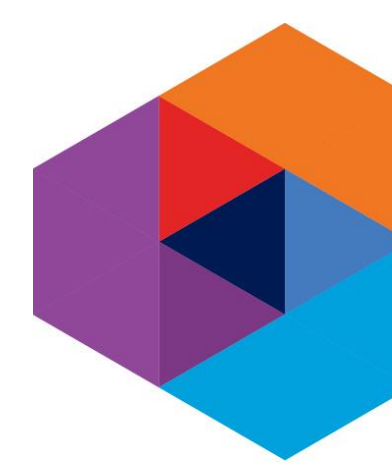




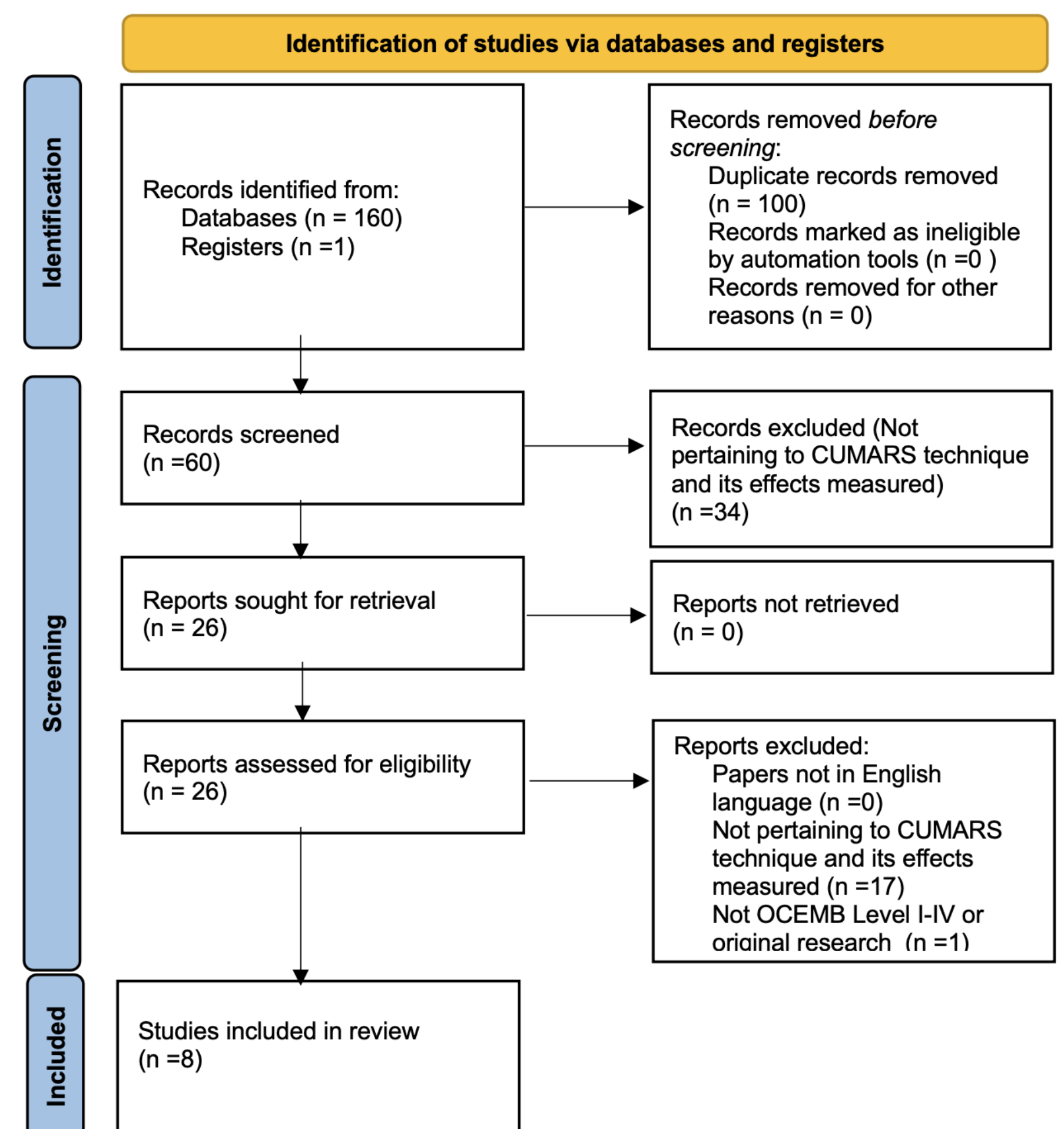
Efficacy and Outcomes of Custom-Made Articular Spacer (CUMARS) Technique in the Management of Native and Prosthetic Hip infection: A Systematic Review

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Introduction

- Periprosthetic joint infection (PJI) remains one of the most complex complications following total hip arthroplasty, posing significant challenges to both patients and surgeons.
- Traditional management strategies, particularly the two-stage revision approach, remain widely practiced, but recent evidence has prompted a re-evaluation of surgical techniques.
- The Custom-Made Articulating Spacer (CUMARS) technique has emerged as a versatile solution that offers both infection control and mechanical function.
- This systematic review aimed to evaluate the effectiveness of the CUMARS technique in the treatment of native and prosthetic hip infections.



Methods

- A systematic review of four databases (MEDLINE, Embase, CENTRAL, CINAHL) was conducted according to PRISMA guidelines
- Studies were included in which CUMARS was implemented and its effect measured
- Data were extracted from the eligible papers, including the lead author's name, year of publication, location of study, study design, follow-up period, and outcomes measured
- The studies included in this systematic review displayed significant heterogeneity, hence performing a meta-analysis of the data from these studies was deemed to be inappropriate, and thus a narrative review is presented.

Results

- A total of 245 patients were included across all studies (Mean: 30.8, IQR: 41.5). The majority of patients included in this study had infected total hip replacements, while six patients treated using the CUMARS technique presented with native hip septic arthritis.
- All six retrospective observational studies had a minimum follow up of 2 years, while the two case studies followed up patients for 1 year.
- The infection eradication rate for these studies was >80%, ranging between 81%-95.7%
- The most common organisms isolated during the first stage included Staphylococcus aureus and Staphylococcus epidermidis.
- Spacer dislocation was the most commonly reported complication following first-stage surgery, with rates varying widely across studies (0-17.3%)
- Functional outcomes were generally favourable, with improvements reported in validated hip scores and range of motion assessments.

Conclusions:

- This is the first systematic review looking at CUMARS Technique and its growing role as an effective and adaptable strategy in managing both native and prosthetic Hip infection
- The findings in this review are encouraging with infection eradication rates between 81%-95.7%, with high rates of implant retention and favourable functional outcomes
- The key advantage the technique has to offer is its versatility where it can be used as a single stage revision or as an interim spacer as part of a two stage technique.

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