

10 - Title: Comparison of Chemical Pleurodesis Agents used in VATS Blebectomy for Primary Spontaneous Pneumothorax

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Background: Introduction: Primary Spontaneous Pneumothorax (PSP) is a condition in which a patient without underlying lung disease develops a pneumothorax, with an incidence of roughly 18-28 per 100,000 males per year versus 1.2-6 per 100,000 females per year. For an initial occurrence, non-operative is typically employed, however, the risk of the recurrence is roughly 30% and increases with each subsequent episode. Because of this, the standard of care for recurrent PSP, and considered for select primary occurrences, is operative intervention with video-assisted thoracoscopic surgery (VATS) blebectomy/wedge resection and some component of pleurodesis, of which chemical pleurodesis (CP) is commonly used. The choice of CP agent is variable and debated and the recurrence risk after this procedure is widely quoted. Our study aims to report on the risk of recurrence after VATS with blebectomy/wedge resection + CP for PSP in adult and adolescents and gave a comparison of different pleurodesis agents and their recurrence risk to guide clinicians and patients in treatment options.

Methods/Research Design. Methods: We are performing a meta-analysis/systematic review of VATS + CP in PSP from articles collected from PubMed, Embase, Web of Science, Cochrane/CENTRAL. This study is enrolled in PROSPERO (CRD42024598086). Randomized control trials, cohort studies, case series (10 or more patients), human studies will be included while cases of secondary spontaneous pneumothorax, traumatic or iatrogenic pneumothorax, catamenial pneumothorax, recurrence after surgery, and animal studies will be excluded. Studies with <6 months of follow-up, based on unpublished trials, conference presentations, and unextractable data will not be analyzed. Primary outcome of interest is recurrence with secondary outcomes including chest tube drainage amount and duration, length of operation, presence of persistent air leak, blood loss, complications and length of post-operative stay

Results (or Preliminary Results, as applicable for a project in progress): Results: Using the above criteria a total of 953 articles were identified for initial review of which 226 articles were found to be duplicates. Two reviewer screening was used to independently evaluate the remaining articles preliminarily using the abstract and title with a third review to settle disputes. A total of 80 articles have thus far been selected for full text review. Next 2 reviewers will do full text review of the 80 included articles. Conflicts will then be resolved by the senior author with final say for inclusion. The results and conclusion are to follow and will be reported when article selection is completed.