Efficacy and outcomes of open surgical cartilage FIXation on patients with diagnosis of Slipped Rib Syndrome (FIX-SRS)

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Introduction

Slipped rib syndrome (SRS) is a clinical constellation of symptoms of pain radiating from the costal margin with corresponding hypermobility of the costal margin impinging upon the intercostal nerve of the rib above[1-3]. Slipping rib syndrome may account for up to 3-5% of referrals for musculoskeletal chest pain in primary care[4,5]. Diagnosis of SRS often relies upon a combination of the history of the presenting illness, physical exam, and static and dynamic imaging[2,6-10]. Patients frequently have a long and arduous course to a tentative diagnosis[3,6]. Concurrently, treatment options for slipped rib syndrome exist along a spectrum – from rest and ice, to oral and topical analgesics, to temporary and permanent locoregional nerve blockade with steroids or local anesthetic, to surgery on the costal margin[3-5,11]

Historically, costal margin excision was the preferred surgical technique – yet modern surgical technique principally targets costal margin stabilization[3,5,11,12]. While single surgeon or single institution studies have suggested benefit with this costal margin stabilization technique, evaluation of this technique among a broader surgical community and patient population has yet to be performed[5,11].

Results of this study will enable us to estimate variability of the primary outcome measure, obtain an initial estimate of treatment and placebo effect, and evaluate feasibility of data collection and patient enrollment. Additionally, through evaluation of surgical operative reports we will be able to assess similarities and differences in technique to enable future operative technique standardization.

Hypothesis

Our hypothesis is that outcomes after surgical intervention will be similar to previously published single surgeon case series but with broader variance in surgical outcomes.

Primary Aim

The primary aim of this study is to gather data that will inform the design of a future, fully-powered prospective clinical trial in accordance with best practice for intervention-based clinical trials [13].

Study Procedures and Conduct

This is a retrospective, multicenter, study to assess outcomes after open surgical cartilage fixation among patients with slipped rib syndrome and evaluate similarities and differences in surgical technique.

Saint Francis Hospital will be working in partnership with Stanford University Medical Center in Palo Alto, CA + 10 other hospitals as part of a collaborative research effort. The coordinating investigator and project leader from Stanford Medical Center developed this protocol and they will serve as the lead site. Participating centers will contribute data upon IRB approval, and a database will be created utilizing Stanford University Medical Center's REDCap

Primary and Secondary Outcomes

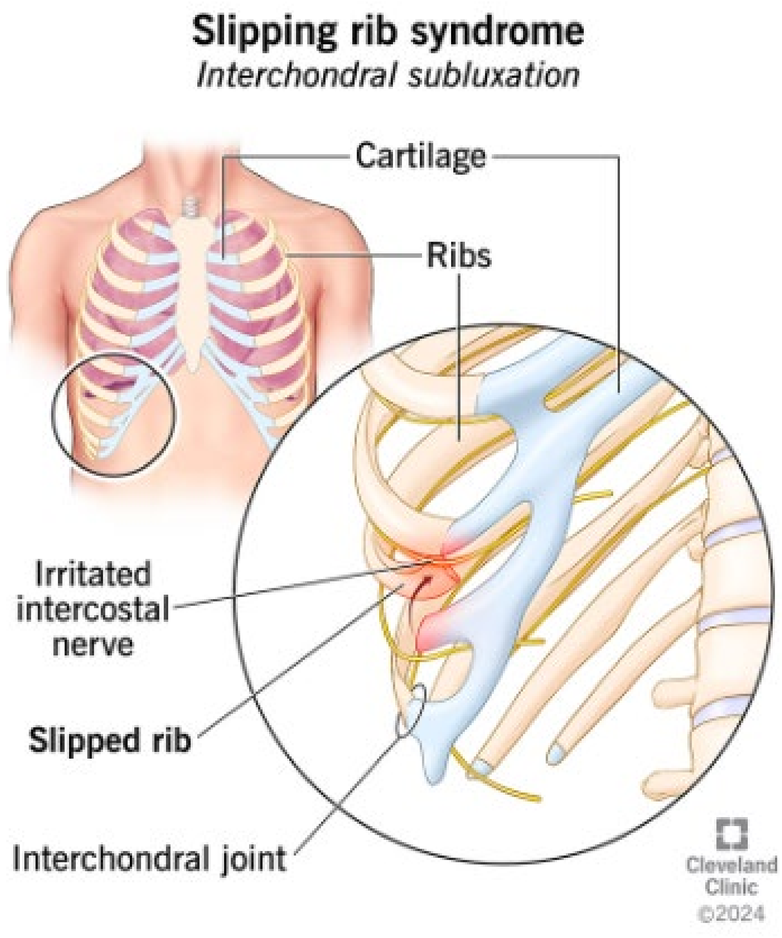
Primary outcome will be numeric change in pain score from baseline, with movement, at 6 months.

Secondary outcome will be numeric pain at rest at 1 month, 3 months, 6 months, 12 months, 18 months, numeric pain with movement at 1 month, 3 months, 12 months and 18 months, and average weekly Morphine Milligram Equivalents (MME) used at the same intervals.

* Pain with movement is defined as pain elicited with rotational twisting while sitting or standing.



Google: Surgeon, CT scan



This study was approved by the Trinity Health IRB and is actively collecting data.

References + Acknowledgements