Tibial Tuberosity Advancement (TTA)

Veterinary Surgical Centers

What is tibial tuberosity advancement?
Tibial tuberosity advancement (TTA) is a recently developed surgical treatment for cranial cruciate ligament (CCL) injuries. The biomechanical rationale of TTA is that a forward shift in the position of the tibial tuberosity counteracts the instability created within the stifle following a CCL tear. The tibial tuberosity is secured with specially designed implants so that the patellar ligament is perpendicular to the tibial plateau.

The long term prognosis for excellent limb use following TTA is comparable to tibial plateau leveling osteotomy, or TPLO. Both TTA and TPLO are generally preferred over previously developed techniques, especially in medium- and large-breed dogs. One advantage of TTA over TPLO is that it is less invasive, as there is less soft tissue dissection during surgery and the bone is cut in a portion that does not bear the body's weight. This results in less swelling and pain following surgery. Additionally, while the total activity restriction following TTA is similar to TPLO, the lameness resolves more rapidly following TTA. Lastly, TTA implants are made from titanium, which offers superior biocompatibility.

What is the aftercare?
Strict rest is required following surgery to allow for proper healing of the tibia. Initially, there should be no running, jumping, or playing. After the first month of strict rest, controlled activity may be gradually introduced for three months following surgery. Physical therapy is suggested to improve the speed of healing. In the weeks following surgery, X-Rays are taken to assess healing of the tibia.

What are the common risks or complications?
Post-operative complications following tibial tuberosity advancement surgery are similar to that of the tibial plateau leveling osteotomy surgery. The overall complication rate is low. Most minor complications are easily treated or self-resolving, and major complications requiring additional surgery are rare and usually appear after inadequate confinement or trauma.

Can the leg be re-injured following surgery?
After the healing is complete, it is rare for problems to develop. In fact, tibial tuberosity advancement surgery is occasionally performed when other methods of repair have failed to return dogs to normal use of the leg(s).