UK Progress in Evidenced-Based Anesthesia Guidelines

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Why guidelines?
In the late 1990's, the APA was aware that there were significant variations in clinical practice of pediatric anesthesia, pain management and critical care across Great Britain and Ireland and across Europe. Practice on either side of the pond also seemed to vary considerably. The evidence base in the literature for much of our practice is not very substantial and yet very high standards of clinical care are evident based on experienced, senior staff involvement in the care of children. Variations in practice between specialist and non-specialist centers caring for children were giving cause for concern in a number of clinical areas including fluid management of children, pediatric pain management, and sedation for procedures. The amount of information given to families and to children particularly in relation to risks and benefits of invasive anesthesia and pain management procedures was also the subject of much debate at this time. The APA therefore asked me to organize a number of working groups to produce guidelines because of my experience in chairing the Scottish working group on pediatric procedural sedation. We decided not to try to produce guidance on critical care topics as the Paediatric Intensive Care Society has this remit in the UK.

How did we select topics?
The APA Council discussed a number of suitable topics and voted for its "top three" namely: Acute pain management; Fluid management in the perioperative period and Postoperative nausea and vomiting. We were also aware that the UK National Audit of Pediatric Epidural Infusions was starting and agreed to await the outcome of that project before considering our next highest priority issue concerning information and consent procedures for epidural analgesia.

Which methods did we use?
The APA wished to use validated methods and agreed to use the Scottish Intercollegiate Guidelines Network (SIGN) methodology whenever possible. This is now recognized worldwide and has been adopted by the World Health Organisation. Details are available at www.sign.ac.uk as Guideline 50.

This incorporates a rigorous method of searching the literature, scoring the literature, assessing the weight of evidence and producing recommendations with a grade depending on the quality, weight and consistency of evidence. Where evidence was poor, this can be highlighted to encourage future research and good clinical practice points based on experience of senior staff and where formal trials would be impossible or unethical are allowable. SIGN encourages the setting of a number of key questions which the guideline is framed to answer. A draft guideline then goes out for peer review and consultation before the final guideline is published.

With the initial literature searches for our top three subjects for guideline development, it

became clear that the acute pain management guideline group could use SIGN methodology, particularly if the subject was considered by surgical and medical procedure rather than by analgesic technique. This group therefore set about producing an evidence-based review of analgesic techniques for each pediatric surgical and medical procedure for all age groups including neonates.

In contrast, the fluid management group found the evidence base for pediatric perioperative fluid management was threadbare and found the SIGN methodology could not work for this topic. After much detailed consultation, it was agreed that this group would use a Delphi process to produce a consensus guideline. This involves producing a series of statements with which a multidisciplinary expert group indicate levels of agreement or disagreement on a 10 point scale. Several iterations of this process produce consensus (or not) and this can then be presented formally for consultation.

For PONV in children, there was a reasonable body of good evidence with a number of meta-analyses already published so this group have been able to use SIGN methodology.

Lessons from the SIGN Guideline 58 on Pediatric Sedation

The first important lesson is to allocate approximately 2 years from initiation to production of a guideline.

The second lesson is to delegate the chairmanship of each working group to a dedicated expert with a good track record in multidisciplinary working. All the APA working group chairs have done a superb job of drawing disciplines together.

The third lesson is to have all interested parties involved from the start including patients or their advocates.

The fourth lesson is to have a plan for implementation and audit of the guideline in advance of publication.

Progress report on first wave of APA guidelines

Acute pain: being peer reviewed and out for consultation.

Fluid management: posted on the APA website www.apagbi.org.uk

PONV: first draft being written

Consent for epidural analgesia: collaboration with the UK National Epidural Audit and RCoA/ AAGBI Patient Information Projects to produce parental and children's information and consent documentation.

(Up to date reports and summaries of the main recommendations of these groups will be detailed in the lecture).

Plans for future guidelines

APA National Opioid Infusion Audit: this has now started and the data collection phase will run for a year in 17 centres using a web-based reporting system. The aim is to collect data on 10,000 opioid infusion techniques managed by the main pediatric acute pain teams in the UK and Ireland.

Thromboprophylaxis in children: this group has now started work and is evaluating the literature using SIGN methodology. The aim is to give guidance on

identification of high risk groups and to give age-appropriate and procedure-specific guidance on thromboprophylaxis techniques.

Blood transfusion and use of blood products: this group is about to be formed with the aim of defining transfusion thresholds in children, more appropriate use of blood and blood products in children and methods of testing and monitoring blood and blood product use.

Sedation and analgesia for procedures? It is likely the APA will have to facilitate the setting up of a multidisciplinary working group to produce evidence-based sedation and analgesia guidelines for pediatric procedures as the government authorities and Royal Colleges do not see this as a priority area despite a number of sedation disasters in the UK recently. Collaboration is also envisaged with emergency medicine to revise their guidance on the use of ketamine. SIGN 58 is used in Scotland and also by several hospitals in England and Wales as the basis for their local policies but practice varies enormously. In 2003, the Royal Colleges in the UK produced a joint statement highlighting poor sedation practice despite a plethora of guidelines in adults and children. They recommended that each hospital should have a sedation committee with the remit of assessing the sedation needs locally and how these could best be met safely. This has still only been implemented in a very few hospitals some 5 years later! A perfect environment for…..another guideline!!

Useful websites
www.apagbi.org.uk
www.sign.ac.uk

Useful article
Llewellyn, N. & Moriarty, A. (2007) The National Pediatric Epidural Audit. *Pediatric Anesthesia* 17: 520-533.