2010 **AAEP** **Wrap-Up**

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Lameness: Soft Tissue

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Rehabilitating After Injury With Mobilization

Historically, when a horse sustained major musculoskeletal injury or underwent a major surgery, he had to be immobilized before he could begin to use the limb. Results were less than optimal as immobility often leads to loss of flexibility or range of motion (ROM), as well as loss in proprioception (awareness of posture, movement, balance, and location), muscle symmetry, and trunk stability. Sheila Schils, MS, PhD, described the benefits of early mobilization of equine musculoskeletal tissues within the initial days after injury.

Schils, who designs therapeutic equipment and treatment protocols in River Falls, Wisc., explained that early mobilization during acute healing phases increases blood and lymph flow and increases tissue tension to stimulate tissue repair and improve tissue alignment. Early mobilization produced a 60% improvement in tendon Type 1 collagen deposition (evidence of healing) along with a 20% improvement in both ROM and ability of the tendon to handle ground reaction forces. Mobilization limits fibrosis (scarring) of connective tissues, preserves joint ROM, and improves neuromuscular coordination.

In contrast, Schils reported that restricting mobilization of an injury often yields bulky scar tissue and adhesions, along with reduced tissue strength and persistent pain. She added, however, that immobilization is not all bad—for severe tears and fractures a short stabilization period is advised before mobilization. Schils mentioned that research has shown that longer, slower rehabilitation doesn't necessarily improve the outcome, while early mobilization doesn't increase reinjury rate.

Grading of each injury (Grade 1, 2, 3) according to severity helps the veterinarian determine how to proceed in the initial days: Schils recommends beginning ice, compression, elevation, weight-bearing exercises, controlled stretching, and functional electrical stimulation immediately to improve flexibility, with gradual increases in intensity and repetition. Then she recommends adding strengthening exercises, although flexibility remains the major focus throughout rehabilitation.

Schils remarked that pain is not necessarily an appropriate guide to determine muscle flexion limitations—joint swelling or stiffness might limit flexibility, yet not be painful. She said to practice site-specific as well as site-complementary exercises such as evaluating gait mechanics and overall body symmetry. Tendon and ligament healing responses are best tracked with serial ultrasound exams. Although a horse might appear painful at times during mobilization exercises,

Schils stressed that rather than reducing the exercises, it's better to plateau and remain at the same level of exercise. She reminded her audience that rehabilitation is cyclical—a horse's mobility might improve for a bit, then lose some ground only to rebound shortly thereafter with improvement.

She also recommended mounting a balanced rider on the horse as soon as possible. When a horse is mounted with a rider the mobilization time will be longer, trunk stability exercises (such as transitions and lateral work) can be performed, and the horse can be walked over varied terrain to activate proprioception. Schils also considers the psyche of a horse to be important and said that stall rest alone should be used as infrequently as possible.

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■ Watch the Lameness: Soft Tissue Problems video at TheHorse.com/Video.aspx?vID=489.