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Tibial Plateau Leveling Osteotomy Model

Pieces:
Model, including femur, tibia and patella
Scissors
TPLO plate
Ligament material and passer wire

Assembly:

1. Attach the wood base to the grey stand using the THREE screws; hand tighten, taking care not to strip in the plastic. **NOTE: do not place a screw in the "X" location in the scissor storage location.**
2. Place the scissors and the plate in their respective storage pockets in the base.
3. To load the ligament, please refer to the "Loading the Ligament" document below.

Suggested Use:

1) Normal function
    a. Start with ligament loaded
    b. Show the normal range of motion of the stifle
    c. Show the cranial cruciate ligament and how it prevents cranial tibial subluxation
2) Ligament tear
    a. Cut the ligament using the scissors to simulate a tear
    b. Demonstrate how the joint is now unstable during weight-bearing
    c. Discuss how this subluxation can lead to secondary meniscal injury
3) TPLO
    a. Discuss how the tibial plateau angle leads to instability during weight-bearing
    b. Discuss the concept of stabilizing the joint by altering the tibial plateau angle
    c. Show the crescentic osteotomy
    d. Perform the TPLO rotation of the proximal fragment
    e. Apply the bone plane and discuss how the osteotomy is fixed using the plate
    f. Demonstrate how the joint is now stable during weight bearing by simulating force coming down the femur

The drawer motion may become a little "sticky" over time and benefit from lubrication. We recommend using silicone lubricant (WD-40 Silicone Lubricant or similar), spraying a small amount on the axle and axle slide area.

To reload the ligament for next use, please refer to the "Loading the Ligament" document below.

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Tibial Plateau Leveling Osteotomy Model
Loading the Ligament

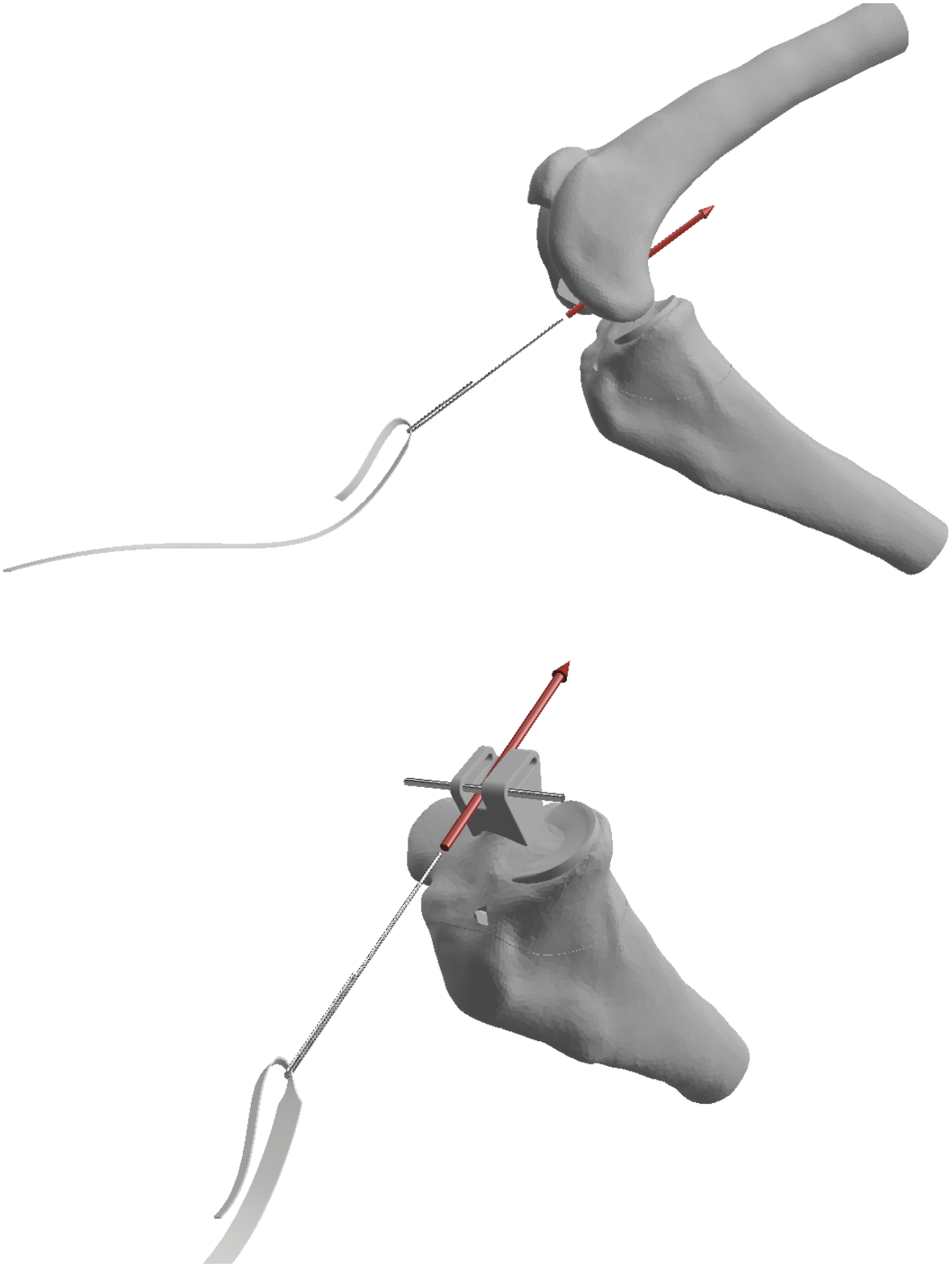
The TPLO model has a Cranial Cruciate Ligament that is made of cotton twill tape. To demonstrate the effect of a ligament tear, you cut the ligament with scissors during the demonstration. As a result, you must reload the model with a new ligament for each use. We recommend you train an assistant to perform the reloading. To reload, follow these steps:

Materials:

- TPLO model
- Scissors (provided with the model)
- Passer wire
    - Provided with the model
    - If you lose it, you can make another out of 0.045" k-wire, a paper clip, or other similar wire by bending it into a tight "U"
- Ligament material
    - We use 1/4" cotton twill tape, typically used in sewing or quilting. We provide 5 yards with your model purchase. This should be enough for 15-20 replacements.
    - You can purchase additional twill tape at *twilltape.com* or other sewing supplier
    - Or you can use 1/4" umbilical tape or other similar fabric tape option

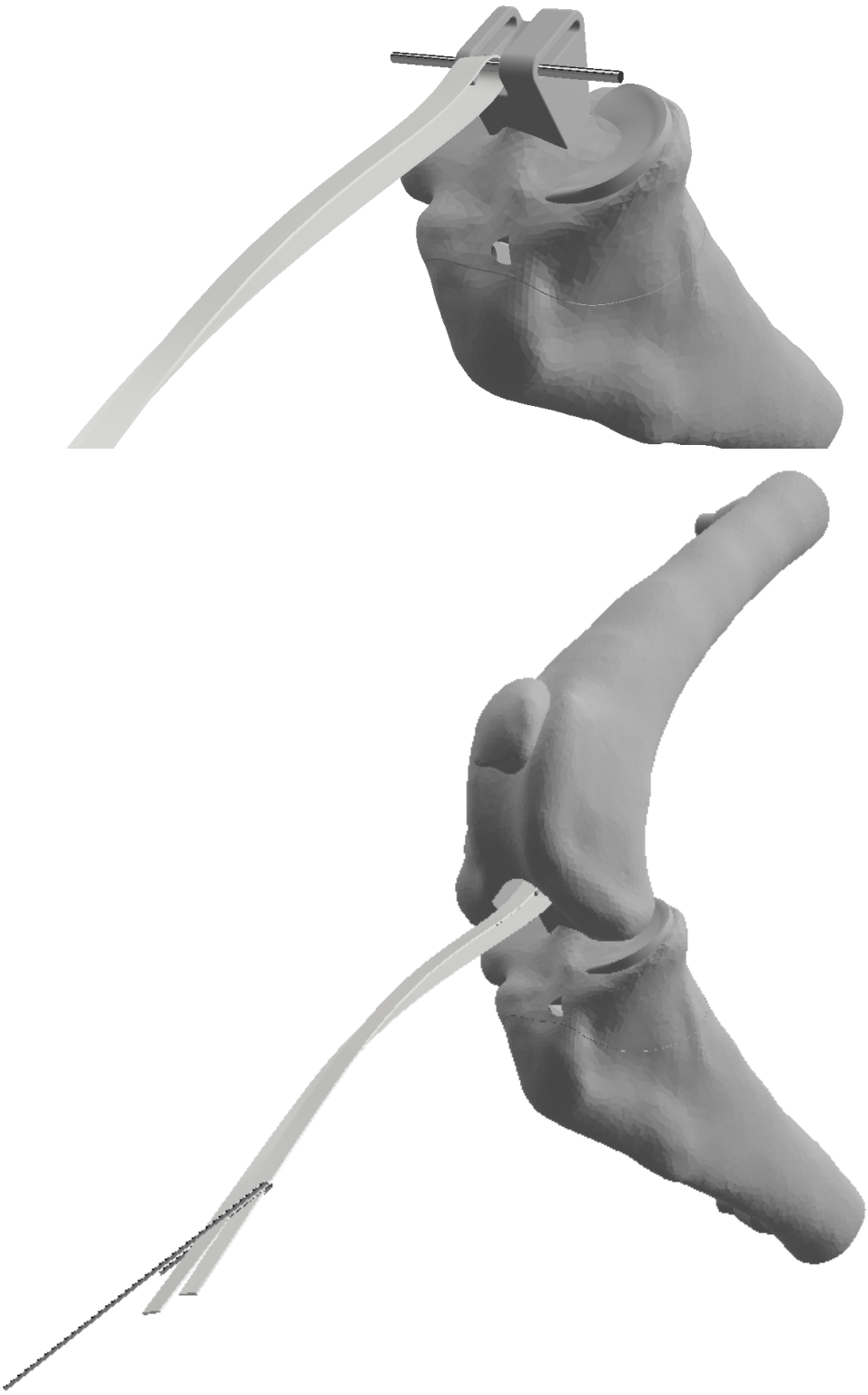
Steps:

1. Cut a 10-12” length of twill tape and load one end into the passer wire.
2. Place the leg in a moderately flexed, “non-drawer” position. Pass the wire and ligament from **cranial to caudal (front to back)**, through the slot, **distal to (below)** the axle. Leave the ligament tail cranial to the joint.
3. Then pass the wire from **caudal to cranial (back to front)**, **proximal** to **(above)** the axle. The strand is now looped around the axle.
4. Even up the two ends of the ligament and load them together into the passer wire
5. Pass the passer wire and ligament ends through the tibial tunnel, exiting on the lateral side of the stifle.
6. Remove the passer wire. Slide the paired arms of the ligament through the jam cleat mechanism. To facilitate this, you may want to hold onto some slack.

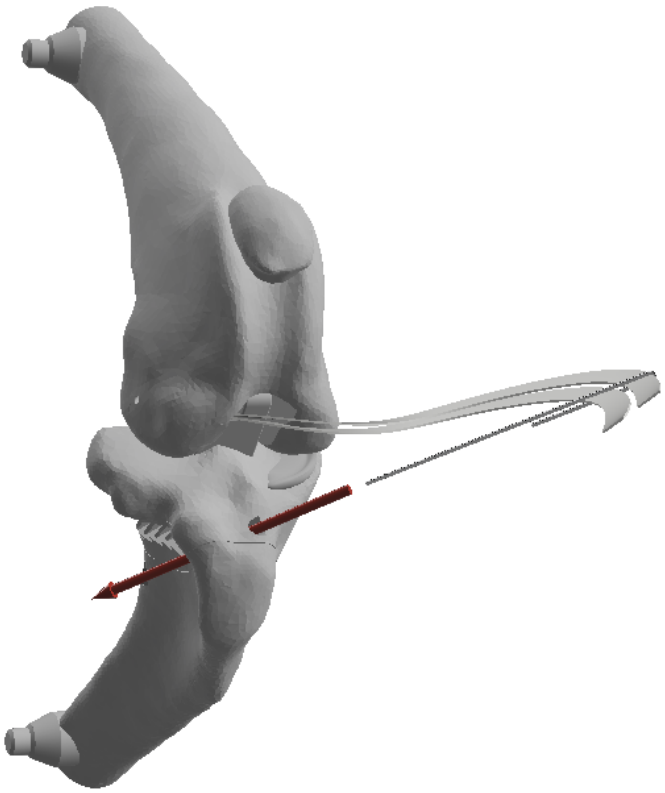


Step 1 and 2: Load 12” of twill tape in to the passer. Pass the wire and ligament from **cranial to caudal (front to back)**, through the slot, **distal to (below)** the axle.

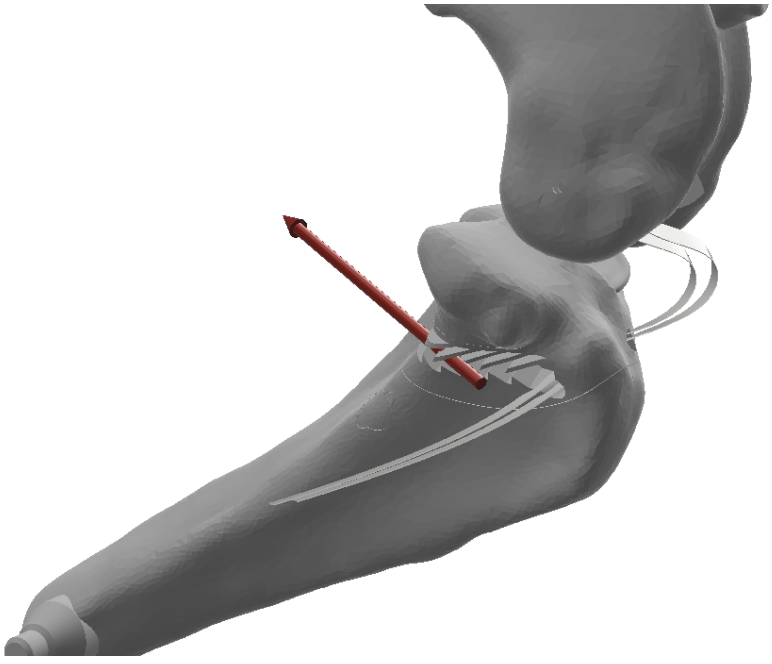
Step 3: Then pass the wire from **caudal to cranial (back to front)**, **proximal to (above)** the axle.



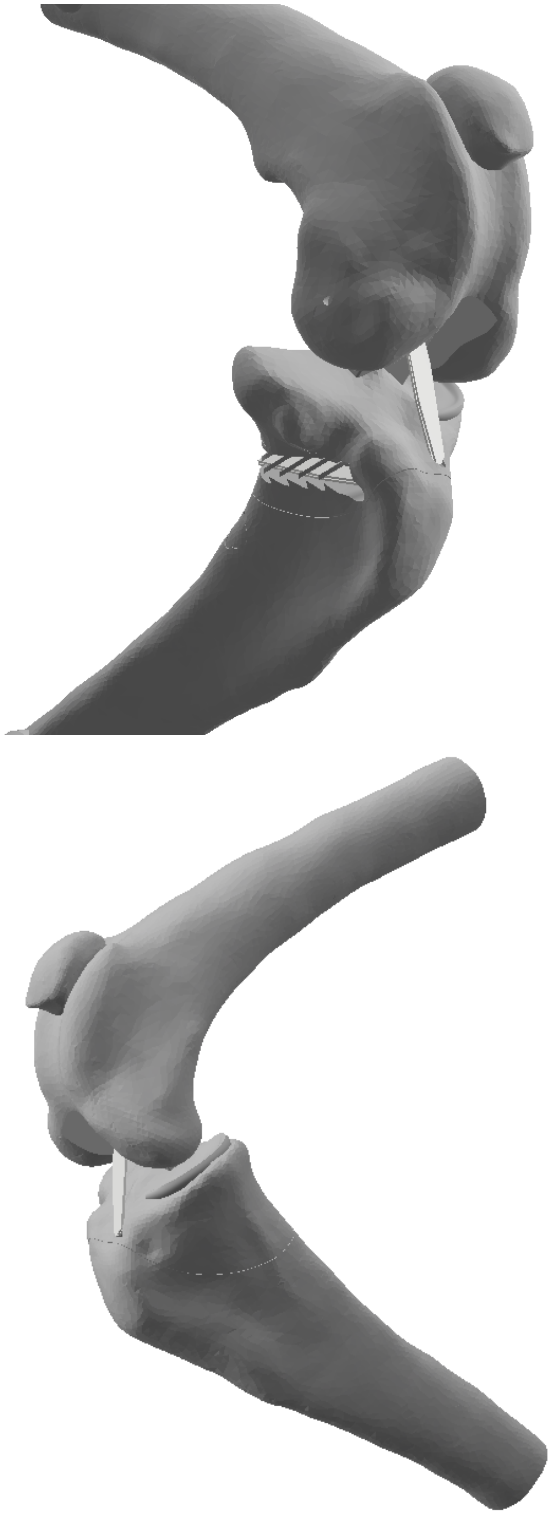
Step 4: The strand is now looped around the axle. Even up the two ends of the ligament and load them together into the passer wire



Step 5: Pass the passer wire and ligament ends through the tibial tunnel, exiting on the lateral side of the stifle.



Step 6: Remove the passer wire. Slide the paired arms of the ligament through the jam cleat mechanism. To facilitate this, you may want to hold onto some slack.



Trim the excess ligament using scissors. This is the final appearance of the loaded model from each side.