Ensuring Success In Rotator Cuff Repair

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Despite improvement in biomechanical properties of various rotator cuff repair constructs to enhance healing at tendon-footprint interface, retear rates have been persistently high regardless of repair technique. Although meaning of success has yet to be defined, both clinical and structural outcome are currently being considered when healing of rotator cuff following repair is expected. Maximizing the healing potential at the tendon-footprint may minimize risk of failure following rotator cuff repair.

Several factors can affect healing of rotator cuff, namely patient factors and surgical factors. Patient factors include patient selection, compliance, diabetes mellitus, and history of trauma. Surgical factors are timing of repair (chronicity of tear), tear size and pattern, type of repair, quality of cuff tissue and bone. Aftercare and rehabilitation protocol can also affect healing.

By understanding the factors affecting healing of rotator cuff following surgical repair, every effort given to maximize healing potential can partly ensure successful outcome. However it has been shown that fibrovascular scar tissue at the tendon-bone interface is inferior in quality compared to the native tissue. This could explain the observed failed repair due to retear at the tendon-bone interface and subsequent deterioration in clinical outcome. The use of biologics and its role in rotator cuff repair have been reported in the literature with various results. Future research will definitely be needed to focus on this aspect of cuff repair as to search for possibility of enhancing the strength and quality of repaired cuff tissue at the footprint during repair.