Evaluating the Benefits of Equine Massage Therapy: A Review of the Evidence and Current Practices

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ABSTRACT

Following the lead of human athletic training, equine massage therapy is becoming a more common part of the management of equine athletes and pleasure horses alike. The basic science rationale for massage is supported by research indicating that massage may affect a number of physiologic systems as well as cellular and fascial components of the muscular system. Equine therapeutic massage, or sports massage, employs a number of techniques first developed in humans and has been reported to increase range of motion and stride length, reduce activity of nociceptive pain receptors, and reduce physiologic stress responses. Additional preliminary research indicates that massage therapy also may improve some aspects of exercise recovery. Although important evidence has begun to document the potential benefits of massage therapy for equine athletes, the current review may say less about the true clinical effects of massage therapy than it does about the current state of research in this field. Additional prospective study of massage therapy using sufficient scientific rigor will be necessary to provide veterinarians, trainers, and owners with definitive data and scientifically based confidence in the use of equine massage. In the meantime, the preliminary research, anecdotal positive effects, and case studies indicating potential benefit are not to be ignored; equine massage therapy already plays a valuable practical role in the care and training of many equine athletes.

Keywords: Equine Massage; Massage Therapy; Sports Massage; Stress Point Therapy

INTRODUCTION

Massage therapy is consistently applied to human athletes, and its use among the general public has also grown in recent years.[1,2] Similarly, massage therapy in the horse has caused a great deal of speculation and interest.[3,4] The growing use of massage therapy in humans is largely attributable to the perceptions and observations of athletes, coaches, and sports medicine experts who perceive that massage can provide benefits to the body and may enhance performance.[5-7] These reported benefits include reduced muscle tension and soreness, reduced muscle spasm, greater flexibility and range of motion, reduced neurologic excitability, and an increased sense of well-being.[2,7] It has also been suggested that therapeutic massage may enhance muscle blood flow and lactate clearance[8] while reducing creatinine kinase levels.[9]

However, while many sing accolades of the results, others question the validity of massage therapy, because the beneficial claims are often based on anecdotal observations and experiences.[10] Evidence to fully support or refute the effects of therapeutic massage on athletic performance in horses, or in humans for that matter, is insufficient and even contradictory at this time.[5-7] This review explores the available current evidence regarding the potential benefits of equine massage and discusses some common massage techniques used in equine massage practice today.

Today's equine massage practice most often focuses on techniques including various "point therapies" such as stress point therapy, trigger point therapy, and myofascial release techniques. The trigger point therapy system was initially developed in human patients and addresses a hyperirritable area by using direct pressure. This pressure can be applied in varying depths to the specific point with the thumb, finger, elbow, or heel of hand. The trigger point system has evolved into part of today's *sports massage*, a technique developed by Jack Meagher in the 1950s. Meagher coined the phrase "sportsmassage" as one word and is credited with formally bringing massage to animal subjects in the United States.[4,11] Sportsmassage involves the application of compression, direct pressure, and cross-fiber friction. This type of therapy is based on the theory that the most stress occurs at the musculotendinous junction of the origin of the muscle, or the "anchored" area. These points are referred to as *stress points*, and hence the term *stress point therapy*. Meagher's practical equine massage techniques used a system of evaluating and treating 25 common points in the horse that correspond to areas of tension, or areas that are most often subjected to stress, strain, or potential injury (Fig. 1).[11]

Mechanism of Action

Although much scientific information is still necessary on the topic of massage, research is ongoing to fully illuminate

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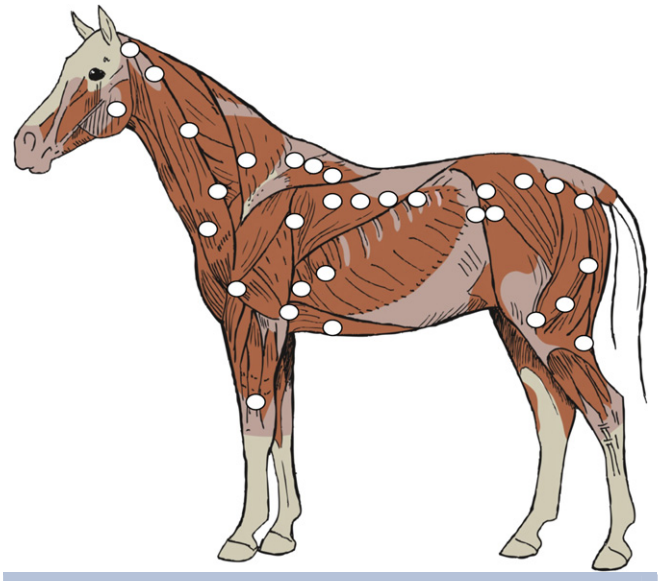

Figure 1. Common Areas of Equine Stress Points: For clinical practice, Mike Scott has expanded upon the 25 common areas of stress originally identified by Jack Meagher.

the mechanisms of action of this modality. Although many of these research efforts are in the human field, their findings are transferable to the small animal or horse. The National Board of Certification for Animal Acupressure and Massage (NBCAAM) notes physiologic effects of massage therapy that impact not only the muscular system but also numerous other body systems, including the skeletal system, digestive system, and nervous system.[4]

It has been suggested that therapeutic massage likely causes systemic effects via several different mechanisms of action, including biomechanical, physiologic, neurologic, and psychologic mechanisms.[7] As we consider muscle bellies, fibers, and myofibrils, it becomes apparent how various areas can be affected with different therapeutic massage applications. For example, although massage may not have a direct influence on a joint, the compensatory tightness that can occur in the muscle from splinting or bracing to protect a vulnerable area can reduce range of motion. After these tight areas are released, the range of motion can return to normal. In general, therapeutic massage involves mechanical pressure, which can increase muscle compliance, and thus results in increased joint motion and decreased stiffness.[7]

Furthermore, consideration of the fascial system clarifies how the various systems are physically interconnected. Mechanical pressure also may assist in increasing blood flow by increasing arteriolar pressure and increasing muscle temperature. Depending on the technique employed, this pressure can either increase or decrease neural excitability.[7] In addition, changes in parasympathetic parameters such as heart rate and blood pressure, as well as hormonal effects, can result in a relaxation response that may reduce stress and anxiety.[7] Ongoing and expanded research is necessary to confirm the full mechanisms of action of therapeutic massage, although the effects of these actions are regularly witnessed by practitioners in clinical cases.

Cellular and Fascial Mechanisms. Fascia is the complex connective tissue that forms an endless three-dimensional matrix of structural support throughout the body. Current research and new hypotheses focus on fascia and the important implications of the fascial system on the body's ability to perform. Both increased mechanical stress caused by overuse, repetitive movement, or hypermobility and decreased stress caused by immobilization or hypomobility can cause changes in connective tissue. Conversely, a consistent absence of tension can lead to connective tissue atrophy, architectural disorganization, increased fibrosis, adhesions, and contractures. For example, fibrosis can be a direct result of hypomobility or the indirect result of hypermobility caused by injury or inflammation.[12,13] In general, the body attempts to remain aligned for optimal support and function; at the tissue level, fascia shortens and thickens as the body compensates to remain aligned and balanced or to address a mechanical stress.[14]

Fascial relaxation as a result of therapeutic massage intervention is most often explained in terms of the mechanical properties of fascia and the reactions of that tissue to a mechanically induced force. By applying heat or pressure, the fascial substance changes from a denser, or *gel*, state to a more fluid, or *sol*, state.[12,13] This effect is called thixotropy. However, because this effect only occurs while the pressure or heat is applied, thixotropy may not fully explain the mechanism of action of myofascial release therapy.[12,13] The practical application of myofascial release massage therapy is often expressed by practitioners as applying pressure over a long duration of a few seconds to minutes, until they "feel a release." This sensation may inform the therapist of a change in the texture of superficial fascia or possibly a change in the tissue via a release from a trigger point, stress point, or adhesion in the underlying connective tissue.

A recent retrospective analysis of 31 human subjects who completed 10 sessions of the myofascial release massage therapy technique known as Rolfing documented improved range of motion and reduced pain levels.[14] Among the older group of patients, the active range of motion increased by 67% as a result of the myofascial release therapy, whereas the younger patients achieved a range of motion increase of 34%.

Demonstrating the ongoing evolution within the field of fascial research, the first Fascial Conference was held in Boston in 2007. This event covered topics such as stresses, remodeling, pain, restriction, and plasticity. In addition,