

Drug 3% Sodium Chloride Injection (513 meq sodium per liter)

Indications **Severe Symptomatic** Euvolemic Hypotonic Hyponatremia (Urine osmolality > 100 mOsm/kg, urine Na > 20 meq/l)
Severe Symptomatic Hypervolemic Hypotonic Hyponatremia (Urine osmolality > 100 mOsm/kg, urine Na usually < 20 meq/l)

Symptomatic confusion, ataxia, disorientation, obtundation, seizures, coma, respiratory arrest

Monitoring Serum sodium every 2 hours until asymptomatic then every 4-8 hours;
 Adjust rate as needed to maintain appropriate rate of rise of serum sodium
 Urine osmolality, sodium and potassium every 4 -6 hours for the first day
 Serum sodium should not increase more than 12 meq/liter in 1st 24 hours or 20 meq/liter in 1st 48 hours

Usual Infusion rate 0.5 ml/kg/hour

Maximum Rate 2.3 ml/kg/hour for 3-4 hours or until severe symptoms abate

Duration of Infusion Stop 3% sodium chloride as soon as medically possible and use less aggressive treatment options

Lean Body Weight (kg)
 Males: 50 + (Height in Inches above 60 inches * 2.3)
 Female: 45.5 + (Height in Inches above 60 inches *2.3)

Dosing Weight (kg) = LBW or Actual Weight (which ever is less)

Total Body Water (l) = Dosing Weight (kg) * 0.6 l/kg

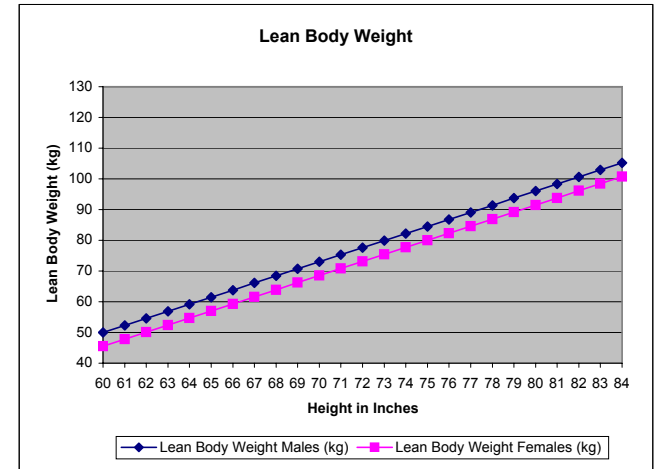
Sodium Deficit (meq) = Dosing weight (kg) * 0.6 l/kg * (130 meq/l - Serum Sodium Current meq/l)

3% Sodium Chloride Total Dose (ml) = (Sodium Deficit (meq) / 513 meq/l)*1000 ml/l

Usual Desired Rise in Sodium per hour 0.5 meq/liter/hour with a 24 hour maximum rise of 12 meq/liter and maximum rise of 20 meq/liter in 48 hours

Maximum Rise in Serum Sodium per hour 2 meq/liter/hour for 3-4 hours or until severe symptoms abate

Infusion rate (ml/hr) = ((Dosing weight (kg) * 0.6 l/kg * Desired Rate of Rise of serum sodium meq/liter/hour) / 513 meq/l) * 1000 ml/liter



Serum Sodium meq/liter	Lean Body Weight (kg)																	
	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
100	1579	1754	1930	2105	2281	2456	2632	2807	2982	3158	3333	3509	3684	3860	4035	4211	4386	4561
101	1526	1696	1865	2035	2205	2374	2544	2713	2883	3053	3222	3392	3561	3731	3901	4070	4240	4409
102	1474	1637	1801	1965	2129	2292	2456	2620	2784	2947	3111	3275	3439	3602	3766	3930	4094	4257
103	1421	1579	1737	1895	2053	2211	2368	2526	2684	2842	3000	3158	3316	3474	3632	3789	3947	4105
104	1368	1520	1673	1825	1977	2129	2281	2433	2585	2737	2889	3041	3193	3345	3497	3649	3801	3953
105	1316	1462	1608	1754	1901	2047	2193	2339	2485	2632	2778	2924	3070	3216	3363	3509	3655	3801
106	1263	1404	1544	1684	1825	1965	2105	2246	2386	2526	2667	2807	2947	3088	3228	3368	3509	3649
107	1211	1345	1480	1614	1749	1883	2018	2152	2287	2421	2556	2690	2825	2959	3094	3228	3363	3497
108	1158	1287	1415	1544	1673	1801	1930	2058	2187	2316	2444	2573	2702	2830	2959	3088	3216	3345
109	1105	1228	1351	1474	1596	1719	1842	1965	2088	2211	2333	2456	2579	2702	2825	2947	3070	3193
110	1053	1170	1287	1404	1520	1637	1754	1871	1988	2105	2222	2339	2456	2573	2690	2807	2924	3041
111	1000	1111	1222	1333	1444	1556	1667	1778	1889	2000	2111	2222	2333	2444	2556	2667	2778	2889
112	947	1053	1158	1263	1368	1474	1579	1684	1789	1895	2000	2105	2211	2316	2421	2526	2632	2737
113	895	994	1094	1193	1292	1392	1491	1591	1690	1789	1889	1988	2088	2187	2287	2386	2485	2585
114	842	936	1029	1123	1216	1310	1404	1497	1591	1684	1778	1871	1965	2058	2152	2246	2339	2433
115	789	877	965	1053	1140	1228	1316	1404	1491	1579	1667	1754	1842	1930	2018	2105	2193	2281
116	737	819	901	982	1064	1146	1228	1310	1392	1474	1556	1637	1719	1801	1883	1965	2047	2129
117	684	760	836	912	988	1064	1140	1216	1292	1368	1444	1520	1596	1673	1749	1825	1901	1977
118	632	702	772	842	912	982	1053	1123	1193	1263	1333	1404	1474	1544	1614	1684	1754	1825
119	579	643	708	772	836	901	965	1029	1094	1158	1222	1287	1351	1415	1480	1544	1608	1673
120	526	585	643	702	760	819	877	936	994	1053	1111	1170	1228	1287	1345	1404	1462	1520
121	474	526	579	632	684	737	789	842	895	947	1000	1053	1105	1158	1211	1263	1316	1368
122	421	468	515	561	608	655	702	749	795	842	889	936	982	1029	1076	1123	1170	1216
123	368	409	450	491	532	573	614	655	696	737	778	819	860	901	942	982	1023	1064
124	316	351	386	421	456	491	526	561	596	632	667	702	737	772	807	842	877	912
125	263	292	322	351	380	409	439	468	497	526	556	585	614	643	673	702	731	760

Total volume of 3% Sodium Chloride (ml) Required To Replace Estimated Deficit For Final Serum Sodium of 130 meq/liter

Rate of Rise in Serum Sodium Desired	Lean Body Weight (kg)																	
	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
0.5 meq/liter/hour	26	29	32	35	38	41	44	47	50	53	56	58	61	64	67	70	73	76
1 meq/liter/hour	53	58	64	70	76	82	88	94	99	105	111	117	123	129	135	140	146	152
1.5 meq/liter/hour	79	88	96	105	114	123	132	140	149	158	167	175	184	193	202	211	219	228
2 meq/liter/hour	105	117	129	140	152	164	175	187	199	211	222	234	246	257	269	281	292	304

Infusion rate (ml/hr) for 3% Sodium Chloride