

## **Cruciate ligament surgery/Slocum TPLO**

Cranial (anterior) cruciate ligament (CCL) tears represent the most common orthopaedic injury that we see in dogs. The CCL is a significant stabiliser in the knee of the dog, so that following its rupture the knee becomes very unstable. It is this instability which causes long-term arthritic deterioration of the knee. When the CCL ruptures, it breaks down into its constituent fibres and it thus can't be simply repaired. In order to stabilise the stifle following a CCL rupture, a number of surgical procedures have been devised over the years, some better than others.

The surgical procedures available can be roughly grouped into either ligament replacement or knee reconstruction. Ligament replacement via an artificial CCL ligament has been undertaken in various guises for many years. It suffers from an obvious problem in that for a complete success it must remain undamaged for the lifetime of the dog. Alas, this rarely happens and we generally find that the artificial ligament loosens or breaks after several weeks/months, returning the CCL deficient knee to its unstable state once again.

Knee reconstruction techniques involve cutting the bone below the knee (tibia) and fixing the cut section in such a way as to alter the mechanics of the knee, so as to obviate the requirement for a CCL. The most common reconstruction techniques can be grouped into TTA/MMP and Slocum TPLO. The former group uses increased tension in the patellar ligament at the front of the knee to take over the function of the CCL. We have considerable experience with the use of this technique but we feel that it suffers high complication rates and unsatisfactory outcomes and we therefore prefer the second type of reconstruction; the Slocum TPLO.

The Slocum TPLO was devised by Barclay Slocum, an American orthopaedic surgeon, in the 1990's. It literally stands for Tibial Plateau Levelling osteotomy. This is our preferred surgery for CCL injuries in dogs. Over the last decade and a half we have undertaken literally thousands of Slocum TPLO's. The majority of dogs which have this surgery return to full soundness after a few months. Complications following this surgery are also extremely low, a testament to our levels of expertise as much as to advances in TPLO plating technology.

TPLO surgery involves a curved cut to the top of the tibia below the knee. The cut section is then rotated so that the top of the tibia is effectively flatter. This altered configuration stops the unstable sliding movements between the tibia and the femur which develop following a loss of the tethering effect supplied by an intact CCL. A TPLO plate is used to fix the tibia in its new position. Once the tibia has completely healed after eight weeks, a definitive stabilisation is achieved, which will not wear out or weaken over time. Our surgeons have models which more effectively illustrate how the TPLO surgery actually works.

In our hands, the Slocum TPLO has proved its worth as the most reliable surgery to return dogs to soundness and minimise arthritis following a CCL rupture. This is very likely to be the surgery that we recommend for your dog.