

# LRI ED IV preparation aid: 2.7% NaCl for raised ICP in adults

- 2.7% NaCl (AKA hypertonic saline) has replaced mannitol in the treatment of raised intracranial pressure (ICP) in our ED
- Studies to date have not shown a difference in outcome between the two, but advantages of hypertonic NaCl may include
  - Less rebound rise in ICP
  - Less diuresis
  - Renal protective properties
- Give only at the advice of the NUH neurosurgical team  
**NB:** If the neurosurgical advice is to give mannitol, inform them that 2.7% NaCl will be given instead
- Give once only (i.e. **DO NOT** repeat dose)
- See table for the required weight-based volume and rate of infusion, and prescribe as in the worked example below. This will deliver a dose of **3mL/kg** over **20min**, raising serum sodium by around 2-3mmol/L.  
**NB:** All patients weighing in excess of 110kg should be given the 110kg maximum dose.
- **NB:** Excess volume (see table) must be removed from the 500mL polyfusor before starting infusion to avoid accidentally exceeding the prescribed dose

Weight (kg)	Dose (mL)	Rate (mL/h)	Excess volume to be removed from polyfusor (mL)	Weight (kg)	Dose (mL)	Rate (mL/h)	Excess volume to be removed from polyfusor (mL)
50	150	450	350				
51	153	459	347	81	243	729	257
52	156	468	344	82	246	738	254
53	159	477	341	83	249	747	251
54	162	486	338	84	252	756	248
55	165	495	335	85	255	765	245
56	168	504	332	86	258	774	242
57	171	513	329	87	261	783	239
58	174	522	326	88	264	792	236
59	177	531	323	89	267	801	233
60	180	540	320	90	270	810	230
61	183	549	317	91	273	819	227
62	186	558	314	92	276	828	224
63	189	567	311	93	279	837	221
64	192	576	308	94	282	846	218
65	195	585	305	95	285	855	215
66	198	594	302	96	288	864	212
67	201	603	299	97	291	873	209
68	204	612	296	98	294	882	206
69	207	621	293	99	297	891	203
70	210	630	290	100	300	900	200
71	213	639	287	101	303	909	197
72	216	648	284	102	306	918	194
73	219	657	281	103	309	927	191
74	222	666	278	104	312	936	188
75	225	675	275	105	315	945	185
76	228	684	272	106	318	954	182
77	231	693	269	107	321	963	179
78	234	702	266	108	324	972	176
79	237	711	263	109	327	981	173
80	240	720	260	>109	330	990	170

## Example prescription for 73kg patient

PARENTERAL INFUSIONS											
Date	Infusion Fluid		Additions to Infusion							Signatures	
	Type/Strength	Vol.	Medicine	Dose	Route	Time to run or ml/hr	Prescriber	Fluid Batch No.	Start Time	Given by	Checked by
28/05/21	NaCl 2.7%	219mL			IV	657mL/h	Your Name				