ISSUE 13

ShARC BITE

SUBSCAPULARIS MANAGEMENT IN ANATOMIC TSA

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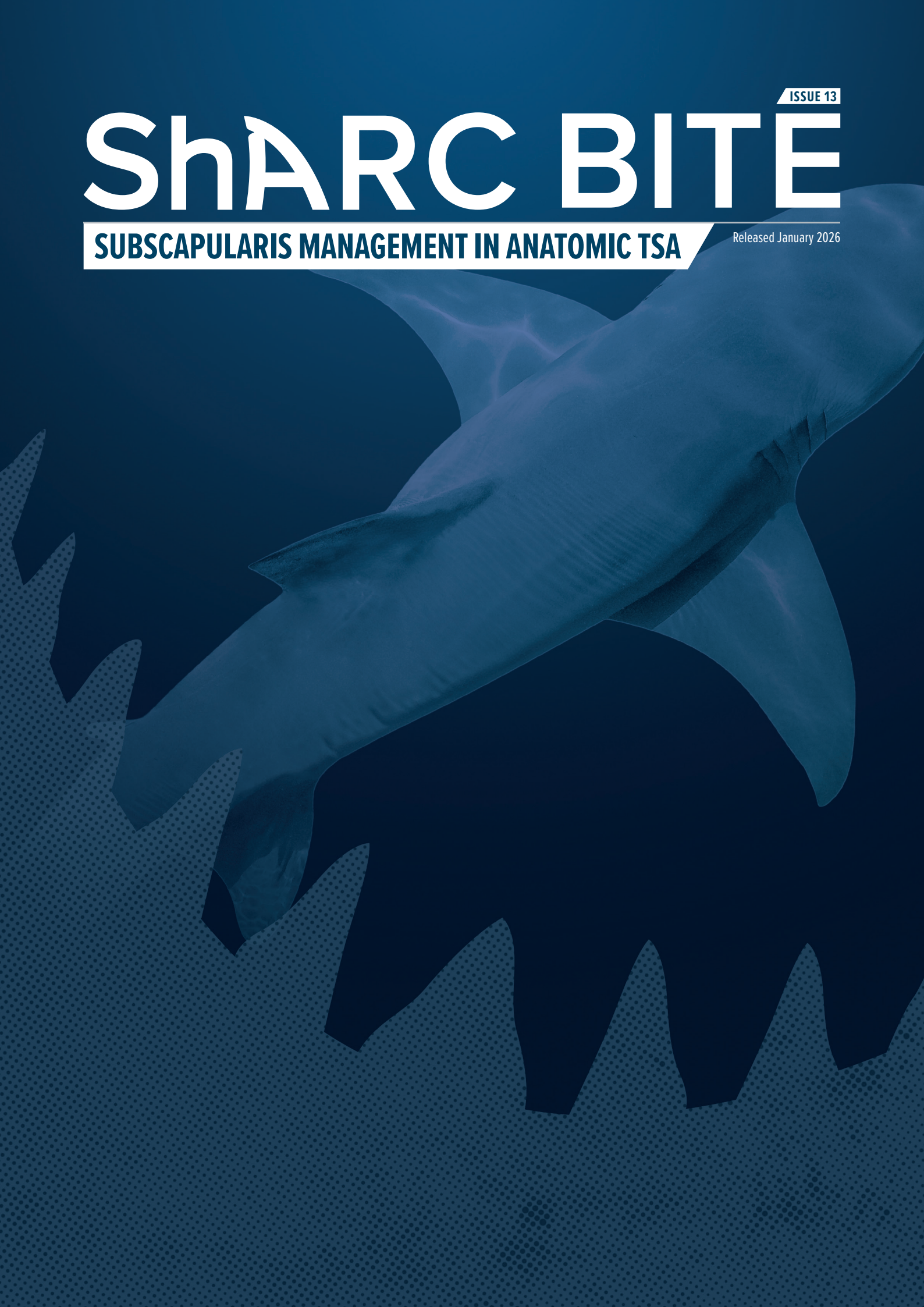


Mission Statement

The Shoulder Arthroplasty Research Committee (ShARC) is a forward-looking global collaboration among research-focused surgeons of which the primary goal is to advance patient care. The ShARC Patient Registry is utilized to conduct patient monitoring, inform evidence-based implant design, and allow for the integration of novel technologies into clinical practice. Supported by Arthrex, the ShARC will continue to have tremendous influence on the advancement of shoulder arthroplasty through innovative research and a commitment to improve patient outcomes.

ShARC Bites are developed through registry data analysis and processing of the committee's preferences, cross-referenced with available ShARC and non-ShARC publications, to provide recommendations on current techniques and implants.

Summary Recommendation

Based on a survey of the ShARC members, multiple approaches to subscapularis takedown remain viable during anatomic total shoulder arthroplasty (aTSA). While a slight majority (55%) prefer a peel, a lessor tuberosity osteotomy (LTO) or tenotomy are commonly used as well. Similarly, fixation with either bone tunnels or anchors is commonly used, and rehabilitation protocols vary. At this time, approach, repair, and rehabilitation are based on surgeon preference.

Background

Proper management of the subscapularis is critical to achieving optimal outcomes in aTSA for glenohumeral osteoarthritis. There is significant variability in both how the subscapularis is mobilized and how it is repaired postimplantation.

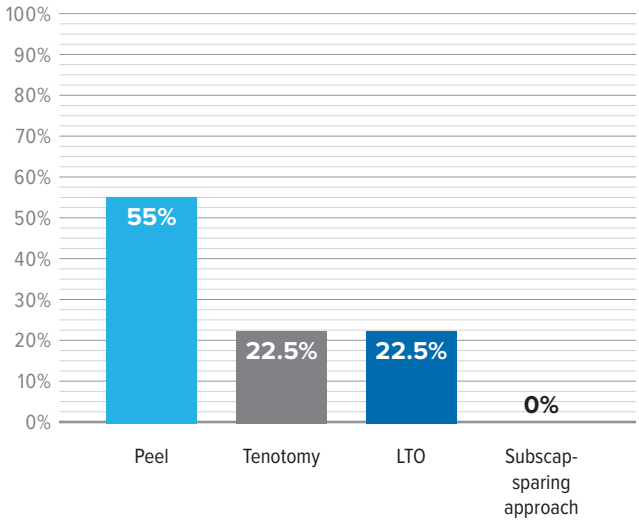
Biomechanical analysis has shown that anchor-based and bone tunnel techniques can both provide adequate fixation for subscapularis repair using a stemless anatomic implant.[1] A clinical study examined outcomes of tenotomy vs peel vs LTO in a stemless anatomic replacement and found no difference in outcomes or subscapularis insufficiency at 2 years postoperatively.[2]

Limited information is available regarding the optimal rehabilitation following aTSA. A randomized trial comparing immediate vs delayed passive range of motion found no difference in final motion or function; however, there was a trend toward lower LTO healing rates in the immediate-motion group.[3]

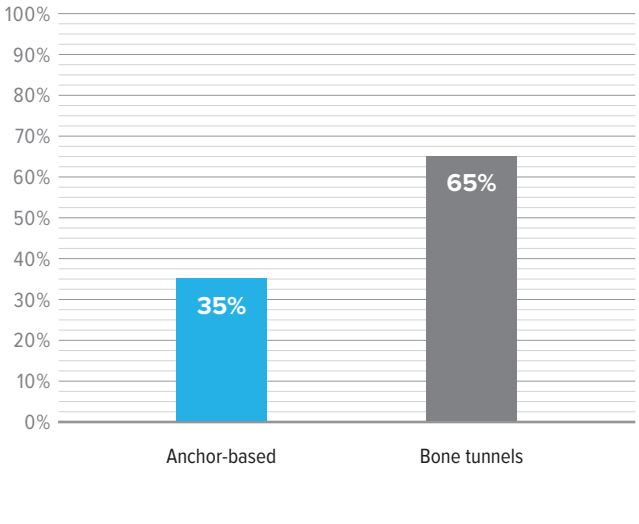
Results

During aTSA, the majority of ShARC members (55%) perform a subscapularis peel, while LTO and tenotomy are each used by 22.5% of surgeons. No ShARC members reported using a subscapularis-sparing approach. For subscapularis repair, 65% use bone tunnel–based fixation, while 35% prefer anchor-based techniques. Ultimately, the choice of technique is driven by surgeon preference.

What subscapularis approach are you performing for aTSA?

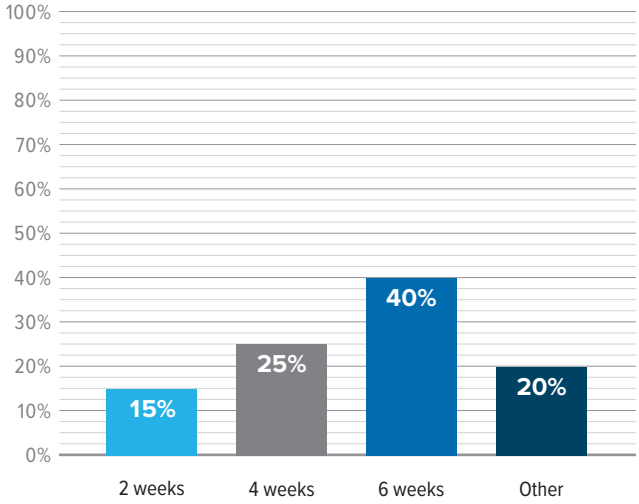


Are you using an anchor-based subscapularis repair or bone tunnels?

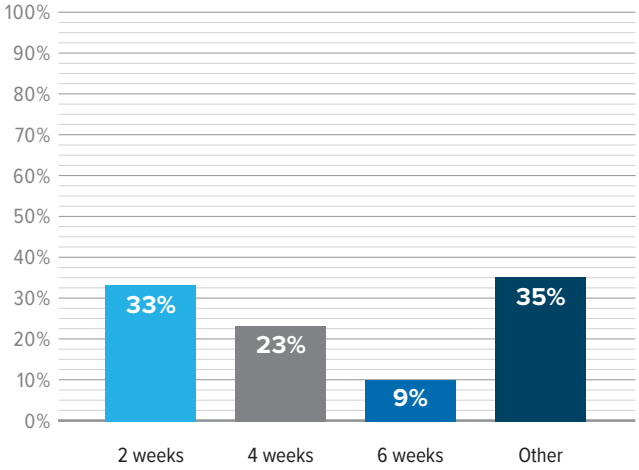


There remains a lack of consensus on optimal immobilization duration. When ShARC members were surveyed, 65% immobilized patients for 4-6 weeks after surgery and 56% started physical therapy at 2-4 weeks postoperatively.

How long do you immobilize your patients after aTSA?



When do your patients start physical therapy after aTSA?



References

1. Werner BC, Griffin JW, Thompson T, Lendhey M, Higgins LD, Denard PJ. Biomechanical evaluation of 2 techniques of repair after subscapularis peel for stemless shoulder arthroplasty. *J Shoulder Elbow Surg.* 2021;30(10):2240-2246. doi:10.1016/j.jse.2021.01.037
2. Aibinder WR, Bicknell RT, Bartsch S, Scheibel M, Athwal GS. Subscapularis management in stemless total shoulder arthroplasty: tenotomy versus peel versus lesser tuberosity osteotomy. *J Shoulder Elbow Surg.* 2019;28(10):1942-1947. doi:10.1016/j.jse.2019.02.022
3. Denard PJ, Lädermann A. Immediate versus delayed passive range of motion following total shoulder arthroplasty. *J Shoulder Elbow Surg.* 2016;25(12):1918-1924. doi:10.1016/j.jse.2016.07.032

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