

APPENDIX :

PROSPECT working group

G.P. Joshi, E. Pogatzki-Zahn, M. Van de Velde, S. Schug, H. Kehlet, F. Bonnet, N. Rawal, A. Delbos, P. Lavand'homme, H. Beloeil, J. Raeder, A. Sauter, E. Albrecht, P. Lirk, S. Freys and D. Lobo.

PROSPECT METHODOLOGY

1. Once the Working Group identifies the surgical procedure (new or update) to be reviewed, a subgroup will be selected. The subgroup consists of at least two members of the Working Group and co-opted external members as required (e.g., surgeons and/or anesthesiologists) with specific expertise in the surgical procedure to be reviewed. In addition, specialists in literature searches and/or data analysis may also be included in the subgroup. The subgroup may also include research fellows assisting with the project.
2. For new procedures, a 10-year period is chosen because it more likely resembles relevant clinical practice given that rapid changes occur in peri-operative care including surgical techniques, although older studies may be included if considered currently clinically relevant. For updates, the literature search will be from the end date of the previous review.
3. The review process begins with a systematic search for literature specific to peri-operative pain management for the selected procedure in accordance with the preferred reporting items for systematic review and meta-analysis protocols (PRISMA) recommendations
4. Inclusion/exclusion criteria: RCTs and systematic reviews of analgesic, anesthetic, and surgical interventions, published in the English language, addressing pain management relating to the surgical procedure being reviewed. In addition, included RCT's should report pain scores (e.g, visual analogue scale, verbal or numerical rating scale). The RCTs that reported data pooled from patients undergoing simultaneous surgical procedures are excluded as are the RCTs evaluating combinations of different perioperative interventions such as studies comparing ERAS programs to conventional care, because the variability of definitions and protocols can make practical recommendations about a particular intervention impossible. Meta-analyses that reported data on mixed surgical procedures are only included when a sub-analysis on the surgical procedure studied is available.
5. A PRISMA flow chart is utilised to present the results of the search data, records screened, records excluded with reasons for exclusion and studies included in the qualitative analyses.
6. Once the studies for inclusion are finalized, the excluded studies will be tabulated with reasons for exclusion.
7. The included studies are stratified by the timing of the intervention (preoperative, intraoperative, and postoperative), and are then further categorised into the type of intervention: analgesic (systemic analgesics, analgesic adjuncts, and regional analgesia techniques) and anaesthetic, or non-

pharmacological interventions. The studies assessing the effects of surgical techniques on analgesic outcomes will be grouped separately.

8. The subgroup prepares a draft table of the recommendations of analgesic, anesthetic or surgical interventions based upon the following considerations.
 - To be recommended the intervention must be beneficial in at least two RCT's
 - Consider if the differences in pain scores between the groups are clinically relevant (i.e., differences should be 1/10 cm or 10/100 mm on the VAS or 1/10 point on NRS/VRS)
 - Determine if the analgesic intervention would further improve postoperative pain relief and/or outcome when added to the “basic” analgesic regimen (acetaminophen, NSAIDs, COX-2 inhibitors) Alternatively, previously recommended interventions may be considered as “basic” analgesia (e.g., acetaminophen + NSAIDs + trocar site local infiltration for laparoscopic cholecystectomy etc.)
 - Determine if the intervention would be beneficial if basic regimen was not possible or was contraindicated.
 - Consider the relevance of intervention in current clinical practice with respect to the anesthetic/analgesic technique.
 - Consider balance between the invasiveness of the analgesic technique and consequences of pain
 - Consider balance between the analgesic efficacy and adverse event profile of the intervention [adverse effects are identified through an extensive literature search, which may not be procedure-specific; however, the risks are adjusted for the procedure being evaluated. Case-control studies and cohort studies or observational studies can be used to determine adverse effects of analgesic interventions].
 - Confirm that the reasons for not recommending an analgesic intervention are appropriate.
 - Relevant patient characteristics (e.g. opioid tolerance and psychiatric comorbidities) may be included to ensure not only procedure-specific but also patient-specific aspects of pain management are taken into consideration.
9. A modified Delphi process which consists of several rounds of communication will be used.
 - First round: each Working Group member will email their comments to the subgroup leader but not to the whole Working Group.
 - Second round: will occur at the face-to-face/virtual meeting during which one of the members of the subgroup, as determined by the subgroup leader, will briefly present the evidence and reasons for recommendations and non-recommendations as well as the collated results from the first Delphi round.
 - The Working Group will discuss and recommendations may be modified, if necessary, and attempt to achieve a consensus. The members will then vote for the second time. This voting may be open or anonymous as determined by the Group.

- The Delphi process will run for up to 3 rounds. In the absence of consensus, the percentage of agreement will be included in the final manuscript.
10. The Working Group will also develop clinical questions that need to be answered in the future; these should be discussed in the manuscript.
 11. The final document with the consensus agreements will be circulated (*via* email) to the Working Group for a review and approval.