

## SUPERIOR CHECK LIGAMENT DESMOTOMY PRE-OP CONSIDERATIONS

### WHO, WHY AND WHEN?

Originally, SCD was thought to reduce tendon strain, thereby reducing the risk of recurrence of tendinitis. If a gap remained in the check ligament after surgery, it was reasonable to propose that the load normally placed on the check ligament (bone-ligament-tendon-bone axis) would then be transferred to the superficial flexor muscle (muscle-tendon-bone). The muscle, rather than the healed and relatively inelastic tendon, would stretch and therefore the healed tendon would be protected. Experimental evidence in cadaver specimens suggests that following SCD, load is immediately transferred to the muscle, but tendon strain increases because of a decrease in the metacarpophalangeal joint angle (hyperextension). It has been proposed that the superior check ligament likely heals after transection, but in an elongated fashion, allowing increased length of the bone-ligament-tendonbone axis rather than a replacement of this loadbearing axis with muscle. This, in theory, would increase the elastic limit of the damaged tendon and negate the intrinsic loss of elasticity found in healed but scarred tendon.

Initially, no effort was made to encourage clients to consider surgery early after injury. However, it is current recommendation that the procedure should be done as early as possible after injury. Obvious visible reduction in tendon size occurs early after surgery, within the first 5–10 days, indicating that the procedure might be useful in reducing early swelling and inflammation in the tendon. Neither confirmed improvement in healing nor convincing ultrasonographic evidence of reduced core lesion or tendon size can be presented to substantiate this clinical impression, but it is the author's belief that

complete division of the ligament decompresses or releases the damaged tendon, promoting early resolution of inflammation. In some horses, immediate reduction in tendon size may result from mechanical factors such as a reduction in load and tension or may alter vascular supply to the tendon. Critics of the procedure question if the surgery can produce an obvious biomechanical change in the limb. In some horses a noticeable back-at-the-knee conformation will be apparent immediately after surgery. Reduction in tendon size and peritendinous tissue is most noticeable when SCD is combined with annular desmotomy. Adjunct treatments such as full limb bandaging, nonsteroidal anti-inflammatory drugs, and stall rest may also play a role.

Racehorses with mild diffuse tendinitis or those with core lesions involving 10% of the cross-sectional area of the tendon will likely heal with conservative management and are generally not surgical candidates. Horses with recurrent diffuse tendinitis, severe diffuse tendinitis, and core lesions involving 10–15% of the cross-sectional area of the tendon are surgical candidates. In other sport horses, SCD is recommended in the affected limb in upper level performance horses that follow similar guidelines as racehorses, but in lower level horses, conservative management of more severe injuries is often successful.

Early results of unilateral SCD in TB racehorses were complicated by the development of contralateral tendinitis when horses returned to racing. In both TB and STB racehorses, bilateral tendinitis is not uncommon. These facts, and ultrasonographic evidence of mild contralateral tendinitis in STB racehorses, led to recommendation of the procedure bilaterally in racehorses. Several factors, including the horse's age, existence of concomitant suspensory desmitis in the contralateral limb, gait in STB racehorses,

performance type, and etiology of tendinitis have led to the following recommendations. Bilateral SCD is recommended in horses with bilateral tendinitis, young 2- or 3-year-old TB or STB racehorses with unilateral tendinitis in which the contralateral limb is operated prophylactically, or in horses with subtle ultrasonographic evidence of contralateral tendinitis. If there is clinical evidence of pain on palpation of the opposite limb, ultrasonographic evaluation should proceed. Unilateral SCD (the surgical procedure performed in the affected limb only) is recommended in show horses, in young racehorses, particularly STB racehorses with suspensory desmitis in the contralateral limb, or in horses with tendinitis caused by direct trauma (tendinitis is unlikely to occur in the contralateral limb) such as a bandage bow. In older STB racehorses, the author will recommend the contralateral prophylactic procedure to be performed in pacers, but usually not in trotters.