

Tendonitis/Tendinopathy

As any base of knowledge expands new questions and uncertainties appear. The diagnosis and treatment of conditions involving the tendons is an example of an area where our knowledge base is expanding. Tendons are structures, which muscles to bones.

There is an increasing body of evidence that supports the notion that overuse injuries involving the tendons do not have to involve inflammation. If this is correct then the traditional approach to treating tendinopathies as an inflammatory "tendonitis" is likely flawed.

The term "tendonitis" in the clinical medicine lexicon refers to a painful overused tendon injury. Unfortunately, the suffix "itis" implies an inflammatory pathology where as many of the chronic painful tendon conditions are devoid of inflammatory cells. Inflammatory cells have specific characteristics that can be identified under microscopic examination. Thus if nomenclature is to be evidence based, the term tendonitis seems rather inappropriate.

A more appropriate term that describes the majority of tendon related problems is "tendinosis". Tendinosis refers to the degeneration of the tendon in the absence of inflammation. Unfortunately, clinicians do not have the opportunity for microscopic examination to determine if inflammatory cells are present unless surgery is performed. Therefore a better term is "tendinopathy" referring to painful overuse tendon conditions without implying a microscopic finding. Common tendinopathies include Achilles tendon; shin splints; heel pain, runners' knee; iliotibial band syndrome; hamstring tendon; rotator cuff syndrome (shoulder) and tennis elbow.

This discussion has more than semantic implications. The purpose of a diagnosis or classification is to direct treatment and to provide a prognosis of recovery time. Correct diagnosis and classification is critical for each succeeding step.

Given the fact that some tendon injuries do not involve inflammatory cells, the challenge for health care professionals and/or athletes is to determine if there is an inflammatory process or not. The concept that tendon problems can occur without inflammation is new to many health care practitioners. Clinical examination procedures, practitioner's clinical experience, and diagnostic tests are therefore not yet well organized and

understood. Textbooks and web sites have not yet fully embraced this new notion.

It is most likely that there are a greater number of tendon problems without inflammatory cells, than the number of tendon problems that do have inflammatory cells present. When in doubt I would suggest assuming there are no inflammatory cells present.

If there is an inflammatory process it should respond relatively quickly to drug and anti-inflammatory interventions directed at inhibiting the inflammatory cells. On the other hand, if the problem is one of tendon tissue degeneration, a longer period of time is required to heal and repair the tendon. The injury will not respond to treatment aimed at decreasing inflammation. Correct treatment of tendinosis should encourage both synthesis of new collagen tissue and improving the strength of the tendon.

If the problem is tendinosis (without inflammation) and if training/exercise/work must continue, creative strategies need to be identified which diminish the load and the stress on the tendon, wither with external support(s) or through modification of activity. Unloading the tendon involves bracing, taping, using shoe inserts, and avoiding exercises/stress. Perhaps avoiding stretching exercises applied at the appropriate time should also have value in the management of tendinosis. Cross training is important in order to maintain conditioning and fitness level.

It is important to understand that it takes time for tissue to heal and regenerate. This is especially true when the tissue involved is a tendon. The time it takes to recover from an uncomplicated form of tendinosis is 6 to 8 weeks. The time it takes for full recovery from a chronic complicated tendinosis is 3 to 6 months. True tendonitis should be resolved with in several days to 2 weeks.

If there are no inflammatory cells present one should question the use of non-steroidal anti-inflammatory drugs and steroid injections in the treatment of tendinopathies. There is a large amount of anecdotal evidence that non-steroidal anti-inflammatory medication is helpful for tendinopathy, though patients may benefit from it for reasons other than the anti-inflammatory effect of the medication. A common recommendation for treatment of tendinopathies has been the physical therapy modality of ultrasound, but there continues to be a great deal of controversy regarding its use and effectiveness. Perhaps, the controversy is partially explained by the lack of agreement regarding the diagnostic category of problems with tendons. Stretching exercises have routinely

been prescribed for tendonitis because it was thought to help in the reorganization of the inflammatory process and scar formation. If there is no inflammatory process or scarring present perhaps stretching exercises are not indicated.

For conditions involving the tendons, we should begin to question whether there is evidence of an inflammatory process. The use of non-steroidal anti-inflammatory medication and stretching exercise may not be the best treatment for tendinopathies. Whether the condition is tendonitis or tendinosis, treatment should address the cause of the injury if the cause can clearly be identified. If the cause is doing too much, too soon, too fast exercise and training needs a more appropriate progression. If the cause is anatomical structural problems, they need to be identified and addressed. If the cause is doing the activity in an incorrect manner, training and practice of correct technique needs to occur.