

How Tibial Tuberosity Advancement (TTA) Works



1. Model of the normal stifle (knee) joint

The upper long bone is the femur, and the lower long bone is the tibia. The top of the tibia is the tibial plateau (point where femur makes contact with tibia). The patellar tendon attaches the kneecap to the tibial tuberosity, and it is this structure which must counteract the strain of a ruptured cranial cruciate ligament (CCL).

2. Joint Angle

During normal weight bearing, the femur slides down the tibial plateau which creates tension on the cranial cruciate ligament. Joints with an increased angle between the tibial plateau slope and the patellar tendon are more likely to result in CCL rupture. Joints that have a more perpendicular angle are more stable and less likely to result in ligament rupture.



3. TTA Surgery

The TTA procedure involves making a bone cut through the non-weight bearing portion of the tibia and advancing it forward to achieve a more perpendicular angle between the plateau and patellar tendon. The result of this advancement creates a very stable joint.

4. Permanent Implants

Titanium implants are used to secure the tibial advancement in place, and a bone graft is packed into the open area of where the cut was made. The implants are very lightweight and are designed to be permanent.

