

Hyponatremia Standard Orders and Algorithm					
☐ Hyponatremia With Severe Symptoms					
	- see Important Points to Consider of the Hyponatremia				
■ Standard Order		☐ Requires ✓ for activation			
Trea	atment / Medication Orders	Gen	eral Orders		
	3% NS 100 ml bolus over 5 to 10 minutes – repeat every 10 minutes intervals if still symptomatic to a	-	Admit to ICU if sodium < 120 mmol/L		
	maximum of 3 boluses Dose 1 Time:		Urinary catheter and monitor urine output hourly		
	Dose 2 Time: Dose 3 Time:		Urine: spot sodium		
IMP	ORTANT		Urine osmolality		
Physician to review drugs and consider holding/stopping those that may cause syndrome of inappropriate diuretic			Serum uric acid		
	rmone (SIADH)	•	Serum osmolality		
<u>Foll</u>	ow With Either:		Serum glucose		
	Desmopressin Acetate 2 mcg subcut./IV every 6 hours X 24 hrs then reassess		Serum sodium every 3 hours		
•	Restrict H2O intake and all hypotonic fluids to less than 800mL in 24 hrs in patients receiving desmopressin		The goal is to increase the serum sodium by 6 to 8 mmol/L per 24 hour period, with lower rates for patients with liver disease/menstruating females/elderly.		
	3% saline at ml/hour (suggest 10ml/hour)* X 24 hrs and then reassess	•	Notify physician if sudden increase in urine output to greater than 100 ml/hour for 1 hour.		
	OR 0.9% saline IV at ml/hour IV	•	Notify physician if serum sodium increases more than daily goal in any 24 hour period.		
Ш	(suggest 24-40 ml/hour)* X 24 hrs and then reassess	-	Notify physician if serum sodium trajectory is likely to exceed the daily goal.		
	Oral Fluid restriction 800 mL in 24 hrs		Stop IV infusion if serum sodium ≥ 120 mmol/L		
			Consult endocrinology at 204-787-2071		
* The intention is to maintain the sodium rise stable after the boluses. Each 100ml of 3% saline is expected to cause an approximate 2 mmol/L rise in serum sodium. Each 1000 ml of 0.9% saline is expected to cause an approximate 1 mmol/L rise in serum sodium. It is important to monitor the serum sodium concentration and urine output for diuresis.					
□ Order Faxed / Copy Sent To Pharmacy: Initial:					
Date	e: Time: Physician's S	ianat	ure:		



Hyponatremia With Mild To Moderate Symptoms And Hypovolemic Hyponatremia – see Important Points to Consider of the Hyponatremia Treatment Guideline – Adult CLI.5110.SG.003					
■ Standard Order		☐ Requires ✓ for activation			
Trea	tment / Medication Orders	General Orders			
Physician to review drugs and consider holding/stopping those that may cause Syndrome of inappropriate diuretic hormone (SIADH)		Admit to ICU if serum sodium < 120 mmol/L			
		Urinary catheter and monitor urine output hourly			
Moderate to Severe Hypovolemia and Normokalemia		■ Urine: spot sodium			
	3% saline at ml/hour. Reassess every 3 hrs with serum sodium level results	■ Urine osmolality			
	0.9% saline IV at ml/hour.	■ Serum uric acid			
	Reassess every 3 hours with serum sodium level results	■ Serum osmolality			
Moderate to Severe Hypovolemic and Hypokalemic		■ Serum glucose			
□ Mild	0.9% saline with 20 mmol/L of KCl infuse at ml/hour. Reassess every 3 hours with	Serum Sodium every 3 hours			
	serum sodium level results Hypovolemia / Appears Clinically Euvolemic	The goal is to increase the serum sodium by 6 to 8 mmol/L per 24 hour period, with lower rates for patients with liver disease/menstruating females/elderly.			
	Stop IV saline infusion and place saline loc	Notify physician if sudden increase in urine output to greater than 100 ml/hour for 1 hour.			
		Notify physician if serum sodium increases more than daily goal in any 24 hour period.			
		Notify physician if serum sodium trajectory is likely to exceed the daily goal.			
		■ Stop IV infusion if serum sodium ≥ 120 mmol/L			
		☐ Consult endocrinology at 204-787-2071			
Each 100ml of 3% saline is expected to cause an approximate 2 mmol/L rise in serum sodium. Each 1000 ml of 0.9% saline is expected to cause an approximate 1 mmol/L rise in serum sodium. It is important to monitor the serum sodium concentration and urine output for diuresis.					
ı	□ Order Faxed / Copy Sent To Pharmacy:	Initial:			
Date: Time: Physician's Signature:					



☐ Hyponatremia With Mild To Moderate Symptoms And Hypervolemic Hyponatremia - see Important Points to Consider of the Hyponatremia Treatment Guideline - Adult CLI.5110.SG.003				
Standard Orders		□ Requires ✓ for activation		
Treatment / Medication Orders		General Orders		
	Restrict sodium intake	■ Admit to ICU if serum sodium < 120 mmol/L Urinary catheter and monitor urine output hourly		
	Restrict fluid intake to less than 800 ml/day	■ Urine: spot sodium		
Physician to optimize treatment of underlying disease		■ Urine osmolality		
		■ Serum uric acid		
		■ Serum osmolality		
		■ Serum glucose		
		■ Serum Sodium every 3 hours		
		The goal is to increase the serum sodium by 6 to 8 mmol/L per 24 hour period, with lower rates for patients with liver disease/menstruating females/elderly.		
		Notify physician if sudden increase in urine output to greater than 100 ml/hour for 1 hour.		
		Notify physician if serum sodium increases more than daily goal in any 24 hour period.		
		Notify physician if serum sodium trajectory is likely to exceed the daily goal.		
		■ Dietitian consult		
		■ Stop IV infusion if serum sodium ≥ 120 mmol/L		
		☐ Consult endocrinology at 204-787-2071		
ı	□ Order Faxed / Copy Sent To Pharmacy:	Initial:		
Date: Time: Physician's Signature:				



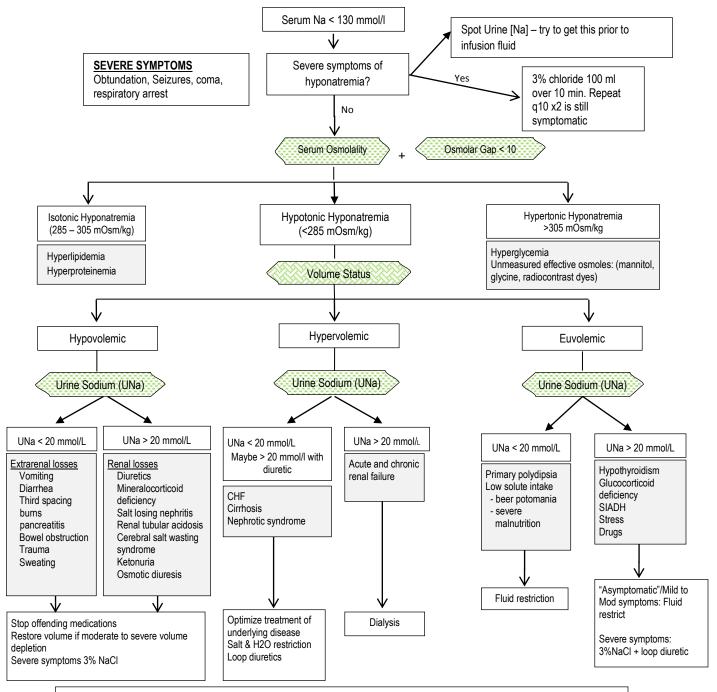
Hyponatremia With Mild To Moderate Symptoms And Euvolemic Hyponatremia

– see Important Points to Consider of the Hyponatremia Treatment Guideline – Adult CLI.5110.SG.003

■ Standard Orders	☐ Requires ✓ for activation			
Treatment / Medication Orders	General Orders			
□ Euvolemic Due to Excess Hypotonic Fluid Intake	■ Admit to ICU if serum sodium < 120 mmol/L			
■ Restrict water intake to less than 800 ml/day	■ Urinary catheter and monitor urine output hourly			
■ Desmopressin contraindicated	■ Urine: spot sodium			
□ Euvolemic Due to SIADH (non-drug related)	■ Urine osmolality			
☐ Restrict fluid intake 800 mL per day	■ Serum uric acid			
If Serum Sodium not Increasing with Fluid Restriction Alone	■ Serum osmolality			
□ 0.9% Saline @ 200 ml/hour IV. Reassess every 3 hrs with serum sodium results	■ Serum glucose			
	■ Serum Sodium every 3 hours			
□ 3% Saline @ ml/hr (15-30 ml/hr suggested) if serum sodium decreases with above saline order. Reassess every 3 hrs with serum sodium results	The goal is to increase the serum sodium by 6 to 8 mmol/L per 24 hour period, with lower rates for patients with liver disease/menstruating females/elderly.			
☐ Furosemide mg (orally or IV) daily	Notify physician if sudden increase in urine output to greater than 100 ml/hour for 1 hour.			
<u>Hypothyroidism</u>				
☐ Levothyroxine mcg orally daily	Notify physician if serum sodium increases more than daily goal in any 24 hour period.			
Glucocorticoid Deficiency	Notify physician if serum sodium trajectory is likely to exceed the daily goal.			
☐ Prednisone 5 mg orally daily	■ Dietitian consult			
OR	Dietitian consuit			
☐ Hydrocortisone orally 10 mg in am, 5 mg in early pm,	■ Stop IV infusion if serum sodium ≥120 mmol/L			
2.5 mg in early evening	☐ Consult endocrinology at 204-787-2071			
□ Order Faxed / Copy Sent To Pharmacy: Initial: Date: Time: Physician's Signature:				
Date Tillie Fligolian o olynature				



Hyponatremia Algorithm Aid to Determining Cause and Treatment



PLEASE NOTE

3% sodium chloride is only to be used in the patient with SEVERE SYMTOMS of hyponatremia

Patients with mild to moderate symptoms of hyponatremia, follow the algorithm to determine the probable cause. The treatment for these patients usually involves treating the cause (e.g. stop thiazides, corticosteroids) or restricting fluids. Salt tablets or Normal Saline is only to be used to correct hypovolemia and is not recommended in those with CHF unless hypovolemic

When infusing Potassium count it as equivalent to sodium - therefore halve your rate of infusion - **Monitor sodium levels more** closely in both cases