Triple Tibial Osteotomy (TTO)

The TTO is surgery used to correct a backward sloping tibial plateau. The backward sloping tibial plateau contributes to the forward cranial thrust of the tibia. This thrust is counteracted by the cranial cruciate ligament. Over time, the cranial cruciate ligament will stretch and progressively tear. Biomechanically, if the backward slope is levelled then the cranial thrust can be eliminated and the necessity for a cranial crucial ligament negated. The surgery involves exploring the stifle joint, removing the damaged fragments the cranial crucial ligament and assessing and/or removing any damaged meniscal cartilage. The TTO is performed by removing a wedge of bone of predetermined angle and size from the top part of the tibia. The remaining top portion of the tibia is rotated forward and the cut bone secured in place using a T plate and screws. The wedge that has been removed is split and inserted into the bony defect as shown below. Weight-bearing is encouraged as soon as feasible after surgery. Complete healing takes between 4 to 6 months.