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Assessment of citrate concentrations in citrus fruit-based juices and beverages and implications for management of hypocitraturic (Low Urinary Citrate) nephrolithiasis.

Urinary Citrate is a kidney stone inhibitor. If you have kidney stones and a low urinary Citrate (hypocitraturia), supplementing with Citrate will increase the urinary Citrate and reduce the risk of future stones. Dietary intake of Citrate in the form of citrus juices (eg, lemonade, orange juice) will enhance urinary Citrate excretion, a valuable benefit for patients with hypocitraturic calcium oxalate nephrolithiasis.

Severe Hypocitraturia

In patients with severe hypocitraturia (urinary citrate < 150 mg/day), therapy should be initiated at a dosage of 60 mEq/day (30 mEq two times/day or 20 mEq three times/day with meals or within 30 minutes after meals or bedtime snack).

Mild to Moderate Hypocitraturia

In patients with mild to moderate hypocitraturia (urinary citrate > 150 mg/day) therapy should be initiated at 30 mEq/day (15 mEq two times/day or 10 mEq three times/day with meals or within 30 minutes after meals or bedtime snack).

Adapted from: [J Endourol.](#) 2008 Jun;22(6):1359-66.

Beverage	Citrate Concentration	Volume to get 30mEq/day	Volume to get 60mEq/day
Grapefruit Juice	64.7 mEq/L	464 ml = 15.5 Oz	928 ml = 30.9 Oz
Lemon Juice	47.7 mEq/L	629 ml = 21 Oz	1,258 ml = 42 Oz
Orange Juice	47.4 mEq/L	633 ml = 21 Oz	1,266 ml = 42 Oz
Pineapple Juice	41.6 mEq/L	721 ml = 24 Oz	1,442 ml = 48 Oz
Lemonade	38.7 mEq/L	775 ml = 25.8 Oz	1550 ml = 51.7 Oz
Crystal Light Lemonade	38.4 mEq/L	781 ml = 26 Oz	1,562 ml = 52 Oz
Crystal Light Lemonade Double Strength	76.7 mEq/L	391 ml = 13 Oz	782 ml = 26 Oz
Lemon Gatorade	19.8 mEq/L	1,515 ml = 50 Oz	3030 ml = 100 Oz