Individual Research Project Presentations Day 10th June 2024, Kent and Medway Medical School.

Lung injury from Chest Tubes and Applied Suction: A Scoping Review.

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Abstract

Background: This is a scoping review aimed to investigate the incidence and nature of lung injury resulting from thoracostomy procedures, with a specific focus on the use of suction. Currently, there is very sparse evidence on this research topic and what is available is outdated. Therefore, this review aimed to identify gaps in the literature and provide a comprehensive overview of the complications and impact of chest tubes and suction.

Methods: The PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) checklist and explanation were used to guide this scoping review. The scoping review also utilised a mixed methodological approach, reviewing both quantitative and qualitative literature.

Results: The scoping review identified a range of factors contributing to lung injury from thoracostomy, including patient positioning, equipment and technique, complications of tube thoracostomy, and the use of suction. The findings highlighted significant gaps in knowledge and emphasised the need for further research into tube thoracostomy causing lung injury and the safety and efficacy of negative pressure suction.

Conclusions: The scoping review concluded that there are gaps in the literature based on the association between lung injury and tube thoracostomy. There is also a lack of robust evidence supporting the use of suction and the potential complications of this. Furthermore, the need for clinical standardisation, training, and education to mitigate complications associated with thoracostomy procedures has been highlighted. This scoping review provides a rationale for future research and guidance on clinical practice in this area.

Keywords: Thoracostomy | Suction | Lung injury |

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