The Urine/Plasma Electrolyte Ratio: A Predictive Guide to Water Restriction

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ABSTRACT: Patients with hypotonic hyponatremia are encountered commonly in the general practice of medicine. Nearly all strategies for the management of subacute or chronic hyponatremia call for some amount of water restriction. The considerations for such a prescription have not been addressed in the literature. We describe therefore a simple approach grounded in the physiology of electrolyte-free water clearance that can be used at the bedside. **KEY INDEXING TERMS:** Electrolyte-free water clearance; Hypotonicity; Water intoxication; Hyponatremia **[Am J Med Sci 2000;319(4): 240–4.]**

Table 1. Approach to Raising Plasma Tonicity by Water Restriction

Urine/Plasma Electrolyte Ratio	Insensible H_2O Losses	Expected Net H_2O Loss[a]	Recommended H_2O Consumption
≥1.0	800 mL	−800 mL	0 mL
0.5–1.0	800 mL	−800 to −1300 mL	Up to 500 mL
≤0.5	800 mL	−1300 to −1800 mL	Up to 1 L

[a]These estimates are based on a U/P ratio, a simplified formulation of C^eH_2O. They also assume that urine sodium and potassium losses are replaced, that a patient has an average body surface area of 1.73 m^2 and eats a normal diet, and calculate for the period during which the next 1 L of urine is excreted.