



REVIEW ARTICLE

A systematic review of cost-effective treatment of postoperative rotator cuff repairs



Rebecca N. Dickinson, DPT, COMT^{a,*}, John E. Kuhn, MD, MS^a,
Jamie L. Bergner, OTD, OTR/L, CHT, COMT^a, Katherine H. Rizzone, MD^b

^aVanderbilt Orthopaedic Institute, Vanderbilt University Medical Center, Nashville, TN, USA

^bDepartment of Orthopaedics, University of Rochester Medical Center, Rochester, NY, USA

Objective: The Bundled Payments for Care Improvement initiative combines payment of multiple services for episodes of care into 1 bundle. Rotator cuff repair is a likely candidate for future inclusion. The objective of this study was to determine cost-effective, high-quality postoperative rehabilitation dosing and cryotherapy for patients undergoing rotator cuff repair based on systematic review of the literature.

Methods: Systematic review of level I and level II articles was performed in PubMed, Cochrane Databases, and PEDro. Conference references and bibliographies were also reviewed. For postoperative therapy, keywords included rotator cuff, rotator cuff repair, exercise therapy, exercise, unsupervised, self-care, postoperative period, physical therapy, and physiotherapy; for cryotherapy, keywords included rotator cuff repair, shoulder, cryotherapy, and ice.

Results: Five studies compared postoperative outcomes in participants assigned to supervised therapy vs. unsupervised therapy. Three found no difference between groups. One found improved outcomes in supervised therapy. Limitations included that therapies were not consistently defined and significant methodologic issues were present, decreasing the applicability and validity of the results. Five articles examined cryotherapy outcomes in the postoperative shoulder. Two studies showed improved patient outcomes with cryotherapy vs. no cryotherapy; 2 studies showed no decrease in joint space temperatures at 90 minutes but decrease in temperature at 4 to 23 hours postoperatively. One study indicated that an ice bag and Ace bandage might be as effective as continuous, compressive cryotherapy units using patient-reported outcomes.

Conclusion: Further studies are needed to determine effective dosing of physical therapy after rotator cuff repair. Cryotherapy is favorable and cost-effective using simple methods for delivery.

Level of evidence: Level II; Systematic Review

© 2017 Journal of Shoulder and Elbow Surgery Board of Trustees. All rights reserved.

Keywords: Rotator cuff tear; rotator cuff repair; postoperative rehabilitation; cryotherapy; supervised therapy; unsupervised therapy; bundled payment

Rotator cuff repair is frequently performed in the United States, with the number per year increasing 141% between

1996 and 2006 (41 per 100,000 population to 98 per 100,000 population).⁴ As a part of the Patient Protection and Affordable Care Act of 2010, the Centers for Medicare and Medicaid Services initiated the Bundled Payments for Care Improvement (BPCI) initiative, which combines payments for the multiple services that beneficiaries receive within a defined episode of care.³ The motivation behind BPCI was to provide

*Reprint requests: Rebecca N. Dickinson, DPT, COMT, Medical Center East, South Tower, 1215 21st Ave South, Suite 3200, Nashville, TN 37232, USA.

E-mail address: Rebecca.Dickinson@Vanderbilt.edu (R.N. Dickinson).

high-quality care at a lower cost, creating a cost reduction for Medicare. From a reimbursement perspective, it is increasingly important that clinical management be high quality while simultaneously ensuring that interventions are value based. Secondly, it is imperative to improve health care's cost efficiency for orthopedic surgical care.

Given its high incidence, rotator cuff repair is a likely candidate for future inclusion in the BPCI. The purpose of this manuscript was to review cost-effective treatment of the postoperative rotator cuff repair, particularly with regard to supervised physical therapy and cryotherapy.

Methods

A systematic review of the literature was performed to assess supervised vs. unsupervised physical therapy in the postoperative rotator cuff repair and the effect of cryotherapy on the postoperative shoulder. The authors conducted searches in PubMed, Cochrane Databases, PEDro, conference-preceding references, and bibliographies of articles found. Keywords for supervised vs. unsupervised physical therapy included *rotator cuff*, *rotator cuff repair*, *exercise therapy*, *exercise*, *unsupervised*, *self-care*, *postoperative period*, *phys-*

ical therapy, and *physiotherapy*. Keywords for the search on cryotherapy included *rotator cuff repair*, *shoulder*, *cryotherapy*, and *ice*. A research librarian assisted in the literature search through May 2016 to locate all relevant articles. Two authors independently reviewed articles for inclusion, and a third reviewer resolved any conflicts. Inclusion criteria were level I or level II studies comprising randomized controlled trials comparing postoperative supervised with unsupervised rehabilitation and cryotherapy in rotator cuff repairs. Exclusion criteria included systematic review, rehabilitation of diagnosis other than rotator cuff surgical repair, and cryotherapy not related to the postoperative shoulder. Methods are reported in [Figures 1 and 2](#) as outlined by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).⁹

Results

Supervised versus unsupervised rehabilitation

Results comparing supervised vs. unsupervised therapy after rotator cuff repair are summarized in [Table I](#). Three of the 5 articles reported no difference among groups; however, supervised and unsupervised definitions varied widely, as did

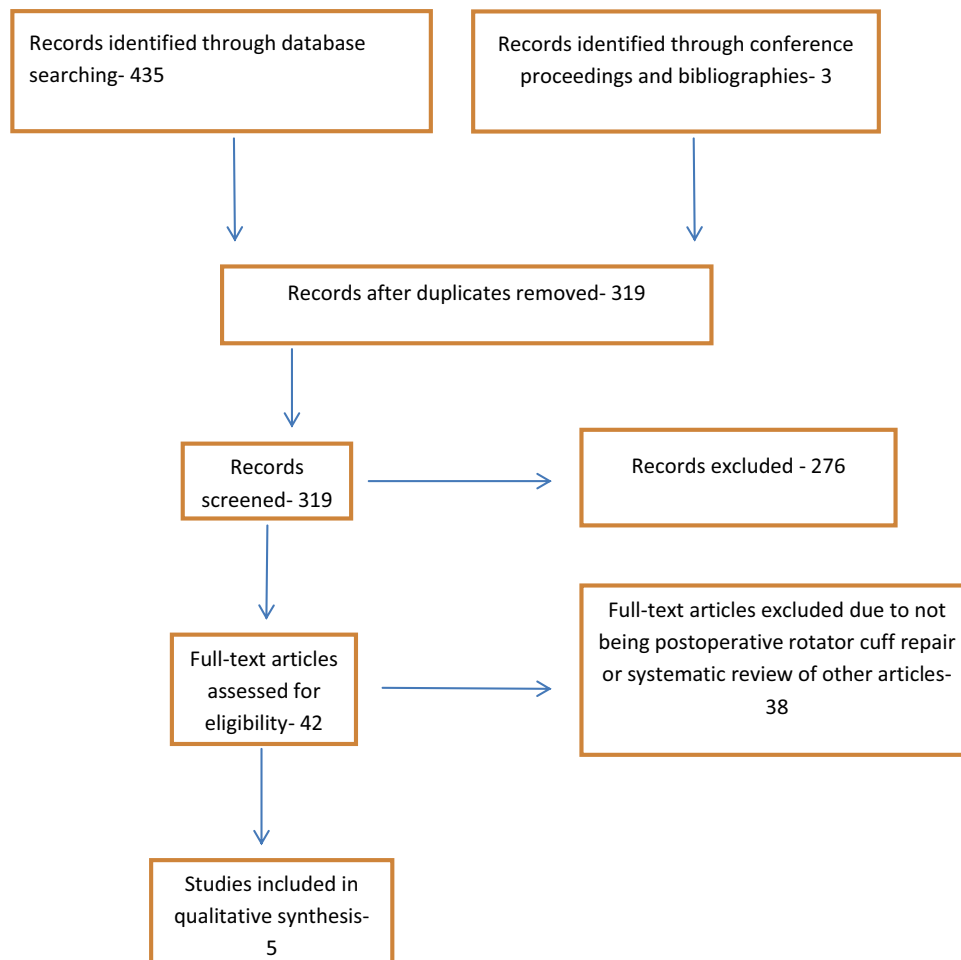


Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow sheet for literature review on supervised vs. unsupervised physical therapy after rotator cuff repair.

Download English Version:

<https://daneshyari.com/en/article/5710477>

Download Persian Version:

<https://daneshyari.com/article/5710477>

[Daneshyari.com](https://daneshyari.com)