PAIN MANAGEMENT

SPECIAL INTEREST GROUP

President's Message

John E. Garzione, PT, DPT, DAAPM

This upcoming year will be another transition for the PMSIG. Nominations are open for President and one member of the Nominating Committee. Members who are interested in serving are urged to contact either Neena or Laura to be placed on the ballot. I hope everyone had a great summer.

John

When More is Not Better: An Approach to the Treatment of Arthrofibrosis

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For those of us who treat chronic pain conditions, patients who present with acute orthopaedic postsurgical conditions readily respond to rehabilitation unless they develop arthrofibrosis. The person with arthrofibrosis becomes more difficult because the more aggressive physical therapy becomes, the more pain and motion limitations they develop.

I have observed, over the past 40 years, that there are a few characteristics that differentiate between patients who will be susceptible to this condition. Many have diabetes (either type 1 or type 2), have past histories of excessive adhesions after previous surgeries, or are women who have endometriosis. These characteristics lead me to believe that there is a metabolic process that contributes to arthrofibrosis. Patients with one or more of these characteristics who develop arthrofibrosis show decreased range of motion, increased swelling, and a higher level of pain within the first 3 weeks after surgery.

Surgical wounds heal in 4 stages. The first stage is when bleeding in the joint stops and clots form to stop the flow of more blood in the joint. Soon after the bleeding stops, inflammation starts which causes a proliferation of white blood cells and exudates to the area initiating complex reactions that help lead to growth of cellular structures. The third stage is the building of new tissue to replace tissue and cells that were involved during surgery. The fourth stage involves remodeling with collagen.[1]

I suspect early arthrofibrosis when a person returns to physical therapy with more pain, swelling, and warmth in the joint after a usual treatment of strength training, range of motion exercises, and joint mobilization. These symptoms represent an acute inflammation and result in a stiff joint (stage 4 of healing) and will progress to further stiffness if this cycle is not interrupted. Antiinflammatory modalities such as iontophoresis with dexamethasone,[2] ice, laser, high voltage pulsed electrical stimulation, and gentle range of motion is recommended for the next few treatments. If the inflammation does not subside in 2 to 3 treatments of physical therapy, a 10-day course of oral steroids may be helpful to decrease the acute inflammation. However, if the person has type 1 diabetes, the use of oral steroids may be contraindicated. As the joint becomes less inflamed, treatment using iontophoresis with iodine[3-5] is helpful to soften the fibrosis so more aggressive stretching can be performed without re-inflaming the joint.

Using this approach has reduced the likelihood of many of my patients having to undergo manipulation under anesthesia to restore joint motion and function.

REFERENCES

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5. Tannenbaum M. Iodine iontophoresis in reducing scar tissue. *Phys Ther*. 1980;60(6):792.

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