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“Lizzy”- Medial Patella Luxation

“Lizzy” is a nine month old female Jack Russell Terrier. She was presented with a history of becoming lame after exercise. We diagnosed her with bilateral medial grade 4 patellar luxations (both kneecaps were fixed and locked in a dislocated position). The diagnosis was made both by palpation and with radiographs (Figures 1 & 2).

Patellar luxation (dislocation) is a condition whereby the patella (kneecap) dislocates out of the trochlear sulcus (“kneecap groove”). It can be caused by trauma or injury, but it is most

often a hereditary condition. It may also be associated with other developmental anomalies, such as hip problems, bony growth abnormalities, or muscle diseases. Medial patella luxation (MPL) is one of the most common stifle (knee) problems encountered in veterinary medicine. There are four grades of luxation, whereby the patella luxates anywhere from occasionally to permanently. The consequence of a luxating patella is the progression of arthritis and the increased potential for ligamentous injury.

In the congenital form of patella luxation, the most common form in toy and miniature breeds, there is an increased quadriceps muscle pull inward and a shallow trochlear sulcus. The surgery involves a series of inspections and procedures that are performed to maintain the patella in its sulcus and the quadriceps mechanism in alignment from hip to knee. The trochlear sulcus may need to be deepened, anti-rotation sutures may need to be placed, muscle and soft tissue pulls may need to be released. In the most severe cases, bones may need to be cut, then re-positioned.

We operated on both of Lizzy’s knees at the same time. The medial soft tissues were incised to release the patellas so they could be moved back into their trochlear sulci. The next problem was that both sulci were very shallow that would not retain the patellas in proper position. We performed trochlear wedge recessions, a procedure to deepen the trochlear sulci utilizing the principle of double triangles. This technique allows preservation of the hyaline cartilage, the cartilage that lines joint surfaces. The inside edges of the new sulcus, which are exposed bone, will eventually be resurfaced with fibrocartilage. This helps reduce progression of arthritic changes (Figure 3). The other procedures mentioned above were not necessary.

Figures 1 & 2. Radiographs showing patellar luxations.



Figure 1.



Figure 2.

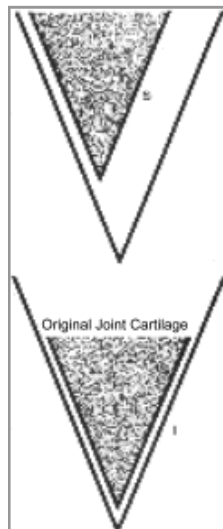


Figure 3. Diagram showing principals of trochlear wedge recession.



“Lizzy” cont.



Lizzy’s knees were placed in alignment, the kneecaps were now properly aligned, and the legs were now straight. This will allow her to become fully active, athletic, and pain-free (Figures 4 & 5).

Lizzy, One Day After Operation



Figure 4



Figure 5

Another Jack Russell Terrier, Mollie, had similar surgeries. She runs, jumps, plays, and has no pain, stiffness, or lameness. Figure 6 shows her sitting before surgery, with the kneecaps dislocated medially (to the inside), which caused her to sit with her knees externally rotated. Figure 7 shows her sitting after the knee surgeries have healed. Her knees are perfectly straight forward.



Figure 6. Mollie before surgery, showing medially dislocated kneecaps.



Figure 7. Mollie after surgery, showing knees pointed straight forward.