

NICE CG84 Diarrhoea and Vomiting in Children under 5 years & the NI  
Parenteral Fluid Therapy Wall Chart

Meeting held in Room C3.16, Castle Buildings, Stormont, Belfast on Thursday 1  
October 2009 at 11am

Attendees

Dr Martin Donnelly (Chair)	DHSSPS
Professor Michael Shields	Queen's University
Dr Patrick Stewart	Consultant Anaesthetist, WHSCT
Karen Campbell	DHSSPS
Kirsty Adair	DHSSPS

Summary & Action Points

1. Dr Donnelly commenced the meeting by asking Mrs Campbell to provide a summary of the Department's position on endorsing NICE guidance.
2. Mrs Campbell explained that the Department cannot change the NICE guidance and can only check for its applicability to NI. She further explained that the Department does not question NICE findings and has no power to request a review of NICE guidance. Therefore it is vital that the Department is not seen at any stage to be contradicting NICE advice and needs to take care during the endorsement process.
3. Dr Donnelly then asked Dr Stewart and Prof Shields to clarify the specific issues they had with the NICE guideline.
4. They felt that the NICE guidance was generally very good however any concerns they had centred around the IV fluids section of the document and how it was at variance with the NI Wall Chart on Parenteral Fluid Therapy for Children Aged over 4 weeks and under 16 years.
5. They advised that the practice in NI differs from that in England whereby there is a greater tendency here to apply IV fluid therapy at a much earlier stage and that the guidance in the NI Wall Chart takes account of this.
6. The main issues raised at the meeting by Dr Stewart and Prof Shields related to:
  - a. performing blood biochemical testing in assessing dehydration
  - b. the amount of fluid administered to a child where IV fluid therapy is required for rehydration.
  - c. the separation of deficit replacement fluids and maintenance fluids
  - d. the association of glucose with sodium chloride in fluid deficit replacement
7. In NI, as IV fluids are given at a much earlier stage than in England, the performance of blood tests for electrolyte losses are more common place. The practice in NI therefore differs from the recommendations in the NICE guidance whereby NICE does not recommend the routine performance of

blood biochemical tests unless IV fluid therapy is required or there are symptoms and/or signs that suggest hypernatraemia. It is felt by the local experts that it is likely to be too late at this stage and the patient will be extremely ill therefore blood tests prior to symptomatic signs are essential.

8. Further to these different practices, the NICE guidance recommends that for all those children who require IV fluid therapy for rehydration (and the child is not hyponatraemic at presentation), there is a set amount of fluid to be added. The NICE guidance advises adding 100ml of fluid for those who required initial rapid intravenous fluid boluses for suspected or confirmed shock, and adding 50ml for those who were not shocked at presentation. This then creates an all or nothing scenario. The NI Wall Chart however advises that the volume of fluid to be prescribed is the amount of fluid deficit minus the volume of any fluid bolus received therefore the amount given depends on the individual patient/case.
9. Where IV fluids therapy is required for rehydration the NICE guidance makes recommendations on fluid amounts for deficit replacement and maintenance requirements together. The NI Wall Chart addresses the fluid deficit in the first instance and then the maintenance fluids separately. Therefore where a fluid deficit is present, there is clear guidance on prescribing replacement fluids. If there is no deficit or this has been addressed, then there is separate guidance on the prescription of maintenance fluids.
10. When administering fluids for deficit replacement the NI Wall Chart advises using sodium chloride without glucose. For patients particularly at risk of hyponatraemic complications receiving maintenance fluids, sodium chloride with/without pre-added glucose may be used. The NICE guidance however recommends the use of sodium chloride on its own or with glucose for both fluid deficit replacement and maintenance. The local experts do not agree with the recommendations in the NICE guidance on the use of glucose because if a patient then has too much sugar in their blood they could become hyperglycaemic.
11. Dr Donnelly informed the meeting that there is an urgency regarding the issue of the NI Wall Chart and therefore it was important to agree a way forward on the endorsement of the NICE guidance. He proposed endorsing the NICE guidance with the inclusion of a caveat to the Departmental circular advising the HSC that where the NICE guidance refers to the management of IV fluids, they should apply the guidance in NI Wall Chart.
12. There was discussion regarding NICE acceptance of doing this. All agreed that the NI Wall Chart is further advanced than the NICE guidance as it was developed prior to the NICE guidance and has been designed to take account of the different practice in NI and for treating children in non-specialised units. The Wall Chart was also based on the NPSA 22 guidance and the cases of Hyponatraemia in children.
13. Prof Shields and Dr Stewart suggested that the guidance should be endorsed for wider issue to primary care on the management of diarrhoea and that the

Wall Chart should remain as guidance for secondary care. They also suggested ascertaining the position in Scotland and whether they have endorsed this guidance or have also raised issues.

14. Mrs Campbell explained the intention to issue the revised NI Wall Chart and NPSA 22 guidance together and asked if there were any variances between these documents. Dr Stewart explained that there were a few variances regarding the documents and that although they were developed around the same time, the Wall Chart was taken into account in the development of the NPSA 22 guidance. Mrs Campbell agreed to look at the NPSA guidance for any changes required and action accordingly prior to issue with the Wall Chart.
15. Prof Shields and Dr Stewart pointed to the Hartmann's Solution reference in maintenance section of the Wall Chart. They felt that this should include in brackets "with/without pre-added glucose" and have agreed to seek approval from the Working Group in order that this modification can be made.

#### Agreed Action Points

- SGQU to draft a letter to NICE explaining the Department's intention to endorse the guidance as applicable to NI with the inclusion of a caveat advising HSC to apply the NI Wall Chart where the NICE guidance refers to the management of IV fluids.
- Prior to issue, SGQU will refer the letter to Dr Stewart for QA on reference to the issues raised at the meeting.
- Prof Shields to contact Dr Jarlath McAloon regarding approval from the Working Group to make a small change to the NI Wall Chart so that under the section "Prescribe initial IV maintenance fluid and time for reassessment" the reference to Hartmann's Solution will read "Hartmann's Solution (with/without pre-added glucose)". They have agreed to action this as soon as possible in order that the Wall Chart can be issued without unnecessary delay.
- Karen Campbell to consider required changes to NPSA guidance, action accordingly and refer the revised document to Dr Donnelly for his consideration.