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Applicability of lung ultrasound during weaning from mechanical ventilation: a systematic review

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Introduction: Lung ultrasound is a widely used tool in the ICU environment. However, the real effectiveness of using ultrasound to help wean patients off mechanical ventilation is still unknown, as it is still imprecise to assess the ideal time for extubation. **Objective:** To review the

use of lung ultrasound as a predictor of weaning from artificial ventilation. **Methods:** This is a systematic review using the PICOS strategy, with searches carried out in the Pubmed, CENTRAL, LILACS, CINAHL and Cochrane databases using the descriptors mechanical ventilation, artificial ventilation, extubation, lung ultrasound, thoracic ultrasound and weaning, added by the Boolean operators AND and OR. **Results:** Fourteen articles were found after reading the title and abstract, eight of which were selected after reading in full. Four concluded that lung ultrasound is effective in aiding weaning, three articles inferred the inaccuracy of lung ultrasound in extubation and one article was inconclusive. We observed that protocols for applying lung ultrasound were used, such as LUS, evaluating the six regions, the modified LUSm procedure or even the BLUE protocol. This resulted in a sensitivity rate for predicting weaning success ranging from 66% to 97-100% and specificity from 37.4% to 96% among the articles selected. **Conclusion:** Lung ultrasound can help predict the outcome of weaning with relative accuracy, and is a promising technique for hospital use.