Subscapularis Release from the Origin Using a One Centimeter Incision Medial to the Scapula

Ariel Nicolas Rodriguez, Ameer Tabbaa, Jesse M Galina, Charles Conway, Mitchell Kai-Sem Ng, Ahmed Thabet Hagag[1], Amr Atef Abdelgawad
[1]Texas Tech University HSC

Introduction: Internal rotation contracture is the most common shoulder deformity in Erb's palsy (Obstetric Brachial Plexus Palsy). This condition severely limits shoulder mobility and function. In 1916, Sever popularized the procedure of releasing the subscapularis together with the pectoralis major to treat this contracture. However, this method often resulted in significant loss of internal rotation strength. Modern approaches, such as arthroscopic release and the method described by Carlioz and Brahimi in 1971, aim to minimize these drawbacks by focusing on releasing the subscapularis muscle at its origin.

Methods: This video demonstrates the operative technique of a minimally invasive subscapularis release from the origin performed on a pediatric patient with right Erb's Palsy. The patient presented with significant tightness of the internal rotators and internal rotation contracture of the shoulder. Following informed consent, the patient was positioned laterally under general anesthesia, and a 1-cm incision was made over the medial border of the scapula. The subscapularis muscle, along with the periosteum, was carefully released using a Key elevator. Care was taken to avoid injury to critical vascular structures.

Results: The procedure resulted in an approximate increase of 60 degrees in external rotation of the shoulder. The surgical site was irrigated copiously and closed in layers. A shoulder spica was applied for three weeks to maintain the arm in the newly achieved external rotation.

Conclusion: Minimally invasive subscapularis release is an effective technique for improving shoulder function in patients with Erb's Palsy. This video provides a step-by-step guide to the procedure, highlighting key surgical steps and postoperative management, and emphasizes the importance of anatomical knowledge to avoid vascular injury.