

Appendix 1

i) Steering Committee and Panel Composition:

Steering Committee: A three-member Steering Committee (PP, ES, RB) was formed to oversee the CDH Collaborative's guideline development process, to finalize the guideline panel membership and contributors to the literature reviews, to critically appraise all materials generated during the evidence review process, oversee the final guidelines endorsement process and prepare the manuscript, which was reviewed and approved by the Collaborative.

Guideline Panel Composition: Specialists in the fields of pediatric surgery, maternal fetal medicine, pediatric anesthesia, neonatal intensive care, pediatric intensive care, neonatal follow-up and pediatric cardiology were recruited, including both new and original members from the 2018 CDH Collaborative.

*Pramod S. Puligandla	Pediatric Surgery/PICU	Montreal Children's Hospital
*Erik D. Skarsgard	Pediatric Surgery	British Columbia Children's Hospital
*Robert G. Baird	Pediatric Surgery	British Columbia Children's Hospital
Elena Guadagno	Research Director	Montreal Children's Hospital
Alexandra Dimmer	Trainee	Montreal Children's Hospital
Olivia Ganescu	Trainee	Montreal Children's Hospital
Nimrah Abbasi	Maternal Fetal Medicine	Mount Sinai Hospital (Toronto)
Gabriel Altit	Neonatology	Montreal Children's Hospital
Mary Brindle	Pediatric Surgery	Alberta Children's Hospital
Sairvan Fernandes	Trainee	British Columbia Children's Hospital
Shyamala Dakshinamurthi	Neonatology	Winnipeg Children's Hospital
Helene Flageole	Pediatric Surgery	McMaster Children's Hospital
Audrey Hebert	Neonatology	Centre Hospitalier Université Laval
Richard Keijzer	Pediatric Surgery	Winnipeg Children's Hospital
Martin Offringa	Neonatology	Hospital for Sick Children (Toronto)
Dylan Patel	Trainee	Montreal Children's Hospital
Greg Ryan	Maternal Fetal Medicine	Mount Sinai Hospital (Toronto)
Michael Traynor	Pediatric Anesthesia	British Columbia Children's Hospital
Augusto Zani	Pediatric Surgery	Hospital for Sick Children (Toronto)
Priscilla Chiu	Pediatric Surgery	Hospital for Sick Children (Toronto)

*Steering Committee members

All authors listed above made substantial contributions to the conception or design of this work, as well as the acquisition, analysis and interpretation of the data used to create this work. The authors were also involved in drafting the document and revising the final version to be published. All authors are accountable for all aspects of this work in ensuring that any questions

related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ii) Literature search

A senior medical librarian conducted an update to the existing CDH guideline published in 2018.[1] The PRISMA guideline[2] for conducting systematic reviews was used. The following databases were searched from January 1, 2017 to August 30, 2022: Medline (Ovid), Embase (Ovid), and Cochrane (Wiley). The search strategy used variations in text words found in the title, abstract or keyword fields, and relevant subject headings to retrieve articles looking very broadly at all congenital diaphragmatic hernia literature. The search excluded editorials, letters to the editor, review articles, case reports involving less than 3 patients, and animal studies, where applicable (See “Supplementary Material” for search strategy). The PRISMA-S[3] extension for searching was used for reporting and is included in the Supplementary material. EndNote X9™ was used for duplicate removal. Initial title and abstract screening was performed by at least two independent reviewers (PP and a combination of OG, EG, DP and/or AD) with a third reviewer resolving the discrepancies using the online platform Rayyan.[4] The primary reason for exclusion was documented in a Google spreadsheet. Selected articles were then segregated according to their potential relevance to each of the 15 CDH care areas.

iii) Evidence appraisal process

The process for updating the existing CDH clinical practice guidelines adhered to GRADE methodology.[5] Work groups were provided the screened articles associated with their area of interest in order to complete their full manuscript critical appraisal for new evidence. Articles could be excluded at this stage if they were deemed irrelevant or if they did not include at least one outcome measure pertinent to the CDH care area under review. The work groups created Population-Intervention-Comparison-Outcome (PICO) tables based on their review of each article (**Appendix 2**). This information was then used to inform changes to existing guidelines or the need to develop new care recommendations.

iv) Recommendation generation and/or modification

Work groups provided evidence summaries supporting the care amendments and then provided the level of evidence for each recommendation using the previously published taxonomy (Figure 2[1]). Recommendations were categorized as “unchanged”, “updated” or “new” based on the existence or degree of novelty of evidence emerging since the creation of the 2018 guidelines. Based on the search outcomes, a new set of recommendations were created for analgesia, sedation and neuromuscular blockade, a care area not addressed by the 2018 guidelines.

v) Strength of recommendation

The strength of recommendation and supporting level of evidence were achieved and displayed according to GRADE recommendations[5] in each section's table of recommendations (see **Tables 1-15**)

vi) Modified Delphi endorsement process

The new and updated CDH care recommendations, including the evidence summaries and PICO tables that supported them, were packaged into a single document that was shared with all Collaborative members and guideline contributors for review. Concomitantly, a survey (Survey Monkey™) was delivered to each member explicitly asking if they agreed with each care recommendation as written. Following the consensus framework previously used (**Figure 3**),[1] care recommendations not meeting the predetermined consensus (>80% agreement) thresholds of good or strong were then marked for further discussion. If consensus could not be reached after further discussion, the final level of consensus was noted and this item identified for future discussion by Steering Committee members.

vii) Management of competing interests

Members of the Canadian CDH Collaborative performed their tasks voluntarily. All members reported conflict of interest/commitment declarations, and no conflicts were encountered.

viii) Funding

This project received no external or internal funding.

References:

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