

# PAEDIATRIC PARENTERAL ADMINISTRATION CHART: DRUGS

DRUG	VIAL SIZE	RECONSTITUTION		ROUTE	SUITABLE DILUENT	MAX CONCENTRATION	USUAL DOSE
		ADD with (WFI)	Final volume				
DIAZEPAM	10 mg/2 mL	-	-	IV Bolus	UNDILUTED	5 mg/mL (*Max <i>stat</i> dose(<5yo) = 5 mg Max <i>stat</i> dose(≥5yo) = 10mg) (Max rate 2 mg/min)	Depends on clinical indication - please consult available references or a pharmacist
DIPHENHYDRAMINE	50 mg/mL	-	-	IV Bolus	UNDILUTED	50 mg/mL Max rate: 25 mg/min	1-2 mg/kg 6-8H (Max: 300mg/DAY)
				IV Infusion	NaCl 0.9%, D5%	50 mg/mL (Infuse over 10 – 15 mins; Max rate: 25 mg/min)	
				IM	UNDILUTED	50 mg/mL	
FAMOTIDINE	20 mg/2 mL	-	-	IV Bolus	NaCl 0.9%, D5%	4 mg/mL (Infuse over ≥2 min; Max rate 10 mg/min)	0.25-0.5 mg/kg 12H (Max 20mg/dose)
				IV Infusion		0.2 mg/mL (Infuse over 15 – 30 min)	
FERRIC CARBOXYMALTOSE (FERINJECT®)	500mg/10mL (Elemental iron)	-	-	IV Infusion	NaCl 0.9%	<b>For standard doses of 1000mg</b> <ul style="list-style-type: none"> <li>Click <a href="#">here</a> for weight ≥ 50kg</li> <li>Click <a href="#">here</a> for weight &lt;50 kg</li> </ul>	Max: 1000mg/DAY or 20 mg/kg/dose (whichever lower) <u>and</u> 1000 mg/WEEK)
						<b>For doses other than 1000mg</b> <ul style="list-style-type: none"> <li>Click <a href="#">here</a>.</li> </ul>	
HYDROCORTISONE SODIUM SUCCINATE	100 mg	2 mL	2 mL	IV Bolus	UNDILUTED	50 mg/mL	Premedication: 2-4 mg/kg (max 100 mg) <i>stat</i>
				IV Infusion	NaCl 0.9%, D5%,	Recommended: 1 mg/mL Fluid restricted: ≤5 mg/mL	Asthma exacerbation: 4-5 mg/kg (max 100 mg) 4-6H
IBUPROFEN	400 mg/100 mL	-	-	IV Infusion	No further dilution	4 mg/mL Infuse over 30 mins	10mg/kg (max 400 mg) 4-6H <b>Do not exceed</b> 40 mg/kg/DAY or 2400mg/DAY, whichever is less

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<b>IRON SUCROSE (VENOFER®)</b>	100mg/5mL (Elemental iron)	-	-	IV Infusion	NaCl 0.9%	<p>Recommended: 1mg/mL Max: 2mg/mL (do not dilute to &lt; 1mg/mL)</p> <p>≤ 100mg iron: Infuse over 15 – 30 mins</p> <p>&gt; 100mg and ≤ 200mg iron: 30 – 60 mins</p> <p>&gt; 200mg and ≤ 300mg iron: ≥1.5hrs</p>	<p>3 mg/kg (Max: 7 mg/kg/dose or 300 mg/dose, whichever lower)</p> <p>No more than 3 times per week</p> <ul style="list-style-type: none"> <li>Monitor for at least 30 mins after completion for hypersensitivity reactions and signs of intolerance e.g. hypotension</li> <li>In-use stability of the diluted solution is 12 hours at room temperature</li> </ul>
<b>LEVETIRACETAM</b>	500 mg/5 mL	-	-	IV Infusion	Dilute in 100 mL NaCl 0.9% or D5%	<p>15 mg/mL (Infuse over 15 minutes)</p> <p>Higher concentrations up to 50mg/mL administered over 5 -6 minutes have been documented for use in status epilepticus</p>	10 mg/kg 12H
<b>LORAZEPAM (Brand: Macure)</b>	4 mg/mL	-	-	IV Bolus	Dilute with an equal volume of NaCl 0.9%, D5% or WFI	<p>Children &amp; Adults: 2 mg/mL Neonates: 400 mcg/mL</p>	<p>Depends on clinical indication - please consult available references or a pharmacist (*Max stat dose = 4 mg)</p>
				IM			

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		ADD with (WFI)	Final volume				
MORPHINE SULFATE	10 mg/mL	-	-	IV Bolus	NaCl 0.9%, WFI	5 mg/mL	Depends on clinical indication – please consult available references or a pharmacist
				IV Infusion	D5%, NaCl 0.9%	<u>Intermittent</u> 0.5 – 5 mg/mL (Infuse over 15 – 30 min)  <u>Continuous</u> Recommended ≤ 1mg/mL	
				IM or Subcutaneous	<b>UNDILUTED</b>	10 mg/mL	
OMEPRAZOLE	40 mg	10 mL of diluent provided	10 mL	IV Bolus	NaCl 0.9%, D5%	4 mg/mL	1 mg/kg (max 40 mg) 8-12H
ONDANSETRON	4 mg/2 mL	-	-	Dose <8mg: IV Bolus	IV Bolus: <b>UNDILUTED</b>	2 mg/mL	0.15-0.2 mg/kg 8H
				Dose = 8mg: IV Bolus or IV Infusion			
				Dose >8mg: IV Infusion	IV Infusion: Dilute in 50 mL NaCl 0.9% or D5%		
PARACETAMOL	1000 mg/ 100 mL	-	-	IV Infusion	<b>UNDILUTED</b> May be diluted further with NaCl 0.9%, D5%	10 mg/mL (Infuse over 15 minutes)	10 – 15 mg/kg 4-6H PRN Max: 1000mg/dose; 75mg/kg/DAY or 4g/DAY, whichever lower)
PARECOXIB	40 mg	*2 mL (with NaCl 0.9%)	2 mL	IV Bolus	<b>UNDILUTED</b>	20 mg/mL	≥16 yrs <u>and</u> ≥50 kg only: 40 mg once daily
				IM			
PHENOBARBITONE	200 mg/mL	-	-	IV Infusion	1 : 10 dilution with NaCl 0.9% or WFI (Dilute 1 mL with 9 mL diluent to make total volume of 10 mL )	20 mg/mL (Max rate: 1mg/kg/min)	Depends on clinical indication - please consult available references or a

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		ADD with (WFI)	Final volume				
PHENYTOIN	250 mg/5 mL	-	-	IV Infusion	UNDILUTED May be diluted to 25 mL with NaCl 0.9%	50 mg/mL (max rate: 1 – 3mg/kg/min or 50mg/min, whichever slower)	pharmacist
RANITIDINE	50 mg/2 mL	-	-	IV Bolus	NaCl 0.9%, D5%, D5% / NaCl 0.45%	2.5 mg/mL (Infuse over ≥ 5 minutes, Max rate 10mg/min)	1mg/kg (max 50 mg) 6-8H
				IV Infusion		≤0.5 mg/mL	
SODIUM VALPROATE	400 mg/4 mL	-	-	IV Infusion	D5%, NaCl 0.9%,	Recommended: 2 – 4 mg/mL Max: 50 mg/mL  (Infuse over 60 minutes; Max rate: 20 mg/min)	20-40 mg/kg/DAY, usually divided 6H (Loading dose may be required for refractory seizures)
TRANEXAMIC ACID	500 mg/5 mL	-	-	IV Bolus	UNDILUTED	100 mg/mL (Recommended rate: 50 mg/min; Max rate:100 mg/min)	10 mg/kg (max 1000 mg) 8-12H
				IV Infusion	May be diluted in a suitable volume of diluent (20 – 250 mL) of D5% or NaCl 0.9%	Infuse over 5-15 minutes (Max rate : 100mg/min)	

WFI = Water for Injection

# PAEDIATRIC PARENTERAL ADMINISTRATION CHART: DRUGS

## MISCELLANEOUS

DRUG	VIAL SIZE	RECONSTITUTION		ROUTE	SUITABLE DILUENT	CONCENTRATION	RATE	Comments
		ADD with (WFI)	Final Concentration					
AMIFOSTINE	500 mg	*9.7 mL (with NaCl 0.9%)	50 mg/mL	IV Bolus / Intermittent	NaCl 0.9%	5 – 40 mg/mL	Refer chemo infusion form (usually 1 – 15 min)	
		*2.9 mL (with NaCl 0.9%)	160 mg/mL	Subcutaneous	No further dilution	160 mg/mL	-	For doses > 300 mg: Give 2 separate injections in 2 different sites, with the total amount of amifostine split equally
ANTITHYMOCYTE IMMUNOGLOBULIN (RABBIT)	25 mg	5 mL	5 mg/mL	IV Intermittent	D5%, NaCl 0.9%	0.5 mg/mL	Conditioning/induction: ≥6 hours Subsequent doses (if tolerated): ≥4 hours	Infuse using a 0.22 micrometre in-line filter via central line or high flow vein.
DANTROLENE (Dantrium®)	20 mg	60 mL	0.33 mg/mL	IV Bolus	No further dilution	0.33 mg/mL	Therapeutic/emergency: Rapid IV push	May cause tissue necrosis if extravasated (vesicant)
				IV Intermittent	No further dilution		Prophylaxis: 1 hour	The reconstituted solution should be protected from direct light and used within 6 hours after reconstitution.  Avoid glass bottles for IV infusion due to potential for precipitate formation
DEFIBROTIDE	200 mg/ 2.5 mL	-	-	IV Infusion	D5%, NaCl 0.9%	4 – 20 mg/mL	2 hours	Infuse using a 0.2 micrometre in-line filter
DESFERRIOXAMINE	500 mg	5 mL	93.5 mg/mL	IV Infusion	D5%, NaCl 0.9%	1 – 8 mg/mL	Max rate: 15 mg/kg/hour	
				Subcutaneous Infusion	No further dilution	93.5 mg/mL		
		1.5 mL	312.5 mg/mL	IM	No further dilution	312.5 mg/mL	---	

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DRUG	VIAL SIZE	RECONSTITUTION		ROUTE	SUITABLE DILUENT	CONCENTRATION	RATE	Comments
		ADD with (WFI)	Final Concentration					
FOSAPREPITANT	150 mg	*5 mL (with NaCl 0.9%)	30 mg/mL	IV Intermittent	NaCl 0.9%	0.6 – 1 mg/mL	≥6 mths - <12 yrs: 60 mins ≥12 yrs - <18 yrs: 30 mins ≥18 yrs: 20 – 30 mins	For reconstitution, add NaCl 0.9% along the vial wall to prevent foaming. Swirl the vial gently.  <b>Requires PVC/DEHP-free tubing and containers.</b>  The diluted solution (1 mg/mL) is stable for 24 hours at room temperature.
HYDRALAZINE	20 mg (Powder)	1 mL	20 mg/mL	IV Bolus	No further dilution	2 – 3 mins Max rate: 5 mg/min	---	
				IV infusion	NaCl 0.9%	0.04 – 20 mg/mL	Usual infusion rate: 0.2 – 0.8 mcg/kg/min (up to 4 – 6 mcg/kg/min)	Colour change occurs after dilution with most solutions. Colour changes within 8 – 12 hours do not indicate loss of potency when stored at 30°C.
ESOMEPRAZOLE	40 mg	*5 mL (with NaCl 0.9%)	8 mg/mL	IV Bolus	UNDILUTED	8 mg/mL	3 mins	For ≥ 18 years old and doses ≤ 40 mg ONLY
				IV Intermittent	Dilute in 50 – 100 mL NaCl 0.9%	0.4 – 0.8 mg/mL	≤40 mg: 10 – 30 min >40 mg: 30 mins	
				IV Infusion			0.1 mg/kg/hour (max 8 mg/hour)	Recommended to change the infusion solution every 8 hours to avoid exceeding the stability period (stability after reconstitution is 12 hours at room temperature)
L-ARGININE	4.2 g in 20 mL (21%)	-	-	IV Infusion	D5%, D10%	20 mg/mL (Max 100 mg/mL)	Max 1 g/kg/hour	For metabolic cases, usually loading dose over 90 minutes, followed by continuous infusion

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LEVOCARNITINE (L-CARNITINE)	1000 mg/ 5 mL	-	-	IV Bolus	UNDILUTED	200 mg/mL	2 – 5 mins	
				IV Intermittent	D5%, NaCl 0.9%	0.5 – 8 mg/mL	30 min	
				IV Infusion			≤4 mg/kg/hour	
LEVOTHYROXINE	500 mcg	*5 mL (with NaCl 0.9%)	100 mcg/mL	IV Bolus	NaCl 0.9%	40 – 100 mcg/mL (Max: 100 mcg/mL)	2 – 3 mins	The reconstituted solution in the vial is stable for 4 hours at room temperature
METHYLPREDNISOLONE SUCCINATE	1000 mg	15.6 mL	60 mg/mL	IV Bolus	UNDILUTED	60 mg/mL	<u>Low dose:</u> ≤1.8mg/kg or ≤125mg: 5-15 mins <i>Higher doses please use see below</i>	Depends on clinical indication - please consult available references or a pharmacist
				IV Infusion	D5%, NaCl 0.9%, D5% / NaCl 0.9%	20 mg/mL	<u>Moderate dose:</u> ≥2mg/kg or ≈250mg: 15-30 mins <u>High dose:</u> 15mg/kg or ≥500mg: 30-60 mins Doses >15mg/kg or ≥1000mg: 60 mins	
OCTREOTIDE	0.1 mg/mL	-	-	IV Intermittent	Dilute in 50 – 200 mL NaCl 0.9%, D5% <i>NaCl 0.9% preferred as octreotide can affect glucose</i>	Max: 100 mcg/mL	15 – 30 mins	Cumulative time between reconstitution, dilution with infusion fluid and end of administration must not exceed 24 hours
				IV Infusion			24 hours	

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PAMIDRONATE	30 mg/10 mL	-	-	IV Infusion	D5%, NaCl 0.9%	Max: 0.36 mg/mL	2 – 24 hours (Max: 1 mg/min or 60 mg/hour)  Max rate in mild to moderate renal impairment: 20 – 22 mg/hour	Click <a href="#">here</a> for use in osteogenesis imperfecta.
VASOPRESSIN	20 units/mL	-	-	IV Infusion	<a href="#">Click here to access the Vasopressin Administration Guide for Diabetes Insipidus</a>			
<b>ZOLEDRONIC ACID</b>  <b>*NOTE:</b> <b>NOT INTERCHANGEABLE</b> with Zoledronic Acid [ACLASTA] 5mg/100mL Infusion	4 mg/5 mL	-	-	IV intermittent	D5%, NaCl 0.9% (Recommended volume: 50 – 100 mL)	Max: 0.04 mg/mL	30 – 45 mins	Click <a href="#">here</a> for use in osteogenesis imperfecta.

*Note:* To discard the balance reconstituted medication that is not administered after 30 minutes of reconstitution unless otherwise stated in the chart above or instructed by the pharmacist for expensive/Named-Physician-Named-Patient (NPNP) (single batch) medications.

For enquiries, please contact your pharmacists at Ext: 1774/8474

**References:** Lexicomp Online | Teddy Bear Book: Pediatric Injectable Drugs, 10<sup>th</sup> Edition | Trissel's Online | Manufacturer's Product Insert