

## Long-Term Morbidities in Children with Critical Illness: Gaps and Opportunities

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### Abstract

**Introduction:** Improved mortality rates in paediatric critical care may come with the cost of increased morbidity. Goals of modern paediatric intensive care unit (PICU) management should focus on restoring long-term function of paediatric critical illness survivors. This review outlines our current knowledge on trajectories and risk factors of long-term morbidities in PICU survivors. Specifically, we aimed to identify current limitations and gaps in this area so as to identify opportunities for future investigations to reduce the burden of morbidities in these children. **Materials and Methods:** A review of primary studies published in PubMed, EMBASE, and Cochrane databases in the last decade (2008-2017) describing long-term morbidities in PICU survivors was conducted. **Results:** Children surviving critical illness continue to experience morbidities after discharge. A set of risk factors modify their long-term trajectories of recovery, with some children achieving their premorbid level of function, while some others deteriorate or die. Limitations in current methodologies of morbidity research impair our understanding on the causes of these morbidities. Opportunities for future endeavours to reduce the burden of these morbidities include identifying patients who are more likely to develop morbidities, evaluating the efficacy of early rehabilitation, identifying patients who might benefit from tight glycaemic control, characterising the optimal nutritional intervention, and improving management of increased intracranial pressure. **Conclusion:** Survivors of paediatric critical illness experience differing trajectories of recovery from morbidities. Future research is needed to expand our repertoire on management strategies to improve long-term function in these children.

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