2.7 MM VARIABLE ANGLE LOCKING ANTERIOR PATELLA PLATES

Variable Angle Locking Patella Plating System

Surgical Technique

approved by AO Technical Commission

DePuy Synthes
THE ORTHOPAEDICS COMPANY OF Johnson & Johnson

Image intensifier control

This description alone does not provide sufficient background for direct use of DePuy Synthes products. Instruction by a surgeon experienced in handling these products is highly recommended.
Please refer to the IFU for product information including but not limited to indications, contraindications, warnings, precautions and adverse effects.

Processing, Reprocessing, Care and Maintenance
Note: For additional information, please refer to the package insert or www.e-ifu.com.

For detailed cleaning and sterilization instructions, please refer to www.depuysynthes.com/hcp/cleaning-sterilization or sterilization instructions, if provided in the instructions for use.

Table of Contents

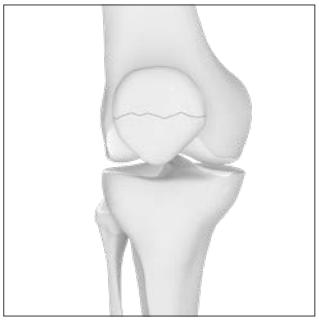
■ **Notes**
▲ **Precautions**
▲ **WARNINGS**

Patella Fractures

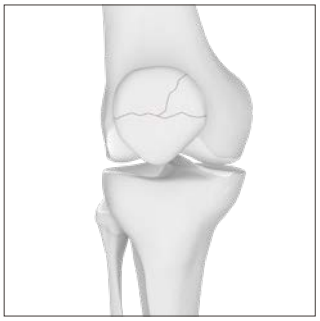
Fractures of the patella can lead to profound impairment due to its crucial function in the extensor mechanism of the knee. In a fractured patella, soft tissue structures provide distraction forces across the fragments, making stable fixation challenging to maintain over time.

Simple and complex patella fractures are typically treated using wires, screws and sutures in different combinations as a primary fixation method.

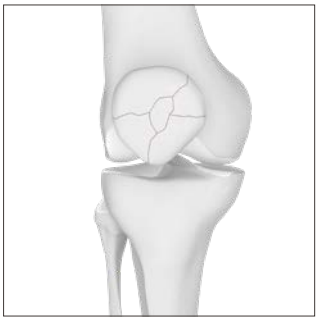
Locked plating in the patella is intended to deliver consistent stability and reproducible results.



Simple Fractures

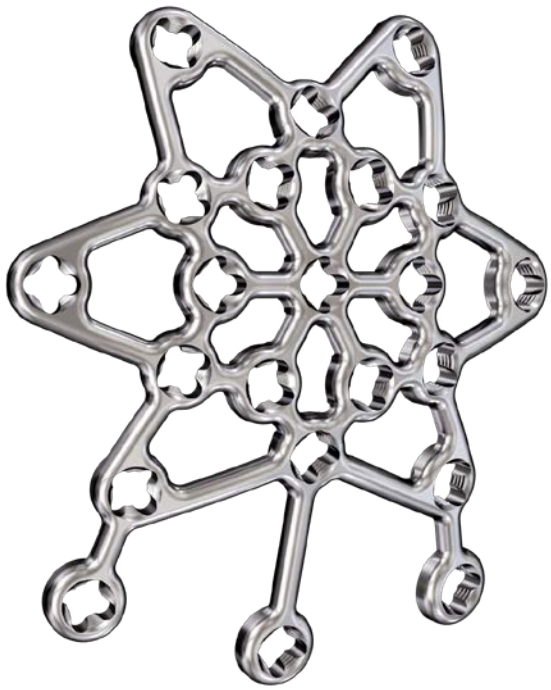


Wedge Fractures



Complex Fractures

2.7 mm VA Locking Anterior Patella Plates



Features and Benefits

- Range of plates designed to address simple, wedge and complex fractures for large and small patellae.
- Plate design facilitates bending and contouring to meet patient specific needs.
- Windows can be used to attach soft tissue with suture.
- Plates can be cut to meet the needs for the specific fracture pattern and patient anatomy.
- Variable angle (VA) locking holes enable up to 15° of screw angulation to target small bone fragments, avoid fracture lines and other hardware.
- Screw holes accept 2.4 mm* and 2.7 mm VA locking, and cortex screws.
- Legs of the plate allow bicortical polar (apex to base) screws to be placed for interfragmentary fixation.
- Available in Titanium and Stainless Steel.

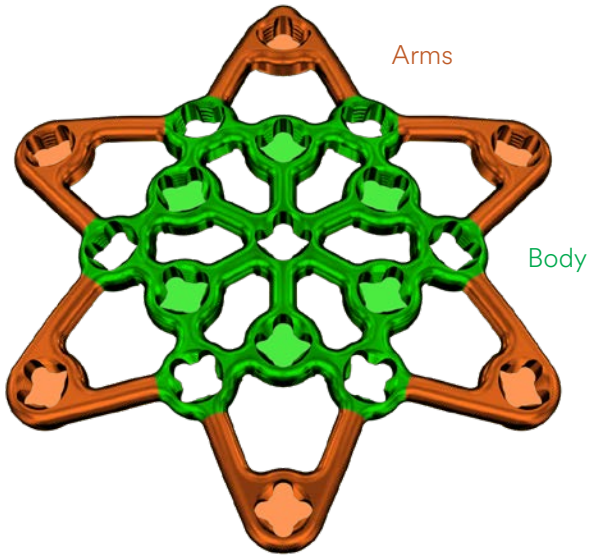
	Core Plates	3-hole Plates	6-hole Plates
Small			
Standard			

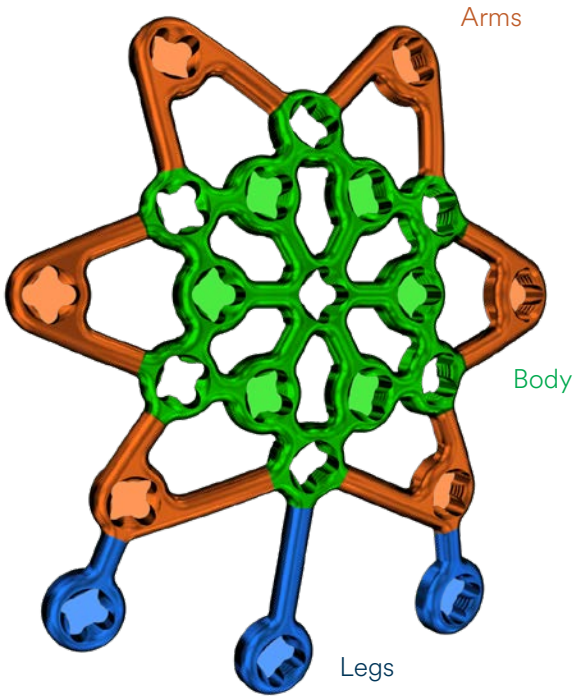
* 2.4 mm anterior-posterior locking screws may only be used in small, non-load bearing fragments.

The 2.7 mm VA Locking Anterior Patella Plate is designed for utility across various fracture patterns. The surgical technique guide includes two sections:

- Complex Fractures – 3-hole and 6-hole plates are recommended.
- Simple Fractures – Core, 3-hole, and 6-hole plates may be used, based on fracture complexity.

Use the plate anatomy charts shown as a reference throughout the technique guide.





Indications and Contraindications

Indications

The DePuy Synthes Variable Angle Locking Patella Plating System is indicated for the fixation and stabilization of patellar fractures in normal and osteopenic bone in skeletally mature patients.

Contraindications

No contraindication specific to these devices.

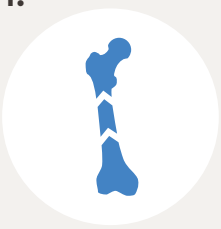
The AO Principles of Fracture Management

Mission

The AO's mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

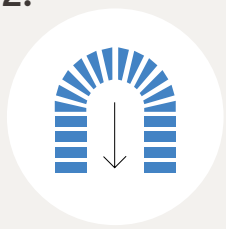
AO Principles[1,2]

1.



Fracture reduction and fixation to restore anatomical relationships.

2.

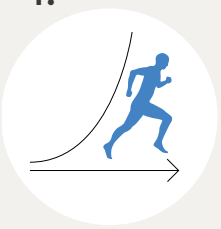


Fracture fixation providing absolute or relative stability, as required by the "personality" of the fracture, the patient, and the injury.

3.

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

4.



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

[1] Müller ME, M Allgöwer, R Schneider, H Willenegger. Manual of Internal Fixation. 3rd ed. Berlin, Heidelberg, New York: Springer. 1991
[2] Buckley RE, Moran CG, Apivatthakakul T. AO Principles of Fracture Management: 3rd ed. Vol. 1: Principles, Vol. 2: Specific fractures. Thieme; 2017.

Approach

1. Position the Patient

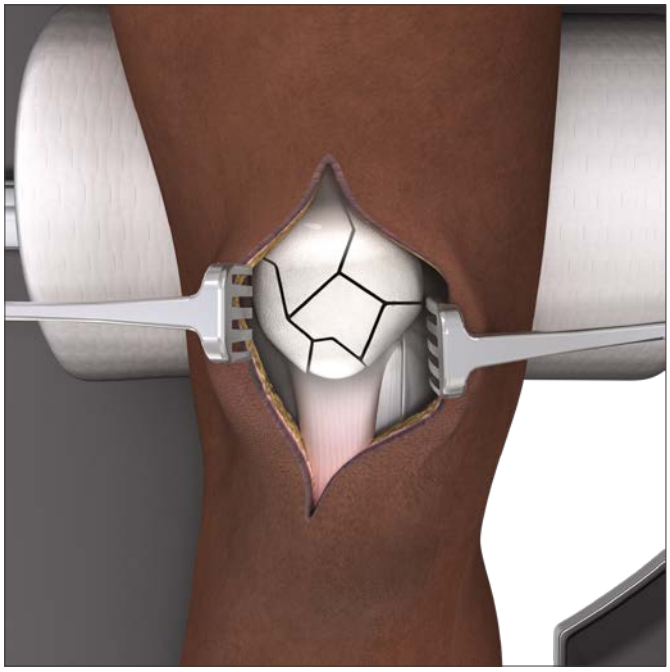
Patient should be in a supine position with the knee in slight flexion using a roll under the knee.

■ Note:

This positioning facilitates fluoroscopic control in the lateral and or oblique views.

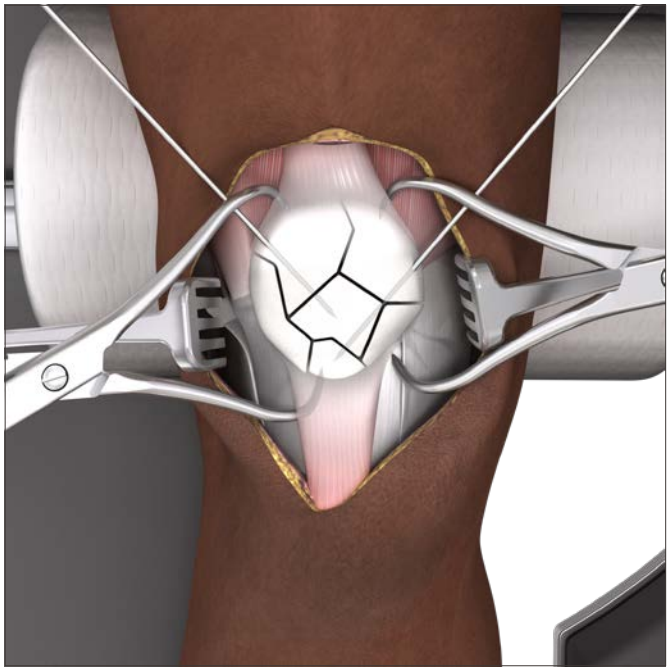
2. Make Incision

Make a midline or parapatellar (medial or lateral) incision to ensure adequate exposure to the fracture site.



3. Fracture Reduction

Instruments	
399.78	Reduction Forceps with points, Speed Lock, length 205 mm
292.71	1.6 mm Kirschner Wire with 5 mm thread-trocar point 150 mm



Reduce the fragments using reduction forceps, fix the achieved position of patella fragments with Kirschner Wires, and use image intensification control and direct visualization to verify reduction. The reduction method may be fracture specific.

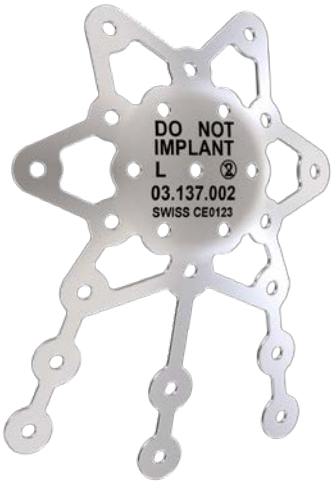
If using image intensification to confirm reduction, be sure to take appropriate angle views of the articular surface.

■ Note:

Place the reduction forceps and Kirschner Wires in a manner that will not interfere with the plate placement.

4. Templating

Templates are available to help determine proper sizing and help predict contoured shape of implant. The templates are provided in the 6-hole configuration only, which can be used to approximate sizing and contouring for core, 3-hole and 6-hole implants. Templates are pre-formed to match the implant and include holes for k-wire fixation.



Instruments	
03.137.002S	Patella Template Kit, Anterior, Sterile
391.94	Small Wire Cutter 230 mm

■ Notes:

- The distal arms of the template are slightly wider than distance between arms of the core plate.
- Templates are intended for single use only.
- Legs of the template can be bent or cut as required.

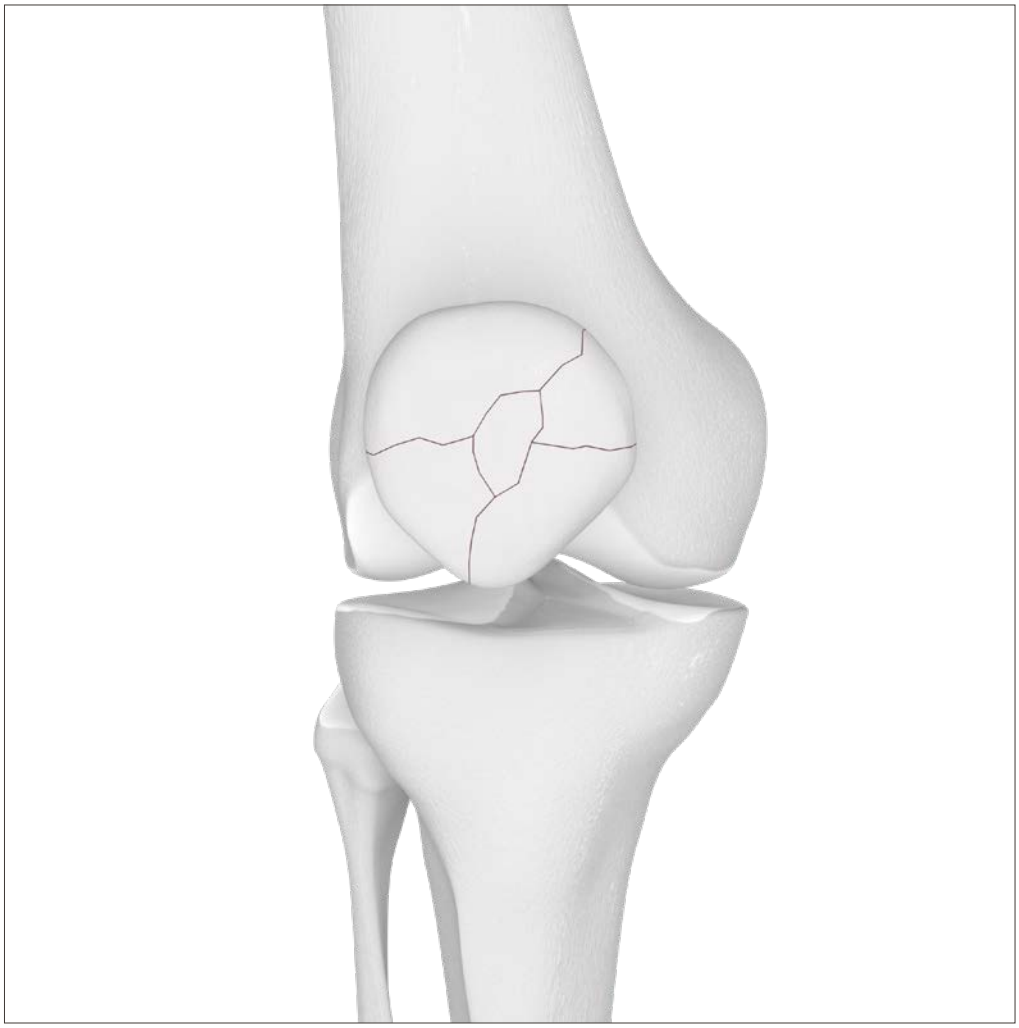
▲ Precaution:

Do not implant templates.

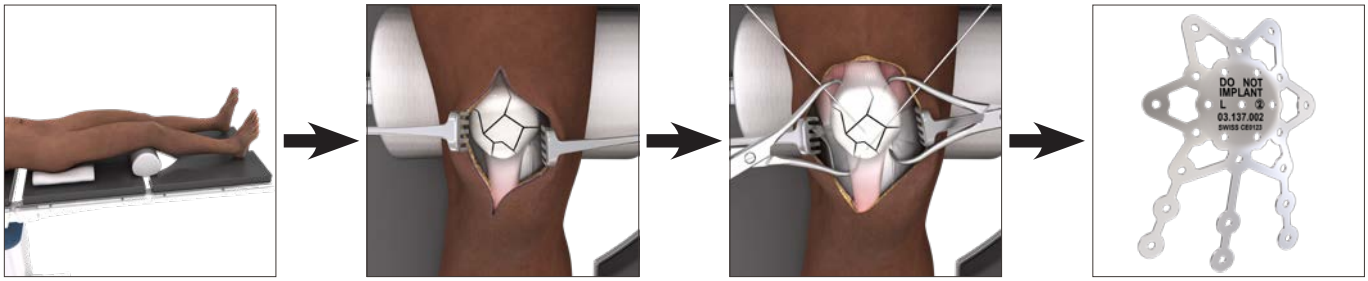
▲ WARNING:

Failure to smooth sharp edges may result in user injury.

Implantation – Complex Fractures



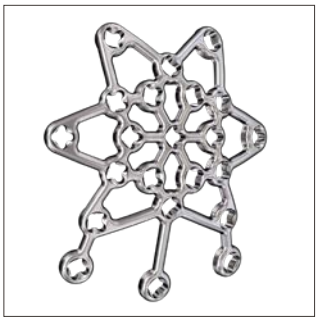
Perform steps 1 through 4 on pages 7–10.

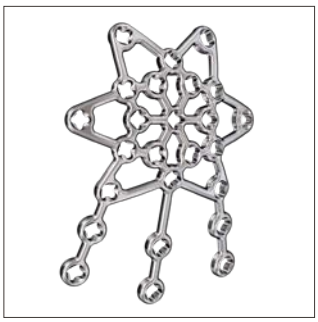


5. Selection of 2.7 mm Variable Angle Locking Patella Plate

Select an implant of the desired size and material:

Implants	
02.137.001S	2.7 mm VA Locking Anterior Patella Plate, 3-Hole, Small, Stainless Steel, Sterile
02.137.002S	2.7 mm VA Locking Anterior Patella Plate, 6-Hole, Small, Stainless Steel, Sterile
02.137.004S	2.7 mm VA Locking Anterior Patella Plate, 3-Hole, Stainless Steel, Sterile
02.137.005S	2.7 mm VA Locking Anterior Patella Plate, 6-Hole, Stainless Steel, Sterile
04.137.001S	2.7 mm VA Locking Anterior Patella Plate, 3-Hole, Small, Titanium, Sterile
04.137.002S	2.7 mm VA Locking Anterior Patella Plate, 6-Hole, Small, Titanium, Sterile
04.137.004S	2.7 mm VA Locking Anterior Patella Plate, 3-Hole, Titanium, Serile
04.137.005S	2.7 mm VA Locking Anterior Patella Plate, 6-Hole, Titanium, Sterile





▲ Precaution:

Selection of plate material should take into account any known patient allergies.

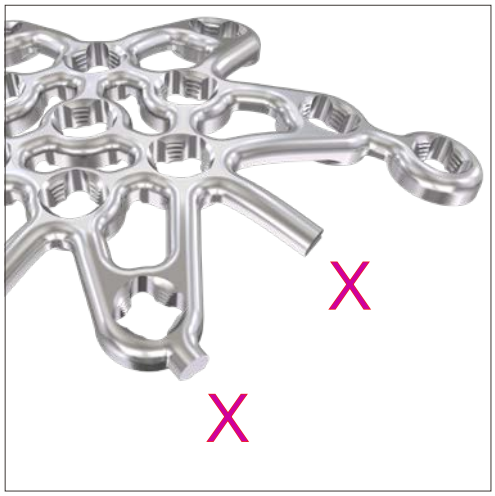
▲ WARNING:

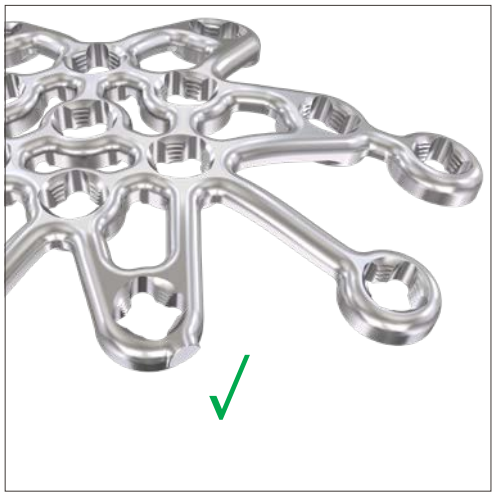
Metals should not be mixed. Be sure to select the appropriate screw options for the plate selected.

6. Plate Cutting (optional)

Cut the plate as needed to address the fracture pattern and patient anatomy.
Use the plate file to help smooth sharp edges of the plate which may result from cutting.

Instruments	
391.94	Small Wire Cutter, 230 mm
03.500.020	File with Hex Coupling
311.006	Screwdriver handle with Hex coupling, Medium





▲ WARNINGS:

- Failure to smooth sharp edges may result in user injury or soft tissue irritation for the patient.
- Do not cut the body of the plate to prevent compromising the structural integrity of the plate.

▲ Precaution:

To help avoid soft tissue irritation, cut as close as possible to the distal hole without damaging the VA hole.

7. Plate Contouring

Plates are pre-contoured to minimize the amount of contouring required intraoperatively. Ex-situ and in-situ bending can be performed to ensure the plate fits the specific anatomy.

The plate should be contoured to match the patient's anatomy before inserting fixation screws.

Instruments	
03.137.000	Plate Bending Instrument, Straight
03.137.001	Plate Bending Instrument, Curved

■ Notes:

- A well-contoured plate compressed to the bone supports stable fixation and minimizes prominence of the plate.
- Templates may be used as a reference for approximate shape during ex-situ bending of the plate.

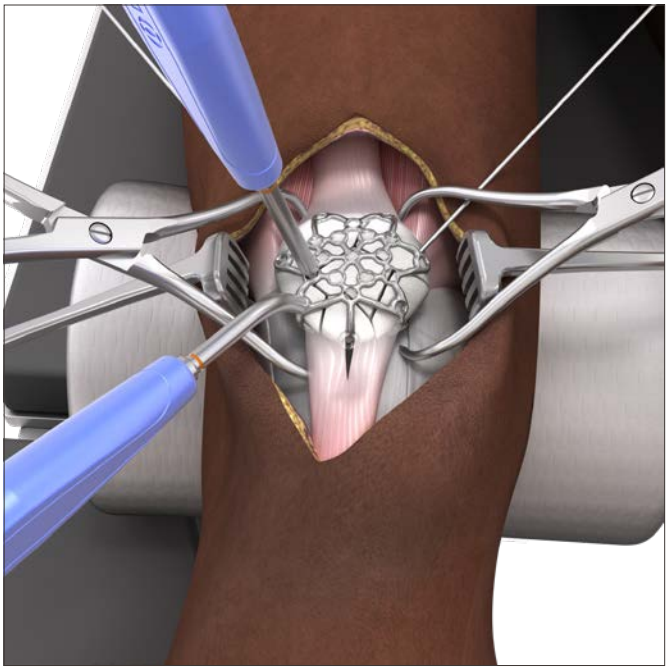
▲ Precautions:

- The patellar tendon should be split longitudinally as needed when using a leg to capture distal pole fragments. Transverse incisions should not be made into the patellar tendon to avoid rupture or other soft tissue damage.
- Using adjacent holes, bend the plate between the VA locking holes. Do not deform the threaded part of the holes or overbend the plates during bending as this may adversely affect insertion of VA locking screws.

▲ WARNING:

Do not bend the plate beyond what is required to match the anatomy. Reverse bending or use of the incorrect instrumentation for bending may weaken the plate and lead to premature plate failure.

Avoid over bending and reverse bending. **Reverse bending may weaken the plate and lead to premature plate failure.**

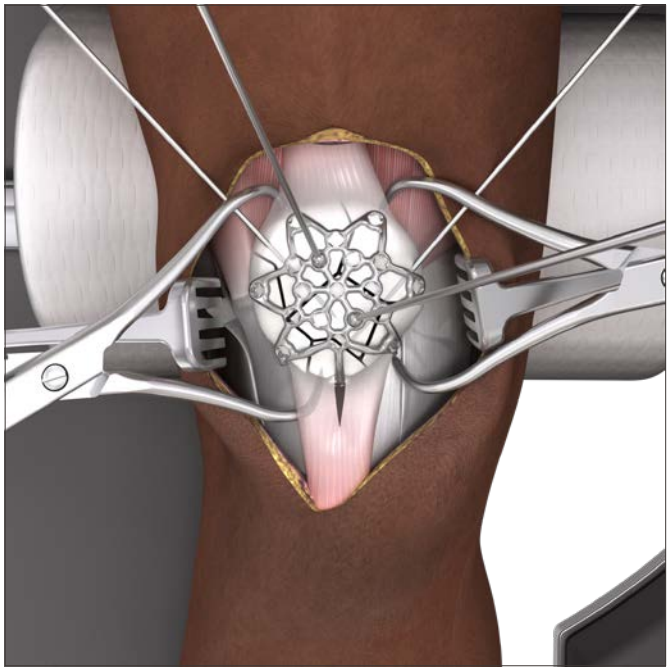


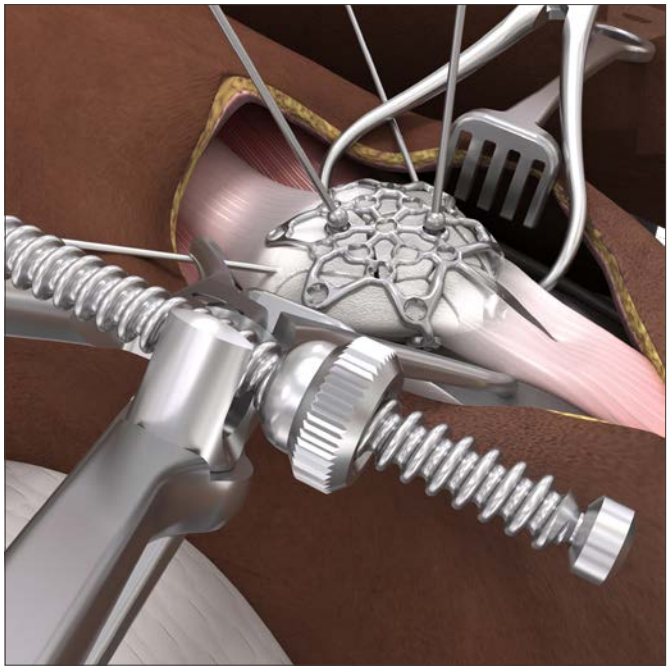
8. Provisional Plate Fixation

Do not place provisional fixation until the plate is adequately adapted (i.e. to the inferior pole) and proper reduction is achieved.
Maintain fracture reduction using Kirschner wires or reduction forceps. Position the plate over the patella, ensuring appropriate placement according to the fracture pattern and patient anatomy. Provisionally fixate the plate using 1.6 mm threaded compression wires.

Verify proper reduction after achieving provisional fixation.

Instruments	
03.211.410	1.6 mm Compression Wire 10 mm Thread/150 mm length
292.71	1.6 mm Kirschner Wire with 5 mm thread-trocar point 150 mm





■ Note:

Alignment of the extensor mechanism with bony anatomy should be considered when placing the plate.

▲ Precaution:

Plate legs should be placed as to not interfere with the articular surface.

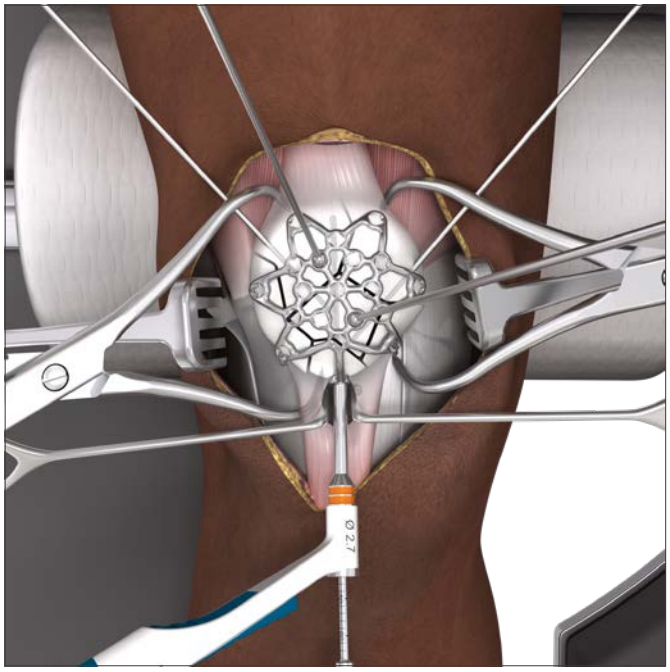
9. Screw Insertion

In most complex fractures, it is important to place a distal pole screw from the distal pole to the proximal pole first.

Depending on the fracture pattern, this screw should be inserted in the middle of the distal pole, where the inferior plate leg is positioned as shown.

A variable angle locking screw may be used, or, if compression is desired (between the plate and bone or inter fragmentary), a cortex screw may be used.

Using the appropriate instruments, drill pilot holes for cortex and variable angle locking screws and perform screw insertion.



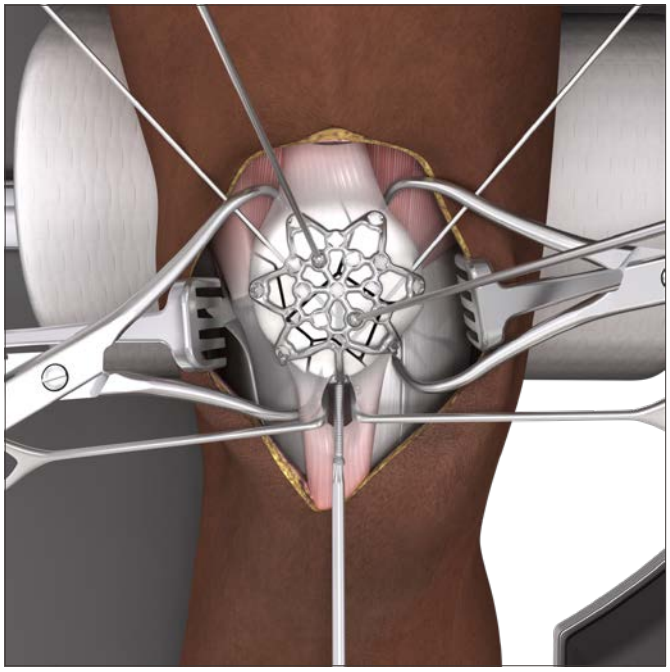
1. Variable Angle locking screw with pole technique

▲ WARNING:

To achieve the lowest profile construct, do not use cortex screws for anterior to posterior screw fixation.

▲ Precaution:

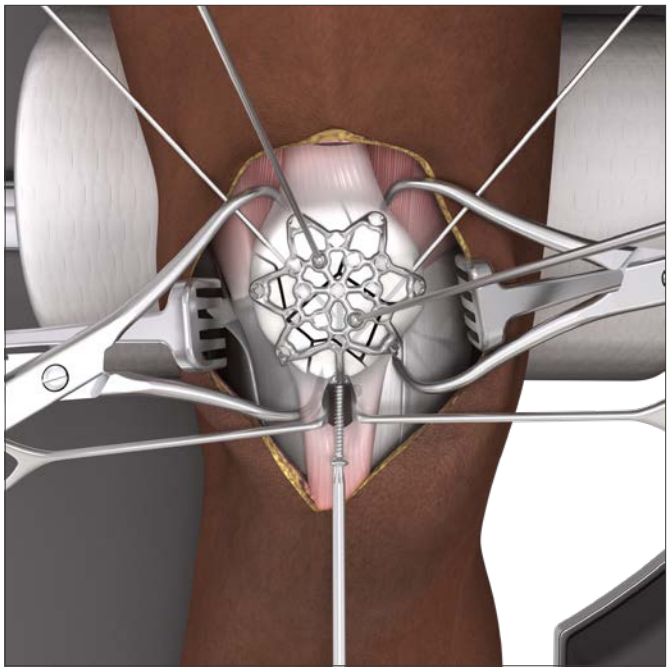
The sequence of screw insertion is important to note when using polar and rim screws of the 3-hole and 6-hole patella plates. Failure to insert screws in the recommended sequence may result in obstruction with other screws and consequently, inability to deliver a stable construct.



2. Optional Cortex screw pole technique

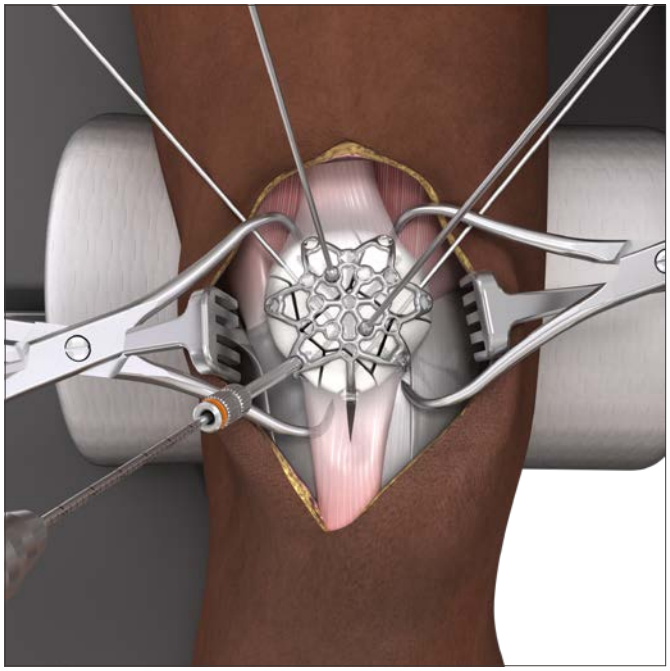
▲ WARNING:

If using cortex screws with a complex fracture, ensure the fragments are not secondarily displaced.



9a. Drill using predefined Nominal Angle Technique and Measure Depth

Instruments for ∅ 2.7 mm Screws	
03.133.008	2.0 mm Threaded Guide for 2.7 mm Screws
03.133.101	2.0 mm Drill Bit / Quick Coupling 140 mm, 60 mm Calibration
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws



VA locking screws can be inserted into the plate at the predefined hole angle. Cortex screws must be inserted into the plate at the predefined hole angle.
Insert and lock the tip of the Threaded Guide for 2.7 mm Screws into the VA locking hole. The Threaded Guide will self retain in the VA locking hole.

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

Use the calibrated drill bit or depth gauge to measure for the correct screw length.

▲ Precautions:

- A minimum of two screws per fragment is recommended; however, if this is not possible due to fragment size, after placing a single screw an additional augmentation technique should be considered as described in section 11. Anterior to posterior directed screws should be unicortical and locking.
- Be sure to consider screw trajectory to avoid collision with other screws, Kirschner Wires or other hardware.
- Ensure drill bits do not protrude into the articular surface.

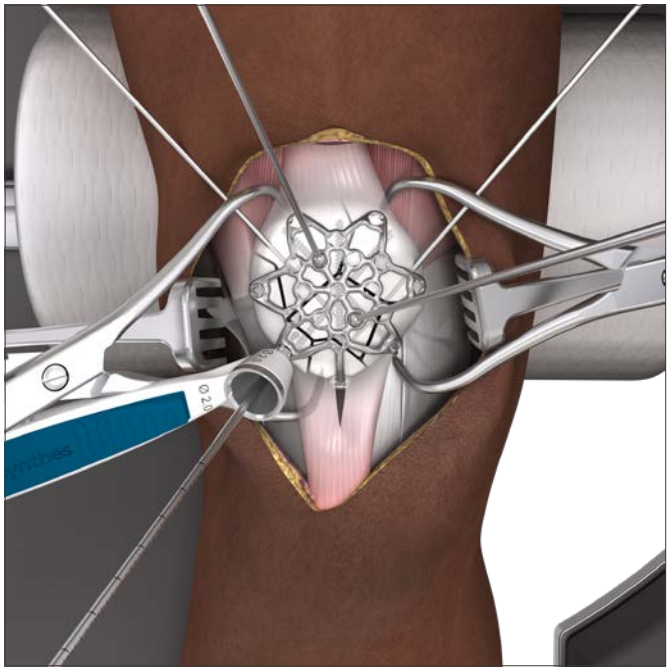
▲ WARNING:

2.4 mm anterior-posterior locking screws may only be used in small, non-load bearing fragments.

9b. Drill using Variable Angle Locking Technique and Measure Depth

Instruments for ∅ 2.7 mm Variable Angle Locking Screws

03.133.007	2.7 mm Variable Angle Drill Guide
03.133.101	2.0 mm Drill Bit / Quick Coupling 140 mm, 60 mm Calibration
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws



To insert the variable angle locking screw off the nominal axis, insert the cone-shaped 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-degree 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. Use the depth gauge to measure for the correct screw length.

▲ Precautions:

- A minimum of two screws per fragment is recomended; however, if this is not possible due to fragment size, after placing a single screw an additional augmentation technique should be considered as described in section 11. Anterior to posterior directed screws should be unicortical and locking.
- Be sure to consider screw trajectory to avoid collision with other screws, Kirschner Wires or other hardware.
- Free hand drilling is not recommended. It is important not to angulate more than 15 degrees from the central axis of the screw hole. Over angulation may result in difficulty while locking the screw and inadequate screw locking. To ensure that the drill guide is locked correctly, do not angle the drill bit in excess of +/-15 degrees from the nominal trajectory of the hole.
- Ensure drill bits do not protrude into the articular surface.

▲ WARNING:

2.4 mm anterior-posterior locking screws may only be used in small, non-load bearing fragments.

10. Screw Placement

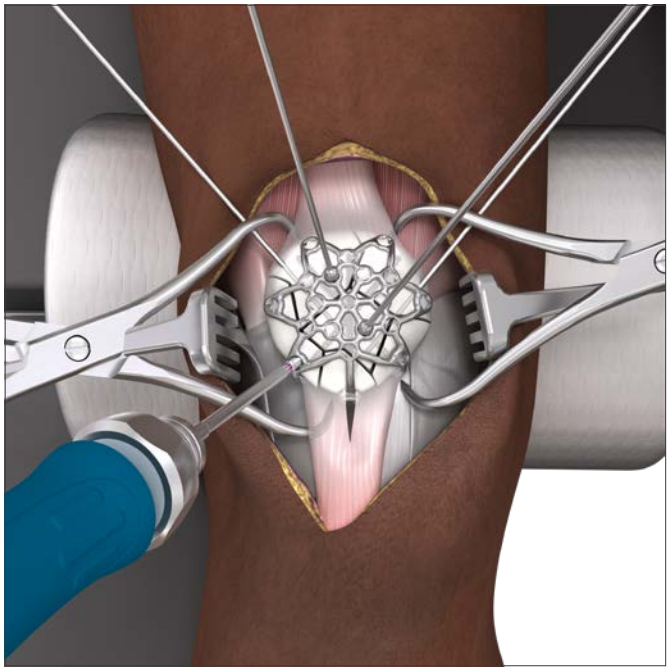
Instruments	
03.133.150	Universal Screwdriver Handle
314.467	Stardrive Screwdriver Shaft T8, 105 mm

Insert the correct length variable angle locking screw or cortex screws. Insert the screw until the screw head is seated in the variable angle locking hole. Insert additional screws as needed.

▲ Precautions:

- Do not over-tighten the screws. This allows for the screws to be easily removed should they not be in the desired position.
- Ensure screws do not protrude into the articular surface. Use image intensification finger palpation or direct visualization as needed to help confirm that screws do not protrude through the articular surface.

Confirm proper alignment, screw placement, and screw length with multiple views under image intensification.



10a. Perform Final Tightening of VA Locking Screws

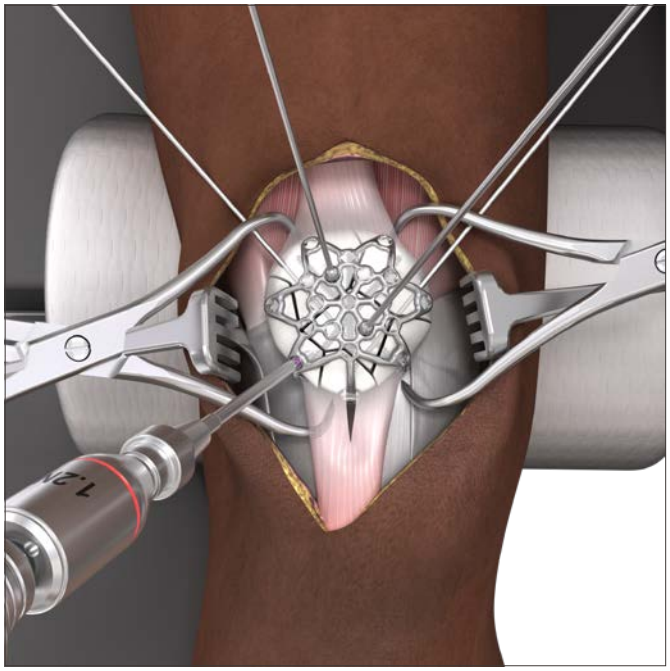
Instruments for ∅ 2.7 mm Variable Angle Locking Screws

03.110.002	Torque Limiting Attachment 1.2 Nm
03.133.150	Universal Screwdriver Handle
314.467	Stardrive Screwdriver Shaft T8, 105 mm

Use the appropriate torque limiter (TL) to final tighten the variable angle locking screws. Assemble the torque limiter to the T8 StarDrive Screwdriver shaft and the handle for torque limiter.

After appropriate screw angle and length have been determined, manually insert the screw using the TL assembly.

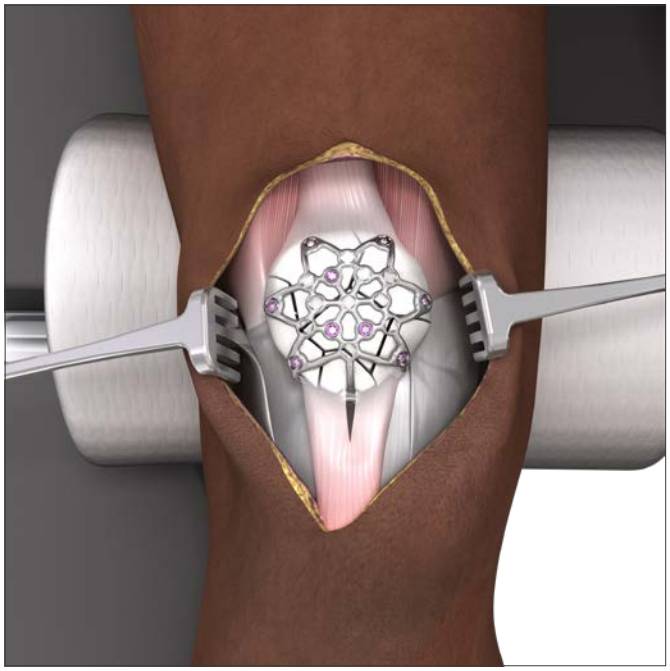
Use of the TL is mandatory when performing final tightening of the screws into variable angle locking holes to ensure the correct amount of torque is applied.

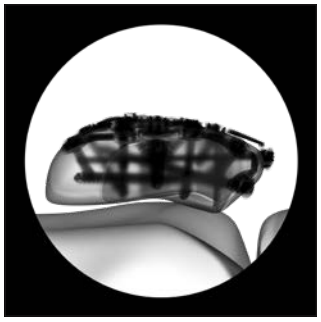


11. Verify Reduction and Fixation Stability

Remove all provisional wires, clamps and confirm final fixation of plate with image intensification.

Perform visual and palpable control of fracture gaps through passive non-aggressive knee flexion/extension.



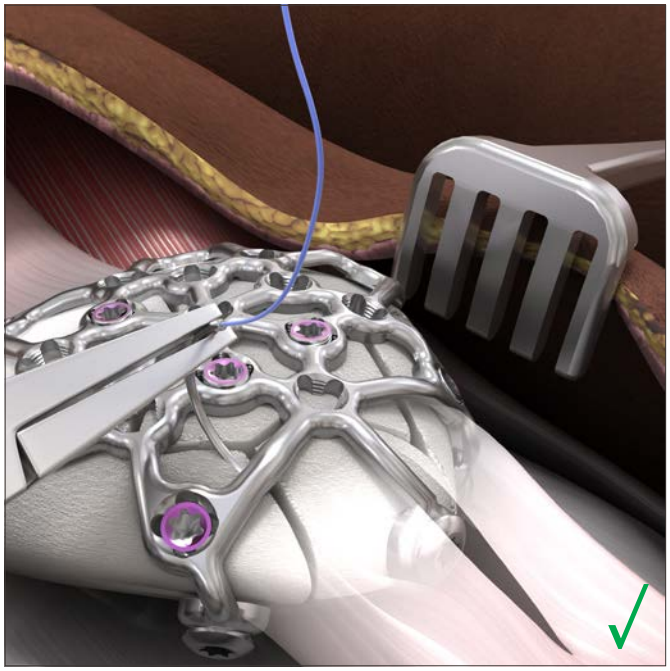


Soft Tissue Anchoring with Suture

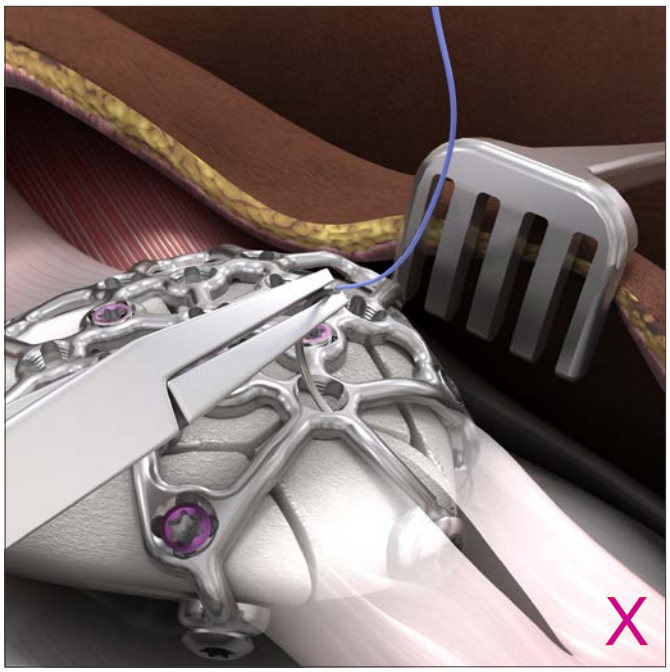
The plate may be used as an anchor point to reapproximate soft tissue. In cases of comminution/inferior bone quality, the Krakow suture or other augmentation techniques should be used.

▲ WARNINGS:

- An augmentation technique (e.g. with suture, independent lag screws) should be considered for peripheral bone fragment fixation with soft tissue approximation to ensure stability of fragments during bone and soft tissue healing.
- For retinaculum repair, ensure the soft tissue can be anchored without tilting the patella and affecting biomechanics of the joint.
- Suture should be threaded through the windows of the plate, not the VA locking holes. Threads of locking holes can result in suture breakage. Suture should be placed to avoid migration and loosening.

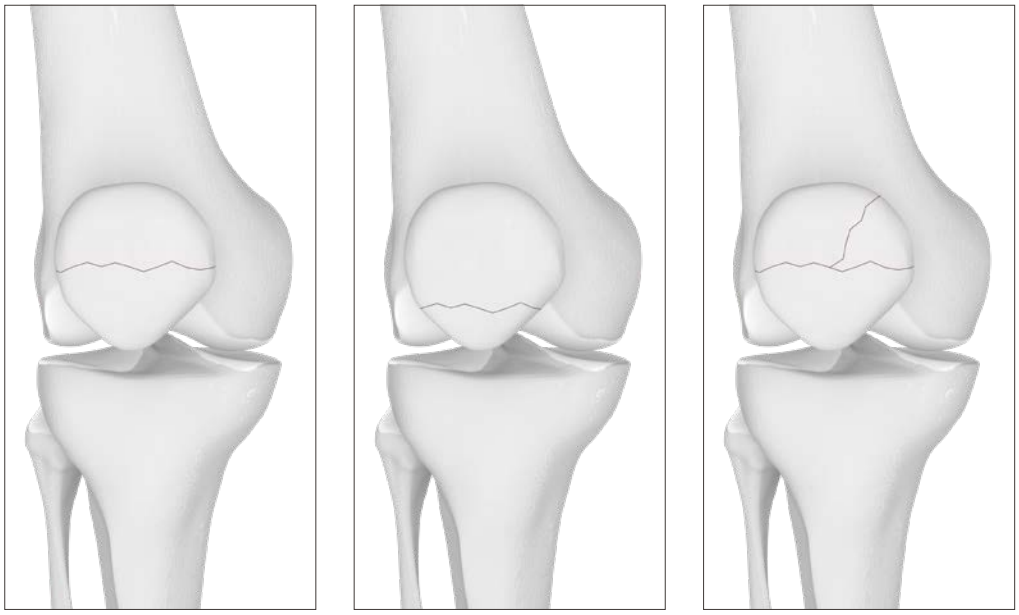


Correct

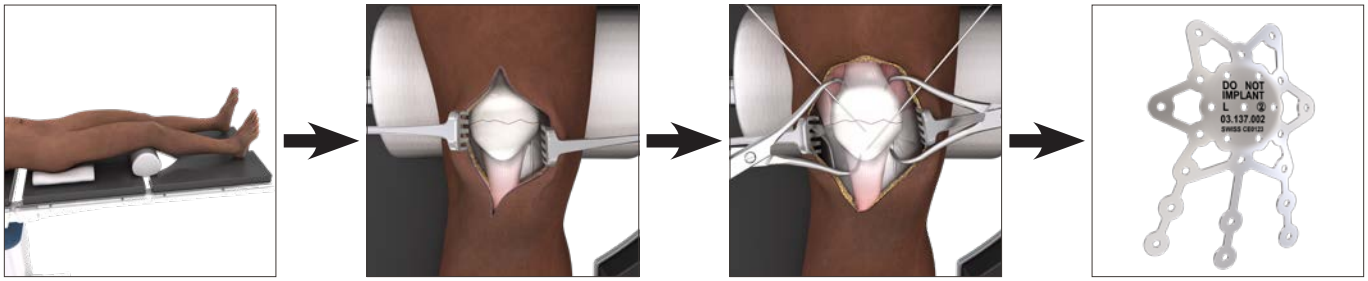


Incorrect

Implantation – Simple or Wedge Fractures



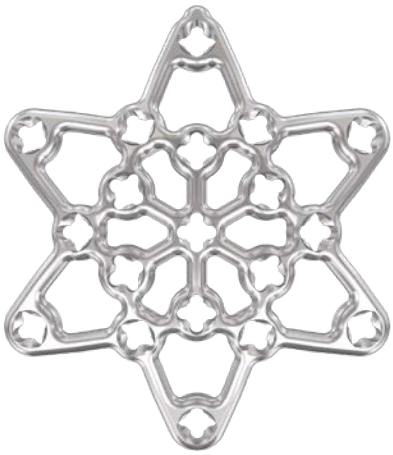
Perform steps 1 through 4 on pages 7–10.



5. Selection of 2.7 Variable Angle Locking Patella Plate

Select an implant of the desired size and material:

Implants	
02.137.000S	2.7 mm VA Locking Anterior Patella Plate, Core, Small, Stainless Steel, Sterile
02.137.003S	2.7 mm VA Locking Anterior Patella Plate, Core, Stainless Steel, Sterile
04.137.000S	2.7 mm VA Locking Anterior Patella Plate, Core, Small, Titanium, Sterile
04.137.003S	2.7 mm VA Locking Anterior Patella Plate, Core, Titanium, Sterile



▲ Precaution:

Selection of plate material should take into account any known patient allergies.

▲ WARNING:

Metals should not be mixed. Be sure to select the appropriate screw options for the plate selected.

6. Plate Contouring

Plates are pre-contoured to minimize the amount of contouring required intraoperatively. Ex-situ and in-situ bending can be performed to ensure the plate fits the specific anatomy.

The plate should be contoured to match the patient's anatomy before inserting fixation screws.

■ Note:

Templates may be used as a reference for approximate shape during ex-situ bending of the plate.

Instruments	
03.137.000	Plate Bending Instrument, Straight
03.137.001	Plate Bending Instrument, Curved

■ Note:

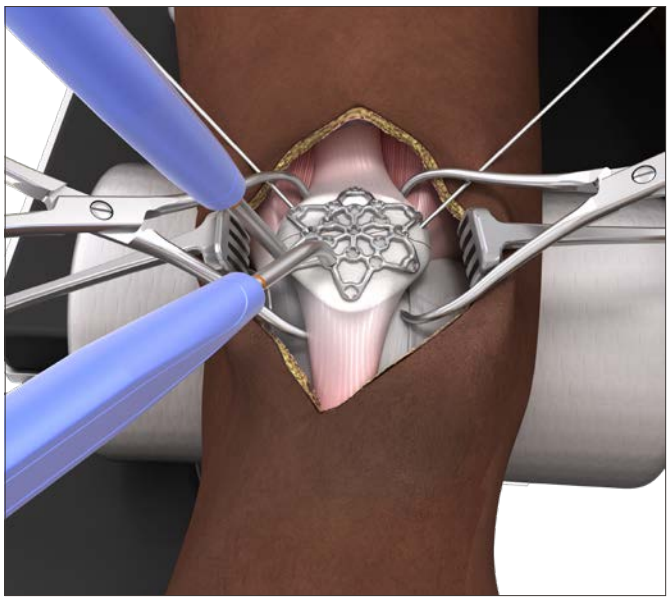
A well-contoured plate compressed to the bone supports stable fixation and minimizes prominence of the plate.

▲ Precaution:

Using adjacent holes, bend the plate between the VA locking holes. Do not deform the threaded part of the holes or overbend the plates during bending as this may adversely affect insertion of VA locking screws.

▲ WARNING:

Do not bend the plate beyond what is required to match the anatomy. Reverse bending or use of the incorrect instrumentation for bending may weaken the plate and lead to premature plate failure.

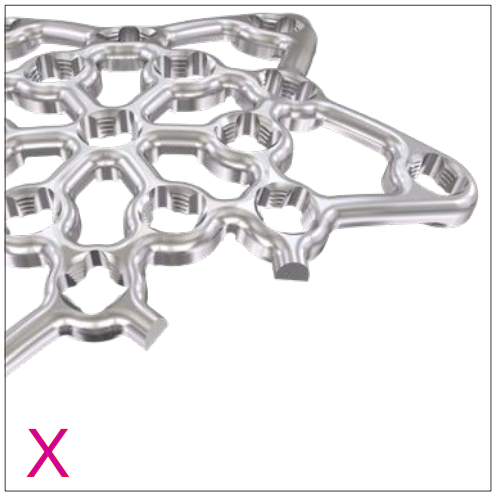


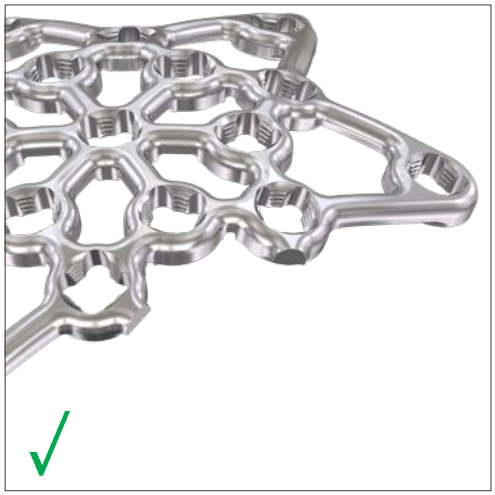
Avoid over bending and reverse bending. **Reverse bending may weaken the plate and lead to premature plate failure.**

7. Plate Cutting (optional)

Cut the plate as needed to address the fracture pattern and patient anatomy.
Use the plate file to help smooth sharp edges of the plate which may result from cutting.

Instruments	
391.94	Small Wire Cutter 230 mm
311.006	Screwdriver handle with Hex Coupling, Medium
03.500.020	File with Hex Coupling





▲ WARNINGS:

- Failure to smooth sharp edges may result in user injury or soft tissue irritation for the patient.
- Do not cut the body of the plate to prevent compromising the structural integrity of the plate.

▲ Precaution:

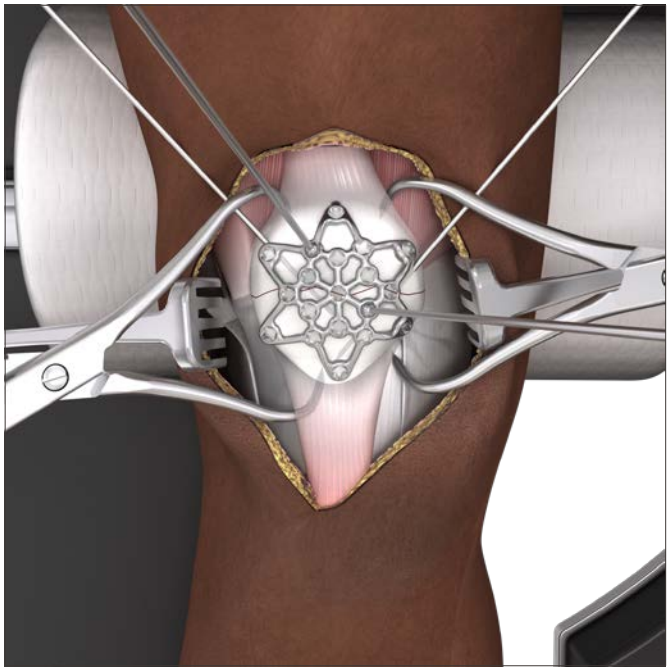
To help avoid soft tissue irritation, cut as close as possible to the distal hole without damaging the VA hole.

8. Provisional Plate Fixation

Maintain fracture reduction using Kirschner wires or reduction forceps. Position the plate over the patella, ensuring appropriate placement according to the fracture pattern and patient anatomy. Provisionally fixate the plate using 1.6 mm threaded compression wires.

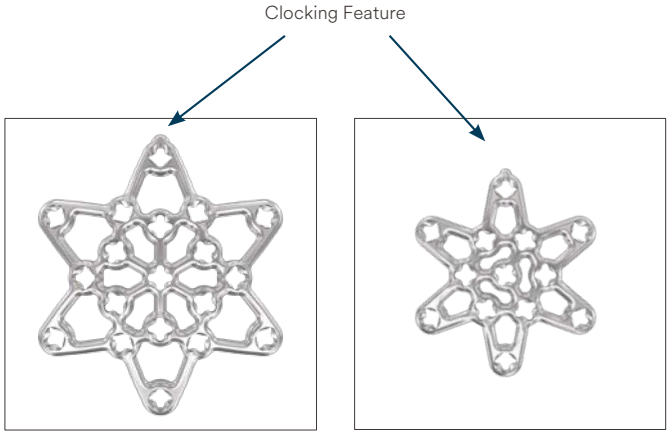
Verify proper reduction after achieving provisional fixation.

Instruments	
03.211.410	1.6 mm Compression Wire, 10 mm thread, 150 mm length
292.71	1.6 mm Kirschner Wire with thread-trocar point 150 mm



Notes:

- Alignment of the extensor mechanism with bony anatomy should be considered when placing the plate.
- Core plates feature a clocking feature to help maintain orientation while contouring.



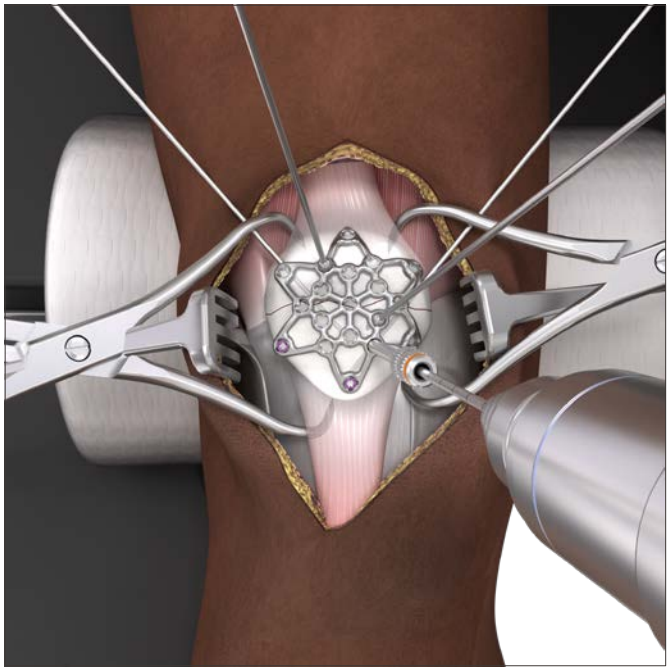
9. Screw Insertion

Using the appropriate instruments, drill pilot holes for variable angle locking screws and perform screw insertion.

9a. Drill using predefined Nominal Angle Technique and Measure Depth

Instruments for ∅ 2.7 mm Variable Angle Locking Screws

03.133.008	2.0 mm Threaded Guide for 2.7 mm Screws
03.133.101	2.0 mm Drill Bit / Quick Coupling 140 mm, 60 mm Calibration
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws



VA locking screws can be inserted into the plate at the predefined hole angle.

Insert and lock the tip of the Threaded Guide for 2.7 mm Screws into the VA locking hole. The Threaded Guide will self retain in the VA locking hole.

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

Use the calibarated drill bit or depth gauge to measure for the correct screw length.

▲ Precautions:

- A minimum of two screws per fragment is recomended; however, if this is not possible due to fragment size, after placing a single screw an additional augmentation technique should be considered as described in section 11. Anterior to posterior directed screws should be unicortical and locking.
- Be sure to consider screw trajectory to avoid collision with other screws, Kirschner Wires or other hardware.
- Ensure drill bits do not protrude into the articular surface.

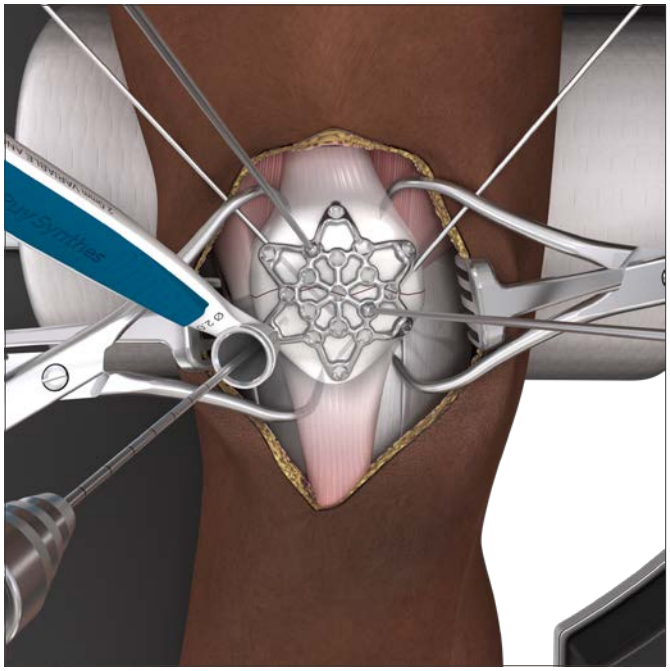
▲ WARNINGS:

- To achieve the lowest profile construct, do not use cortex screws for anterior to posterior screw fixation.
- 2.4 mm anterior-posterior locking screws may only be used in small, non-load bearing fragments.

9b. Drill using Variable Angle Locking Technique and Measure Depth

Instruments for ∅ 2.7 mm Variable Angle Locking Screws

03.133.007	2.7 mm Variable Angle Drill Guide
03.133.101	2.0 mm Drill Bit / Quick Coupling 140 mm, 60 mm Calibration
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws



To insert the variable angle locking screw off the nominal axis, insert the cone-shaped 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-degree 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. Use the depth gauge to measure for the correct screw length.

▲ Precautions:

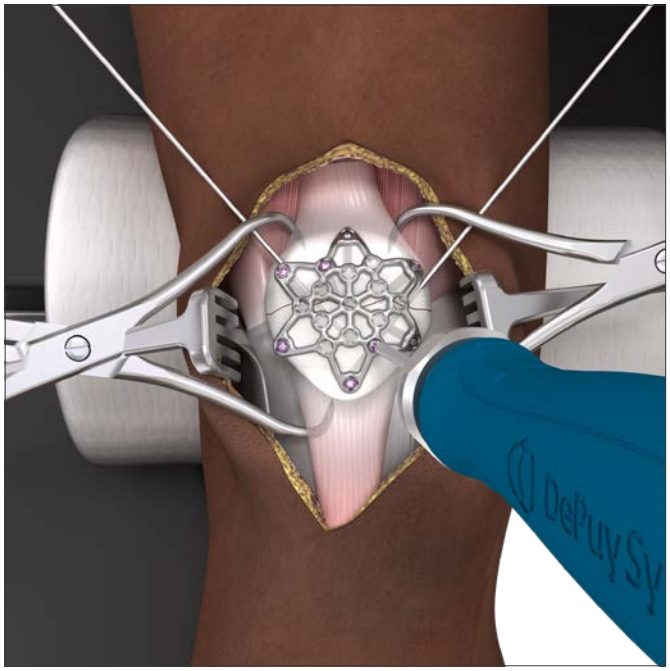
- A minimum of two screws per fragment is recommended. However, if this is not possible due to fragment size, after placing a single screw an additional augmentation technique should be considered as described in section 11. Anterior to posterior directed screws should be unicortical and locking.
- Be sure to consider screw trajectory to avoid collision with other hardware.
- Free hand drilling is not recommended. It is important not to angulate more than 15 degrees from the central axis of the screw hole. Over angulation may result in difficulty while locking the screw and inadequate screw locking. To ensure that the drill guide is locked correctly, do not angle the drill bit in excess of +/-15 degrees from the nominal trajectory of the hole.
- Ensure drill bits do not protrude into the articular surface.

▲ WARNING:

2.4 mm anterior-posterior locking screws may only be used in small, non-load bearing fragments.

10. Screw Placement

Instruments	
03.133.150	Universal Screwdriver Handle
314.467	Stardrive Screwdriver Shaft T8, 105 mm



Insert the correct length variable angle locking screw. Insert the screw until the screw head is seated in the variable angle locking hole. Insert additional screws as needed.

▲ Precautions:

- Do not over-tighten the screws. This allows for the screws to be easily removed should they not be in the desired position.
- Ensure screws do not protrude into the articular surface. Use image intensification finger palpation or direct visualization as needed to help confirm that screws do not protrude through the articular surface.

Confirm proper alignment, screw placement, and screw length with multiple views under image intensification.

10a. Perform final Tightening of VA Locking Screws

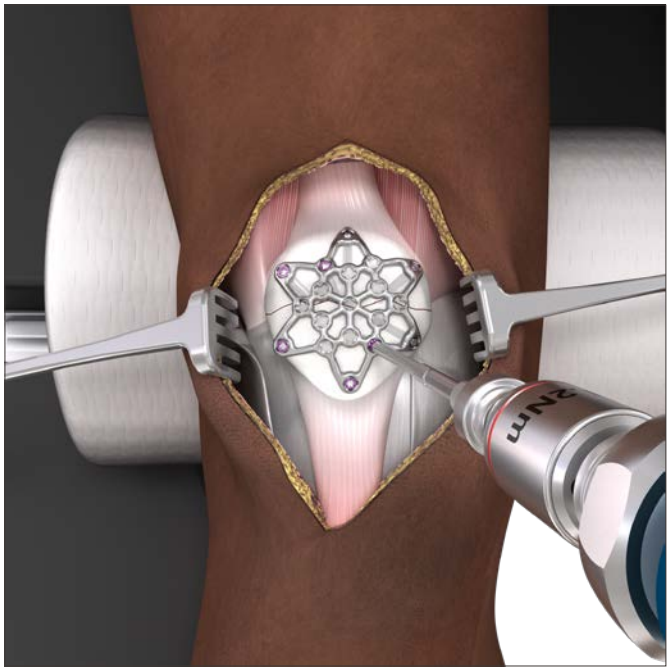
Instruments for ∅ 2.7 mm Variable Angle Locking Screws

03.133.150	Universal Screwdriver Handle Torque
03.110.002	Limitting Attachment, 1.2 Nm, Stardrive
314.467	Screwdriver Shaft T8, 105 mm

Use the appropriate torque limiter (TL) to final tighten the variable angle locking screws. Assemble the torque limiter to the T8 StarDrive Screwdriver shaft and the handle for torque limiter.

After appropriate screw angle and length have been determined, manually insert the screw using the TL assembly.

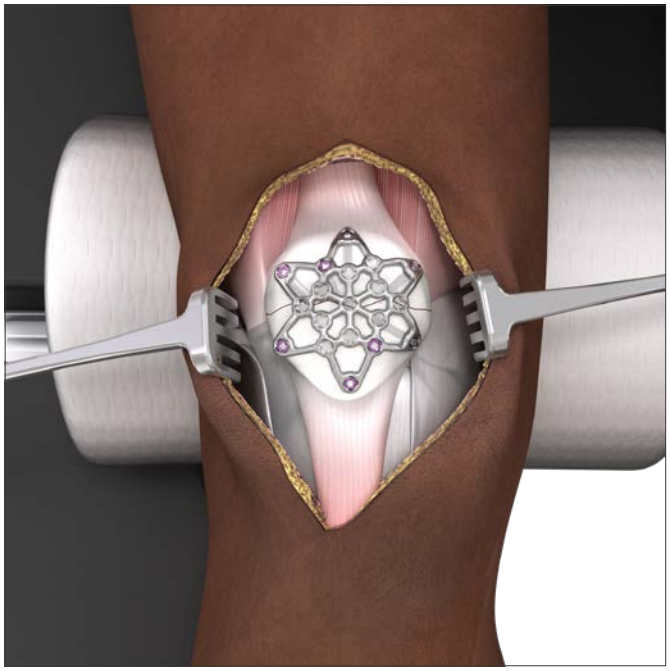
Use of the TL is mandatory when performing final tightening of the screws into variable angle locking holes to ensure the correct amount of torque is applied.



11. Verify Reduction and Fixation Stability

Remove all provisional wires, clamps and confirm final fixation of plate with image intensification.

Perform visual and palpable control of fracture gaps through passive non-aggressive knee flexion/extension.

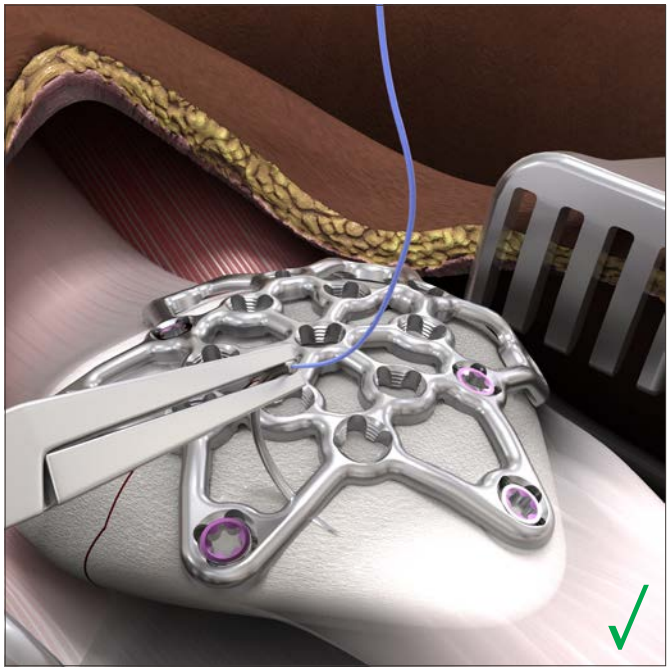


Soft Tissue Anchoring with Suture

The plate may be used as an anchor point to reapproximate soft tissue. In cases of comminution/inferior bone quality, the Krakow suture or other augmentation techniques should be used.

▲ WARNINGS:

- An augmentation technique (e.g. with suture, independent lag screws) should be considered for peripheral bone fragment fixation with soft tissue approximation to ensure stability of fragments during bone and soft tissue healing.
- For retinaculum repair, ensure the soft tissue can be anchored without tilting the patella and affecting biomechanics of the joint.
- Suture should be threaded through the windows of the plate, not the VA locking holes. Threads of locking holes can result in suture breakage. Suture should be placed to avoid migration and loosening.



Correct

Incorrect

Implant Removal

To remove locking screws, first unlock all screws from the plate, then remove the screws completely from the bone.

Instruments	
314.467	Screwdriver Shaft T8, 105 mm
03.133.150	Universal Screwdriver Handle

▲ WARNING:

To remove implant, first unlock all locking screws before removing them completely, otherwise the plate may rotate and damage the soft tissue.

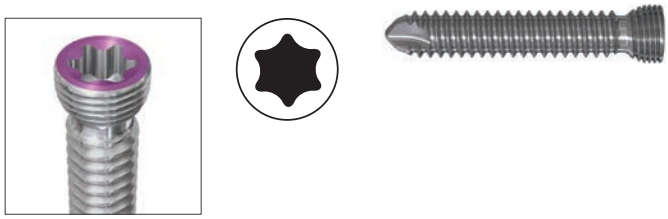
Plates

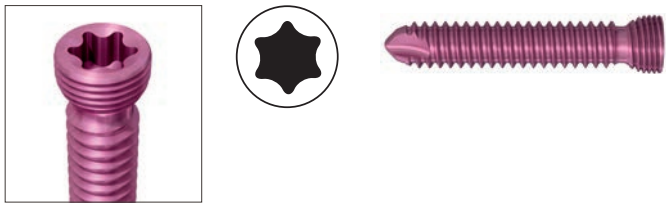
02.137.000S	2.7 mm VA Locking Anterior Patella Plate, Core, Small, Stainless Steel, Sterile
02.137.001S	2.7 mm VA Locking Anterior Patella Plate, 3-hole, Small, Stainless Steel, Sterile
02.137.002S	2.7 mm VA Locking Anterior Patella Plate, 6-hole, Small, Stainless Steel, Sterile
02.137.003S	2.7 mm VA Locking Anterior Patella Plate, Core, Stainless Steel, Sterile
02.137.004S	2.7 mm VA Locking Anterior Patella Plate, 3-hole, Stainless Steel, Sterile
02.137.005S	2.7 mm VA Locking Anterior Patella Plate, 6-hole, Stainless Steel, Sterile
04.137.000S	2.7 mm VA Locking Anterior Patella Plate, Core, Small, Titanium, Sterile
04.137.001S	2.7 mm VA Locking Anterior Patella Plate, 3-hole, Small, Titanium, Sterile
04.137.002S	2.7 mm VA Locking Anterior Patella Plate, 6-hole, Small, Titanium, Sterile
04.137.003S	2.7 mm VA Locking Anterior Patella Plate, Core, Titanium, Sterile
04.137.004S	2.7 mm VA Locking Anterior Patella Plate, 3-hole, Titanium, Sterile
04.137.005S	2.7 mm VA Locking Anterior Patella Plate, 6-hole, Titanium, Sterile

Screws

Variable Angle Locking Screws ∅ 2.7 mm

02.211.010 – 02.211.060	VA Locking Screw Stardrive ∅ 2.7 mm (head 2.4), self-tapping, length 10 – 60 mm, Stainless Steel
04.211.010 – 04.211.060	VA Locking Screw Stardrive ∅ 2.7 mm (head 2.4), self-tapping, length 10 – 60 mm, Titanium





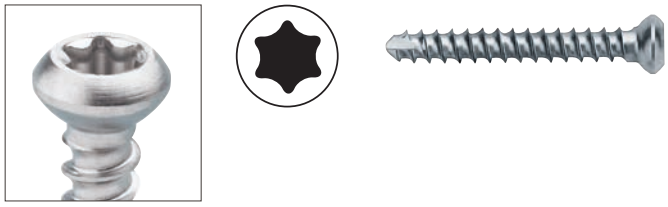
Threaded, rounded head locks securely into the threaded VA locking holes to provide angular stability at angles determined by the surgeon.

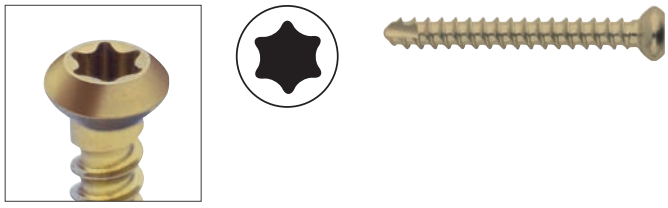
■ Note:

For final locking, the 1.2 Nm TLA torque limiting attachment is required.

Cortex Screws ∅ 2.7 mm

202.870 – 202.900	Cortex Screw Stardrive ∅ 2.7 mm, self-tapping, length 10 – 40 mm, Stainless Steel
202.962 – 202.969	Cortex Screw Stardrive ∅ 2.7 mm, self-tapping, length 42 – 60 mm, Stainless Steel
402.870 – 402.900	Cortex Screw Stardrive ∅ 2.7 mm, self-tapping, length 10 – 40 mm, Titanium
402.962 – 402.969	Cortex Screw Stardrive ∅ 2.7 mm, self-tapping, length 42 – 60 mm, Titanium

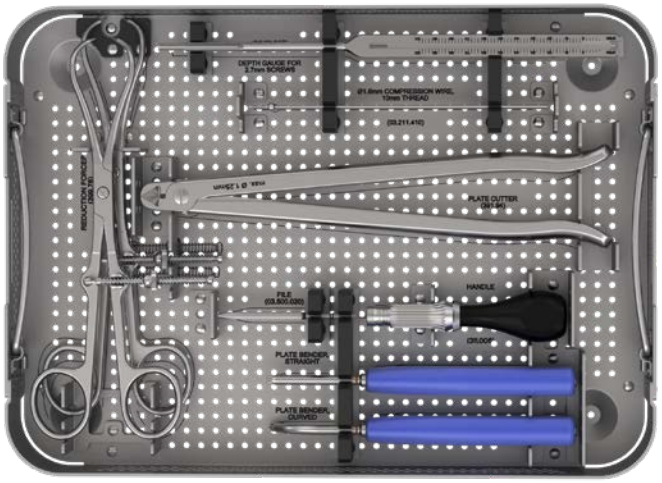




Instruments and Cases

Patella Instrument Set 01.137.008

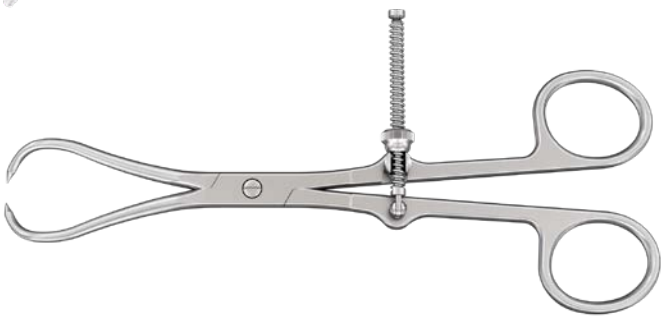
391.94	Small Wire Cutter, 230 mm
03.137.000	Plate Bending Instrument, Straight
03.137.001	Plate Bending Instrument, Curved
03.211.410	1.6 mm Compression Wire, 10 mm thread, 150 mm length
399.78	Reduction Forceps with Points Speed Lock 205 mm
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws
311.006	Screwdriver Handle with Hex Coupling, Medium
03.500.020	File with Hex Coupling
60.137.000	Tray for Patella Instruments
60.133.110	VA LCP Sm Frag Tray Lid 2/3



Additionally Available

SD319.002	Depth Gauge for 2.4 mm Screws
01.210.110	2.4 mm Variable Angle Locking and Cortex Screw Instrument Set
01.210.210	2.4 mm Variable Angle Locking and Cortex Screw Set

391.94	Small Wire Cutter, length 230 mm	
03.137.000	Plate Bending Instrument, Straight	
03.137.001	Plate Bending Instrument, Curved	
311.006	Screwdriver Handle with Hex Coupling, Medium	
03.500.020	File with Hex Coupling	
03.211.410	1.6 mm Compression Wire, 10 mm thread, 150 mm length	
03.118.007	Percutaneous Depth Gauge for 2.7 mm Screws	

03.133.008	2.0 mm Threaded Guide for 2.7 mm Screw	
03.133.101	2.0 mm Drill/Bit Quick Coupling, 140 mm, 60 mm Calibrating	
03.133.007	2.7 mm Variable Angle Drill Guide	
399.78	Reduction Forceps, with points, Speed Lock, 205 mm	
03.137.002S	Patella Template Kit, Anterior, Sterile	
314.467	Stardrive Screwdriver Shaft T8, 105 mm	
03.110.002	Torque Limiting Attachment, 1.2 Nm	
03.133.150	Universal Screwdriver Handle	

MRI Information

Non-clinical testing has demonstrated the DePuy Synthes Variable Angle Locking Patella Plating System is MR Conditional. A patient with these devices can be safely scanned in an MR system meeting the following conditions:

- Static magnetic field of 1.5 Tesla or 3.0 Tesla transmit quadrature-driven coil only.
- Maximum spatial field gradient of 2,000 gauss/cm (20.0 T/m) for 1.5 T systems and 3.0 T systems.
- Maximum MR system reported, whole-body averaged specific absorption rate (SAR) of 2 W/kg (Normal Operating Mode) for 3.0 T systems, and 1 W/kg for 1.5 T systems.

Under the scan conditions above, the Variable Angle Locking Patella Plating System is expected to produce a maximum temperature rise less than 6.0 °C at 1.5 Tesla and 3.8 °C at 3.0 Tesla for 15 minutes of continuous scanning. In non-clinical testing, the image artifact caused by the device extends 139 mm from the system when imaged with a gradient echo pulse sequence and a 3.0 T MRI system.

Please also refer to the package insert(s) or other labeling associated with the devices identified in this surgical technique for additional information.
CAUTION: Federal Law restricts these devices to sale by or on the order of a physician.
Some devices listed in this technique guide may not have been licensed in accordance with Canadian law and may not be for sale in Canada.
Please contact your sales consultant for items approved for sale in Canada.
Not all products may currently be available in all markets.

DePuy Synthes
THE ORTHOPAEDICS COMPANY OF Johnson & Johnson

Synthes USA, LLC.
1101 Synthes Avenue
Monument, CO 80132

Synthes GmbH
Luzernstrasse 21
4528 Zuchwil, Switzerland

To order (USA): 800-523-0322
To order (Canada): 844-243-4321

Note: For recognized manufacturer, refer to the product label.

www.depuysynthes.com

103733269 Rev C 083/22 Stä