

Selection of Maintenance IV Fluids for Pediatric Inpatients

Euvoletic Pediatric Inpatient
Requiring Maintenance IV Fluids

>28 days old

D5 NS or other
isotonic fluid with
dextrose

D5 1/2 NS

Contraindication to
Adding K+?

Use fluid as
chosen above,
use 4-2-1 rule to
calculate rate

>12 mo?

Add 20 meq/L
KCL to base fluid
as chosen above,
use 4-2-1 rule to
calculate rate

Add 10 meq/L
KCL to base fluid
as chosen above,
use 4-2-1 rule to
calculate rate

	<p>Monitoring: (IV Fluids should be treated like a medication with appropriate medication monitoring)</p> <ul style="list-style-type: none"> -Strict intake & output (?ongoing losses) -Daily weight -Signs/symptoms of fluid retention (at least daily) -Electrolyte monitoring: <ul style="list-style-type: none"> -Check electrolytes ~24-36 hrs after initiation -Re-check as clinically indicated (at least every 48 hours) 	
--	--	--

Discontinue IV fluids as
soon as patient can take
adequate enteral fluids

- Exclusion Criteria:**

 - Renal disease/renal dysfunction
 - Endocrine disorders causing electrolyte abnormalities
 - Neurosurgery or brain injury
 - Severe cardiac disease
 - ICU Level of Care (PICU or NICU)
 - Severe malnutrition
 - Known metabolic disease
 - Sickle cell patients
 - Liver failure/hepatic dysfunction
 - High extrarenal water loss

**Use caution in patients receiving large volumes of IV fluids for deficit replacement (e.g. AGE) and consider checking labs more frequently (at least q 24 hours) in these patients. In patients receiving higher than maintenance rate of IV fluids, consider using a more physiologic electrolyte solution like LR or Plasmalyte.*

- Contraindications to adding K+:**

 - Renal insufficiency/failure
 - Systemic acidosis
 - Use of potassium-sparing diuretics
 - Adrenal insufficiency
 - Severe tissue damage such as burns, rhabdomyolysis
 - Inadequate UOP
 - other conditions that lead to impaired ability to clear potassium and/or hyperkalemia

- 4-2-1 rule (100-50-20 rule)**

 - 4 mL/kg/hr (100 mL/kg/day) for the first 10kg PLUS
 - 2 mL/kg/hr (50 mL/kg/day) for the second 10kg PLUS
 - 1 mL/kg/hr (20 mL/kg/day) for each kg over 20kg
 - Maximum rate of 120 mL/hr
 - NOTE:use dose-calculation weight or ideal body weight