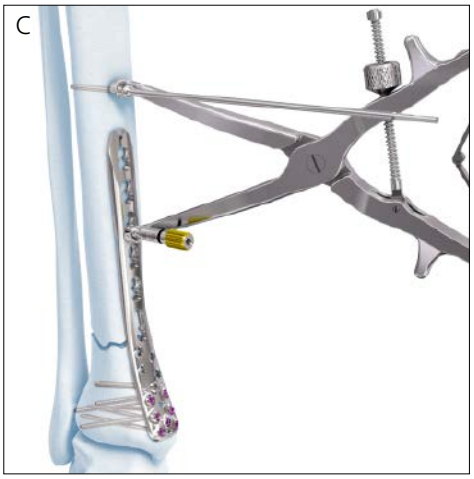


B. Using provisional fixation on the opposing fragment, through the plate

Provisional fixation can be achieved by placing a 2.8 mm compression wire into an unused hole.



C. Inserting a compression wire into bone independent of the plate



2. Compress or distract

Instruments	
03.118.002	Large Compression Forceps with Speed Lock
03.118.003	Large Distraction Forceps with Speed Lock

Thread the speed lock retention nut counterclockwise so the forceps are in their open position. Place the compression or distraction forceps into position, with the tips around the spheres of the compression wire and/or post.

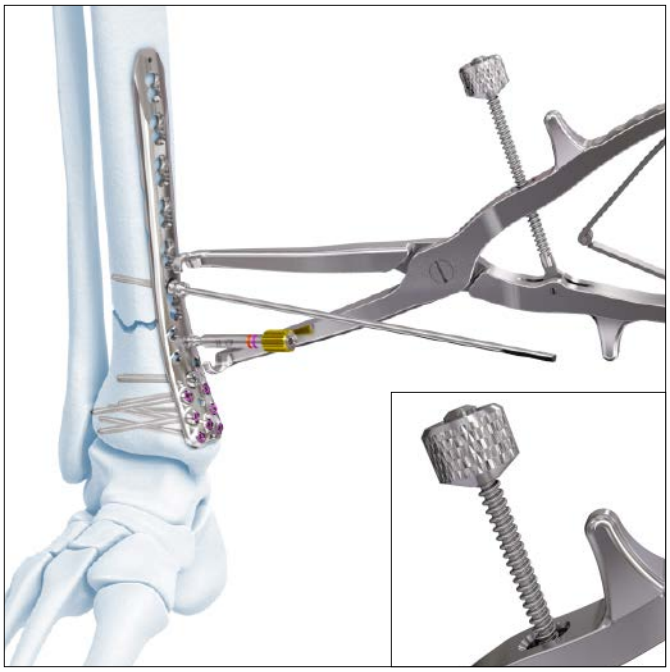
Compress or distract by squeezing the handles. Do not exert excessive force, as this may cause the compression wires to strip out of the bone.

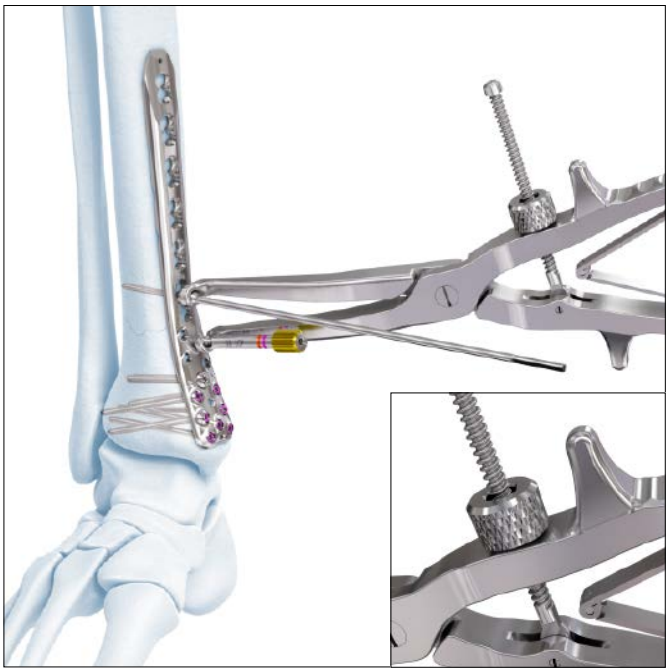
Thread the speed lock retention nut clockwise while maintaining pressure on the forceps to lock the device.

Place at least one screw on either side of the fracture before removing the forceps.

After stable fixation is achieved, remove the compression wires and posts.

Note: The torque limiter should not be used when removing posts.





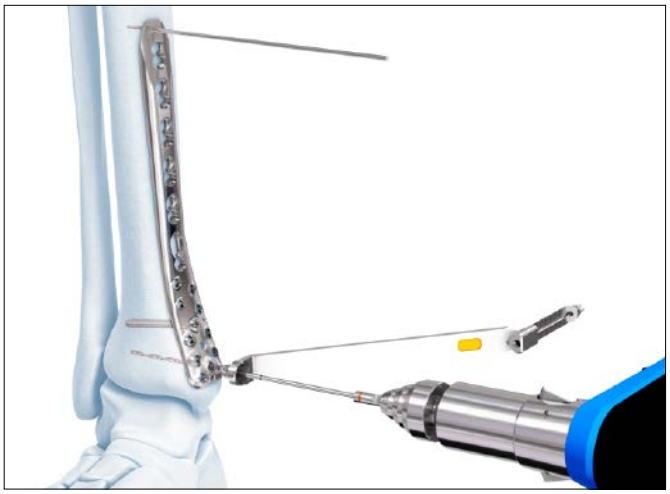
2.7 mm/3.5 mm Variable Angle Locking Technique

1. Drill for variable angle locking screws

A. Conical (off-nominal-axis) insertion

Instruments	
For 2.7 mm variable angle locking screws	
03.211.002	2.0 mm Universal Variable Angle Locking Drill Guide
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm
For 3.5 mm variable angle locking screws	
03.127.002	2.8 mm Variable Angle Double Drill Guide with Cone
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.009	Percutaneous Depth Gauge Adaptor for 3.5 mm screws
310.288	2.8 mm Drill Bit, quick coupling, 165 mm
Optional instruments	
03.113.024	2.8 mm Calibrated Drill Bit, quick coupling, 250 mm
03.127.004	2.8 mm Variable Angle Spherical Drill Guide

Ensure proper reduction of plate to bone before inserting the first VA locking screw. To insert the variable angle locking screw off the nominal axis, insert the cone-shaped side of drill guide in the desired variable angle locking screw hole in the plate.



The drill guide cone will self-retain in the hole.

The funnel of the drill guide allows a drilling angle within a 30° cone.

When drilling off-axis, the drill guide should remain in place and the drill bit may be aimed in any direction within the cone.

- Verify the drill bit angle and depth under radiographic imaging to ensure the desired angle has been achieved.
- If necessary, drill at a different angle and verify again under imaging.

Precaution: **Avoid excessive re-drilling, especially in poor bone quality.**

Use the depth gauge to measure for the correct screw length.

Read measurement from yellow line.

Notes:

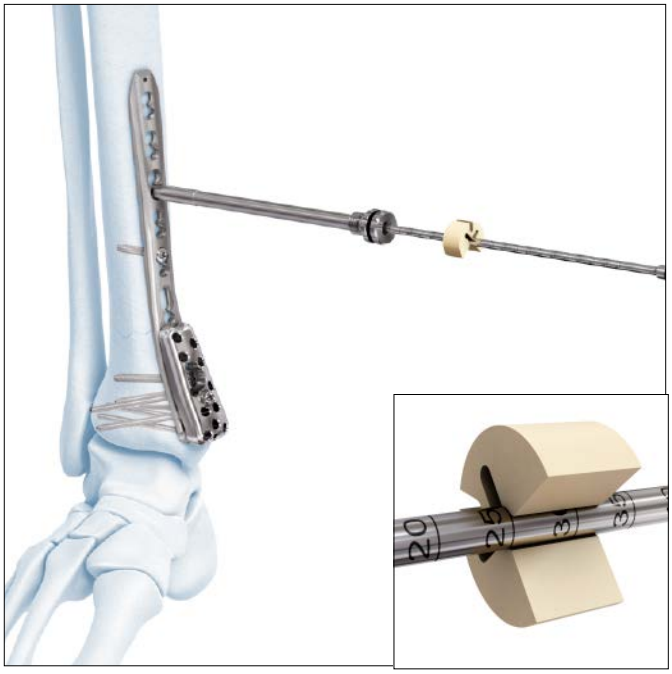
- **When measuring for 3.5 mm and 4.0 mm screws the adaptor must be attached to the depth gauge.**
- **When measuring for 2.7 mm VA locking screws, the depth gauge can be used without the adapter sleeve.**

Optional technique: Drill for 3.5 mm VA locking screws with spherical drill guide

Place the spherical drill guide into a threaded hole until fully seated and aim in the desired direction. The limits of the drill guide angulation (30° cone) will be felt as the tip of the guide contacts the edges of the plate hole.

Use the 2.8 mm calibrated drill bit to drill to desired depth.

Determine the correct screw length directly from the drill bit.



B. Coaxial (fixed angle) insertion

Instruments	
For 2.7 mm variable angle locking screws	
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.100, 03.118.101	Guide Block for 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plate, right and left
03.118.102, 03.118.103	Guide Block for 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plate, right and left
03.118.106, 03.118.107	Guide Block for 2.7 mm Variable Angle LCP Lateral Distal Fibula Plate, right and left
03.211.002	2.0 mm Universal Variable Angle Locking Drill Guide
313.353	2.0 mm LCP Solid Threaded Drill Guide
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm
For 3.5 mm variable angle locking screws	
03.113.024	2.8 mm Calibrated Drill Bit, quick coupling, 250 mm
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.009	Percutaneous Depth Gauge Adaptor for 3.5 mm screws
03.127.001	2.8 mm Fixed Angle Drill Guide
03.127.002	2.8 mm Variable Angle Double Drill Guide with Cone
310.288	2.8 mm Drill Bit, quick coupling, 165 mm

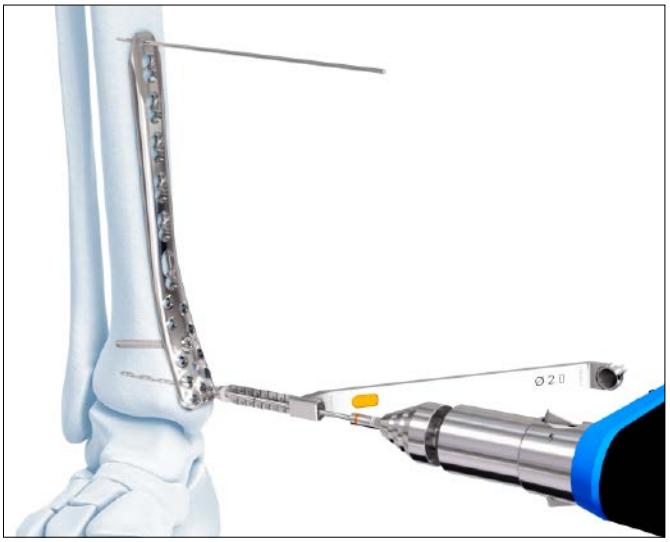
Variable angle locking screws can be inserted into the plate in line with the predefined screw trajectory.

The coaxial drill guide will self-retain in the hole.

Notes:

- **The guide blocks can be used in plate heads with 2.0 mm LCP Solid Threaded Drill Guides to drill for nominal angle**
- **The 2.0 mm LCP Solid Threaded Drill Guide (313.353) cannot be used in the absence of the guide block**

Drill to the desired depth. Verify the drill bit under radiographic imaging.



Use the depth gauge to measure for the correct screw length. The percutaneous depth gauge can be used through the guide block.

Note: When measuring for 3.5 mm and 4.0 mm screws the adaptor must be attached to the depth gauge.

2. Insert variable angle locking screws

Instruments

For 2.7 mm variable angle locking screws	
03.118.111	Silicone Handle, quick coupling with rotating cap
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
For 3.5 mm variable angle locking screws	
03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm
03.118.111	Silicone Handle, quick coupling with rotating cap

Insert the correct length variable angle locking screw. Variable angle locking screws can be placed through the guide block.

Precaution: Initial insertion of the variable angle locking screws may be done using power equipment. Do not lock the screws with power tools. Additionally, a self-retaining screwdriver shaft and quick coupling handle may be used. Confirm screw position and length prior to final tightening. Final tightening must be done manually using the torque limiter.

- **Do not engage the screw head with the plate hole while inserting with power. Screw engagement and final locking must be done manually with the torque limiter**
- **Do not use the torque limiting handle for screw removal**

3. Lock variable angle locking screws

Instruments

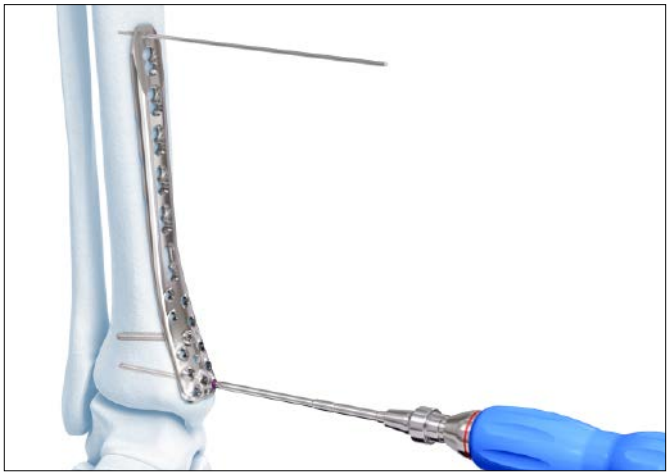
For 2.7 mm variable angle locking screws	
03.110.002	Torque Limiting Attachment, 1.2 Nm
03.110.005	Handle for Torque Limiting Attachment
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
For 3.5 mm variable angle locking screws	
03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm
03.127.016	2.5 Nm Torque Limiting Handle with quick coupling

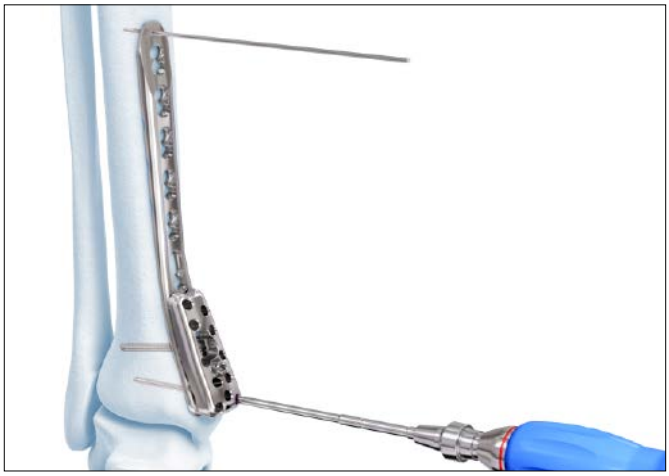
Use the torque limiter for final tightening of variable angle locking screws. Assemble the torque limiter to the screwdriver shaft and the handle.

Use of the torque limiter is mandatory when engaging the screws into variable angle locking holes to ensure the appropriate amount of torque is applied.

Precaution: Do not lock the screws to the plate under power. Screw engagement and final locking must be done manually with the torque limiting attachment or handle:

- **1.2 Nm for 2.7 mm**
- **2.5 Nm for 3.5 mm**
- **Only initial insertion of the variable angle locking screws may be done using power equipment**
- **Confirm screw position and length prior to final tightening. Final tightening must be done manually using the 1.2 Nm torque limiting attachment (for 2.7 mm) or 2.5 Nm torque limiting handle (for 3.5 mm)**
- **Do not use the torque limiters for screw removal**





Medial and Anteromedial Distal Tibia Plate

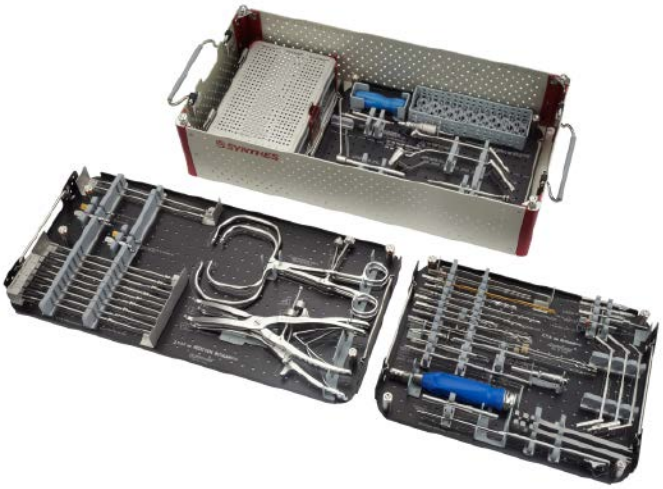
2.7 mm/3.5 mm VA Locking Medial and Anteromedial Distal Tibia Plate Technique

Preparation

For more information regarding the compression and distraction technique refer to page 19.

For more information regarding the variable angle locking technique refer to page 23.

Required set	
01.118.012	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Set
01.118.014	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Consolidated Set
Optional sets	
105.90	Bone Forceps Set
115.700	Large Distractor Set
Optional instruments	
329.02	Bending Iron
329.30	Plate-Bending Press



Note: The direction of the VA locking screws is determined by the design of the plate, based on the average anatomy of the specific bone. If manual contouring of the plate in the metaphyseal area is necessary, or if the patient's normal anatomy is not well matched by the implant, the distal screw trajectories can be confirmed using a drill bit through the screw hole.

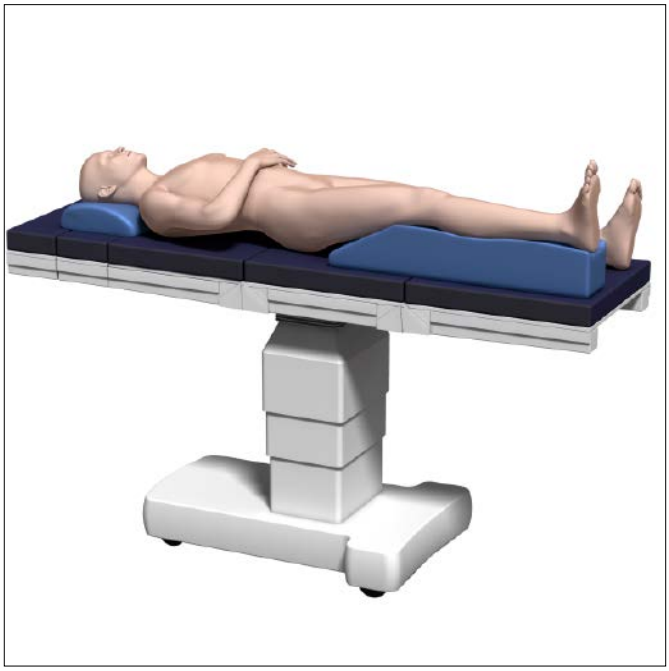
Complete the preoperative radiographic assessment and prepare the preoperative plan. Determine plate length and instruments to be used.

Visualization under fluoroscopy in both the lateral and AP views is recommended.

Note: For information on fixation principles using conventional and locked plating techniques, please refer to the *Small Fragment Locking Compression Plate (LCP) Technique Guide.*

Position the patient supine on a radiolucent operating table. Elevate the leg on a padded rest with the knee moderately flexed to assist placement in a neutral position. Place the opposite leg level on a tabletop.

Precaution: When choosing a percutaneous approach, take care not to damage the saphenous nerve or saphenous vein.



Reduce Articular Surface

1. Reduce articular surface

Instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
394.35	Large Distractor

An open or a percutaneous approach may be used depending on the fracture.

Provisional reduction can be maintained with periarticular reduction forceps, pointed reduction forceps or K-wires.

Following fracture reduction the plate can be applied in a standard fashion. In fractures with metaphyseal comminution, a bridging technique can be used. The contour of the plate can be used to assist with the overall reduction.

Note: Use of the compression or distraction forceps (refer to page 19 for the compression and distraction technique), or the application of an external fixator or distractor may facilitate obtaining length, fracture reduction and visualization of the joint.

Confirm the reduction with image intensification. Reduction can be obtained with a combination of periarticular reduction forceps and K-wires used as joysticks and dental picks. K-wires can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and for plate placement. Options for maintaining the reduction and stabilization depend on the fracture configuration and include:

- Periarticular reduction forceps
- K-wires through the plate
- Compression wires, posts and compression or distraction forceps
- Independent lag screws
- Lag screws through the plate
- Variable angle locking screws through the plate

Precaution: VA locking and locking screws do not provide interfragmentary compression; therefore, any desired compression must be achieved with non-locking screws. The articular surface must be reduced and compressed before fixation of the plate with VA locking screws.

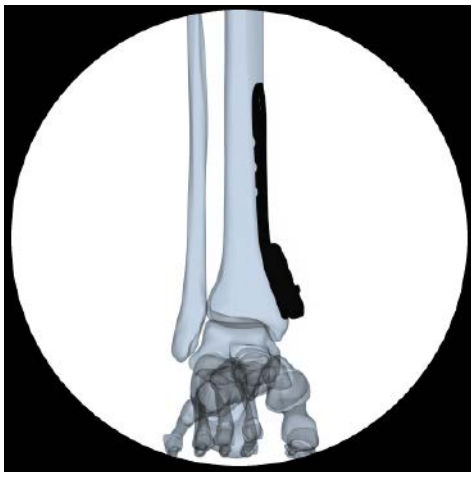
Note: To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.

Insert Plate

2. Insert plate

Instruments	
03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm
03.118.100, 03.118.101	Guide Block for 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plate, right and left
03.118.111	Silicone Handle, quick coupling with rotating cap
313.353	2.0 mm LCP Solid Threaded Drill Guide

Attach the guide block to the plate using the attachment screw and screwdriver shaft. Be sure to attach the correct sided guide block to the plate (right guide block to right plate). If the incorrect side is attached, not all of the 2.7 mm screw holes will be accessible and those that are will not be aimed correctly.



Thread 2.0 mm drill guides securely into two of distal-most locking screw holes and use as a handle for percutaneous insertion.

Note: The 2.0 mm LCP Threaded Drill Guides are only to be used with a guide block. The guide block aligns the threaded guide to ensure correct thread engagement.

Use fluoroscopic imaging during plate placement in both the AP and lateral planes to ensure a safe implant location proximally along the lateral tibia.

Refer to page 23 for variable angle technique without the use of guide block.

The proximal end of the plate is beveled to assist with submuscular insertions. The plate can be carefully slid proximally through a small distal incision or placed against the bone using an open approach. Take care to protect the saphenous vein and nerve.

Center the plate on the medial malleolus.

Position Plate and Fix Provisionally

3. Position plate and fix provisionally

Optional instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
292.16	1.6 mm Kirschner Wire, 150 mm, trocar point
324.024	Push-Pull Reduction Device

After plate insertion, check alignment on the bone using fluoroscopy. Make any adjustments before inserting screws.

The plate may be temporarily held in place using any of the following options:

- Periarticular reduction forceps
- 1.6 mm K-wires through the plate head and guide block or plate shaft tip
- 2.8 mm Compression wire in elongated Combi hole
- Push-pull reduction device
- Cortex screw in a distal Combi hole
- Standard plate-holding forceps

Any of these options will allow moving the plate into final position, and will also prevent plate rotation while inserting the first VA locking screw in the plate head.

Note: Ensure proper reduction before inserting the first VA locking screw. Once the locking screws are inserted, further reduction is not possible without loosening the locking screws.

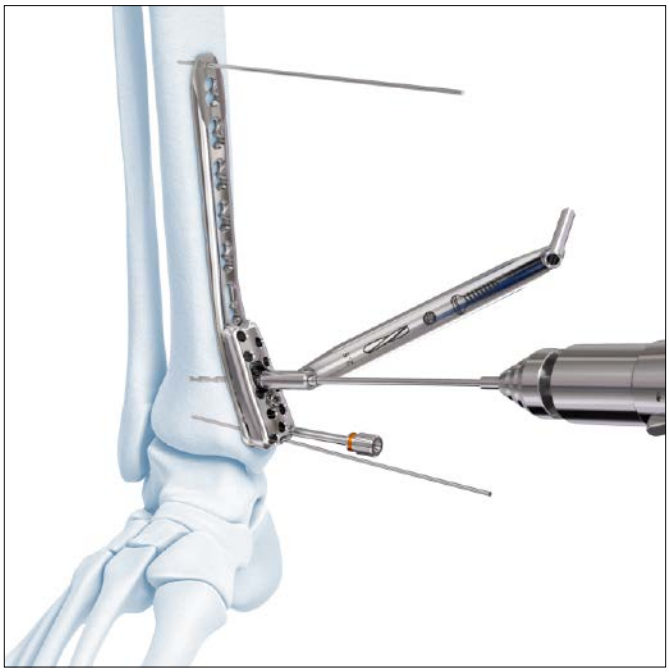
Verify plate placement under image intensification to determine if final screw and plate placement are acceptable. Make any adjustments before inserting screws.

Note: To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.

Insert Distal Screws

4. Insert distal screws

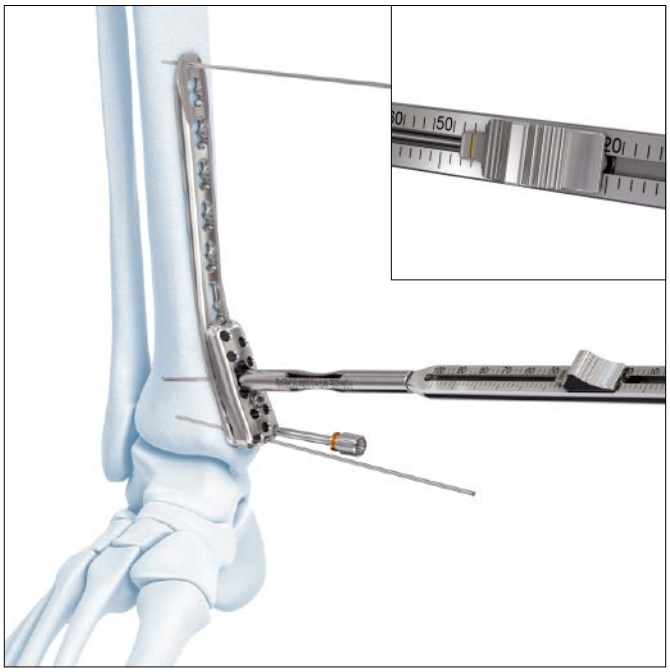
Instruments	
For 3.5 mm low profile cortex screws	
03.118.111	Silicone Handle, quick coupling with rotating cap
03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.009	Percutaneous Depth Gauge Adaptor for 3.5 mm screws
310.23	2.5 mm Drill Bit, quick coupling, 180 mm, gold
323.36	3.5 mm Universal Drill Guide



Note: The medial distal tibia and anteromedial distal tibia plates have a hole to accommodate a 3.5 mm low profile cortex screw distally. This screw hole allows the plate to be compressed to the medial distal tibia.

Use the 2.5 mm drill bit through the 3.5 mm universal drill guide to predrill the bone.

Measure for screw length using the depth gauge and adaptor. Select and insert the appropriate 3.5 mm cortex screw.



Instruments

For 2.7 mm variable angle locking screws	
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.111	Silicone Handle, quick coupling with rotating cap
313.353	2.0 mm LCP Solid Threaded Drill Guide
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm

Refer to pages 23–29 for 2.7 mm variable angle locking screw insertion technique.

Insert the 2.0 mm threaded drill guide through guide block into a VA locking hole until fully seated.

Use the 2.0 mm drill bit to drill to the desired length.

Remove the drill guide.

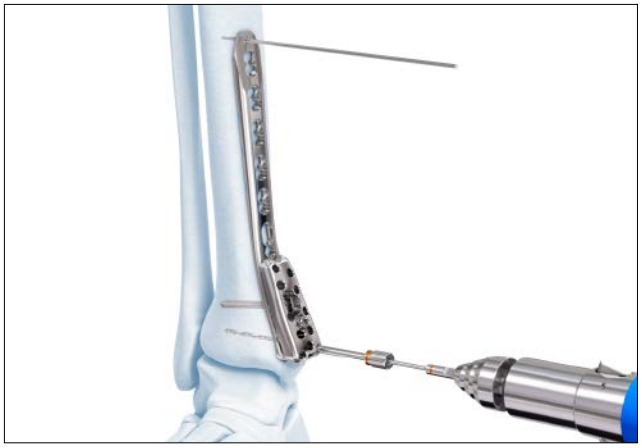
Use the depth gauge to determine screw length.

Insert the screw. Insert a minimum of four additional distal screws (to have a minimum of five distal screws in total) and additional screws as needed.

Note: If using non-locking screws or inserting VA locking screws off axis, the guide block and threaded drill guide cannot be used. Insert the screws using the technique described in the variable angle locking section (page 23).

Precaution: For the medial and anteromedial plate head holes it is required to use a minimum of five 2.7 mm VA locking screws.

Note: If inserting a 2.7 mm metaphyseal screw the guide block cannot be used.



Precautions:

- **The low profile metaphyseal compression screw 2.7 mm can be used to pull the plate to the bone. However, the screw cannot be used to create interfragmentary compression.**
- **The 1.2 Nm torque limiter is recommended for use during insertion to avoid potential screw damage as a result of excessive torque, for example due to screw collisions.**
- **As the low-profile metaphyseal compression screws 2.7 mm are non-locking, final tightening must be performed carefully, as with other cortical screws. Do not wait for the torque limiter to "click" during final tightening. This is not required and could result in the screw thread stripping out of the bone.**

For non-locking screws, use the standard AO screw insertion technique.

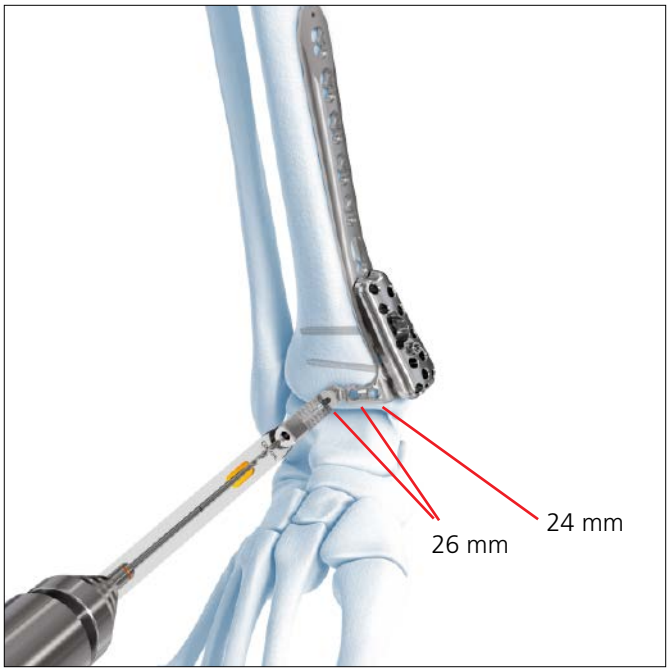
Anteromedial Plate—Insert Distal Screws in Arm
Insert Shaft Screws

5. Anteromedial plate—insert distal screws in arm

Insert 2.7 mm variable angle or 2.7 mm non-locking screws in anterior arm. The purpose of the arm is to buttress small anterior fragments.

Precaution: The screws through the anterior arm should not be no longer than 26 mm for the following reasons:

- **To prevent screw collision**
- **Avoid penetrating the joint surface**



6. Insert screws in shaft

Refer to pages 23–29 for 3.5 mm variable angle locking screw technique.

For non-locking screws, use the standard AO screw insertion technique.

Note: Ensure proper reduction before inserting the first VA locking screw. Once the locking screws are inserted, further reduction is not possible without loosening the locking screws.

Lock Variable Angle Screws
Confirm Reduction and Fixation

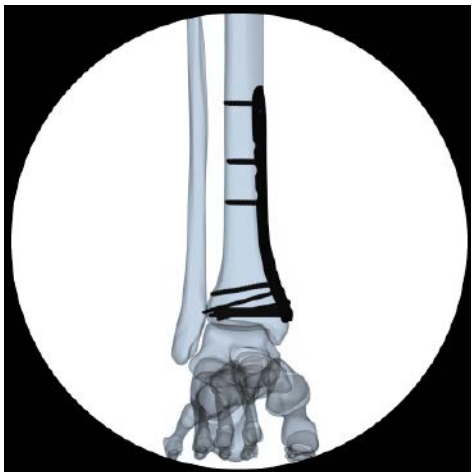
7. Lock variable angle screws

Refer to page 29 of the variable angle locking screw technique.

Remove the guide block from the plate before closure.

8. Confirm reduction and fixation

- Carefully assess the final reduction and fixation via direct visualization and image intensification. Confirm the stability of the fixation and that there is unrestricted motion at the ankle joint. Using AP and lateral fluoroscopic visualization, confirm reduction and appropriate positioning of the plate and screws.



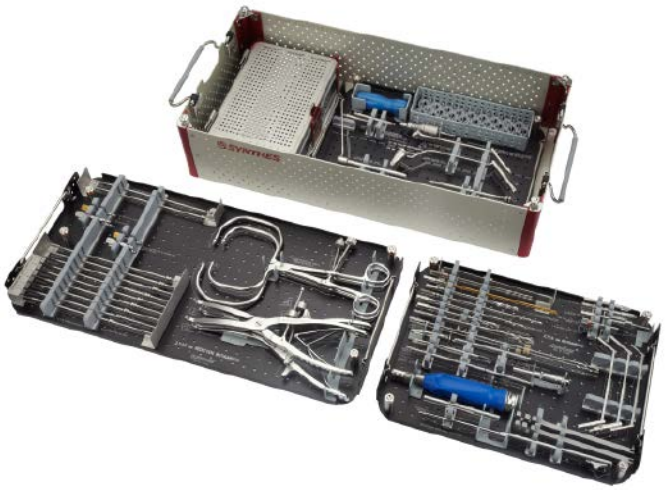
Anterolateral Distal Tibia Plate

2.7 mm/3.5 mm VA Locking Anterolateral Distal Tibia Plate Technique

Preparation

For more information regarding the compression and distraction technique refer to page 19.

For more information regarding the variable angle LCP System technique refer to page 23.



Required set	
01.118.012	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Set
01.118.014	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Consolidated Set
Optional sets	
105.90	Bone Forceps Set
115.700	Large Distractor Set
Optional instruments	
329.02	Bending Iron
329.30	Plate-Bending Press

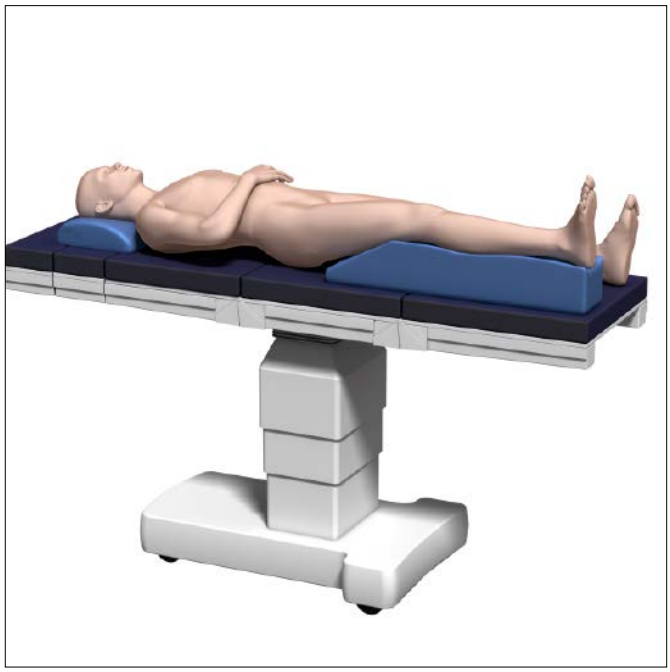
Note: The direction of the VA locking screws is determined by the design of the plate, based on the average anatomy of the specific bone. If manual contouring of the plate in the metaphyseal area is necessary, or if the patient's normal anatomy is not well matched by the implant, the distal screw trajectories can be confirmed using a drill bit through the screw hole.

Complete the preoperative radiographic assessment and prepare the preoperative plan. Determine plate length and instruments to be used.

Visualization under fluoroscopy in both the lateral and AP views is recommended.

Note: For information on fixation principles using conventional and locked plating techniques, please refer to the *Small Fragment Locking Compression Plate (LCP) Technique Guide.*

Position the patient supine on a radiolucent operating table. Elevate the leg on a padded rest with the knee moderately flexed to assist placement in a neutral position. Place the opposite leg level on a tabletop.



A longitudinal and straight incision should be centered at the ankle joint, parallel to the fourth metatarsal distally, and between the tibia and fibula proximally. Proximal extension of the incision should end seven or eight centimeters above the joint. Distally the incision can be extended to the level of the talonavicular joint, allowing exposure of the talar neck. The joint can be exposed using an arthrotomy.

Notes:

- **The superficial peroneal nerve and neurovascular bundle usually cross the surgical incision proximal to the ankle joint and should be protected throughout the surgical procedure**
- **The anterolateral plate can be placed through an anteromedial or anterolateral approach**

Reduce Articular Surface

1. Reduce articular surface

Instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
394.35	Large Distractor

An open or a percutaneous approach may be used depending on the fracture.

Provisional reduction can be maintained with periarticular reduction forceps, pointed reduction forceps or K-wires.

Following fracture reduction the plate can be applied in a standard fashion. In fractures with metaphyseal comminution, a bridging technique can be used. The contour of the plate can be used to assist with the overall reduction.

Note: Use of the compression or distraction forceps (refer to page 19 for compression/distraction technique), or the application of an external fixator or distractor may facilitate obtaining length, fracture reduction and visualization of the joint.

Confirm the reduction with image intensification. Reduction can be obtained with a combination of periarticular reduction forceps and K-wires used as joysticks and dental picks. K-wires can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and for plate placement. Options for maintaining the reduction and stability depend on the fracture configuration and include:

- Periarticular reduction forceps
- K-wires through the plate
- Compression wires, posts and compression or distraction forceps
- Independent lag screws
- Lag screws through the plate
- Variable angle locking screws through the plate

Precaution: VA locking and locking screws do not provide interfragmentary compression; therefore, any desired compression must be achieved with non-locking screws. The articular surface must be reduced and compressed before fixation of the plate with VA locking screws.

Note: To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.

Insert Plate

2. Insert plate

Instruments	
03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm
03.118.102, 03.118.103	Guide Block for 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plate, right and left
03.118.111	Silicone Handle, quick coupling with rotating cap
313.353	2.0 mm LCP Solid Threaded Drill Guide

Attach the guide block to the plate using the attachment screw and screwdriver shaft. Be sure to attach the correct sided guide block to the plate (right guide block to right plate). If the incorrect side is attached, not all of the 2.7 mm screw holes will be accessible and those that are will not be aimed correctly. Thread 2.0 mm drill guides securely into two of distal-most locking screw holes and use as a handle for percutaneous insertion.

Note: The 2.0 mm LCP Threaded Drill Guides are only to be used with a guide block. The guide block aligns the threaded guide to ensure correct thread engagement.

Use fluoroscopic imaging during plate placement in both the AP and lateral planes to ensure a safe implant location proximally along the lateral tibia.

Refer to page 23 for variable angle technique without the use of guide block.

Slide the plate submuscularly along the lateral tibial cortex beneath the anterior compartment muscles. Prior to screw placement ensure that the anterior compartment neurovascular bundle and superficial peroneal nerve are safe. The distal row of screws will sit just proximal to the joint.

Position Plate and Fix Provisionally

3. Position plate and fix provisionally

Optional instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
292.16	1.6 mm Kirschner Wire, 150 mm, trocar point
324.024	Push-Pull Reduction Device

After plate insertion, check alignment on the bone using fluoroscopy. Make any adjustments before inserting screws.

The plate may be temporarily held in place using any of the following options:

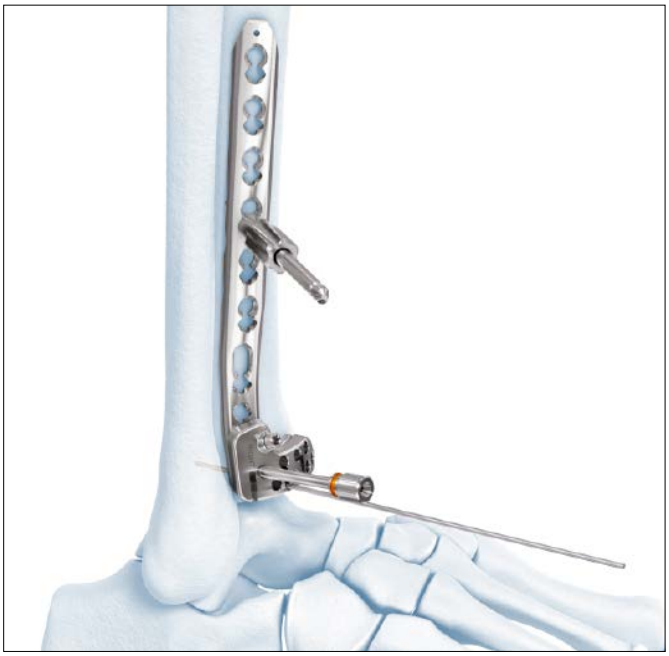
- Periarticular reduction forceps
- 1.6 mm K-wires through the plate head and guide block or plate shaft tip
- 2.8 mm Compression wire in elongated Combi hole
- Push-pull reduction device
- Cortex screw in a distal Combi hole
- Standard plate-holding forceps

Any of these options will allow moving the plate into final position, and will also prevent plate rotation while inserting the first VA locking screw in the plate head.

Note: Ensure proper reduction before inserting the first VA locking screw. Once the locking screws are inserted, further reduction is not possible without loosening the locking screws.

Verify plate placement under image intensification to determine if final screw and plate placement are acceptable. Make any adjustments before inserting screws.

Note: To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.



Insert Distal Screws

4. Insert distal screws

Instruments

For 2.7 mm variable angle locking screws	
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.111	Silicone Handle, quick coupling with rotating cap
313.353	2.0 mm LCP Solid Threaded Drill Guide
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm

Ensure proper reduction of plate to bone before inserting the first VA locking screw. Refer to pages 23-29 for 2.7 mm variable angle locking screw insertion technique.

Insert the 2.0 mm threaded drill guide through the guide block into a VA locking hole until fully seated.

Use the 2.0 mm drill bit to drill to the desired length.

Remove the drill guide.

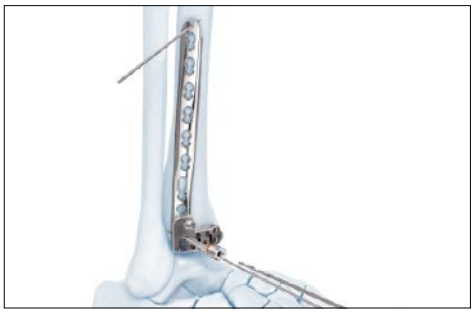
Use the depth gauge to determine screw length.

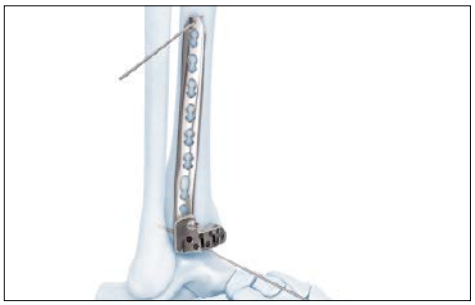
Insert the screw. Insert a minimum of six additional distal screws (to have a minimum of seven distal screws in total) and additional screws as needed.

Note: If using non-locking screws or inserting VA locking screws off axis, the guide block and threaded drill guide cannot be used. Insert the screws using the technique described in the variable angle locking section (page 23).

Precaution: For the anterolateral plate head holes it is required to use a minimum of seven 2.7 mm variable angle locking screws.

Note: If inserting a 2.7 mm metaphyseal screw, the guide block cannot be used.





Precautions:

- **The low-profile metaphyseal compression screw 2.7 mm can be used to pull the plate to the bone. However, the screw cannot be used to create interfragmentary compression.**
- **The 1.2 Nm torque limiter is recommended for use during insertion to avoid potential screw damage as a result of excessive torque, for example due to screw collisions.**
- **As the low-profile metaphyseal compression screws 2.7 mm are non-locking, final tightening must be performed carefully, as with other cortical screws. Do not wait for the torque limiter to"click" during final tightening. This is not required and could result in the screw thread stripping out of the bone.**

For non-locking screws, use the standard AO screw insertion technique.

Insert Shaft Screws
Lock Variable Angle Screws

5. Insert screws in shaft

Refer to pages 23–29 for 3.5 mm variable angle locking screw technique.

For non-locking screws, use the standard AO screw insertion technique.

Note: Ensure proper reduction before inserting the first VA locking screw. Once the locking screws are inserted, further reduction is not possible without loosening the locking screws.

6. Lock variable angle screws

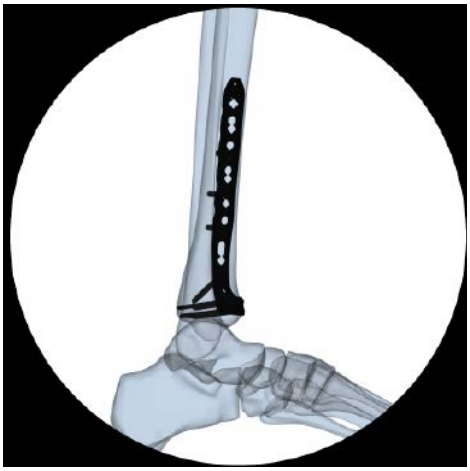
Refer to page 29 of the variable angle locking screw technique.

Remove the guide block from the plate before closure.

Confirm Reduction and Fixation
Repair Joint Capsule

7. Confirm reduction and fixation

Carefully assess the final reduction and fixation via direct visualization and image intensification. Confirm the stability of the fixation and that there is unrestricted motion at the ankle joint. Using AP and lateral fluoroscopic visualization, confirm reduction and appropriate positioning of the plate and screws.



8. Repair joint capsule (optional)

If desired or needed, the joint capsule can be sutured to the plate. The slots in the block allow the passage of the suture needle.

Note: This can be done with or without the guide block attached.

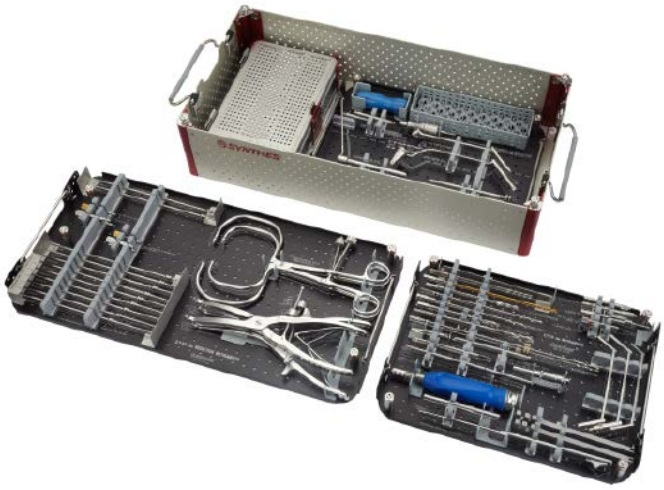
Lateral Distal Fibula Plate

2.7 mm VA Locking Lateral Distal Fibula Plate Technique

Preparation

For more information regarding the compression and distraction technique refer to page 19.

For more information regarding the variable angle LCP System technique refer to page 23.



Required set	
01.118.012	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Set
01.118.014	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Consolidated Set
Optional sets	
105.90	Bone Forceps Set
115.700	Large Distractor Set
Optional instruments	
329.02	Bending Iron
329.30	Plate-Bending Press

Note: The direction of the VA locking screws is determined by the design of the plate, based on the average anatomy of the specific bone. If manual contouring of the plate in the metaphyseal area is necessary, or if the patient's normal anatomy is not well matched by the implant, the distal screw trajectories can be confirmed using a drill bit through the screw hole.

Complete the preoperative radiographic assessment and prepare the preoperative plan. Determine plate length and instruments to be used.

Visualization under fluoroscopy in both the lateral and AP views is recommended.

Note: For information on fixation principles using conventional and locked plating techniques, please refer to the *Small Fragment Locking Compression Plate (LCP) Technique Guide.*

Position the patient supine on a radiolucent operating table with a sandbag (bump) underneath the buttock of the affected side. This allows the foot to lie in a neutral position and prevents the normal external rotation of the leg. Elevate the leg on a padded rest with the knee slightly flexed to assist placement in a neutral position.

Make a straight lateral or posterolateral surgical incision to expose the fibular fracture, the distal fibula, and the fibular diaphysis. A lateral incision directly over the fibula can accentuate plate prominence and the wound closure will be directly over the implant.

Alternatively, the incision can be placed along the posterolateral border of the fibula where there is improved soft tissue coverage.

Precaution: Be careful not to damage the superficial peroneal nerve proximally and anteriorly, or the sural nerve posteriorly.

Deep dissection allows exposure of the fibula along its length. An extraperiosteal approach to the fibula proximal to the fracture is usually preferred.

Expose and clean the fracture site and reduce the fracture. It is critical that fibular length, alignment and rotation are accurately restored.

Reduce Fracture

1. Reduce fracture

Instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
394.35	Large Distractor

An open or a percutaneous approach may be used depending on the fracture.

Provisional reduction can be maintained with periarticular reduction forceps, pointed reduction forceps or K-wires.

Following fracture reduction the plate can be applied in a standard fashion. In fractures with metaphyseal comminution, a bridging technique can be used. The contour of the plate can be used to assist with the overall reduction.

Note: **Use of the compression or distraction forceps (refer to page 19 for compression/distraction technique), or the application of an external fixator or distractor may facilitate obtaining length, fracture reduction and visualization of the joint.**

Confirm the reduction with image intensification. Reduction can be obtained with a combination of periarticular reduction forceps and K-wires used as joysticks and dental picks. K-wires can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and for plate placement. Options for maintaining the reduction and stability depend on the fracture configuration and include:

- Periarticular reduction forceps
- K-wires through the plate
- Compression wires (only through syndesmotic slots), posts and compression or distraction forceps
- Independent lag screws
- Lag screws through the plate
- Variable angle locking screws through the plate

Precaution: **VA locking and locking screws do not provide interfragmentary compression; therefore, any desired compression must be achieved with non-locking screws. The articular surface must be reduced and compressed before fixation of the plate with VA locking screws.**

Note: **To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.**

Insert Plate

2. Insert plate

Instruments	
03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm
03.118.106, 03.118.107	Guide Block for 2.7 mm Variable Angle Lateral Distal Fibula Plate, right and left
03.118.111	Silicone Handle, quick coupling with rotating cap
313.353	2.0 mm LCP Solid Threaded Drill Guide

Attach the guide block to the plate using the attachment screw and screwdriver shaft. Be sure to attach the correct sided guide block to the plate (right guide block to right plate). If the incorrect side is attached, not all of the 2.7 mm screw holes will be accessible and those that are will not be aimed correctly.

Thread 2.0 mm drill guides securely into two of distal-most locking screw holes and use as a handle for percutaneous insertion.

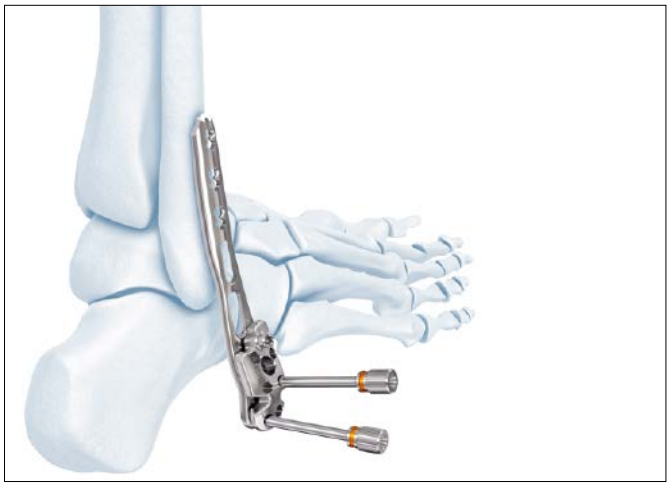
Note: The 2.0 mm LCP Threaded Drill Guides are only to be used with a guide block. The guide block aligns the threaded guide to ensure correct thread engagement.

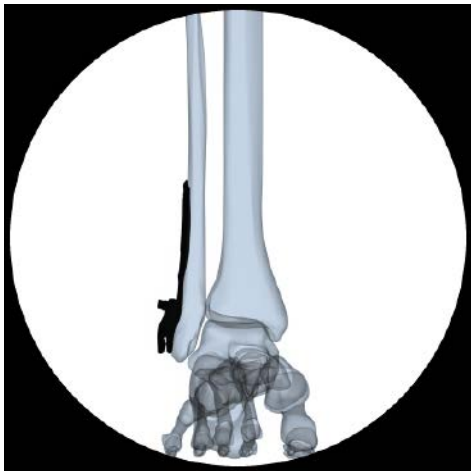
Use fluoroscopic imaging during plate placement in both the AP and lateral planes to ensure a safe implant location proximally along the lateral tibia.

Refer to page 23 for variable angle technique without the use of guide block.

Percutaneous insertion
Occasionally, a subcutaneous or submuscular plate insertion will be performed using a minimally invasive technique. The plate can be slid along the lateral fibular shaft and positioned with the distal end of the plate approximately 5 mm from the tip of the fibula.

Open insertion
Expose the fibula proximally as needed for plate application. In the majority of circumstances, an open approach for plate application will be performed.

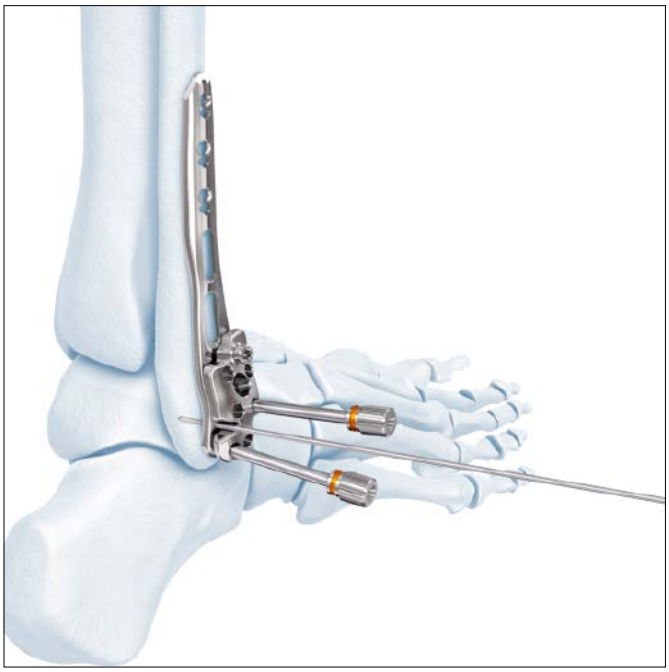




Position Plate and Fix Provisionally

3. Position plate and fix provisionally

Optional instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
292.16	1.6 mm Kirschner Wire, 150 mm, trocar point



After plate insertion, check alignment on the bone using fluoroscopy. Make any adjustments before inserting screws.

The plate may be temporarily held in place using any of the following options:

- Periarticular reduction forceps
- 1.6 mm K-wires through the plate head and guide block or plate shaft tip
- 2.8 mm Compression wire in the syndesmotic slot
- Cortex screw in a distal Combi hole
- Standard plate-holding forceps

Any of these options will allow moving the plate into final position, and will also prevent plate rotation while inserting the first VA locking screw in the plate head.

Note: Ensure proper reduction before inserting the first VA locking screw. Once the locking screws are inserted, further reduction is not possible without loosening the locking screws.

Verify plate placement under image intensification to determine if final screw and plate placement are acceptable. Make any adjustments before inserting screws.

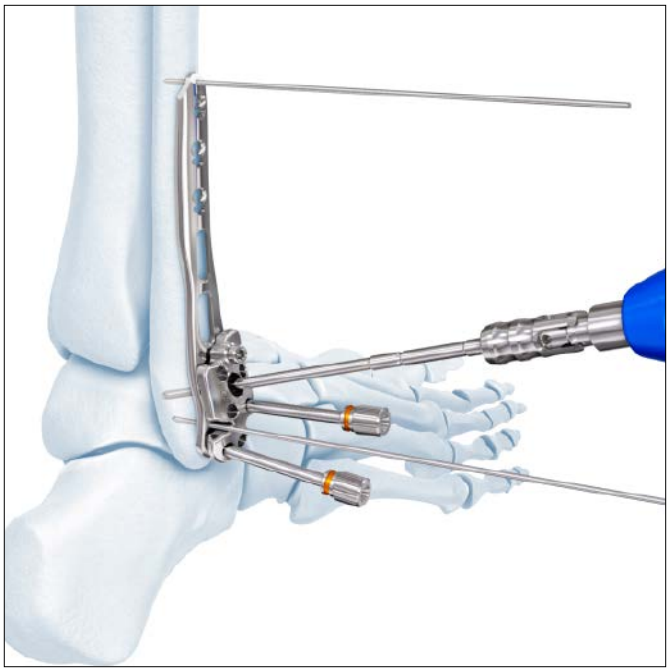
Note: To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.

Insert Distal Screws

4. Insert distal screws

Instruments

For 2.7 mm variable angle locking screws	
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.111	Silicone Handle, quick coupling with rotating cap
313.353	2.0 mm Solid Threaded Drill Guide
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm



Refer to pages 23–29 for 2.7 mm variable angle locking screw insertion technique.

Insert the 2.0 mm threaded drill guide through guide block into a VA locking hole until fully seated.

Use the 2.0 mm drill bit to drill to the desired length.

Remove the drill guide.

Use the depth gauge to determine screw length.

Insert the screw. Insert additional screws as needed.

Note: If using non-locking screws or inserting VA locking screws off axis, the guide block and threaded drill guide cannot be used. Insert the screws using the technique described in the variable angle locking section (page 23).

For non-locking screws, use the standard AO screw insertion technique.

Note: The fibula plate has a hole to accommodate a 2.7 mm metaphyseal or cortex screw distally.

Insert Shaft Screws

5. Insert screws in shaft

Refer to pages 23– 29 for 2.7 mm variable angle locking screw technique.

For non-locking screws, use the standard AO screw insertion technique.

Insert Screw(s) in Syndesmotic Slots

6. Insert screw(s) in syndesmotic slots

Instruments	
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.009	Percutaneous Depth Gauge Adaptor for 3.5 mm screws
03.118.111	Silicone Handle, quick coupling with rotating cap
For 4.0 mm cortex screws	
310.229	2.9 mm Drill Bit, quick coupling, 150 mm
312.401	4.0 mm/2.9 mm Double Drill Sleeve
314.03	Small Hex Screwdriver Shaft
314.06	Holding Sleeve for use with Small Hex Screwdriver Shaft
For 3.5 mm low profile cortex screws	
03.113.019	StarDrive Screwdriver Shaft, T15
310.23	2.5 mm Drill Bit
323.36	3.5 mm Universal Drill Guide

Insert the double drill sleeve into a slot of plate.

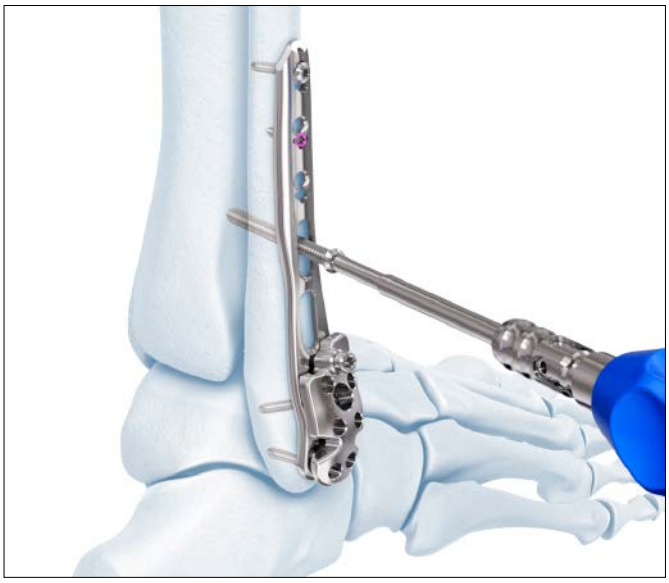
Use the drill bit to drill to the desired length.

Remove the drill sleeve.

Use the depth gauge to determine screw length.

Notes:

- **3.5 mm or 4.0 mm cortex screws can be used in syndesmotic slots**
- **When measuring for 3.5 mm and 4.0 mm screws**
- **the adaptor must be attached to the depth gauge**
- **Slots have 30° anterior angulation for aiming syndesmotic screws into the center of the distal tibia. Follow the angulation of the drill guide, do not overangulate**



- **It is not recommended to use 2.7 mm cortex screws in the syndesmotic slots as the screwhead diameter is too small and the screw may fall through the slot at certain angulations.**

Lock Variable Angle Screws Confirm Reduction and Fixation

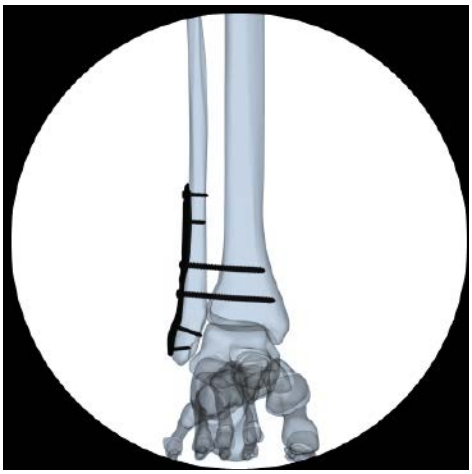
7. Lock variable angle screws

Refer to page 29 of variable angle locking screw technique.

Remove the guide block from the plate before closure.

8. Confirm reduction and fixation

- Carefully assess the final reduction and fixation via direct visualization and image intensification. Confirm the stability of the fixation and that there is unrestricted motion at the ankle joint. Using AP and lateral fluoroscopic visualization, confirm reduction and appropriate positioning of the plate and screws.



Distal Tibia T- and L- Plate

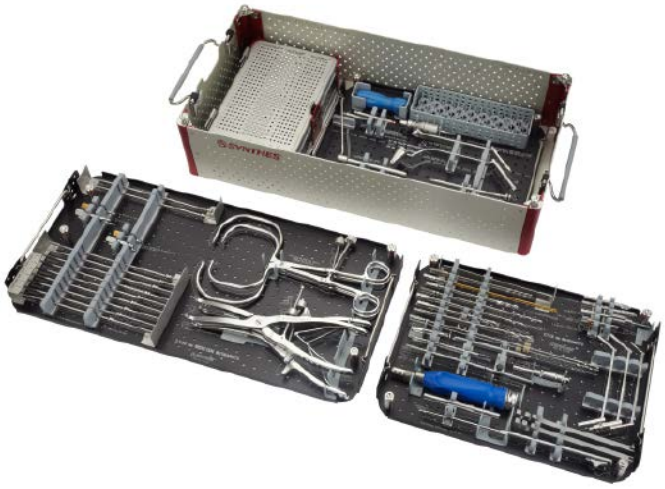
2.7 mm VA Locking Distal Tibia T- and L-Plate Technique

Preparation

For more information regarding the compression and distraction technique refer to page 19.

Note: Use Option C described in the compression and distraction section. We do not recommend the use of the 2.8 mm compression wires through the Distal Tibia T- and L- plates.

For more information regarding the variable angle technique refer to page 23.



Required set	
01.118.012	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Set
01.118.014	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Consolidated Set
Optional sets	
105.90	Bone Forceps Set
115.700	Large Distractor Set
Optional instruments	
329.02	Bending Iron
329.30	Plate-Bending Press

Note: The direction of the VA locking screws is determined by the design of the plate, based on the average anatomy of the specific bone. If manual contouring of the plate in the metaphyseal area is necessary, or if the patient's normal anatomy is not well matched by the implant, the distal screw trajectories can be confirmed using a drill bit through the screw hole.

- Complete the preoperative radiographic assessment and prepare the preoperative plan. Determine plate length and instruments to be used.

- Visualization under fluoroscopy in both the lateral and AP views is recommended.

Note: For information on fixation principles using conventional and locked plating techniques, please refer to the *Small Fragment Locking Compression Plate (LCP) Technique Guide.*

The T- and L- plates can be applied anteriorly or posteriorly but are designed predominantly for posterior application. Most often, prone or lateral positioning will be used to access the posterior tibia for plate application. If prone positioning is used, a small towel bump beneath the operative limb facilitates intraoperative lateral imaging that avoids the contralateral limb. This is also useful to prevent an apex anterior deformity that can result from the foot resting on the operating table.

Use an anterior or anteromedial incision for exposure of the anterior fragment.

Use a posterolateral incision for direct exposure of the posterior fragment.

Reduce Articular Surface

1. Reduce articular surface

Instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
394.35	Large Distractor

An open or a percutaneous approach may be used depending on the fracture.

Provisional reduction can be maintained with periarticular reduction forceps, pointed reduction forceps or K-wires.

Following fracture reduction the plate can be applied in a standard fashion. In fractures with metaphyseal comminution, a bridging technique can be used. The contour of the plate can be used to assist with the overall reduction.

Confirm the reduction with image intensification. Reduction can be obtained with a combination of periarticular reduction forceps and K-wires used as joysticks and dental picks. K-wires can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and for plate placement. Options for maintaining the reduction and stability depend on the fracture configuration and include:

- Periarticular reduction forceps
- K-wires through the plate
- Compression wires, posts and compression or distraction forceps
- Independent lag screws
- Lag screws through the plate
- Variable angle locking screws through the plate

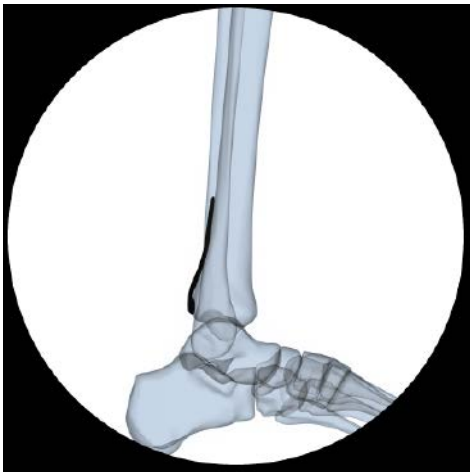
Precaution: **VA locking and locking screws do not provide interfragmentary compression; therefore, any desired compression must be achieved with non-locking screws. The articular surface must be reduced and compressed before fixation of the plate with VA locking screws.**

Note: **To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.**

Insert Plate

2. Insert plate

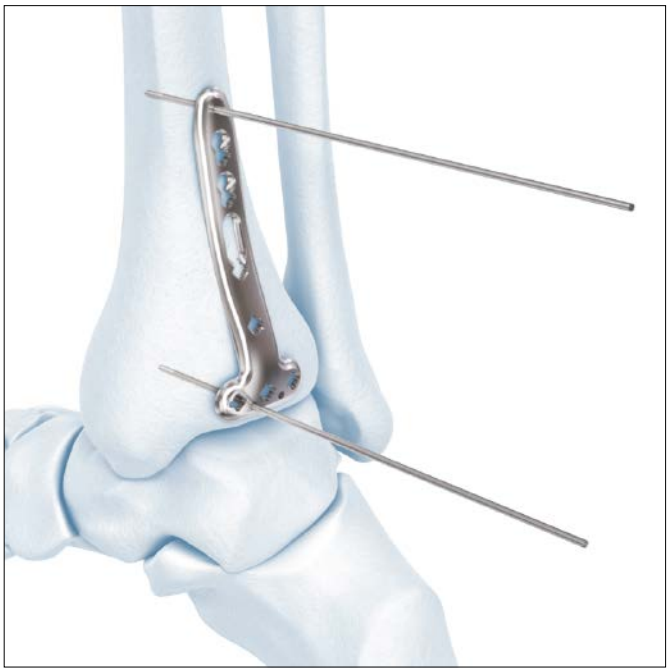
- Use fluoroscopic imaging during plate placement in both the AP and lateral plates to ensure a safe implant location proximally along the shaft of the tibia.



Position Plate and Fix Provisionally

3. Position plate and fix provisionally

Optional instruments	
03.118.001	Periarticular Reduction Forceps, small
03.118.110	Periarticular Reduction Forceps, medium
292.16	1.6 mm Kirschner Wire, 150 mm, trocar point



After plate insertion, check alignment on the bone using fluoroscopy. Make any adjustments before inserting screws.

The plate may be temporarily held in place using any of the following options:

- Periarticular reduction forceps
- 1.6 mm K-wires through the plate head or plate shaft tip
- Cortex screw in a distal Combi hole
- Standard plate-holding forceps

Any of these options will allow moving the plate into final position, and will also prevent plate rotation while inserting the first VA locking screw.

Note: Ensure proper reduction before inserting the first VA locking screw. Once the locking screws are inserted, further reduction is not possible without loosening the locking screws.

Verify plate placement under image intensification to determine if final screw and plate placement are acceptable. Make any adjustments before inserting screws.

Note: To verify that independent lag screws and K-wires will not interfere with plate placement, evaluate placement intraoperatively with AP and lateral fluoroscopic images.

Position the plate on the shaft of the tibia and insert a K-wire through the proximal K-wire hole for temporary fixation. Use this technique when the tibia is relatively reduced at the time of plate placement. Often stable distal fixation is achieved, then the plate is reduced to the proximal segment.

Insert Shaft Screw

4. Insert shaft screw

A 2.7 mm cortex screw or 2.7 mm metaphyseal screw can be inserted in the elongated Combi hole to draw the plate to the bone.

For non-locking screws, use the standard AO screw insertion technique.

Precautions:

- **The low profile metaphyseal compression screw 2.7 mm can be used to pull the plate to the bone. However, the screw cannot be used to create interfragmentary compression.**
- **The 1.2 Nm torque limiter is recommended for use during insertion to avoid potential screw damage as a result of excessive torque, for example due to screw collisions.**
- **As the low profile metaphyseal compression screws 2.7 mm are non-locking, final tightening must be performed carefully, as with other cortical screws. Do not wait for the torque limiter to "click" during final tightening. This is not required and could result in the screw thread stripping out of the bone.**

Insert Distal Screws

5. Insert distal screws

Instruments

For 2.7 mm variable angle locking screws	
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.111	Silicone Handle, quick coupling with rotating cap
03.211.002	2.0 mm Universal Variable Angle Locking Drill Guide
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm

Refer to pages 23–29 for 2.7 mm variable angle locking screw insertion technique.

Use the 2.0 mm drill bit to drill to the desired length.

Remove the drill guide.

Use the depth gauge to determine screw length.

Insert the screw. Insert additional screws as needed.

For non-locking screws, use the standard AO screw insertion technique.

Insert additional screws in plate shaft as needed.

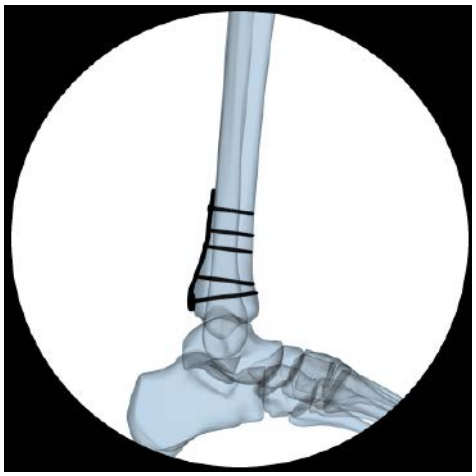
Lock Variable Angle Screws Confirm Reduction and Fixation

6. Lock variable angle screws

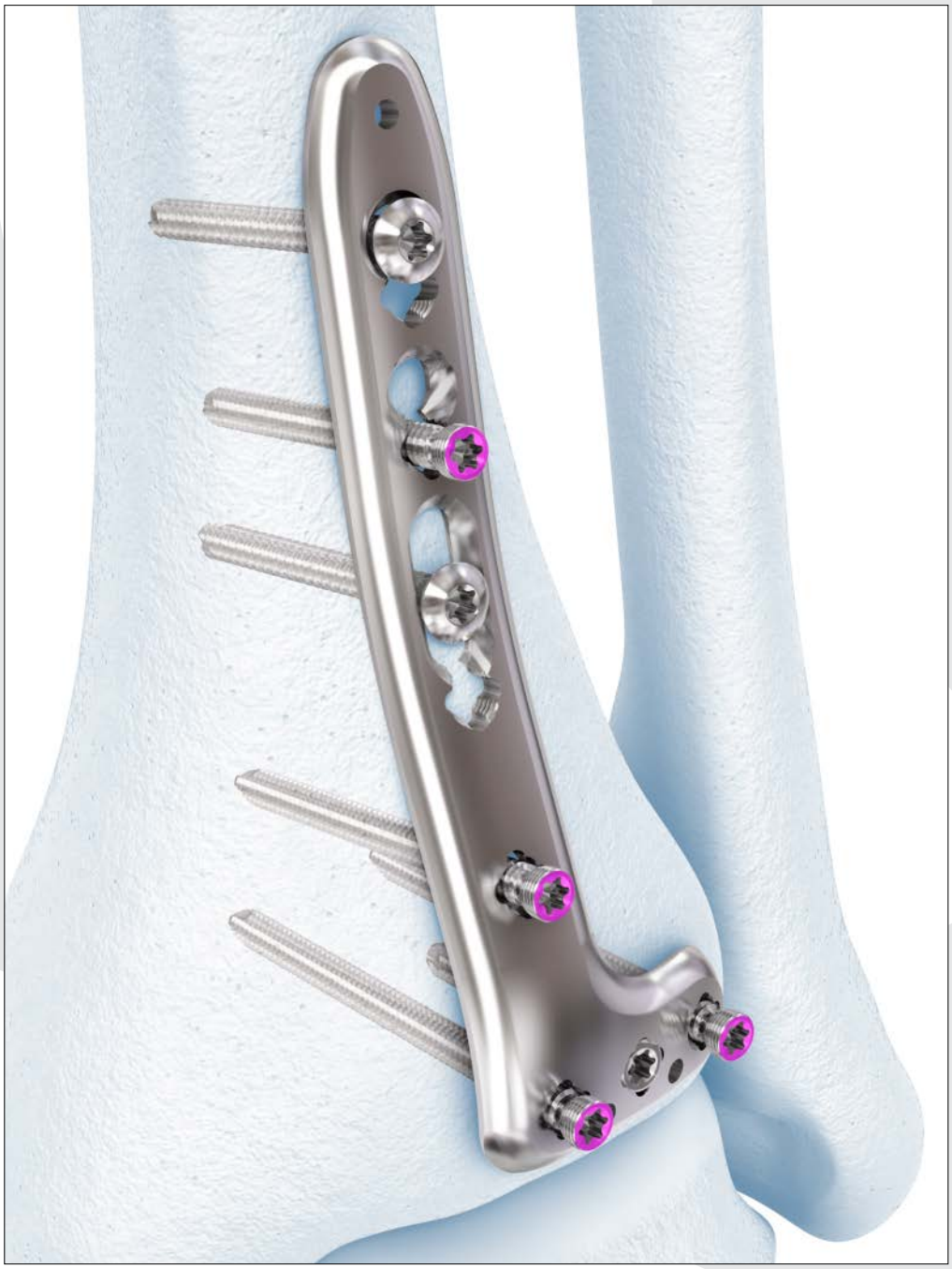
Refer to page 29 of variable angle locking screw technique.

7. Confirm reduction and fixation

- Carefully assess the final reduction and fixation via direct visualization and image intensification. Confirm the stability of the fixation and that there is unrestricted motion at the ankle joint. Using AP and lateral fluoroscopic visualization, confirm reduction and appropriate positioning of the plate and screws.



Implant Removal



Implant Removal

Optional set

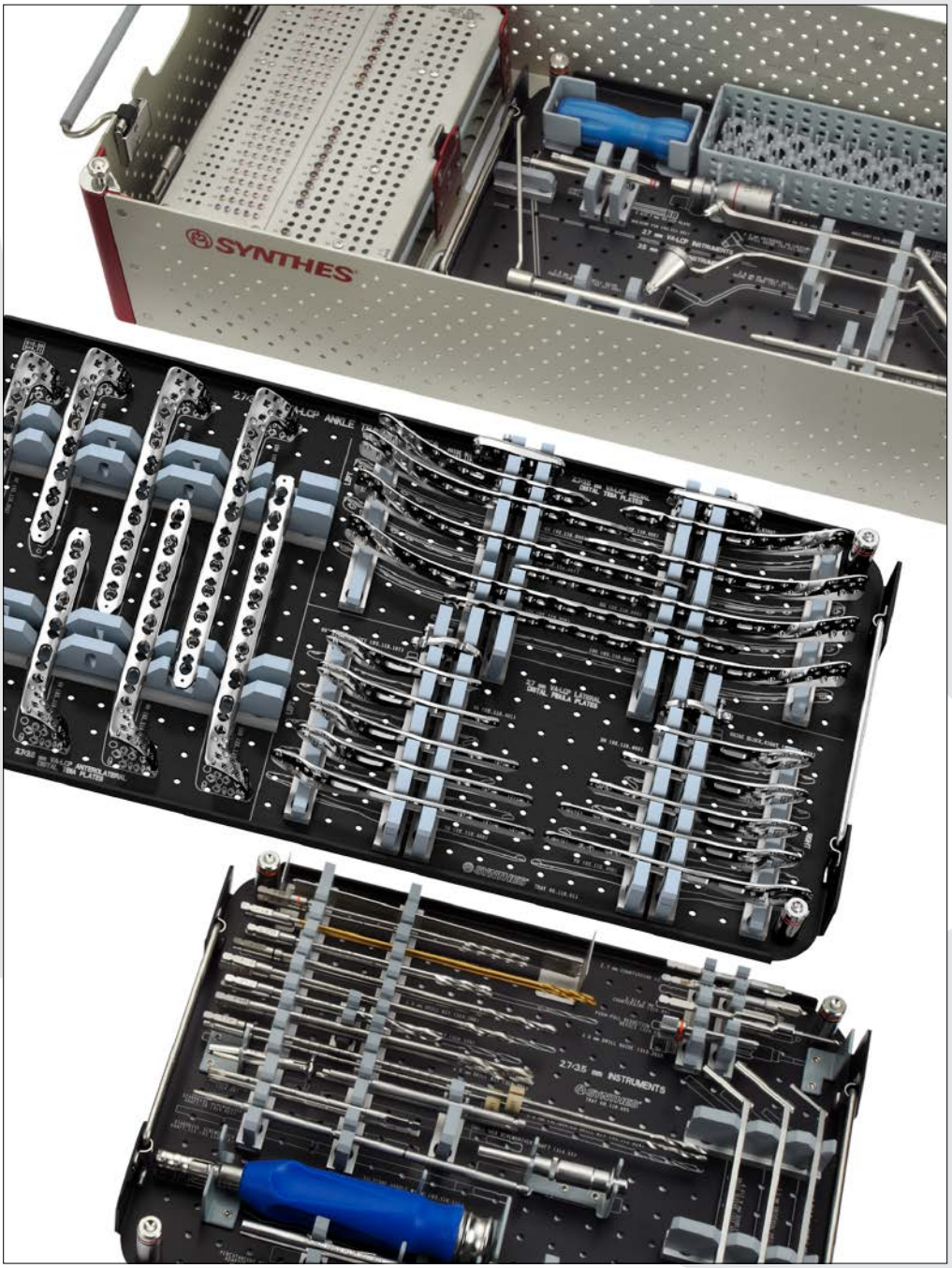
01.240.001	Screw Removal Set

Unlock all screws from the plate, then remove the screws completely from the bone. This prevents simultaneous rotation of the plate when unlocking the last locking screw.

If the screws cannot be removed with the screwdriver, insert the conical extraction screw with left-handed thread into the screw head using the handle with quick coupling and loosen the locking screw by turning counterclockwise.

Precaution: Do not use the torque limiting handle for screw removal.

Product Information and Set Configurations



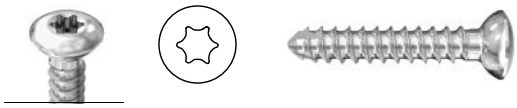
Implants

2.7 mm Variable Angle Locking Screws

- Threaded, rounded head locks securely into the variable angle locking holes
- Used with 2.0 mm drill bit
- Locked screws allow unicortical screw fixation and load transfer to the near cortex
- Color coded for easier identification
- T8 StarDrive Recess
- Self-tapping tip
- 10 mm to 60 mm lengths (2 mm increments)

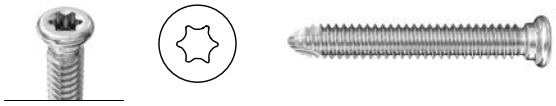
2.7 mm Cortex Screws

- For use in round or Combi holes
- Used with 2.0 mm drill bit
- Used to provide compression or neutral fixation
- Low-profile head
- T8 StarDrive Recess
- Self-tapping tip
- 10 mm to 50 mm lengths (2 mm increments), 55 mm and 60 mm



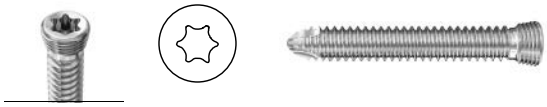
2.7 mm Metaphyseal Screws

- For use in locking round or Combi holes
- Used with 2.0 mm drill bit
- Used to provide compression of plate to the bone
- Feature locking screw thread in screw shaft
- Low profile head
- T8 StarDrive Recess
- Self-tapping tip
- 10 mm to 60 mm lengths (2 mm increments)



2.7 mm Locking Screws*

- Only for axial insertion in the variable angle locking holes
- Used with 2.0 mm drill bit
- Threaded, conical head locks securely into the variable angle locking holes
- T8 StarDrive Recess
- Self-tapping tip
- 10 mm to 50 mm lengths (2 mm increments), 55 mm and 60 mm



*Also available

3.5 mm Variable Angle Locking Screws
- Threaded, rounded head locks securely into the variable angle locking holes
- Used with 2.8 mm drill bit
- Locked screws allow unicortical screw fixation and load transfer to the near cortex
- Color coded for easier identification
- T15 StarDrive Recess
- Self-tapping tip
- 10 mm to 60 mm lengths (2 mm increments)

3.5 mm Low Profile Cortex Screws
- For use in round or Combi holes
- Used with 2.5 mm drill bit
- Used to provide compression or neutral fixation
- Low profile head
- T15 StarDrive Recess
- Self-tapping tip
- 10 mm to 50 mm lengths (2 mm increments), 55 mm and 60 mm available in system, longer lengths additionally available, up to 100 mm

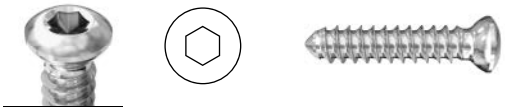
3.5 mm Locking Screws*
- Only for axial insertion, in the variable angle locking holes
- Used with 2.8 mm drill bit
- Threaded, conical head locks securely into the variable angle locking holes
- T15 StarDrive Recess
- Self-tapping tip
- 10 to 60 mm lengths (2 mm increments)

3.7 mm Dynamic Locking Screws*
- Only for axial insertion, in the variable angle locking holes
- Used with 3.1 mm drill bit
- Threaded, conical head locks securely into the variable angle locking holes
- T15 StarDrive Recess
- 10 to 60 mm lengths (2 mm increments)

*Also available

4.0 mm Cortex Screws

- For use in syndesmotic slots of fibula plate
- Used with 2.9 mm drill bit
- Used to provide compression or neutral fixation
- Identical head to 3.5 mm cortex screw
- Hex recess
- Self-tapping tip
- 10 mm to 60 mm lengths (2 mm increments) available in system, longer lengths additionally available, up to 100 mm



2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates◊

Stainless Steel	Right/Left	Holes	Length (mm)
02.118.002	Right	4	112
02.118.003	Left	4	112
02.118.004	Right	6	142
02.118.005	Left	6	142
02.118.006	Right	8	172
02.118.007	Left	8	172
02.118.008	Right	10	202
02.118.009	Left	10	202
02.118.010	Right	12	232
02.118.011	Left	12	232
02.118.012	Right	14	262
02.118.013	Left	14	262
02.118.014	Right	16	292
02.118.015	Left	16	292

2.7 mm/3.5 mm Variable Angle LCP Anteromedial Distal Tibia Plates*

Stainless Steel	Right/Left	Holes	Length (mm)
02.118.102S	Right	4	112
02.118.103S	Left	4	112
02.118.104S	Right	6	142
02.118.105S	Left	6	142
02.118.106S	Right	8	172
02.118.107S	Left	8	172
02.118.110S	Right	12	232
02.118.111S	Left	12	232
02.118.114S	Right	16	292
02.118.115S	Left	16	292

* Available sterile only

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.

2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates◊

Stainless Steel	Right/Left	Holes	Length (mm)
02.118.202	Right	4	82
02.118.203	Left	4	82
02.118.204	Right	6	112
02.118.205	Left	6	112
02.118.206	Right	8	142
02.118.207	Left	8	142
02.118.208	Right	10	172
02.118.209	Left	10	172
02.118.210	Right	12	202
02.118.211	Left	12	202
02.118.212	Right	14	232
02.118.213	Left	14	232
02.118.214	Right	16	262
02.118.215	Left	16	262
02.118.216	Right	18	292
02.118.217	Left	18	292

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.

2.7 mm Variable Angle LCP Lateral Distal Fibula Plates◊

Stainless Steel	Right/Left	Holes	Length (mm)
02.118.400	Right	3	79
02.118.401	Left	3	79
02.118.402	Right	4	92
02.118.403	Left	4	92
02.118.404	Right	5	105
02.118.405	Left	5	105
02.118.406	Right	6	118
02.118.407	Left	6	118
02.118.408	Right	7	131
02.118.409	Left	7	131
02.118.410	Right	9	157
02.118.411	Left	9	157
02.118.412	Right	11	183
02.118.413	Left	11	183
02.118.414	Right	13	209
02.118.415	Left	13	209
02.118.416	Right	15	235
02.118.417	Left	15	235

2.7 mm Variable Angle LCP Distal Tibia L-Plates◊

Stainless Steel	Right/Left	Holes	Length (mm)
02.118.302	Right	4	72
02.118.303	Left	4	72
02.118.304	Right	6	90
02.118.305	Left	6	90

2.7 mm Variable Angle LCP Distal Tibia T-Plates◊

Stainless Steel	Right/Left	Length (mm)
02.118.306	4	72
02.118.307	6	90

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.

Instruments

For 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates

	Guide Block*
03.118.100	Right
03.118.101	Left

For 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates

	Guide Block
03.118.102	Right
03.118.103	Left

For 2.7 mm Variable Angle LCP Lateral Distal Fibula Plates

	Guide Block
03.118.106	Right
03.118.107	Left

* Can also be used with 2.7 mm / 3.5 mm Variable Angle LCP Anteromedial Distal Tibia Plates

For 2.7 mm Variable Angle and Cortex Screws

03.110.002	Torque Limiting Attachment, 1.2 Nm	
03.110.005	Handle for Torque Limiting Attachment	
03.211.001	2.4 mm/2.7 mm Variable Angle LCP Plate Holding Pins	
03.211.002	2.0 mm Universal Variable Angle Locking Drill Guide	
310.87	Countersink for 2.7 mm screws	
312.24	2.7 mm/2.0 mm Double Drill Sleeve	

313.353	2.0 mm LCP Solid Threaded Drill Guide	
314.467	StarDrive Screwdriver Shaft, T8, 105 mm	
315.28	2.7 mm Three-Fluted Drill Bit, quick coupling, 125 mm	
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm	

Additionally Available for 2.7 mm Variable Angle and Cortex Screws

03.211.003	2.0 mm Variable Angle Locking Drill Guide, variable	
03.211.004	2.0 mm Variable Angle Locking Drill Guide, coaxial	
310.26	2.7 mm Drill Bit, quick coupling, 100 mm	
314.453	StarDrive Screwdriver Shaft, T8, 55 mm	
319.01	Depth gauge, for 2.7 mm and 3.5 mm screws	

For 3.5 mm Variable Angle and Cortex Screws

03.113.019	StarDrive Screwdriver Shaft, T15, 165 mm	
03.113.024	2.8 mm Calibrated Drill Bit, quick coupling, 250 mm	
03.127.001	2.8 mm Fixed Angle Drill Guide	
03.127.002	2.8 mm Variable Angle Double Drill Guide with Cone	
03.127.004	2.8 mm Variable Angle Spherical Drill Guide, long	
03.127.005	Trocar for 2.8 mm Variable Angle Spherical Drill Guide, long	
03.127.006	Protection Sleeve for 2.8 mm Variable Angle Drill Guide, long	

For 3.5 mm Variable Angle and Cortex Screws

03.127.016	2.5 Nm Torque Limiting Handle with quick coupling*	
310.23	2.5 mm Drill Bit, quick coupling, 180 mm, gold	
310.288	2.8 mm Drill Bit, quick coupling, 165 mm	
310.35	3.5 mm Drill Bit, quick coupling, 110 mm	
310.89	Countersink for 3.5 mm Cortex and 4.0 mm Cancellous Screws	
323.36	3.5 mm Universal Drill Guide	

* Recalibration of the Torque Limiter:
DePuy Synthes recommends annual servicing and inspection by the original manufacturer. The Torque Limiter has to be sent to your DePuy Synthes repair center annually for calibration. The user accepts the responsibility for this annual calibration.

For 4.0 mm Cortex Screws

310.229	2.9 mm Drill Bit, quick coupling, 150 mm	
312.401	4.0 mm/2.9 mm Double Drill Sleeve	
314.03	Small Hex Screwdriver Shaft	
314.06	Holding Sleeve for use with Small Hex Screwdriver Shaft	

Common Instruments

03.118.001	Periarticular Reduction Forceps, small	
03.118.002	Large Compression Forceps with Speed Lock	
03.118.003	Large Distraction Forceps with Speed Lock	
03.118.005	3.5 mm Compression and Distraction Post for VA Locking Hole	
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws	
03.118.008	2.7 mm Compression and Distraction Post for VA Locking Hole	
03.118.009	Percutaneous Depth Gauge Adaptor for 3.5 mm screws	

03.118.010– 03.118.060	2.8 mm Compression Wires 200 mm length, 10 mm–60 mm thread lengths	
03.118.110	Periarticular Reduction Forceps, medium	
03.118.111	Silicone Handle, quick coupling with rotating cap	
292.16	1.6 mm Kirschner Wire, 150 mm, trocar point	
324.024	Push-Pull Reduction Device	
329.04 329.05	Bending Irons for 2.7 mm and 3.5 mm plates (used as pair)	

Set Configurations

Plates

01.118.001	2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates Set
01.118.002	2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates and T- and L-Plates Set
01.118.003	2.7 mm Variable Angle LCP Lateral Distal Fibula Plates Set
01.118.011	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Plates Set

Screws

01.118.009	2.7 mm Screw Set for Variable Angle LCP Ankle Trauma System
01.118.010	3.5 mm/4.0 mm Screw Set for Variable Angle LCP Ankle Trauma System
01.118.004	2.7 mm/3.5 mm Screw Set for Variable Angle LCP Ankle Trauma System

Instruments

01.118.005	2.7 mm/3.5 mm General Instrument Set for Variable Angle LCP Ankle Trauma System
01.118.006	2.7 mm/3.5 mm Reduction Instrument Set for Variable Angle LCP Ankle Trauma System
01.118.007	2.7 mm/3.5 mm Variable Angle Instrument Set for Variable Angle LCP Ankle Trauma System

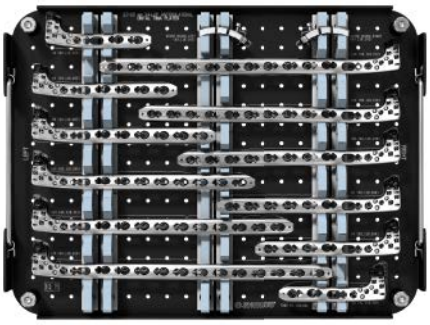
* 2.7 mm/3.5 mm Variable Angle LCP Anteromedial Distal Tibia Plates are additionally available

For detailed cleaning and sterilization instructions, please refer to www.synthes.com/cleaning-sterilization or sterilization instructions, if provided.

2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plate Set (01.118.001)

Graphic Case

60.118.001	2/3 Tray for 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates



Implants

2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates*◊

	Right/Left	Holes
02.118.202	Right	4
02.118.203	Left	4
02.118.204	Right	6
02.118.205	Left	6
02.118.206	Right	8
02.118.207	Left	8
02.118.208	Right	10
02.118.209	Left	10
02.118.210	Right	12
02.118.211	Left	12
02.118.212	Right	14
02.118.213	Left	14

Instruments

	Guide Block for 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plate
03.118.102	Right
03.118.103	Left

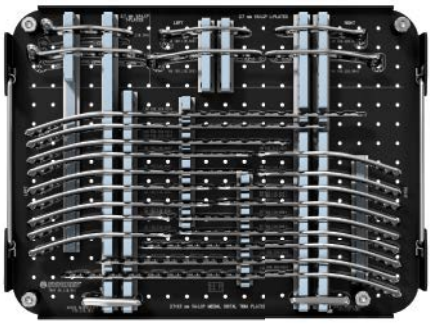
* Anterolateral plates additionally available in 16 and 18 holes

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.

2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates and T- and L-Plates Set (01.118.002)

Graphic Case

60.118.002	2/3 Tray for 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates and T- and L- Plates



Implants

2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates*◊

	Right/Left	Holes
02.118.002	Right	4
02.118.003	Left	4
02.118.004	Right	6
02.118.005	Left	6
02.118.006	Right	8
02.118.007	Left	8
02.118.008	Right	10
02.118.009	Left	10
02.118.010	Right	12
02.118.011	Left	12
02.118.012	Right	14
02.118.013	Left	14

2.7 mm Variable Angle LCP Distal Tibia L-Plates

	Right/Left	Holes
02.118.302	Right	4
02.118.303	Left	4
02.118.304	Right	6
02.118.305	Left	6

2.7 mm Variable Angle LCP Distal Tibia T-Plates

	Holes
02.118.306	4
02.118.307	6

Instruments

	Guide Block for 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plate
03.118.100	Right
03.118.101	Left

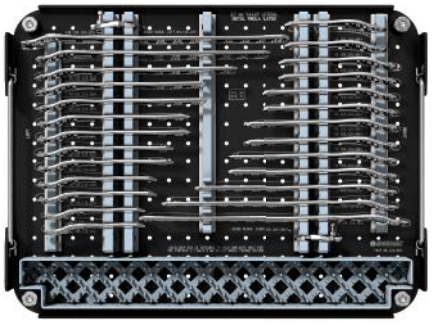
* Medial plates additionally available in 16 holes

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.

2.7 mm Variable Angle LCP Lateral Distal Fibula Plates Set (01.118.003)

Graphic Case

60.118.003	2/3 Tray for 2.7 mm Variable Angle LCP Lateral Distal Fibula Plates



Implants

2.7 mm Variable Angle LCP Lateral Distal Fibula Plates*◊

	Right/Left	Holes
02.118.400	Right	3
02.118.401	Left	3
02.118.402	Right	4
02.118.403	Left	4
02.118.404	Right	5
02.118.405	Left	5
02.118.406	Right	6
02.118.407	Left	6
02.118.408	Right	7
02.118.409	Left	7
02.118.410	Right	9
02.118.411	Left	9
02.118.412	Right	11
02.118.413	Left	11
02.118.414	Right	13
02.118.415	Left	13

Instruments

	Guide Block for 2.7 mm Variable Angle LCP Lateral Distal Fibula Plate
03.118.106	Right
03.118.107	Left

* Fibula plates additionally available in 15 holes

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.

2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Plates Set (01.118.011)

Graphic Case

60.118.011	Tray for 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Plates

Implants

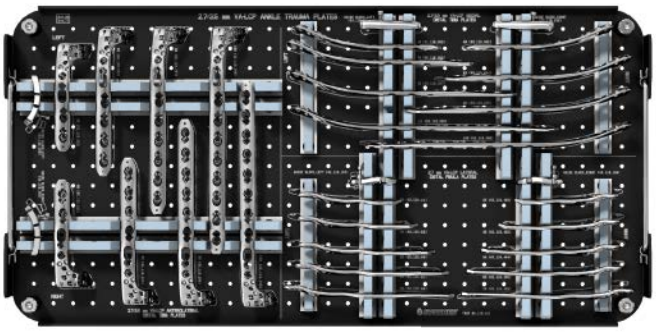
2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates◊

	Right/Left	Holes
02.118.002	Right	4
02.118.003	Left	4
02.118.004	Right	6
02.118.005	Left	6
02.118.006	Right	8
02.118.007	Left	8
02.118.008	Right	10
02.118.009	Left	10

2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates*

	Right/Left	Holes
02.118.202	Right	4
02.118.203	Left	4
02.118.204	Right	6
02.118.205	Left	6
02.118.206	Right	8
02.118.207	Left	8
02.118.208	Right	10
02.118.209	Left	10

◊ Available non-sterile or sterile packed.
Add "S" to product number for sterile product.



2.7 mm Variable Angle LCP Lateral Distal Fibula Plates◊

	Right/Left	Holes
02.118.400	Right	3
02.118.401	Left	3
02.118.402	Right	4
02.118.403	Left	4
02.118.404	Right	5
02.118.405	Left	5
02.118.406	Right	6
02.118.407	Left	6
02.118.408	Right	7
02.118.409	Left	7

Instruments

	Guide Blocks for 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plate
03.118.100	Right
03.118.101	Left
	Guide Blocks for 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plate
03.118.102	Right
03.118.103	Left
	Guide Blocks for 2.7 mm Variable Angle LCP Lateral Distal Fibula Plate
03.118.106	Right
03.118.107	Left

2.7 mm Screw Set for Variable Angle LCP Ankle Trauma System (01.118.009)

Graphic Case

60.118.009	2.7 mm Screw Rack for Variable Angle LCP Ankle Trauma System

Implants

2.7 mm VA Locking Screws, self-tapping, 6 ea.

	Length (mm)		Length (mm)
02.211.010	10	02.211.036	36
02.211.012	12	02.211.038	38
02.211.014	14	02.211.040	40
02.211.016	16	02.211.042	42
02.211.018	18	02.211.044	44
02.211.020	20	02.211.046	46
02.211.022	22	02.211.048	48
02.211.024	24	02.211.050	50
02.211.026	26	02.211.052	52
02.211.028	28	02.211.054	54
02.211.030	30	02.211.056	56
02.211.032	32	02.211.058	58
02.211.034	34	02.211.060	60

2.7 mm Metaphyseal Screws, self-tapping, 6 ea.

	Length (mm)		Length (mm)
02.118.510	10	02.118.536	36
02.118.512	12	02.118.538	38
02.118.514	14	02.118.540	40
02.118.516	16	02.118.542	42
02.118.518	18	02.118.544	44
02.118.520	20	02.118.546	46
02.118.522	22	02.118.548	48
02.118.524	24	02.118.550	50
02.118.526	26	02.118.552	52
02.118.528	28	02.118.554	54
02.118.530	30	02.118.556	56
02.118.532	32	02.118.558	58
02.118.534	34	02.118.560	60

2.7 mm Cortex Screws, self-tapping, 6 ea.

	Length (mm)		Length (mm)
202.870	10	202.894	34
202.872	12	202.896	36
202.874	14	202.898	38
202.876	16	202.900	40
202.878	18	202.962	42
202.880	20	202.963	44
202.882	22	202.965	46
202.884	24	202.966	48
202.886	26	202.967	50
202.888	28	202.968	55
202.890	30	202.969	60
202.892	32		

Instrument

319.97	Screw Forceps

3.5 mm/4.0 mm Screw Set for Variable Angle LCP Ankle Trauma System (01.118.010)

Graphic Case

60.118.010	3.5 mm/4.0 mm Screw Rack for Variable Angle LCP Ankle Trauma System

Implants

3.5 mm VA Locking Screws, self-tapping, 5 ea.

	Length (mm)		Length (mm)
02.127.110	10	02.127.136	36
02.127.112	12	02.127.138	38
02.127.114	14	02.127.140	40
02.127.116	16	02.127.142	42
02.127.118	18	02.127.144	44
02.127.120	20	02.127.146	46
02.127.122	22	02.127.148	48
02.127.124	24	02.127.150	50
02.127.126	26	02.127.152	52
02.127.128	28	02.127.154	54
02.127.130	30	02.127.156	56
02.127.132	32	02.127.158	58
02.127.134	34	02.127.160	60

3.5 mm Cortex Screws, self-tapping, low profile, 5 ea.

	Length (mm)		Length (mm)
02.206.210	10	02.206.236	36
02.206.212	12	02.206.238	38
02.206.214	14	02.206.240	40
02.206.216	16	02.206.242	42
02.206.218	18	02.206.244	44
02.206.220	20	02.206.246	46
02.206.222	22	02.206.248	48
02.206.224	24	02.206.250	50
02.206.226	26	02.206.252	52
02.206.228	28	02.206.254	54
02.206.230	30	02.206.256	56
02.206.232	32	02.206.258	58
02.206.234	34	02.206.260	60

4.0 mm Cortex Screws, self-tapping, 5 ea.

	Length (mm)		Length (mm)
206.414	14	206.438	38
206.416	16	206.440	40
206.418	18	206.442	42
206.420	20	206.444	44
206.422	22	206.446	46
206.424	24	206.448	48
206.426	26	206.450	50
206.428	28	206.452	52
206.430	30	206.454	54
206.432	32	206.456	56
206.434	34	206.458	58
206.436	36	206.460	60

Instrument

319.97	Screw Forceps

2.7 mm/3.5 mm Screw Set for Variable Angle LCP Ankle Trauma System (01.118.004)

Graphic Case

60.118.004 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Screw Rack

Implants

2.7 mm VA Locking Screws, self-tapping, 5 ea.

	Length (mm)		Length (mm)
02.211.010	10	02.211.036	36
02.211.012	12	02.211.038	38
02.211.014	14	02.211.040	40
02.211.016	16	02.211.042	42
02.211.018	18	02.211.044	44
02.211.020	20	02.211.046	46
02.211.022	22	02.211.048	48
02.211.024	24	02.211.050	50
02.211.026	26	02.211.052	52
02.211.028	28	02.211.054	54
02.211.030	30	02.211.056	56
02.211.032	32	02.211.058	58
02.211.034	34	02.211.060	60

2.7 mm Metaphyseal Screws, self-tapping, 2 ea.

	Length (mm)		Length (mm)
02.118.510	10	02.118.536	36
02.118.512	12	02.118.538	38
02.118.514	14	02.118.540	40
02.118.516	16	02.118.542	42
02.118.518	18	02.118.544	44
02.118.520	20	02.118.546	46
02.118.522	22	02.118.548	48
02.118.524	24	02.118.550	50
02.118.526	26	02.118.552	52
02.118.528	28	02.118.554	54
02.118.530	30	02.118.556	56
02.118.532	32	02.118.558	58
02.118.534	34	02.118.560	60

3.5 mm VA Locking Screws, self-tapping, 3 ea.

	Length (mm)		Length (mm)
02.127.110	10	02.127.136	36
02.127.112	12	02.127.138	38
02.127.114	14	02.127.140	40
02.127.116	16	02.127.142	42
02.127.118	18	02.127.144	44
02.127.120	20	02.127.146	46
02.127.122	22	02.127.148	48
02.127.124	24	02.127.150	50
02.127.126	26	02.127.152	52
02.127.128	28	02.127.154	54
02.127.130	30	02.127.156	56
02.127.132	32	02.127.158	58
02.127.134	34	02.127.160	60

3.5 mm Cortex Screws, self-tapping, low profile, 3 ea.

	Length (mm)		Length (mm)
02.206.210	10	02.206.236	36
02.206.212	12	02.206.238	38
02.206.214	14	02.206.240	40
02.206.216	16	02.206.242	42
02.206.218	18	02.206.244	44
02.206.220	20	02.206.246	46
02.206.222	22	02.206.248	48
02.206.224	24	02.206.250	50
02.206.226	26	02.206.252	52
02.206.228	28	02.206.254	54
02.206.230	30	02.206.256	56
02.206.232	32	02.206.258	58
02.206.234	34	02.206.260	60

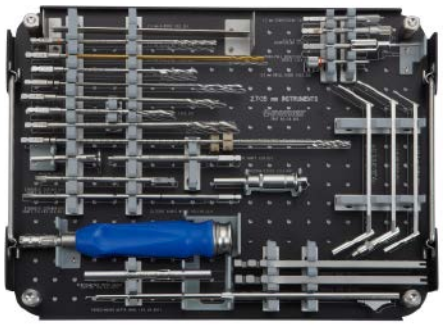
Instrument

319.97	Screw Forceps

2.7 mm/3.5 mm General Instrument Set for Variable Angle LCP Ankle Trauma System (01.118.005)

Graphic Case

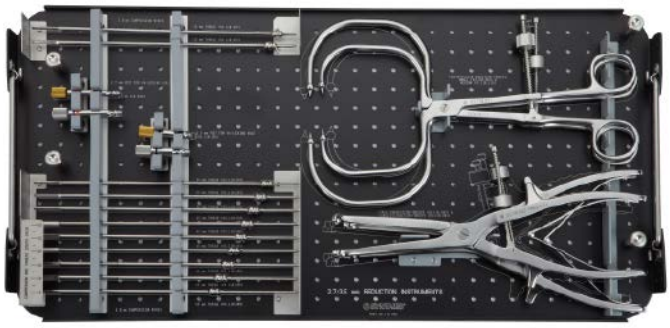
60.118.005	2/3 General Instrument Tray for 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System



Instruments

03.113.019	Screwdriver Shaft StarDrive, 165 mm
03.113.024	2.8 mm Calibrated Drill Bit, quick coupling, 250 mm
03.118.007	Percutaneous Depth Gauge for 2.7 mm screws
03.118.009	Percutaneous Depth Gauge Adaptor for 3.5 mm screws
03.118.111	Silicone Handle, quick coupling with rotating cap
292.16	1.6 mm Kirschner Wire, 150 mm, trocar point
310.23	2.5 mm Drill Bit, quick coupling, 180 mm, gold
310.229	2.9 mm Drill Bit, quick coupling, 150 mm
310.288	2.8 mm Drill Bit, quick coupling, 165 mm
310.35	3.5 mm Drill Bit, quick coupling, 110 mm
310.401	4.0 mm Drill Bit, quick coupling, 160 mm
310.87	Countersink for 2.7 mm Cortex Screws
310.89	Countersink for 3.5 mm Cortex and 4.0 mm Cancellous Bone Screws
312.24	2.7 mm/2.0 mm Double Drill Sleeve
312.401	4.0 mm/2.9 mm Double Drill Sleeve
313.353	2.0 mm LCP Solid Threaded Drill Guide
314.03	Small Hexagonal Screwdriver Shaft
314.06	Holding Sleeve for use with Small Hexagonal Screwdriver Shaft
314.467	StarDrive Screwdriver Shaft, T8, 105 mm
314.468	Holding Sleeve for StarDrive Screwdriver Shaft T8
315.28	2.7 mm Three-Fluted Drill Bit, quick coupling, 125 mm
323.36	3.5 mm Universal Drill Guide
323.062	2.0 mm Drill Bit with depth mark, quick coupling, 140 mm
324.024	Push-Pull Reduction Device
329.04	Bending Iron for 2.7 mm and 3.5 mm plates
329.05	Bending Iron for 2.7 mm and 3.5 mm plates

2.7 mm/3.5 mm Reduction Instrument Set for Variable Angle LCP Ankle Trauma System (01.118.015)



Graphic Case

60.118.006	Full Length Ankle Reduction Instrument Tray for 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System

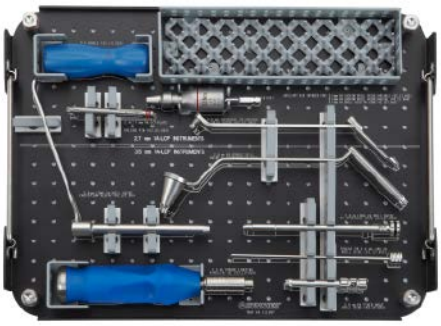
Instruments

	2.8 mm Compression Wires, 200 mm, 4 ea.
	Thread Length
03.118.010	10 mm
03.118.015	15 mm
03.118.020	20 mm
03.118.025	25 mm
03.118.030	30 mm
03.118.035	35 mm
03.118.040	40 mm
03.118.045	45 mm
03.118.050	50 mm
03.118.055	55 mm
03.118.060	60 mm
	Periarticular Reduction Forceps, 6.5 mm Ball and Pointed Tip
03.118.001	Small
03.118.110	Medium
	Large Forceps with Speed Lock
03.118.002	Compression
03.118.003	Distraction
	Compression and Distraction Posts for Variable Angle Locking Hole, 2 ea.
03.118.005	3.5 mm
03.118.008	2.7 mm

2.7 mm/3.5 mm Variable Angle Instrument Set for Variable Angle LCP Ankle Trauma System (01.118.007)

Graphic Case

60.118.007	2/3 Length Instrument Tray for 2.7 mm/ 3.5 mm Variable Angle Locking Screws for Variable Angle LCP Ankle Trauma System



2.7 mm Variable Angle Instruments

03.110.005	Handle for Torque Limiting Attachment
03.110.002	Torque Limiting Attachment, 1.2 Nm
03.211.001	2.4 mm/2.7 mm VA-LCP Plate Holding Pins
03.211.002	2.0 mm Universal Variable Angle Locking Drill Guide

3.5 mm Variable Angle Instruments

03.127.001	2.8 mm Fixed Angle Drill Guide
03.127.002	2.8 mm Variable Angle Double Drill Guide with Cone
03.127.004	2.8 mm Variable Angle Spherical Drill Guide, long
03.127.005	Trocar for 2.8 mm Variable Angle Spherical Drill Guide, long
03.127.006	Protection Sleeve for 2.8 mm Variable Angle Drill Guide, long
03.127.016	2.5 Nm Torque Limiting Handle with quick coupling

2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Set (01.118.012)

Graphic Case

61.116.035	Three High Generic Graphic Case, full length, qty. 2

60.116.035

Sets

01.118.001	2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates Set
01.118.002	2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates and T- and L- Plates Set
01.118.003	2.7 mm Variable Angle LCP Lateral Distal Fibula Plates Set
01.118.009	2.7 mm Screw Set for Variable Angle LCP Ankle Trauma System
01.118.010	3.5 mm/4.0 mm Screw Set for Variable Angle LCP Ankle Trauma System
01.118.005	2.7 mm/3.5 mm General Instrument Set for Variable Angle LCP Ankle Trauma System
01.118.015	2.7 mm/3.5 mm Reduction Instrument Set for Variable Angle LCP Ankle Trauma System
01.118.007	2.7 mm/3.5 mm Variable Angle Instrument Set for Variable Angle LCP Ankle Trauma System

Tray

61.116.114	One Third Auxiliary Tray


60.116.114

2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Instrument and Implant Consolidated Set (01.118.014)

Graphic Case

61.116.035	Three High Generic Graphic Case, full length, qty. 1

Sets

01.118.011	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Plates Set
01.118.004	2.7 mm/3.5 mm Screw Set for Variable Angle LCP Ankle Trauma System
01.118.005	2.7 mm/3.5 mm General Instrument Set for Variable Angle LCP Ankle Trauma System
01.118.007	2.7 mm/3.5 mm Variable Angle Instrument Set for Variable Angle LCP Ankle Trauma System

60.116.035

Modular Graphic Cases

61.116.035 Three High Generic Graphic Case, full length

Designed to house one of the following combinations:
- Two 2/3 instrument or implant trays, one full length instrument tray, and one screw rack
- Three 2/3 instrument or implant trays, one screw rack, and one 1/3 auxiliary tray
- Any combination of 2/3 trays and screw racks of full length trays

61.116.003

61.116.003 One High Generic Graphic Case, full length

Designed to house:
- One full length instrument or implant tray

61.116.034 Two High Generic Graphic Case, full length

Designed to house:
- Two full length instrument or implant tray
- Two 2/3 instrument or implant trays, and one screw rack

61.116.081 Modular Graphic Case, 2/3 Length, 2 High

Designed to house:
- Two 2/3 instrument or implant trays

61.116.082 Modular Graphic Case, 2/3 Length, 3 High

Designed to house:
- Three 2/3 instrument or implant trays

Trays and Screw Racks, Labels and Components

Trays and Screw Racks

60.118.001	2/3 Tray for 2.7 mm/3.5 mm Variable Angle LCP Anterolateral Distal Tibia Plates
60.118.002	2/3 Tray for 2.7 mm/3.5 mm Variable Angle LCP Medial Distal Tibia Plates and T- and L- plates
60.118.003	2/3 Tray for 2.7 mm Variable Angle LCP Lateral Distal Fibula Plates
60.118.011	Tray for 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Plates
60.118.009	2.7 mm Screw Rack for Variable Angle LCP Ankle Trauma System
60.118.010	3.5 mm/4.0 mm Screw Rack for Variable Angle LCP Ankle Trauma System
60.118.004	2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma Screw Rack
60.118.005	2/3 General Instrument Tray for 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System
60.118.006	Full Length Ankle Reduction Instrument Tray for 2.7 mm/3.5 mm Variable Angle LCP Ankle Trauma System
60.118.007	2/3 Length Instrument Tray for 2.7 mm/3.5 mm Variable Angle Locking Screws for Variable Angle LCP Ankle Trauma System

Labels

60.116.578	Label Sheet for Ankle Trauma System

Components

61.116.015	Replacement Lid for Modular Graphic Cases, full length
61.116.016	Replacement Lid for Modular Graphic Cases, 2/3 length
60.116.018	Support Bracket Kit for Trays for Modular Graphic Cases
60.116.019	Support Posts for Screw Racks for Modular Graphic Cases

Auxiliary Trays

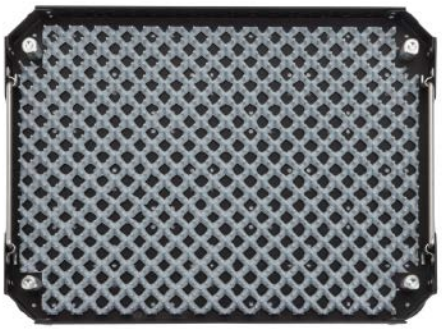
Auxiliary Trays

61.116.114	Auxiliary Tray, 1/3 length
61.116.113	Auxiliary Tray, 2/3 length

Also Available

	Posts for Locking Hole
03.118.004	3.5 mm
03.118.006	2.7 mm

60.116.114



60.116.113

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