

Soft Tissue Sampler

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Glucosamine Sulfate: One of the best supplements I have used in years is glucosamine sulfate (GS). The glucosamine is a building block of the proteoglycans, the ground substance of articular cartilage, while the sulfate potentiates its therapeutic effect.¹ Glucosamine sulfate inhibits the degradation of proteoglycans. Nonsteroidal anti-inflammatory drugs inhibit proteoglycan synthesis. It has been found that GS may be more effective in relieving pain than nonsteroidal anti-inflammatory drugs, although pain relief may be slower.² I have found that 500mg three times a day is very beneficial.

Leahy Seminar: I recently took the four day Active Release seminar on the upper extremity presented by Michael Leahy, DC. This seminar is an absolute must for every DC who even has a passing interest in soft tissue. The course included four video tapes and a textbook that clearly allows you to develop the skills in your office. I guarantee that both your professional skill and practice will significantly increase.

Shoulder Osteoarthritis: Until recently it has been thought that osteoarthritis of the shoulder was not common, since the shoulder is a nonweightbearing structure compared to, for example, the hip. It has been thought that regarding the shoulder, osteoarthritis was more common in the acromioclavicular joint. According to a study by Ratcliffe et al.,³ the use of arthroscopy or biochemical markers from the synovial fluid has shown osteoarthritis of the shoulder to be one of the most prevalent pathologies of the glenohumeral joint. It was shown that primary osteoarthritis usually initiates on the glenoid and proceeds to the humeral head articular surface during a course of several or many years. Shoulder osteoarthritis of the early and moderate type has been very difficult to diagnose, which may be a reason why it was thought to be rare. Biochemical assessment of the synovial fluid showed that the catabolic markers (sulfated glycosaminoglycan, keratan sulfate and link protein) were elevated in fluids from joints with moderate and advanced osteoarthritis. These markers may be useful in early detection and diagnosis of degenerative joint disease.

Decreased Proprioception May Be Related to Shoulder Instability: For the shoulder the sensory feedback of the proprioceptors allows us to perceive joint position and joint motion (kinesthesia).

Warner et al.⁴ conducted a study evaluating shoulder proprioception and found a significantly decreased proprioceptive ability in unstable shoulders. The authors hypothesize that the capsuloligamentous structures may "contribute to stability by providing an afferent feedback for reflexive muscular contraction of the rotator cuff and biceps." These muscles are considered dynamic stabilizers, and if the ligaments are injured, the muscles will receive less proprioceptive stimulation and not protect the shoulder from excessive translations and rotations. They state that a mechanism for gradual development of shoulder instability may be cumulative injury to the capsuloligamentous structures with loss of proprioceptive feedback to the muscles. Proprioceptive training should be added to patients suffering with unstable shoulders.

Closed vs. Open Kinetic Chain Exercises for the Knee: Closed chain exercises occurs when the

distal segment of an appendage is fixed (e.g., squatting). Open kinetic chain exercise occurs when the distal segment is free to move (e.g., knee extension). It is thought that closed chain exercises are more physiologic than open chain since the quadriceps normally extend the femur on a fixed tibia, rather than extending a tibia on a fixed femur, as in open chain. Closed chain knee exercises minimize anteroposterior tibiofemoral shear forces and reduces stress on both the ACL and PCL.⁵ An excellent closed chain exercise can be used for the knee and lower back. Have the patient stand against the wall with the back flattened and slowly flex the knees to about 30° flexion and return to vertical. This exercise facilitates a co-contraction of both the quadriceps and hamstrings at the knee joint.

References

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OCTOBER 1996