Dynamic Chiropractic

SOFT TISSUE / TRIGGER POINTS

Preventing Osteoarthritis

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It is very doubtful that a cure for osteoarthritis (OA) will be discovered in our lifetime. However, based on present-day information, there are definite ways to reduce its consequences. Three definite risk factors include being overweight, excessive musculoskeletal loading at work and injuries.[1] According to Felson, et al., losing weight would reduce OA by 27 percent to 53 percent; eliminating squatting, kneeling and carrying heavy loads during work would reduce OA in men by 15 percent to 30 percent; and preventing ligamentous or knee meniscus rupture injuries would reduce OA another 14 percent to 25 percent.[2]

In a past *DC* article that discussed the cause of osteoarthritis, an argument was presented that muscular dysfunction was more causative than the wear-and-tear theory of cartilage degeneration.[3] Shrier hypothesized that when muscles are unable to properly contract due to age, fatigue, disuse atrophy, decreased proprioception or strain, more force is transmitted to the bone, leading to sclerosis.[4] The micro-trabecular damage of the bone and eventual sclerosis could create stress on the articular cartilage, with eventual joint-space narrowing. The muscle-dysfunction theory predicts that sclerosis would appear before cartilage thinning. Bone injury has been found to be an early sign in the progression of OA.[5]

One of the most common areas for osteoarthritis is at the trapeziometacarpal joint. Longitudinal radiographic evidence supports the hypothesis that instability of this joint with radial subluxation due to ligamentous laxity, in combination with heavy usage, may lead to radiographic thumb-base osteoarthritis. The articular cartilage is an innocent bystander that is damaged by injuries of the surrounding tissue.[6]

One of the best ways of preventing OA is to continue exercising in order to strengthen muscles, tendons and ligaments surrounding our joints. An epidemiologic study on 55- to 75-year-old subjects showed that regular and moderate physical exercise reduced the need for total knee arthroplasty for severe OA.[7]

If OA is not a disease of cartilage, treatment aimed at stimulating the osteoarthritic cartilage with growth factors or inhibiting matrix-degrading enzymes are secondary treatments that will never produce long-lasting benefit. Attention should be paid to ligament insufficiency, muscle weakness or neuropathy that interferes with protective muscular reflexes. It is imperative to maintain proper muscle strength and proprioception, not only for major injuries, but also especially after minor injuries that may lead to decreased muscle absorption of joint stress and eventual osteoarthritis.

References

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