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## Introduction

- Extubation from mechanical ventilation (MV), an intervention providing support for patient respiration, requires clinical assessment to determine its timing. Pediatric critical care at SickKids currently lacks a standardized protocol or guideline for assessing extubation readiness.
- Standardized clinical assessment and management plans (SCAMPs) are dynamic, clinician-informed practice guidelines that direct treatment decisions in healthcare<sup>1</sup>.
- SCAMPs involve a four-step cyclical process, beginning with the development of the SCAMP using evidence-based research findings and clinician expertise.
- Implementing an extubation readiness test (ERT) SCAMP in SickKids pediatric care will aid in reducing practice variability, duration of MV, hospital length of stay, and ventilator-associated complications<sup>2</sup>.



## Purpose

Perform an extensive literature search on current extubation readiness protocols. Summarize data to create and inform a unique SCAMP for extubation readiness assessment at SickKids.

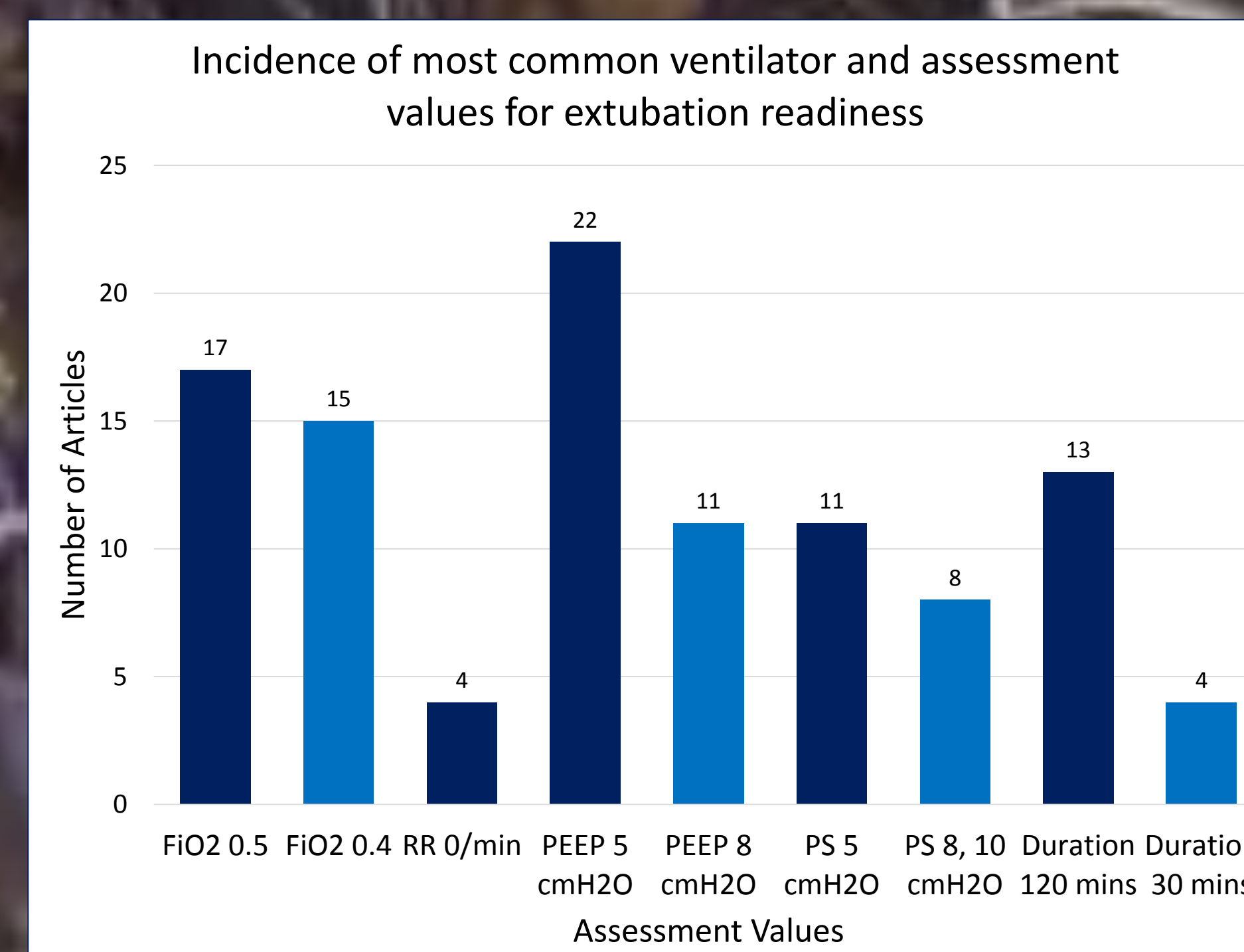
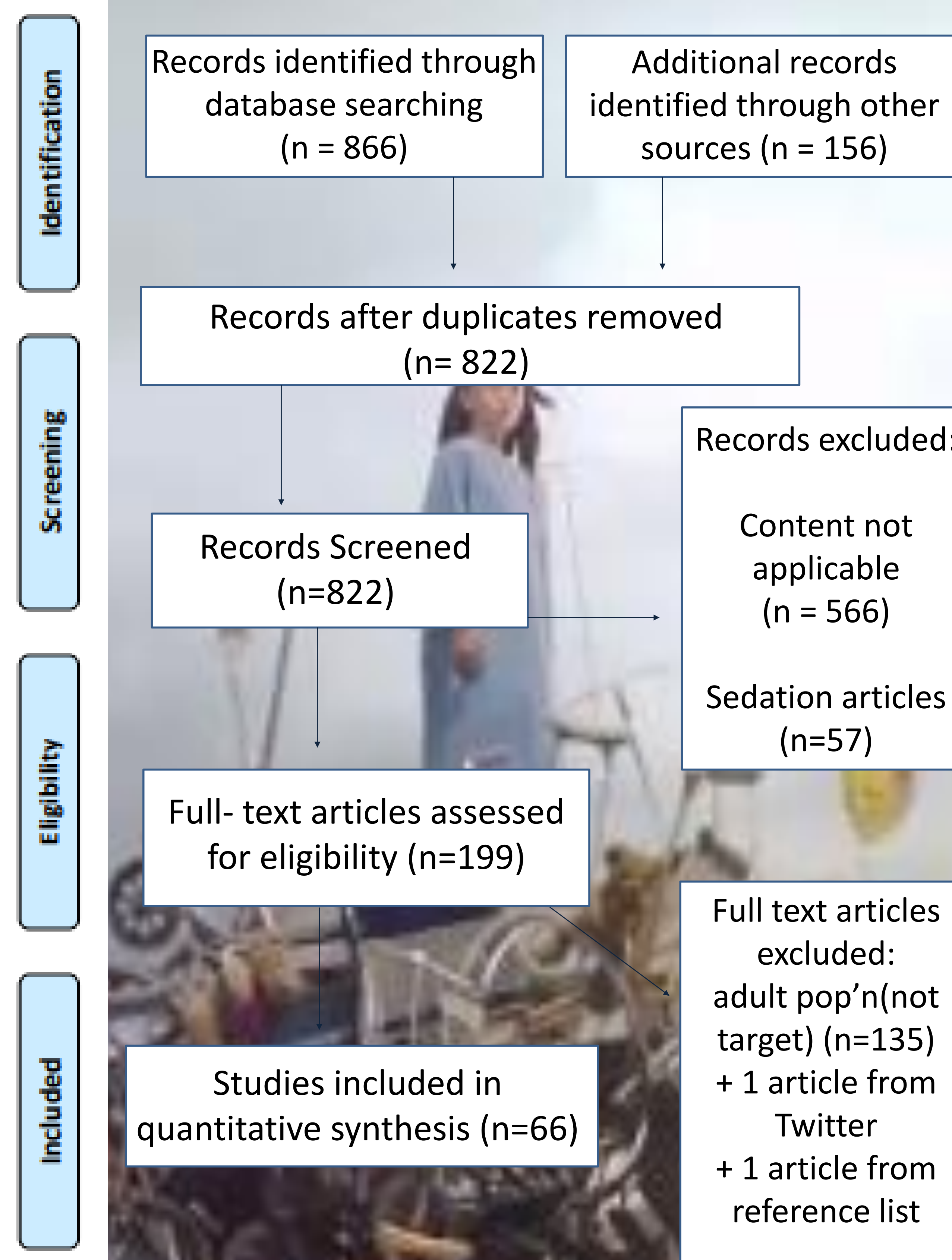
## Methods

- An extensive literature review of the following sources was performed:
- EMBASE, MEDLINE, CINAHL, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, and UpToDate (clinical support resource)
  - Established hospital protocols as shared by colleagues & collaborators

Search strategy:

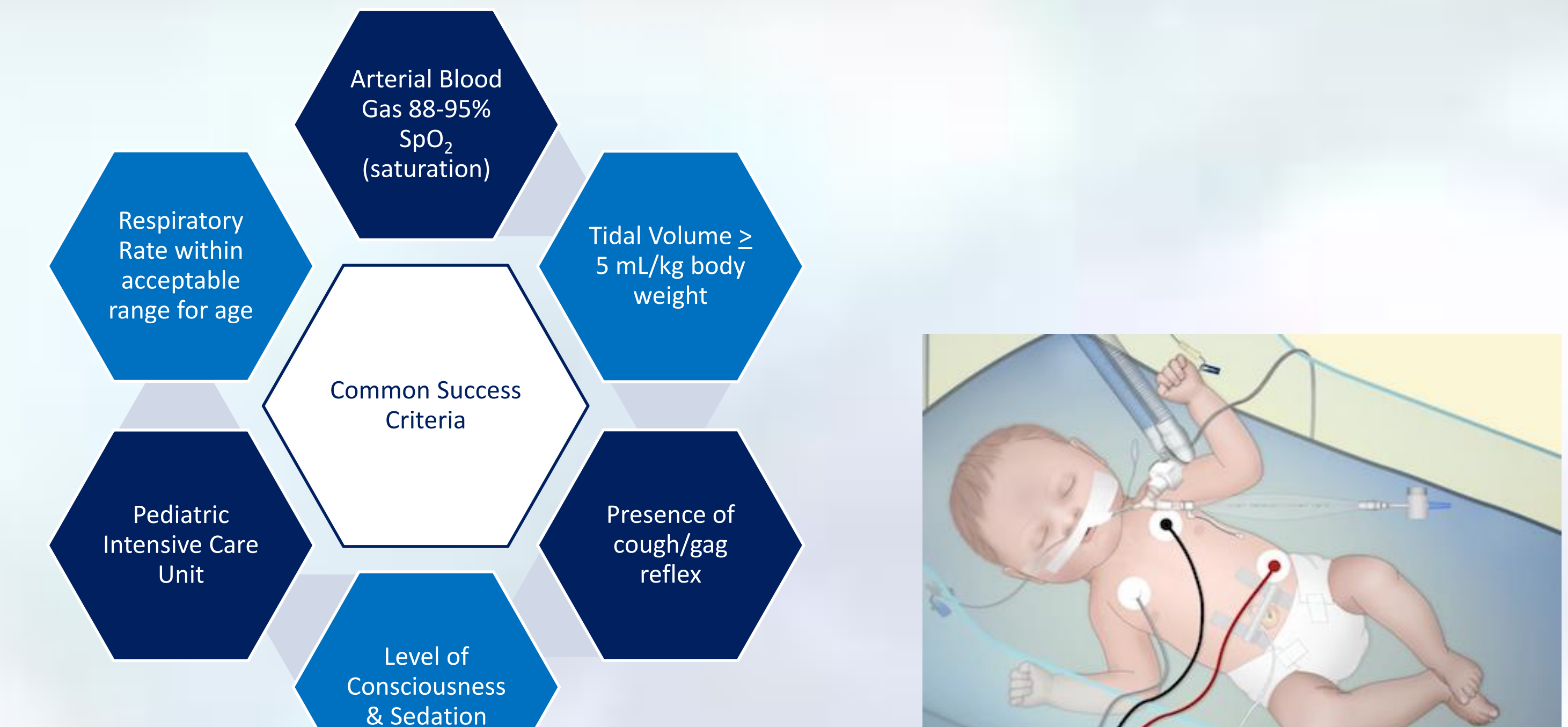
- Medical Subject Headings (MeSH) used:
  - Ventilator weaning, extubation, intensive care, intensive care nursing, newborn intensive care, neonatal intensive care unit, pediatric intensive care unit, artificial ventilation, critical illness
- Key terms included:
  - Respirator/ventilator weaning
  - Spontaneous breathing trial/SBT
  - Critical/intensive care/unit
- Filters utilized: (Inclusion & screening criteria)
  - Clinical protocols (MeSH) OR
  - Practice guideline (MeSH)
  - English language
  - Human
  - Pediatric and/or neonatal

## Results



- Legend**
- Fraction of Inspired O<sub>2</sub> (FiO<sub>2</sub>)
  - Respiratory Rate (RR per min)
  - Positive End Expiratory Pressure (PEEP)
  - Pressure Support (PS)

## Results



## Mechanical Ventilation

## Discussion & Implications

The literature review highlighted the apparent gap in pediatric research and protocolization of extubation, especially when compared to adult literature. Nonetheless, the synthesized review findings will inform the SCAMP algorithm with evidence-based values, as utilized in extubation readiness assessments. The findings will be reviewed by a team of health care professionals in a collaborative setting, to provide recommendations and reach consensus on pilot SCAMP criteria, and the data forms to be implemented. Once implemented, data reports will continue to be collected and analyzed to help guide and revise the ERT SCAMP.

## Acknowledgements

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## References

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- Blackwood, B., Murray, M., Chisakuta, A., Cardwell, C. R., & O'Halloran, P. (2013). Protocolized versus non-protocolized weaning for reducing the duration of invasive mechanical ventilation in critically ill paediatric patients. *The Cochrane Library*.