LETTERS TO THE EDITOR

Guidelines for imaging children with head injuries in A&E departments

EDITOR,—Please see below (panel) guidelines for imaging children who present to the A&E department as a result of head injuries. We have managed to achieve a temporary consensus (at least) between the A&E department, radiology department, two paediatric neurologists, and a paediatric neurosurgeon, which must be some form of record! The reason for devising local recommendations came about as we felt that the Royal College of Radiology guidelines booklet paid insufficient attention to the needs of children presenting to A&E as a consequence of a variety of head injuries.

Although guidelines for managing adult patients with head injuries can be applied to children, the indications for skull radiography and the need for CT scanning can be different in a paediatric population, and so we have made our own modifications.1 Our local recommendations are based somewhat loosely on the RCR guidelines booklet for skull radiography in adults.1 Despite the wide availability of CT scanners, we are aware of no imaging protocol or strategy, specifically for the paediatric population with head injuries, that includes a rational use of both skull radiography and CT.2-4

Our recommendations are intended to act as a guide to paediatricians and A&E staff managing children with head injuries—a full clinical history where possible and sensible clinical judgement are necessary for this to be implemented properly. These recommendations will hopefully provide a framework within which judgement can safely be exercised, particularly by inexperienced staff. We accept that there are certain inherent limitations to our approach, for example a clear history of unconsciousness can be difficult to elicit in some children and the exact significance of a fall of approximately 1 metre on to a hard surface has not, to the best of our knowledge, been clearly defined. Similarly, vomiting more than twice may be a relative rather than an absolute indication for admission. Despite these limitations, we believe our recommendations are a useful guide in the management of children with head injuries in the A&E department.

A fundamental question arises regarding the need to perform skull radiographs in children who appear well but who have a "medium risk of intracranial injury": Our justification for this is that some cases of unexpected non-accidental injury are picked up in this manner. Similarly, many head injuries are not witnessed and so their severity is difficult to estimate—clinical management can often depend on the skull radiographic findings. Although most children with skull fractures do not develop serious intracranial complications, fractures are more common among children who develop such complications. Finally, we would be interested to hear how this problem is approached in other centres managing children with head injuries.

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High risk of intracranial injury—proceed to emergency CT

- Decreased conscious level
- Focal neurological signs or seizures
- CSF from ear
- Blood from ear
- Penetrating injuries
- Presence of surgery with shunt tubing in situ—low threshold for CT
- Skull fracture on XR-CT if clinically indicated

Medium risk of intracranial injury (neonates and infants)—proceed to XR

- Diagnosis uncertain/inadequate history
- Clear history of unconsciousness or confusion
- Suspicion of NAI
- Large scalp swelling/laceration particularly over frontal or ethmoid sinuses
- Depressed fracture
- Fall >1 metre on to hard surface (if clinically indicated)

Low risk of intracranial injury—XR not indicated

- Head injury instructions
- Fully oriented
- No amnesia
- No neurological deficit
- No serious scalp laceration
- NB: no child should be transferred to CT until fully resuscitated

Acute pain management for children in A&E

EDITOR,—Children in acute pain are often undertreated.1 We carried out a postal survey of the management of acute pain for children in 26 A&E departments in the South and West Region.

There were 20 replies (77% response rate). Four A&E departments (20% of replies) had an existing policy for pain management in children, and three (15%) were in the process of producing one. Only two departments (10%) have clinical standards to allow audit. Seven departments (35%) routinely assess and record pain scores in children, with 50% of departments giving formal training in pain management to medical and nursing staff.

We feel that it is important to establish clinical guidelines, standards, and training in all A&E departments to improve the quality of pain management for children.

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Childhood accidents

EDITOR,—We wish to express our concern at the validity of the conclusions in Mairati and Sweeney’s paper1 on childhood accidents. The paper examined the relation between the location where injuries were sustained (school or public place) and the severity of injuries sustained by children presenting to an A&E department.

The authors drew the conclusion that injuries sustained in schools were of a greater severity as there was a higher incidence of fractures and dislocations in the school group. However, the paper did not address the actual incidence of injuries in either environment. We are left to assume that all injuries sustained in both environments presented to the A&E department; this is clearly an unacceptable assumption as the presentation of a child at the A&E department has as much to do with a parent’s or teacher’s knowledge and experience with previous injuries. The higher incidence of fracture/dislocation in the school group could easily be explained by teachers and school first aiders, who have a wide experience of minor trauma, excluding a number of children with minor injuries that a parent may have presented to the department.

The authors’ use of a percentage to compare the two groups is invalid when the true incidence of injury in the population is not known. To answer the authors’ question correctly a community based approach, not a hospital based approach, would be necessary.

We do not question the statement that schools should examine their injury prevention measures as this is sound advice; however, the data presented in this paper lend little to the debate on whether schools really are safer than public places.

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The authors reply:

Our study was hospital based and not community based.

We agree the referral pattern to the hospital for various injuries may have been influenced by other factors. But further studies (yet to be published) and our local experience lends credence to the view that a longer period (that is, six months) these factors have only a
Topical analgesia for children

EDITOR,—We read with interest the paper of Kendall et al.1 and wish to raise a few questions. The authors described in detail how the adrenaline-cocaine gel was applied to the wounds but, apart from stating that the lignocaine injections were “standardised using a 25 gauge needle”, we know nothing about the technique used, which injected and sutured (nurse, SHO, registrar, etc), nor the time given for the child to act before starting the suturing. Standardising the needle gauge and suture size for all lacerations regardless of the site to simplify analysis and satisfy statisticians is bad medical practice because it means using heavy thread for the face or fine thread for the trunk. Also, to alleviate fear of the “sight of the needle”, a point made by the authors, is obviously desirable, but how did they alleviate the fear of the stitching needle, the forceps, and the needle-holder? To find out that 40% of patients and/or parents considered suturing lacerations under lignocaine “unacceptable” may simply mean poor overall technique. How do they account for this extraordinarily high patient/parent dissatisfaction? We also want to know the authors’ explanation of their high “failed” anaesthesia rate of 24% in the lignocaine group and how they managed this subgroup: did they proceed regardless or was more lignocaine given, or was the gel therefore applied?

Another unclear point is the authors’ evaluation of cost. They state that the gel costs £2 for one application, while a 10 ml ampoule of lignocaine costs 25p. Although they were only dealing with lacerations less than 2 cm in length, this is likely to be a saving even after considering patient volume, the overall cost implications were tiny. How can they explain this, given that a 1.9 cm cut should only require a 5 ml ampoule priced at a mere 16p? Also why haven’t they tested any of the available lignocaine gels? Although they are not licenced for open wounds, neither is the adrenaline-cocaine gel, and lignocaine gels are available in all accident departments.

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Fasting before Bier’s block

EDITOR,—We wish to respond to the article by O’Sullivan et al relating to the need for patient fasting before manipulation of a fracture under Bier’s block.1 Having recorded a low incidence of complications by postal questionnaire, the authors concluded that fasting was unnecessary and suggested that instead of conferring additional safety, it merely served to delay treatment. We feel this study is seriously flawed, and that to alter clinical practice as a consequence must be regarded with caution. The authors assert the block would be adequately tested it would be necessary to conduct a prospective study, it is likely that to attain the necessary level of power, a large number of patients would need to be studied.

To conduct a Bier’s block safely it is necessary to produce strict written guidelines defining technique, equipment, level of monitoring, assistance, and necessary level of clinical experience of the practitioner. Complications are far more likely when these conditions are not met. The questionnaire in collecting information failed to ascertain adequately how the responding departments audited these data or whether each department had issued guidelines. Several points arising from the data inferred that current practice was neither entirely safe nor effective: (1) three units still used lignocaine; (2) the large number of responders reporting the use of additional sedation/analgesia; (3) the significant number of reports of equipment failure.

The article tends to trivialise the potential risks of the Bier’s block, as well as using incomplete data to propose a serious change in clinical practice. To omit a fasting period merely suggests that an exercise requiring a fasting time would be foolhardy. In the context of risk management, any litigation arising from this questionable change in practice could be financially damaging to any Trust. It would be interesting whether in the light of adequate explanation of potential risk, the patient would view the fasting period as nothing more than minor inconvenience.

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EDITOR,—We read with interest the article by O’Sullivan et al questioning the need for starvation before prilocaine Bier’s block. While we agree that the retrospective audit shows no morbidity directly attributable to a full stomach, we would question the conclusion that fasting is unnecessary.

Traditional teaching for anaesthetists is to prepare patients for Bier’s block with the same attention to detail given to those undergoing general anaesthesia. This includes fasting to reduce the risk of aspiration, as the airways’ protective reflexes may still be compromised in the awake patient if, for example, hypoten- sion or fitting occur. Both of these complications can be precipitated by local anaesthetic toxicity. As 23 (of 122) centres reported equipment failures—of which 18 mentioned stuff leak—we can see that this scenario is far from implausible.

Of greater concern is the concurrent use of sedation in 21 centres. This practice, which on its own can compromise airway reflexes, is in our opinion an absolute contraindication to a non-fasting policy. Furthermore, in the paper’s concluding comments, this potential danger was not addressed at all.

The apparently low incidence of morbidity in this report, and the fact that there have never been any deaths related to the use of prilocaine Bier’s blocks, does not preclude the need for fast patients. The possible aspiration of stomach contents remains a real threat which can have catastrophic consequences.

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