

Surgical Treatment for Patellar Luxation

Patellar luxation is a common developmental orthopedic condition of small-breed dogs. Medial luxation predominates and has been associated with patella alta in some cases. Lateral luxation occurs infrequently and is more common in larger breed dogs; bidirectional patellar luxation is rare. Surgical strategies include a combination of soft-tissue reconstruction, deepening of the femoral trochlear groove, and lateral transposition of the tibial crest.

This case series documents surgical treatment of bidirectional patellar luxation in 7 Pomeranians. The proximal–distal position of the patella was no different than that of a cohort of Pomeranians with normal stifle joints using the relationship of patellar tendon length to patellar bone length. Surgical treatment included a femoral trochleoplasty that extended

proximally into the femoral metaphyseal cortical bone and soft tissue capsular modification. The tibial tuberosity was not transposed. The patella remained stable in 6 of 7 dogs at 48 weeks after surgery, with mild progression of stifle osteophytosis in all dogs.

■ Commentary

Treatment of patellar luxation has remained unchanged in the past several decades. The major goal is intuitive; realignment of the quadriceps axis and containment of the patella to allow for functional efficacy of stifle extension and weight bearing. Bidirectional luxation is particularly interesting, as the mechanism of luxation to allow this laxity is unclear. Furthermore, treatment is challenging, as many traditional strategies cannot be used to contain the patella from luxating medially and laterally. Although patella alta

was not supported in these dogs, an extensive proximal femoral wedge recession trochleoplasty was successful for patella containment in the majority of cases. This strategy may be considered in dogs with medial patellar luxation in which the patella luxates proximal to the femoral trochlear groove.—*Jason Bleedorn, DVM, DACVS*

■ ■ Source

Extended proximal trochleoplasty for the correction of bidirectional patellar luxation in seven Pomeranian dogs. Wangdee C, Hazewinkel HAW, Temwichitr J, Theyse FH. *J SMALL ANIM PRACT* DOI: 10.1111/jsap.12248



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Fibrinolysis: The Difference Between Dogs & Humans

Hyperfibrinolysis is a risk factor for bleeding; compared with humans, dogs have accelerated fibrinolysis. Antifibrinolytic drugs have been used in veterinary medicine to reduce postoperative hemorrhage in greyhound dogs, a breed at greater risk for postoperative bleeding complications. In humans, tranexamic acid (TEA) and ϵ -aminocaproic acid (EACA) are used to inhibit fibrinolysis. This study sought to determine the minimum plasma concentrations of TEA and EACA needed to completely inhibit fibrinolysis in canine blood after induction of in vitro hyperfibrinolysis. The concentration of EACA and TEA needed to inhibit fibrinolysis was 511.7 $\mu\text{g}/\text{mL}$ and 144.7 $\mu\text{g}/\text{mL}$, respectively. This study confirmed that dogs were hyperfibrinolytic compared with humans, who require EACA and TEA

concentrations of 122 $\mu\text{g}/\text{mL}$ and 14.7 $\mu\text{g}/\text{mL}$, respectively, for complete inhibition of fibrinolysis.

■ Commentary

The use of antifibrinolytic agents (TEA and EACA) has increased in veterinary patients for the treatment of observed or anticipated postoperative hemorrhage. Although evidence has supported that these drugs may reduce postoperative complications in dogs, ideal therapeutic blood concentrations and doses have not been established. This study demonstrated that higher concentrations of TEA or EACA were necessary to inhibit in vitro fibrinolysis in canine plasma compared with human plasma. This opens the door for further pharmacokinetic studies, which will bring veterinarians closer to

establishing canine antifibrinolytic treatment protocols. Once dose ranges have been established, veterinarians will be better suited to assess therapeutic efficacy. Although antifibrinolytic treatment already shows promise in reducing postoperative hemorrhage in greyhounds, additional benefits (and possibly additional complications) may be observed when higher doses are used.—*Julie Walker, DVM, DACVECC*

■ ■ Source

Evaluation of tranexamic acid and ϵ -aminocaproic acid concentrations required to inhibit fibrinolysis in plasma of dogs and humans. Fletcher DJ, Blackstock KJ, Epstein K, Brinard BM. *AM J VET RES* 75:731-738, 2014.

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