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CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Bioinductive Implants for Shoulder Surgery: Clinical Effectiveness, Cost-Effectiveness, and Guidelines

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Research Questions

1. What is the clinical effectiveness of bioinductive implants in patients undergoing shoulder surgery?
2. What is the cost-effectiveness of bioinductive implants in patients undergoing shoulder surgery?
3. What are the evidence-based guidelines regarding the use of bioinductive implants in patients undergoing shoulder surgery?

Key Findings

No relevant literature was identified regarding the clinical effectiveness or cost-effectiveness of bioinductive implants in patients undergoing shoulder surgery. In addition, no relevant evidence-based guidelines were identified regarding the use of bioinductive implants in patients undergoing shoulder surgery.

Methods

A limited literature search was conducted by an information specialist on key resources including PubMed, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were bioinductive implants and shoulder injuries or surgery. No filters were applied to limit the retrieval by study type. The search was also limited to English language documents published between January 1, 2015 and January 15, 2020. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Q1-3: Patients of any age with shoulder disorders (e.g., rotator cuff tears, recurrent rotator cuff tears, large rotator cuff tears)
Interventions	Q1-3: Shoulder surgery performed with bioinductive implants or bioabsorbable collagen implant (brand name: Regeneten)
Comparators	Q1-2: Shoulder surgery performed without bioinductive implants (standard of care) such as direct anatomic repair with suture anchors or allopath acellular dermal matrix Q3: Not applicable
Outcomes	Q1: Clinical effectiveness (e.g., pain [e.g., measured using pain scales], American Shoulder and Elbow Surgeons score, tendon thickness, healing rate, rerupture rate/readmission rate, failure rate, quality of life, safety [e.g., rate of adverse events]) Q2: Cost-effectiveness Q3: Recommendations
Study Designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, economic evaluations, evidence-based guidelines

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports and systematic reviews are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

No relevant health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies or economic evaluations were identified regarding the clinical effectiveness or cost-effectiveness of bioinductive implants in patients undergoing shoulder surgery. In addition, no evidence-based guidelines were identified regarding the use of bioinductive implants in patients undergoing shoulder surgery.

References of potential interest are provided in the appendix.

Overall Summary of Findings

No relevant literature was identified regarding the clinical effectiveness or cost-effectiveness of bioinductive implants in patients undergoing shoulder surgery. In addition, no evidence-based guidelines regarding the use of bioinductive implants in patients undergoing shoulder surgery were identified. Therefore, no summary can be provided.

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Economic Evaluations

No literature identified.

Guidelines and Recommendations

No literature identified.

Appendix — Further Information

Additional References

Health Technology Assessment Product Brief

1. Regeneten bioinductive implant (Smith & Nephew, Inc.) for repairing rotator cuff tears. Plymouth Meeting (PA): ECRI Institute; 2019 Jan. www.ecri.org Accessed 2020 Jan 14. *Subscription required*.

2. McIntyre LF, Bishai SK, Brown PB, Bushnell BD, Trenhaile SW. Patient-reported outcomes after use of a bioabsorbable collagen implant to treat partial and full-thickness rotator cuff tears. *Arthroscopy*. 2019 Aug;35(8):2262-2271. PubMed: PM31350082

3. Thon SG, O'Malley L, O'Brien MJ, Savoie FH. Evaluation of healing rates and safety with a bioinductive collagen patch for large and massive rotator cuff tears: 2-year safety and clinical outcomes. Am J Sports Med. 2019 Jul;47(8):1901-1908. PubMed: PM31150274

4. Schlegel TF, Abrams JS, Bushnell BD, Brock JL, Ho CP. Radiologic and clinical evaluation of a bioabsorbable collagen implant to treat partial-thickness tears: a prospective multicenter study. *J Shoulder Elbow Surg*. 2018 Feb;27(2):242-251. PubMed: PM29157898

5. Bokor DJ, Sonnabend D, Deady L, et al. Evidence of healing of partial-thickness rotator cuff tears following arthroscopic augmentation with a collagen implant: a 2-year MRI follow-up. *Muscles Ligaments Tendons J.* 2016 Jan-Mar;6(1):16-25. PubMed: PM27331028