

Plasma-Lyte 148 / Plasma-Lyte 148 with Glucose 5%

Product information:

Plasma-Lyte 148 is an isotonic fluid that can be used for intravenous fluid replacement in children and infants. It is being used in the place of IV fluids containing 0.9 % Sodium Chloride with or without potassium and glucose. Use of Plasma-Lyte has not been associated with any adverse effects or complications and has been shown to be associated with less incidence of hyperchloremic acidosis.^{1, 2 & 3} It conforms to the NICE guidance on the prescription of intravenous fluids in children.⁴

Composition:

1. Plasma-Lyte 148 (constituents in mmol/L)
Na 140, K 5, Cl 98, Mg 1.5, Acetate 27, Gluconate 23.
2. Plasma-Lyte 148 with Glucose 5 %
Na 140, K 5, Cl 98, Mg 1.5, Acetate 27, Gluconate 23 and Glucose 50 g / L

Prescription:

The prescription should specify using the product name as above and the volume and rate of transfusion. The volume of IV fluid prescription should be as per the routine practice in the paediatric critical care unit

Relative contraindications:

Please continue to use 0.9% NaCl in these patient groups

1. Traumatic Brain Injury
2. Diabetic Keto Acidosis
3. Significant electrolyte imbalance – as per consultant decision
4. Patients at risk of hyperkalemia eg: Tumour Lysis syndrome

Fluid bolus for resuscitation :

The studies so far in children have been related to use of Plasmalyte for maintenance fluids. However an adult study comparing fluid resuscitation using Plasmalyte (SPLIT study) did not show any adverse effects. As of now we have agreed to primarily use Plasmalyte for maintenance and any use for fluid bolus resuscitation is at the discretion of the consultant.

References:

1. McNab S, Duke T, South M, *et al.* 140 mmol/L of sodium versus 77 mmol/L of sodium in maintenance intravenous fluid for children in hospital (PIMS): a randomised controlled double blind trial. *Lancet* 2015;385:1190–7
2. Colin VE Powell. Not enough salt in maintenance fluids ! *Arch Dis Child* 2015;100:1013-1015
3. Young et al. Effect of a Buffered Crystalloid Solution vs Saline on Acute Kidney Injury Among Patients in the Intensive Care UnitThe SPLIT Randomized Clinical Trial. *JAMA*. 2015;314(16):1701-1710
4. Intravenous fluid therapy in children and young people in hospital. NICE guideline. December 2015

Author Date: 05/03/2017

Dr Siva Oruganti

Consultant Paediatric Intensive Care