

Urinary Alkalinizers in Hospital USM

The goal of urinary alkalinization is to achieve a urine pH of 7.5 or higher while maintaining a serum pH no higher than 7.55 to 7.60.⁽²⁾

	SODIUM CITRATE + CITRIC ACID (SODIUM CITRATE MIXTURE)	POTASSIUM CITRATE	POTASSIUM CITRATE + SODIUM CITRATE + CITRIC ACID (POLYCITRA)	SODIUM BICARBONATE (NaHCO₃) 8.4%
Dosage equivalent	1.5 g / 5 ml + 0.25 g / 5 ml ⁽¹⁾ Each ml contains 3 mEq sodium and is equivalent to 3 mEq of bicarbonate (HCO ₃) ^(8, 9)	1080 mg/tab (10 mEq of potassium ion) ⁽¹⁾	Each mL contains 1 mEq potassium ion and 1 mEq sodium ion and is equivalent to 2 mEq bicarbonate (HCO ₃). ⁽⁵⁾	Each g of NaHCO ₃ provides ~12 mEq each of sodium and bicarbonate ions ⁽⁴⁾
Dosage	<u>Adult:</u> Oral: 10 to 30 mEq bicarbonate 4 times daily. ⁽⁶⁾ <u>Child:</u> ⁽⁶⁾ Volume-based dosing: <u>Children ≥2 years and Adolescents:</u> Oral: 5 to 15 mEq bicarbonate per dose after meals and at bedtime Weight-based dosing (mEq bicarbonate/kg): <u>Infants, Children, and Adolescents:</u> Oral: 2 to 3 mEq bicarbonate/kg/day in 3 to 4 divided doses; adjust dose to targeted serum bicarbonate levels; typical adult doses do not exceed 30 mEq/dose	<u>Adult:</u> Oral: <i>Mild to moderate hypocitraturia</i> (urinary citrate >150 mg daily): Initially, 10 mEq 3 times daily. Max: 100 mEq daily. <i>Severe hypocitraturia</i> (urinary citrate <150 mg daily): Initially, 20 mEq 3 times daily or 15 mEq 4 times daily. Max: 100 mEq daily. ⁽³⁾	<u>Adult:</u> Oral: 15-30 mL diluted in water after meals and at bedtime ⁽⁵⁾ <u>Child:</u> ⁽⁵⁾ Volume-based dosing: <u>Children and Adolescents:</u> Oral: 5 to 15 mL (10 to 30 mEq bicarbonate) per dose after meals and at bedtime Weight-based dosing (mEq bicarbonate/kg): <u>Infants, Children, and Adolescents:</u> Oral: 2 to 3 mEq bicarbonate/kg/day (1 to 1.5 mL/kg/day) in 3 to 4 divided doses; adjust dose to targeted serum bicarbonate levels; typical adult doses do not exceed 60 mEq/dose (30 mL/dose)	<u>Adult:</u> Oral: 325 to 2000 mg 1 to 4 times a day. ⁽⁷⁾ IV: 50 to 150 mEq sodium bicarbonate diluted in 1 L of D5W to be intravenously infused at a rate of 1 to 1.5 L/hour. ⁽⁷⁾

References

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