ARCHIMEDES

Towards evidence based medicine for paediatricians

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In order to give the best care to patients and families, paediatricians need to integrate the highest quality scientific evidence with clinical expertise and the opinions of the family.[1] *Archimedes* seeks to assist practising clinicians by providing ''evidence based'' answers to common questions which are not at the forefront of research but are at the core of practice. In doing this, we are adapting a format which has been successfully developed by Kevin Macaway-Jones and the group at the *Emergency Medicine Journal*—''BestBets''.

A word of warning. The topic summaries are not systematic reviews, through they are as exhaustive as a practising clinician can produce. They make no attempt to statistically aggregate the data, nor search the grey, unpublished literature. What *Archimedes* offers are practical, best evidence based answers to practical, clinical questions.

The format of *Archimedes* may be familiar. A description of the clinical setting is followed by a structured clinical question. (These aid in focusing the mind, assisting searching,[2] and gaining answers.[3]) A brief report of the search used follows—this has been performed in a hierarchical way, to search for the best quality evidence to answer the question.[4] A table provides a summary of the evidence and key points of the critical appraisal. For further information on critical appraisal, and the measures of effect (such as number needed to treat, NNT) books by Sackett[5] and Moyer[6] may help. To pull the information together, a commentary is provided. But to make it all much more accessible, a box provides the clinical bottom lines. Updates to previously published topics will be linked to the original article when they are available.

Electronic-only topics that have been published on the BestBets site (www.bestbets.org) and may be of interest to paediatricians include:

- Should adrenaline be used as an inotrope in the very low birth weight infant?

Readers wishing to submit their own questions—with best evidence answers—are encouraged to review those already proposed at www.bestbets.org. If your question still hasn't been answered, feel free to submit your summary according to the Instructions for Authors at www.archdischild.com. Three topics are covered in this issue of the journal:

- Should children with ADHD and normal intelligence be routinely screened for underlying cytogenetic abnormalities?
- Is injection of botulinum toxin A effective in the treatment of drooling in children with cerebral palsy?
- Should bubble baths be avoided in children with urinary tract infections?

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Searching far and wide

In the field of interventional systematic reviewing, there has emerged a credo that the only way to properly answer a clinical question is to perform an extremely extensive search and integrate all of the RCTs found, regardless of language, publication status, or authorial credentials, as long as the methods are good enough. In order to find all these RCTs, the story goes, one's net needs to be cast beyond the electronic and into the grey seas of conference abstracts, theses, and unindexed journals. To do this, you need to get your hands dirty (often literally) by sitting in the library flicking though journals and extracting the relevant trials manually. But it's worth asking if this actually makes a difference. Studies have shown that the addition of databases beyond Medline (especially in specialised fields), and contact with authors or pharmaceutical companies all improve the number of studies retrieved.[1] Searching for studies in languages other than English will also increase the yield.[2] And certainly the use of complex search strategies (such as the Cochrane 42-item RCT filter) improves the catch.[3] Does this then make the concept of Archimedes irrelevant, as the searches performed are less thorough and so prone to error? Probably not. A recent article[4] has shown that though the number of studies is increased, the actual effect on the review's conclusions of these ''hard to find'' trials is small. In none of these conventional medical interventions was a conclusion overturned. The authors conclude that the advent of higher quality reporting and the CENTRAL register of controlled studies in the Cochrane library has made life easier for all of us, by making simple searches as effective as complex ones.

1 Helmer D, Savoie I, Green C, *et al*. Evidence-based practice: extending the search to find material for the systematic review. *Bull Med Libr Assoc* 2001;**89**:346–52.
2 Crumley ET, Wiebe N, Cramer K, *et al*. Which resources should be used to identify RCT/CCTs for systematic reviews: a systematic review. *BMC Med Res Methodol* 2005;**5**:24.
3 Moher D, Pham B, Lawson ML *et al*. The inclusion of reports of randomised trials published in languages other than English in systematic reviews. *Health Technol Assess* 2003;**7**:1–90.
4 Royle P, Waugh N. A simplified search strategy for identifying randomised controlled trials for systematic reviews of health care interventions: a comparison with more exhaustive strategies. *BMC Med Res Methodol* 2005;**5**:23.

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1. **Moyer VA,** Ellior EJ. Preface. In: Moyer VA, Elliott EJ, Davis RL, *et al*, eds. *Evidence based pediatrics and child health*, Issue 1. London: BMJ Books, 2000.
2. **Richardson WS,** Wilson MC, Nishikawa J, *et al*. The well-built clinical question: a key to evidence-based decisions. *ACP J Club* 1995;**123**:A12–13.
3. **Bergus GR,** Randall CS, Sinift SD, *et al*. Does the structure of clinical questions affect the outcome of curbside consultations with specialty colleagues? *Arch Fam Med* 2000;**9**:541–7.
4. http://cebm.jr.ox.ac.uk/docs/levels.htm (accessed July 2002).
5. **Sackett DL,** Starus S, Richardson WS, *et al*. *Evidence-based medicine. How to practice and teach EBM*. San Diego: Harcourt-Brace, 2000.
6. **Moyer VA,** Elliott EJ, Davis RL, *et al*, eds. *Evidence based pediatrics and child health*, Issue 1. London: BMJ Books, 2000.