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PROSPECT Working Group

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PROSPECT – Procedure-specific clinical decision support for postoperative pain management

Background and Goal of Study

- Evidence from a recent survey demonstrates that clinical practice in the management of postoperative pain differs between centres and countries within Europe, and therefore local policies may not always reflect best evidence-based practice. (PROSPECT survey)
- The evidence on which best practice is based is also fragmented, and the value of many interventions has been extrapolated from specific procedures to other procedures.
- The Procedure-Specific Post-operative Pain Management (PROSPECT) Working Group of European anaesthesiologists and surgeons was therefore formed in 2002 with two aims:
 - Conduct procedure-specific systematic reviews of evidence for postoperative pain management.
 - Develop web-enabled clinical decision support software to offer guidance to clinicians engaged in postoperative pain management.

Materials and Methods

- The PROSPECT Working Group conducts systematic reviews of evidence using the methodology of the Cochrane Collaboration.¹
- Relevant randomised trials are identified using The National Library of Medicine's MEDLINE database, the EMBASE database and by reviewing the reference lists of studies and review articles.
- Methodological quality is assessed by examining concealment allocation, randomisation method, withdrawal problems and ability to perform an intention-to-treat analysis.
- Data on pain assessment recorded on the VAS or VRS scale, time to first analgesic request and use of supplemental analgesics are recorded. Additionally, the incidence of postoperative nausea and vomiting, length of stay in the PACU, time to first bowel movement or flatus, time to ambulation and duration of convalescence are recorded when available.
- Qualitative analyses and, where appropriate, meta-analyses, are then conducted.
- Following review by the PROSPECT Working Group, additional data and experience not obtained through the systematic review are collated, and the evidence classified into four groups:
 - Procedure-specific evidence.
 - Transferable evidence from other procedures.
 - Practice-based evidence.
 - Practice recommendations, which are overall recommendations based on the other three categories of information.

- The knowledge base is then integrated with Arezzo[®] technology, which uses an inference engine to process knowledge about clinical conditions.
- The combination of this sophisticated software and the data from the review results in a user-friendly program in which the clinician is presented with a range of therapeutic solutions and the supporting arguments for each.

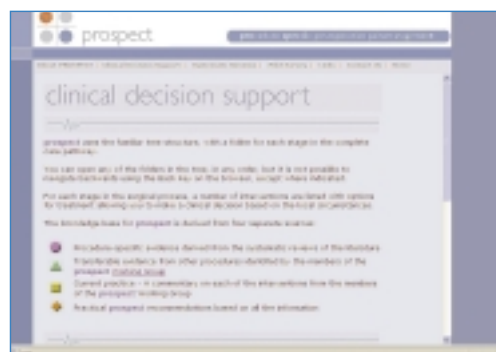


Figure 1. An overview of the PROSPECT clinical decision support system from the PROSPECT website

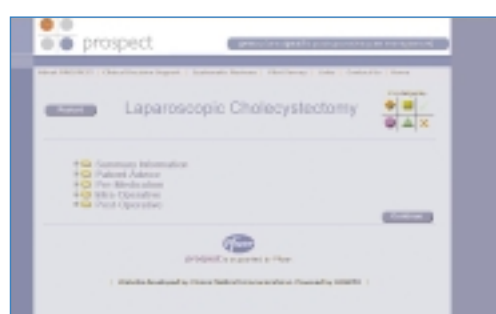


Figure 2. Structure of the clinical decision support recommendations

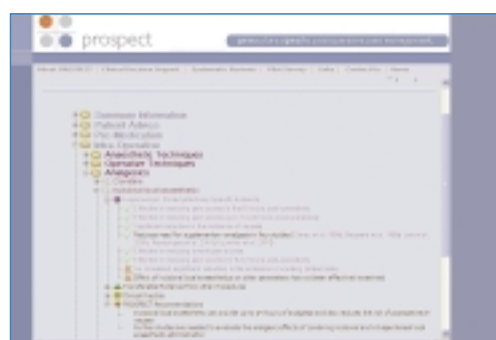


Figure 3. An example of the presentation of arguments for and against the use of a single intervention: in this case, incisional local anaesthetic

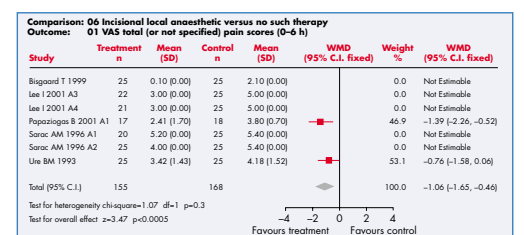


Figure 4. Presentation of meta-analysis data within the clinical decision support programme.

- The clinical decision support pathway is then downloaded onto the PROSPECT website (www.postoppain.org), providing healthcare professionals with up-to-date, interactive support on how to manage postoperative pain.

Results

- To date, two systematic reviews have been conducted, comparing the efficacy and safety of analgesic, anaesthetic and operative techniques in influencing postoperative pain in adult patients undergoing laparoscopic cholecystectomy and primary total hip replacement.
- The clinical decision support pathway for laparoscopic cholecystectomy is being launched at Euroanaesthesia 2003, and examples of the pathway are given in Figures 1–4.

Conclusions

- The PROSPECT group is a body created to conduct procedure-specific literature reviews, to ascertain the evidence base for the use of analgesic and operative interventions aimed at influencing postoperative pain.
- With the addition of evidence from other procedures, and from daily practice, the PROSPECT Working Group provides recommendations for postoperative pain management.
- This web-enabled clinical decision support software provides healthcare professionals with a user-friendly interface, assisting postoperative pain management in everyday clinical practice.
- It is the intention of the PROSPECT Working Group to develop clinical decision support programmes for a variety of commonly performed procedures.

Reference

1. Cochrane Reviewers Handbook 4.1.4 [updated October 2001]. In: *The Cochrane Library, Issue 4, 2001*. (Clarke M, Oxman AD, eds). Oxford: Update Software, 2001.