



## Tibial Plateau Leveling Osteotomy Model

### **Pieces:**

Model, including femur, tibia and patella

Scissors

TPLO plate

Ligament material

### **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), applying 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.



## **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 presentation. 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)
- 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](http://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 (the "ligament")
2. Pass each free end of the ligament from caudal to cranial through the notch. One end passes proximal to the metal axle and the other end passes distal to the metal axle.
3. Retrieve the two ends of the ligament cranial to the notch and even up the two ends.
4. Pass the paired ligament strands sideways through the slot, leaving some slack above the tibia
5. Slide the paired arms of the ligament through the jam cleat mechanism. To facilitate this, you may want to hold onto some slack above the tibia and then release this as you pull through the cleat.
6. Using scissors, trim off the excess material caudal to the tibia







