Arthroscopic TFCC Repair Based on its Topographic Anatomy

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Injury to the triangular fibrocartilage complex (TFCC) is a major source of ulnar-sided wrist pain that results in disability with common activities of daily living involving forearm rotation. Predictable pain relief and return to athletic activities can be expected after proper treatment of TFCC injuries.

The deep component of the TFCC is known to provide greater stability than the superficial component because the deep fibers act to prevent further translation of the distal ulna and form a more obtuse angle of insertion to the fovea than those of the superficial component. Furthermore, the closer relationship of foveal insertion to rotational axis of the forearm indicates that the deep component itself is crucial for preventing DRUJ instability. From these reasons, the importance of foveal repair of the TFCC on stability of DRUJ has been emphasized. Despite the importance of foveal insertion of the TFCC, the contribution of the superficial and deep components to DRUJ stability dependent on the forearm rotation and dynamic loading with an agonist or antagonist still exist and should not be neglected.

Anatomical repair of both layers of the TFCC back down to bone and peripheral capsule would be ideal and provide greater stability. There has been a marked evolution of arthroscopic TFCC repair techniques with successful clinical outcomes.

In this lecture, the topographic anatomy of the distal ulna and the insertions of both the superficial and the deep components of the TFCC will be discussed. In addition, anatomical repair of the TFCC based on its topographic anatomy, that is entirely arthroscopic and allow for repair of both the superficial and deep limbs, will be described.