

Zlig

This is a recent development in stabilisation of the stifle in dog's that have torn their ACL (anterior cruciate ligament).

All current techniques such as TPLO/CBLO/MMP/TTA-rapid/TTA-jump/TTO are called in-direct techniques as they change how, in various ways, how the stifle operates to cope with the torn ACL.

In people, we replace the torn ACL, rather than changing how the knee operates. In people, the torn ACL is usually replaced with a graft from the person's patella tendon, hamstring or thigh tendon. This graft is essentially dead once it is harvested as it has no blood supply and care is required for some 12 months as the graft revascularises and gains strength. This method is not used in dog's as no one wants to keep their dog caged for 12 months.

Zlig has been under development for some time and is similar to the artificial implant used for ACL repair in people, known as the Lars procedure, used in athletes to allow them to return to competition in as little as 16 weeks.

Zlig is considered a "direct" rather than "in-direct" technique, as rather than changing how the stifle operates to cope with the torn ACL, it replaces the torn ACL with a new artificial one.

The implant is very, very strong. The implant is woven along most of its length to provide great strength. The middle of the implant, the section in the joint, is composed of straight fibres to both prevent stretching of the implant and allows integration of fibroblasts over time to further "naturalise" the implant. The use of flat sided screws both holds the implant in place without damaging it and means there is no free implant within the bony tunnels drilled. Essentially the implant is attached at the insertion points into the femur and tibia like a normal ACL. The use of the "Z" by passing the ligament horizontally back through the femur and tibia prevents slip of the implant along the screws under load.

The ACL not only runs from the back of the femur to the front of the tibia to stop the tibia moving forward during load, but also runs from slightly lateral to slightly medial, so tearing the ACL leads to medial (internal) rotational instability. None of the current techniques addresses this and may be a big factor in why arthritis is common as soon as 2-3 yrs after surgery regardless of technique. Zlig addresses this as it replaces the torn ACL with a brand new one, exactly where the old ACL was, so prevents both anterior draw sign AND medial rotational instability. The stifle is incredibly stable post surgery with no instability/ anterior draw sign and it may be that there are much less issues with arthritis than with all other current techniques.

After care is less onerous on owners as well. The dog can literally go back to walking normally straight after surgery. We advise a more cautious approach with 4 weeks toilet walks and cage rest then 4 weeks of increased walking prior to moving to full off lead again.

With plated techniques such as TPLO/CBLO/TTO, dog's must spend as 8-10 weeks in a cage to allow sufficient time for the bone to heal. With TTA techniques, the dog can be walked immediately after surgery and we want them to be walked a lot to ensure a strong thigh muscle but uncontrolled activity can lead to fractures.

Zlig involves near zero risk of fracture post surgery as no bone is cut, just four holes are made to allow correct placement of the implant. Post surgery, we have noted that dog's receiving a Zlig implant for repair of a torn ACL, appear more comfortable, as a result of no bone being cut.

All our orthopaedic cases receive both non-steroidal injections and opioid (fentanyl) infusions during the procedure and go home with non-steroidal anti-inflammatory pain relief and a fentanyl opioid slow release patch.

Cases usually go home the same day and do not need to stay in hospital at all. Most owners prefer them at home after surgery and they are quite safe to send home the same day.

We have been offering this technique for the past 5 months and have performed more than 110 of these procedures already.

The procedure is a longer procedure than other techniques and the implant is expensive but we are still able to offer this procedure for \$2.3-3k, a little more than our other current procedures such as MMP and TTA-jump, depending on the size of the dog involved. This is still far more affordable than ACL stabilisation at referral centres using other techniques, yet it is superior, as we are actually replacing the torn ACL (as we do in people), not changing how the stifle operates to cope with the torn ACL.