Objective: The clinical efficacy of a new rehabilitation shoulder brace (RSB) was evaluated for return of passive range of motion (PROM), comfort (CO), stability (ST), sleep ability (SL), and rehabilitation convenience (RE) following rotator cuff repair. The RSB permits balanced suspension of the operated upper limb by the thorax, reducing tension in the trapezial region and provides intermittent passive abduction at hourly intervals throughout the day.

Methods: 14 patients (13 male, one female, mean age 54) who underwent mini-open rotator cuff repair of large tears were evaluated. All patients held a job that required upper-extremity activity. Rotator cuff tears were confirmed with either ultrasound or MRI preoperatively. Tear size was documented intra-operatively and the same mini-open surgical repair technique was utilized by a single surgeon in all cases. Postoperatively (PO), all patients were allowed a one week trial period using a standard triangular abduction pillow and one week with the RSB utilizing two different rehabilitation protocols. The protocol for the standard triangular pillow was a standard regimen of supervised physical therapy three times per week along with supplementary home exercises. The RSB regimen involved hourly cycles of passive abduction during wake hours, a series of ROM exercises using the brace at home, and one supervised physical therapy visit per week. At the end of the trial period patients were given the choice between the two brace options for the remaining four weeks. They were asked to rate the two brace options on a Likert scale from 1 to 5 for CO, ST, SL, and RE. Passive abduction and forward flexion were assessed at 6-8 wk and 12 wk intervals PO.

Results: All patients chose the RSB after the trial period. The mean CO, ST, and RE scores were significantly higher for the RSB when compared to the standard triangular pillow (3.79 ±1.57 vs. 2.93±1.15, p=.031; 4.35±0.55 vs. 2.86±1.36, p<.0004; and 4.42±.42 vs. 2.29±1.30, p<.0001, respectively). All patients reported the ability to sleep in a normal bed-setting with the RSB. 11 patients achieved full PROM by 6-8 wk and all by 12 wk follow-up. Most patients returned to work by 3 months PO and all by 6 months following reconstruction.

Conclusions: The RSB offers improved comfort, stability, and rehabilitation convenience while providing passive abduction motion following rotator cuff repairs. As a result of these promising initial data further large series prospective studies are warranted.

Keywords: Braces, Sports Medicine, Rehabilitation