



# RCPCH GUIDELINE APPRAISAL

## Paediatric Accident and Emergency Research Group

Evidence-Based Guidelines for the management of children presenting to hospital with diarrhoea, with or without vomiting

The original guideline is NOT the work of the Royal College of Paediatrics and Child Health. This document represents the College's appraisal of the authors' completed guidelines: only grade A & B recommendations have been appraised. Paediatricians should either update or develop their local guidelines using the original guideline.

### KEY POINTS

- Oral rehydration is an effective treatment for mild to moderate dehydration.
- Early reintroduction of an age appropriate diet after rehydration (usually within 4 hours) is appropriate.
- Blood electrolytes are not required in children with mild or moderate dehydration unless there is clinical suspicion of hypernatraemic dehydration or uncertainty about the diagnosis.
- Contains detailed advice on assessment of severity of dehydration and fluid management.
- The original guideline was published in 2001, and has been updated in 2003 with a well documented literature review.
- Parents were involved in piloting parent information leaflets.
- Documentation for an integrated care pathway, and an algorithm are included.

Original grade A and B recommendations	RCPCH Grade
<b>Management of Rehydration</b> <ul style="list-style-type: none"> <li>• Oral rehydration should be the standard treatment for children with mild-moderate dehydration secondary to gastro-enteritis.</li> </ul>	A
<b>Composition of ORS</b> <ul style="list-style-type: none"> <li>• Reduced osmolarity ORS should be used for rehydration of children with acute gastro-enteritis in the UK. Commercial solutions conforming to this include: dioralyte and diocalm junior.</li> <li>• Rice based ORS do not significantly reduce stool output compared to glucose based ORS in children with non-cholera diarrhoea.</li> </ul>	A A
<b>Oral versus IV rehydration in the severely dehydrated child</b> <ul style="list-style-type: none"> <li>• Once signs of circulatory compromise have resolved following fluid resuscitation for severe dehydration further rehydration should be with ORS.</li> </ul>	B
<b>Re-feeding following rehydration</b> <ul style="list-style-type: none"> <li>• An age appropriate diet (including full strength lactose containing milk) should be restarted in weaned children following rehydration with ORS (normally given over 4 hours).</li> <li>• Infants who are not weaned should recommence full strength lactose containing formula following rehydration with ORS (normally given over 4 hours).</li> <li>• Breast feeding infants should continue to breast feed through the rehydration and maintenance phases of their acute gastro-enteritis illness.</li> </ul>	A A A
<b>The role of medication in gastro-enteritis</b> <ul style="list-style-type: none"> <li>• Loperamide is not recommended for the treatment of acute gastro-enteritis in children.</li> </ul>	A

The full guideline may be obtained at the following website: [www.pier.shef.ac.uk](http://www.pier.shef.ac.uk)

The College's appraisal should not be considered valid beyond January 2006, and new evidence at any time could invalidate these recommendations.

## LEVELS OF EVIDENCE/DERIVATION OF GRADES OF RECOMMENDATIONS

The levels of evidence used throughout are derived from SIGN guideline 50 (see below).

### *Levels of evidence*

- 1++ High quality meta analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
- 1+ Well conducted meta analyses, systematic reviews of RCTs, or RCTs with a low risk of bias
- 1- Meta analyses, systematic reviews of RCTs, or RCTs with a high risk of bias
- 2++ High quality systematic reviews of case-control or cohort studies or high quality case-control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
- 2+ Well conducted case-control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
- 2- Case-control or cohort studies with a high risk of confounding, bias or chance and a significant risk that the relationship is not causal
- 3 Non-analytic studies, e.g. case reports, case series
- 4 Expert opinion

### *Grades of recommendation*

- A** At least one meta analysis, systematic review or RCT rated as 1++, and directly applicable to the target population, and demonstrating overall consistency of results
- B** A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; *or* Extrapolated evidence from studies rated as 1++ or 1+
- C** A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; *or* Extrapolated evidence from studies rated as 2++
- D** Evidence level 3 or 4; *or* Extrapolated evidence from studies rated as 2+

Please note that those recommendations **ORIGINALLY** ascribed a Grade C or D have not been appraised by the College.

## OTHER PUBLICATIONS ON RELATED TOPICS

Dalby-Payne J, Elliot E. Gastro-enteritis in children. Clinical Evidence. Issue 9, 2003.

## SUMMARY OF 'AGREE' FINDINGS

### **The methods used to identify the evidence**

The Cochrane Library, Medline, Embase, Cinhal, and Best Evidence were searched. Further articles were obtained from colleagues and by hand searching the bibliography of articles. A hand search for the last 5 years of the most relevant journals was performed. The web site of Ulrichs Periodicals Directory was searched to identify any relevant journals not found on Medline. The journals not listed on Medline were only searched if thought to be relevant to the subject area. The Internet was searched for existing guidelines and links to other evidence based sites.

### **Which professionals were involved**

The guideline steering group included paediatricians, paediatric research fellows, a nurse researcher, paediatric accident and emergency consultants and a paediatric specialist registrar.

### **Involvement of parents &/or children**

Although there were no parents on the guideline development panel, opinions were sought from parent representatives.

### **Consensus method used**

A Delphi process was used to achieve consensus. This included a panel of paediatric consultants, SpRs, and nurses.

### **Clinical audit:**

Standards for clinical audit accompany the guideline.

**Overview.** Guidelines are 'systematically developed statements to assist decisions about appropriate care for specific clinical circumstances' based on systematic reviews of the research literature. Guidelines are not intended to restrict clinical freedom, but practitioners are expected to use the recommendations as a basis for their practice. Local resources and the circumstances and preferences of individual patients will need to be taken into account. Where possible, recommendations are based on, and explicitly linked to, the evidence that supports them. Areas lacking evidence are highlighted and may form a basis for future research.

### **The Role of the Royal College of Paediatrics and Child Health**

In order to raise awareness about the existence of the original guideline and to ensure its relevance for children's health, the College (through its Quality of Practice Committee) appraised the original guideline against the 'AGREE' checklist laid out in its 'standards' document. Having established the quality of the guideline's methodology in this way, the College's Clinical Effectiveness Coordinator examined the recommendations presented in the guideline document in the context of the original research papers from which they were derived. The findings are presented here. Where discrepancies between the findings and the originals exist, both recommendations have been included. The shaded boxes indicate these areas of discrepancy. In addition, where papers have been identified that post-date the publication of the guideline or further support the validity of the recommendations, these have been included.

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