SPiSCI
Shoulder Pain in Spinal Cord Injury

Rotator Cuff Tendinopathy – Fact Sheet for Clinicians

What is a Tendinopathy?

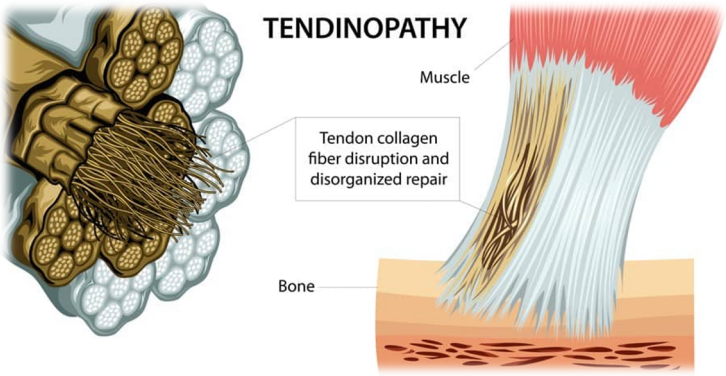
Tendinopathy is a complex, multifaceted pathology of the tendon, associated with overuse of the connective tissue structures. It is characterised clinically by pain and stiffness felt in the tendon, and with a resultant decline in function.[1,2]

What is the job of the tendon?

Tendons transmit muscular contractions to bone, thus contributing to movement (and joint stability). Tendons therefore require the ability to withstand, store, and deliver substantial forces to perform day-to-day functional activities.[1]

How does a healthy tendon differ from tendinopathy?

Normal, healthy tendons are composed of highly organised collagen fibres, whilst tendinopathy is characterised by abnormalities in the microstructure, with fragmented, disorganised collagen fibres typically observed.[1] Whilst tendinopathic tendons are not as strong as their healthy counterparts, they remain highly capable of function.



How does a tendinopathy occur?

This remains not fully understood, but the pathological process appears to be initiated by repeated bouts of tendon overload, leading to structural degradation of the collagen fibres.[2] It's worth noting that tendon overload is determined by the baseline condition of the tendon. For example, someone who uses their tendon regularly and vigorously would be expected to have a well-conditioned tendon, which would require a greater 'overload' than someone who uses their much less.

How can we heal a tendinopathy, and how long will it take?

Tendons intrinsically have a poor capacity for healing, and can be challenging to treat.[1,5] Key management of tendinopathy consists of a structured, graduated loading program within a variety of exercises and activities.[1] The objectives of the exercises are to strengthen both the tendon, and the muscles that connect to it. In ideal circumstances, we would expect full resolution of a tendinopathy within 16 weeks.

What is Rotator Cuff Tendinopathy?

The Rotator Cuff tendons are the group of four interconnected tendons that wrap around the glenohumeral joint, originating from 4 origin muscles on the scapula – **Supraspinatus**, **Infraspinatus**, **Teres Minor**, and **Subscapularis**. The rotator cuff assists in stabilising the glenohumeral joint and contributes to movement of the upper arm and shoulder.

Rotator Cuff Tendinopathy (RCT) is tendinopathy within the rotator cuff tendons, notably around the head of the humerus.

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How common is rotator cuff tendinopathy in the SCI population??

Shoulder pain is the most common musculoskeletal disorder in the SCI population with prevalence and incidence reported to both be over 70%. Whilst the literature is unclear, rotator cuff tendinopathy appears to represent the overwhelming majority of shoulder pain in SCI. [1]

How does Rotator Cuff Tendinopathy typically present?

People with rotator cuff tendinopathy typically experience localised shoulder pain (around the joint itself). They often describe a background stiffness or ache that becomes sharp and severe on provocation. Provocation relates to loading the rotator cuff; common examples include reaching up (e.g. dressing), pushing through the shoulder (e.g. transfers), or compression (e.g. lying on the painful shoulder). There is considerable variety in terms of severity and irritiability. Some people with rotator cuff tendinopathy require considerable use to induce provocation, whilst in others, it can be provoked by seemingly trivial tasks. [1]

Rotator Cuff Tendinopathy has previously been referred to as:

- Subacromial Pain / Impingement Syndrome[1]
- Subacromial Bursopathy[1]

How can we 'diagnose' Rotator Cuff Tendinopathy?

Diagnosis of rotator cuff tendinopathy requires a thorough clinical examination to rule in RCT and rule out other sources of shoulder pain. [1]

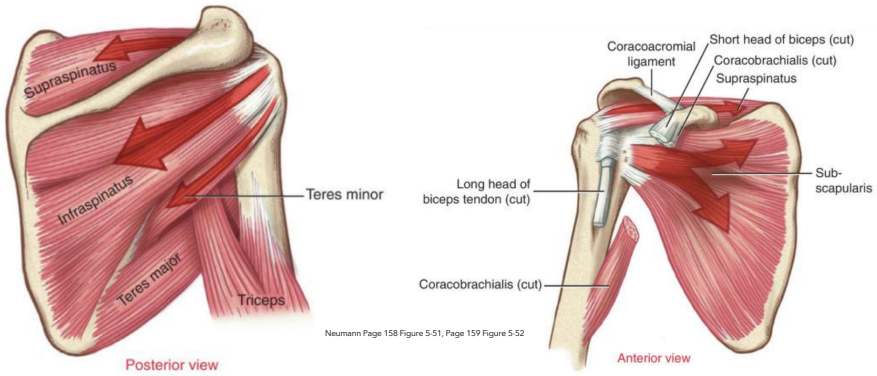
See SPiSCI Algorithm for *Ruling In Rotator Cuff Tendinopathy*.

Is Imaging helpful for Rotator Cuff Tendinopathy?

Clinical practice guidelines do not recommend Iimaging to assist in the diagnosis of tendinopathy unless it is being used explicitly to rule out differential diagnoses.[6] Furthermore, it appears that unless being used to rule out specific differential diagnoses, imaging may in fact be iatrogenic for this condition, as it is for most benign musculoskeletal disorders. [7,8]

How can we manage Rotator Cuff Tendinopathy?

Specific resistance-based loading programmes remain the most effective conservative approach in the management of rotator cuff tendinopathy.[7,9,10] The dose and method application of this approach is of critical importance; underdosing exercise proves ineffective, and overdosing proves provocative (also ineffective). Our 'SPiSCI Management Blueprint' provides core concepts and principles to support your design, implementation and progression of a suitable rehabilitation plan for your patient.



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