



More Information

Background & Rationale

Surgical practice lags behind its medical counterpart in the acceptance and implementation of evidence-based practice, which has been termed evidence-based surgery (EBS). Within the field of surgery, pediatric surgery in particular has trailed behind general surgery in pursuing EBS.

One barrier to EBS is the paucity of evidence available in the field of pediatric surgery. Although prospective trials provide the best evidence, the majority of contributions to pediatric surgery are retrospective comparisons or case studies. Prospective trials comprise only 0.04% of all manuscripts published in pediatric surgery journals – less than 1 trial for every 200 articles. In addition, many conditions in pediatric surgery cannot be studied adequately at a single center. Even the largest pediatric hospitals do not have sufficient numbers of patients to answer most of the important research questions; multicenter collaborative studies are needed to overcome this obstacle. Thus, it is important to ensure that researchers are aware of the most pressing issues in pediatric surgery; this will allow them to collaborate and focus their research on topics that have not yet been well-studied.

In addition, pediatric surgeons and hospital policy/decision-makers are extraordinarily busy. It can be challenging for them to find the time to sort through any new emerging literature to identify high-quality evidence that is relevant to their practice.

By synthesizing the evidence, making these syntheses easily accessible, and providing clear assessments of the quality of the available evidence, we aim to improve the rapid uptake of good evidence into practice.

Methods For Development

Pediatric surgery is a vast field, thus the Evidence-Based Resource will be divided by surgical area or topic. The top three issues/questions in one topic will be covered within each phase of the project. We will regularly update each topic as new evidence emerges, and add more topics as time and resources allow. The order in which we will complete each topic is based on the October 2010 Accreditation Council for Graduate Medical Education National Resident Report which indicates the average number of each type of surgery general surgery residents have completed; areas with a greater average number of surgeries performed will be completed first.

Identification Of Controversial Topics

We use a Dephi-like method to determine the issues of greatest concern to pediatric surgeons regarding the surgical management of the topic in question. This involves surveying experts who are selected primarily on the basis of a literature search. Selected experts must be members of CAPS who are active in the field of pediatric surgery and have at least one publication in a peer-reviewed journal in the previous 10 years. We select no more than two experts from each centre; if a centre has more than two qualified and available experts, we randomly select two. We contact at least 20 experts per topic.

First Round

We send an online survey to the identified experts that consists of an open-ended question: "In your practice with the surgical management of _____, what issues do you find to be controversial and in need of further research and/or consensus?"

Second Round

We develop a questionnaire listing all the issues raised by the experts in the first round. We send this questionnaire to the respondents from the first round, asking them to select the three issues that they feel are the most important. The three issues that received the most votes are addressed.

Searching For Evidence

The first step in each new issue or update of the resource is to conduct a search to identify relevant articles. We conduct electronic searches of the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, and CINAHL without date or language restrictions to identify relevant primary studies, reviews, or overviews/syntheses of reviews on the issues of interest. We exclude editorials and case studies. We also hand search the references of all included articles and conference proceedings for additional relevant evidence. In cases where there is an abundance of literature, or when older literature is no longer relevant, we may limit the search dates to a smaller (i.e., more recent) range. Language restrictions may also be applied depending on the language abilities of the research team and translation resources available.

Article Screening And Selection

Two researchers independently assess all published articles identified by the literature search for relevance. The inclusion criteria vary depending on the issue being covered. The researchers will compare and discuss their selections to come to a consensus on which articles should be included. In cases where a consensus cannot be reached, a third researcher will be consulted.

Quality Assessment

We assess the quality of all articles selected for inclusion using the MINORS criteria for non-randomized studies, the Cochrane 'Risk of bias' tool for randomized controlled trials (RCTs), and AMSTAR for systematic reviews (SRs). In the case of non-systematic literature reviews we are not able to provide a quality score, but we will nevertheless include these papers in the resource with a brief discussion of the apparent quality of the research. Two researchers will independently quality assess all articles that are selected as relevant. The two researchers will compare scores on each item of the quality assessment tool to come to a consensus. In cases where a consensus cannot be reached, a third researcher will be consulted.

Summarizing The Evidence

Article Summaries

We provide a one-paragraph summary for each included article. Each summary covers the method, results, and the implications as stated by authors, as they apply to the question of interest (i.e., we only report on the results from the study that answer our question, even if the study contains additional evidence). One researcher prepares each summary, and a second researcher checks each summary for accuracy and completeness.

Summary of Evidence

We provide a short summary of all of the good evidence that has been found for each question. There is no official cut-off score to divide high- and low-quality studies, we use their own judgment on which evidence to include in this summary based on the available literature. This summary includes a brief background/introduction of the problem or controversy, followed by the results from good-quality studies, and recommendations based on these findings. If the data lends itself, a meta-analysis is conducted. This section also includes a discussion of what future research should be conducted if there is a paucity of good evidence or if it is difficult to draw conclusions based on the available evidence (e.g., if the evidence is contradictory).

Classification of the Evidence

We indicate the level of evidence for each question:

Level I – Evidence from at least one systematic review of multiple well designed randomized controlled trials.

Level II – Evidence from at least one properly designed randomized controlled trial of appropriate size.

Level III – Evidence from several well-designed trials without randomization, single group pre-post, cohort, time series, or matched case-controlled studies.

Level IV – Evidence from well-designed non-experimental studies from more than one center or research group.

Level V – Opinions of respected authorities, based on clinical evidence, descriptive studies, or reports of expert committees.

Updates

Each topic's top three issues will be re-visited two years after its completion in order to include any new evidence that has emerged. Once we have covered the top three issues of all the topics, we will repeat the Delphi method in order to determine the new or remaining important or controversial issues, and repeat the entire process of gathering evidence.

Measuring The Impact

The short term benefit of this project is to direct future research toward topics where evidence is insufficient. We will measure our success in this area by quantifying the increase in the number of research projects launched or presented at pediatric surgery meetings that relate to issues lacking evidence as indicated in this resource.

The long term benefit will be an improvement in the care of pediatric surgery patients due to the accessibility of up-to-date evidence on our website. In addition, this resource will help pediatric surgeons overcome the barriers preventing dissemination, acceptance and application of good evidence. We will measure our success in this area by surveying members of the Canadian Association of Pediatric Surgeons to determine the impact of our resource on their practices.

Research Team

Principal Investigator: Dr. Ahmed Nasr

Research Coordinators: Carolyn Wayne, Dr. Danielle Menzies-Toman

Contributors: Dr. Juan Bass, Dr. Jacob Langer, Dr. Margaret Sampson

Contact

If you have questions, concerns, or suggestions, or you want to contribute to the EBR, please contact us.

Contact The EBR Team

Position Statements

CAPS is committed to making a difference in the lives of children, youth and families. To accomplish an improvement in surgical care for babies and children, the Canadian Association of Paediatric Surgeons has launched an educational program for doctors, nurses and others working in the paediatric health field. To support this program, an educational fund has been established.

Position Statements:

The following statements has so far been prepared and finalized through the CAPS Education Committee.

- [Inguinal hernia & hydrocele - Paediatr Child Health 2000; 5:461-2](#)
- [Pediatric constipation - Paediatr Child Health 2001; 6:21-2](#)
- [Disorders of the umbilicus - Paediatr Child Health 2001; 6:312-3](#)
- [Use of ATV by children and youth - Journal of Pediatric Surgery \(2008\) 43, 938-939](#)
- [The Pediatric Surgeon and Blood-borne pathogens](#)

More position statements regarding children can be found at the [Canadian Paediatric Society](#) site.

