

HYPERNATRAEMIC DEHYDRATION

Supporting information

This guideline has been prepared with reference to the following:

NICE. Intravenous fluid therapy in children and young people in hospital. 2015. NICE. London

<https://www.nice.org.uk/guidance/ng29>

Infants losing more than 10% of birth weight should be referred?

A prospective cohort study in 2,788 term newborns (Konetzny, 2009) found that weight loss of $\geq 10\%$ of birth weight was an early indicator for hypernatraemic dehydration of sufficient severity to cause possible convulsions, permanent brain damage, or death. Sixty-seven (2.4%) newborns had a weight loss $\geq 10\%$ of birth weight; 24 (36%) of these had moderate and 18 (27%) severe hypernatraemia. Infants born by caesarean section had a 3.4 times higher risk for hypernatraemia than those born vaginally. All newborns regained weight 24 h after additional fluids.

Konetzny G, Bucher HU, Arlettaz R. Prevention of hypernatraemic dehydration in breastfed newborn infants by daily weighing. *Eur J Pediatr* 2009;168:815-8

<http://onlinelibrary.wiley.com/doi/10.1111/apa.12820/full>

Evidence Level: III

Weighing babies early (72-96 hrs after birth) helps to prevent hypernatraemic dehydration?

A study of outcomes pre- and post- the introduction of a policy of weighing newborns at 72-96 hrs after birth (Iyer, 2008) found 60 cases of hypernatraemic dehydration: 23 before and 37 after introduction of the policy. After the policy, there was earlier recognition (median 3 vs 6 days), lower percentage weight loss (11% vs 15%), smaller increase in sodium (147 vs 150 mmol/l), and higher breastfeeding rate at discharge (73% vs 22%) and 8 weeks (57% vs 22%). All the differences were significant ($p < 0.01$). There was one death in the pre-policy group, and none in the post-policy group.

Boer S, Unal S, van Wouwe JP et al. Evidence Based Weighing Policy during the First Week to Prevent Neonatal Hypernatremic Dehydration while Breastfeeding. *PLoS One*. 2016;11:e0167313

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5172525/>

Iyer NP, Srinivasan R, Evans K, et al. Impact of an early weighing policy on neonatal hypernatraemic dehydration and breast feeding. *Arch Dis Child* 2008;93:297-9

<http://adc.bmj.com/content/93/4/297.long>

Evidence Level: IV

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