

TPLO PROCEDURE

SOFT TISSUE APPROACH

MEDIAL MENISCUS RELEASE

OUTLINE FOR THE ORTHOPEDIC PORTION OF THE TPLO:

1st step – PROXIMAL “REFERENCE” DRILL BIT PLACEMENT

2nd step – MEASURE THE BLADE SIZE

3rd step – ESTABLISH THE DRILL GUIDE STARTING POSITION

4th step - ESTABLISH THE DESIRED AMOUNT OF ROTATION

5th step – OSTEOTOMY

7th step –DRILL FOUR OF THE HOLES TO FASTEN THE PLATE

8th step-REMOVE THE DRILLGUIDE AND FINISH FASTENING THE BONE PLATE

CLOSE THE SOFT TISSUE



1st step – PROXIMAL “REFERENCE” DRILL BIT PLACEMENT

- Locate the joint space on the medial side with a 1 ½“ 22ga. Needle. Walk the needle up the tibia following the medial collateral ligament until the needle drops into the joint space between the femur and the tibia.
- Locate the joint space on the lateral side with a 1 ½“ 22ga. Needle. Walk the needle up the tibia directly across from the needle on the medial side.
- Drill a hole through the proximal tibia with a 7/64” drill bit. Start at the cranial edge of the medial collateral about 6 mm distal from the needle on the medial side. Drill through the proximal tibia taking care to stay as perpendicular to the sagittal plane of the tibia as possible. Aim the drill bit to exit the tibia on the lateral side about 6mm distal to the needle on the lateral side.



2nd step – MEASURE THE BLADE SIZE

- With the proximal “REFERENCE” drill bit in place, slide a mandrel and blade onto the drill bit. Try different blade sizes. Choose the blade that fits just caudal to the patellar ligament at its attachment to the tibia.
- Manually make a mark in the tibia with the chosen saw blade.



3rd step – ESTABLISH THE DRILL GUIDE STARTING POSITION

- Place one end of the drill guide onto the proximal “REFERENCE “ drill bit
- Using the farthest hole on the other end of the drill guide, drill a hole through the tibia centered on the bone cranial to caudal.



4th step - ESTABLISH THE DESIRED AMOUNT OF ROTATION

- With the drill guide on the proximal “REFERENCE “ drill bit, rotate the drill guide forward (cranial)
- Place the starting point hole on the angle gauge (either the straight version or the round version) on a short drill bit at the distal end of the drill guide
- Choose the desired tibial plateau angle correction hole and place that hole on a short drill bit placed in the distal hole that was drilled in the tibia in the previous step

NOTE; THE NUMBERS ON THE ANGLE GAUGE REFERS TO THE TIBIAL PLAUTEAU ANGLE MEASURED FROM THE PRESURGICAL RADIOGRAPH. A **4⁰** **CORRECTION** HAS ALREADY BEEN INCLUDED.

- Drill a hole in the proximal tibia just distal to the original “REFERENCE “ drill bit using the hole in the drill guide that corresponds to the blade size that was chosen in the 2nd step.

NOTE; YOU MAY HAVE TO FLIP THE DRILL GUIDE END FOR END TO GET THE CORRECT HOLE OF THE DRILL GUIDE ORIENTED ON THE PROXIMAL END CLOSE TO THE REFERENCE DRILL BIT.



5th step – OSTEOTOMY

- Using the saw blade size chosen in the 2nd step. Make the osteotomy of the proximal tibia with the mandrel of the saw blade on the proximal “REFERENCE” drill using the drill bit as a guide. Push the drill bit through the tibia as the saw blade cuts through the bone



6th step – ROTATE THE PROXIMAL SEGMENT

- Place drill bits in the two holes in the proximal segment.
- Place the plate on the drill bit that is close to the “REFERENCE “ drill bit NOT ON THE “REFERENCE “ DRILL BIT ITSELF
- Place the grill guide back onto these two drill bits in the proximal segment
- **Using the drill guide as a handle** rotate the proximal segment until the distal hole in the drill guide lines up with the distal hole in the tibia
- Place a drill bit through the distal drill guide hole and into the distal tibial hole

NOTE; IF THE PLATE NEEDS TO BE RESHAPED REMOVE EVERYTHING, RESHAPE THE PLATE AND REPEAT THE 6TH STEP



7th step –DRILL FOUR OF THE HOLES TO FASTEN THE PLATE

- The drill guide will act as a “jig” to hold the proximal segment in the desired orientation while the bone plate is fastened
- Use a point to point bone holding forceps to hold the proximal segment tight to the tibial crest.
- Drill the two holes in the tibia at the distal ends of the two compression slots of the bone plate
- Place screws into the two holes to hold the plate in place. DO NOT TIGHTEN THESE SCREWS YET.
- Use the locking screw drill guide and drill the two holes in the proximal segment of the tibia for the two locking screws used on the proximal portion of the bone plate
- Fasten the proximal portion of the bone plate to the proximal segment of the tibia using the two locking screws



8th step-REMOVE THE DRILLGUIDE AND FINISH FASTENING THE BONE PLATE

- Remove the drill guide
- Tighten the two screws in the compression slots in the “stem” of the plate to compress the proximal segment of the tibia and the larger distal segment of the tibia together
- Place and tighten the last screw on the proximal portion of the plate. (using the hole that drill bit that was holding the drill guide was in)
- Use the locking screw drill guide to drill the final hole at the center of the “stem’ of the bone screw.
- Place and tighten the final screw
- Retighten all of the screws

CLOSE THE SOFT TISSUE