

Pathophysiology

Majority occur in the rotator crescent

Rotator cable takes load majority, allowing the RC muscles to still function and keep humeral head in place

A tear in the ant. cable creates a larger gap, increases cuff strain, and loses its stress shielding capabilities

Mostly supraspinatus tendon

If the tear enlarges (which it may not), only a minority enlarge >5mm in 3 years

Prognosis

Clinically important change (reported by pt) in 12 weeks

Up to 4-6 months (more severe cases)

Special Populations to Consider

Diabetics Tear frequently, do not respond well to treatment

Hypothyroidism Susceptible to develop muscle aches, tenderness and stiffness

Metabolic syndrome Cluster of conditions that increase risk of diabetes

Epidemiology

Older sports person with shoulder pain during activity.

<40 generally trauma

>60 generally degenerative

40<x>60 either trauma or degenerative

Risk Factors for Progression

Tear size 1-tendon tears may remain dormant while 2-tendon lesions are more likely to undergo structural deterioration

Risk Factors for Progression (cont)

Location Ant. RC cable tears have sig greater tear migration, decreased tendon stiffness, and increased regional tendon strain

Types

Small up to 1cm

Medium 1-3 cm

Large 3-5 cm

Massive >5cm

Clinical Presentation

Pain with overhead activity (throwing, swimming, overhead shots with racket). <90 degrees usually pain free.

Pain may present with abduction (painful arc) or IR behind back

Scapular muscle weakness and dysfunction, tightness of the posterior capsule and other soft tissues and postural abnormalities

Subjective Markers

MOI: Falling on outstretched hand, unexpected pushing or pulling, or during shoulder dislocation.

Night pain.

History of associated symptoms of instability (ex. recurrent subluxation or episodes of "dead arm")

Objective Assessment

Observation Muscle atrophy (infraspinatus may also mean suprascapular nerve injury)

Palpation Tenderness over supraspinatus tendon to or at its insertion into the greater tuberosity of the humerus.

Objective Assessment (cont)

AROM/PROM Painful arc btwn 70-120deg (AROM). IR reduced.

Strength IR, ER (infraspinatus), and abd. (supraspinatus) may be reduced. Measure with the scapula accurately stabilized.

Functional Tests throwing overhead

Rehab

Exercise > over no treatment or placebo and did not differ in outcomes compared to surgery or multi-modal physio (Littlewood et al)

Improving scapular stability, neuromuscular control of shoulder girdle and thoracic posture, "loosen" tight muscles

Address altered shoulder complex kinematics (decreased SA strength, hyperactivity and early activity of upper traps, decreased activity and late activations of middle and lower traps)

Examples: "low row", "lawnmower", "robbery" - stabilizing but not stressing GHJ

Strengthening middle/lower traps, and RC muscles (starting w low load), ant. delt., and teres minor

Exercise plan (Edwards, Ebert, Joss, Bhabra et al. 2016)

Special Tests

Subscapularis Lift off, Belly Press, Belly-off sign, Bear Hug Test

Supraspinatus and Infraspinatus External rotation lag sign, Jobe's, Drop arm test, Neer

Teres minor Hornblower's sign



By Jenna Ingola (jennaingola)

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