# ADULT FLUID MANAGEMENT
## Supporting information

**This guideline has been prepared with reference to the following:**


NICE. Intravenous fluid therapy in adults in hospital. 2017. London. NICE

https://www.nice.org.uk/guidance/cg174

Powell-Tuck, J., Gosling, P, Lobo, D. N et al. British Consensus Guidelines on Intravenous Fluid Therapy for Adult Surgical Patients. 2011. British Association for Parenteral and Enteral Nutrition (BAPEN)

http://www.bapen.org.uk/pdfs/bapen_pubs/giftasup.pdf


**Excessive use of glucose ("dextrose") can cause dangerous dilution of electrolytes?**
In a small study conducted in 6 healthy subjects (Hillier, 1999), somatostatin was infused to block endogenous insulin secretion and plasma glucose concentrations were increased to >600 mg/dL within 1 hour by infusing 20% dextrose. The glucose infusion was then stopped and insulin given until the plasma glucose concentration decreased to 140 mg/dL. Plasma glucose and serum sodium concentrations were measured every 10 minutes. Overall, the mean decrease in serum sodium concentration averaged 2.4 meq/L for every 100 mg/dL increase in glucose concentration: a value significantly greater than the commonly used correction factor of 1.6 (P = 0.02). Moreover, the association between sodium and glucose concentrations was nonlinear. This was most apparent for glucose concentrations >400 mg/dL. Up to 400 mg/dL, the standard correction of 1.6 worked well, but if the glucose concentration was >400 mg/dL, a correction factor of 4.0 was better.


Hillier TA, Abbott RD, Barrett EJ. Hyponatremia: evaluating the correction factor for hyperglycemia. Am J Med 1999;106:399-403


**Evidence Level: IV**

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