

What does post-operative rotator cuff repair stiffness mean- is it good or bad?

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Purpose: This discussion will review physiology, mechanical factors and rehabilitative techniques that encouraging post-operative rotator cuff repair healing with the focus on range of motion and stiffness. The hope of this discussion is to create intellectual and provocative interaction among ASSET members and initiate consensus to define appropriate post-operative stiffness.

Description: Arthroscopic rotator cuff repair is the standard form of treatment for full thickness and some partial thickness rotator cuff tears. High retear rates challenge current operative techniques and post-operative rehabilitation interventions. Bone-tendon healing studies may indicate longer periods of immobilization enhance tissue integrity. Post-operative stiffness is a concern following rotator cuff repair especially if strict or protracted post-operative immobilization is encouraged. Post-operative stiffness is reported to resolve, in most cases, by one year and a recent study suggests that early stiffness may lower retear rates. Even though outcomes following arthroscopic rotator cuff repair are good to excellent in the presence of rotator cuff retear, better strength is reported if the repair remains intact. The effect of retear on outcomes over longer periods (> 5 years) of time is still unknown.

Bone-tendon healing properties and the influence of mechanical loading by range of motion exercises will be discussed. Post-operative rotator cuff repair healing with the focus on range of motion return time guidelines will be reviewed. An attempt to define "appropriate stiffness" characteristics will be put forth with the hope to encourage group discussion. Examination characteristics of appropriate stiffness will be presented as it relates to post-operative time frames. Signs of the symptomatic painful and stiff shoulder will be differentiated from expected stiffness and interventions discussed.

Summary of Use: Promoting stiffness following rotator cuff repair may enhance tendon-bone healing. Defining appropriate stiffness is important and will require synthesis of histologic evidence, biomechanical studies, reported outcomes and analysis of rehabilitation interventions.

Importance: Understanding the role of rehabilitation on outcomes and tendon healing following arthroscopic rotator cuff repair is critical. Modifications in rehabilitation interventions may be needed to optimize long-term outcomes.