

8 VITAMINS, MINERALS & PARENTERAL SOLUTIONS

8.01 ELECTROLYTES & MINERALS

GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
Calcium Carbonate Cap 250mg [Ca = 100mg/cap = 2.5mmol/cap] Calcium Carbonate Cap 500mg [Ca = 200mg/cap = 5mmol/cap]		Ca deficiency: 250-500mg 3-4 times daily. Hypocalcaemia, mg in elemental calcium : Neonates 50-150mg/kg/DAY in 4-6 divided dose (max 1g/DAY); child 45-65mg/kg/DAY in 4 divided doses, adult 1-2g or more/DAY.
Calcium Chloride Inj 10% 1g/10ml [Ca = 273mg/10ml = 6.8mmoles/10ml]		Acute hypocalcaemia: Slow IV 500mg-1g (undiluted at 0.5-1ml/min); or IV infusion in doses up to 1g (dilute 1g with 50ml NS and infuse over 1 hr).
Calcium Gluconate Inj 10% 1g/10ml [Ca = 89mg/10ml = 2.25mmoles/10ml] [NOT for IM or SC Inj.]	EDL	Acute hypocalcaemia: slow IV 1-2g (2.25-4.5mmol Ca or 10-20ml). Cardiac resuscitation: inject slow IV or intracardiac, 1g (2.25mmol Ca or 10ml). Hypocalcaemia tetany: slow IV 1g (2.25mmol Ca or 10ml) may be followed by continuous infusion of 4g/DAY (9mmol Ca or 40ml/DAY). Inject slow IV undiluted over 10-20min, max rate 50mg/min, or IV infusion dilute 1g with 20-50ml D5/NS and infuse over 1 hr or at a rate of 120-240mg/kg/hr.
Calcium Lactate 300mg Tab [Ca = 40mg/tab = 1mmol/tab]		Osteoporosis: up to 6g daily in divided doses. Usual dose ~20mmol (20 tab) daily.

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GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
* Ferrous Sulphate 200mg Tab [Fe=65mg/tab = 1mmol/tab]	EDL	Adult & > 12yo, prophylaxis, 1 tab (200mg) daily; treatment, 1 tab (200mg) 2-3 times daily after food.
* Ferrous Fumarate Suspension 100mg/5ml [Fe=33mg/5ml = ~0.5mmol/5ml]		Adult 10-20ml twice daily; 6-12 yo 5-10ml twice daily; up to 6 yo 2.5-5ml twice daily. Otherwise, 2-5 yo, 6mg (essential iron)/kg/DAY, given in 2 divided doses.
Magnesium Sulphate Inj 50% 5g/10ml [Mg = 500mg/10ml = 20mmoles/10ml]	EDL	<p>Ventricular tachycardia + low magnesium: IV bolus 1-2g (4-8mmol Mg or 2-4ml) slowly over 1-2min, repeat prn, or IV infusion 2.5g (10mmol or 5ml) in 100ml D5/NS over 1 hr.</p> <p>Hypomagnesaemia, emergency: 1-2g (4-8mmol Mg or 2-4ml) in 100ml D5 infused over 1-2 min. Severe deficiency: IV infusion 5g (20mmol Mg or 10ml) diluted in 1000ml D5/NS given over 3 hrs. Mild deficiency: adult IM undiluted 1g (5mmol Mg or 2ml) q6h for four doses per 24 hrs.</p> <p>An IV calcium solution (e.g.10% calcium gluconate) should be readily available when magnesium sulphate inj is administered.</p>
* Potassium Chloride Inj 10% 1g/10ml [K = 524mg/10ml = 13.4mmoles/10ml]	EDL	<p>Acute hypokalaemia: adults, IV 10-20mmol K (~10-20mls), max 40mmol K (~40ml) may be infused slowly over 1-3 hrs diluted in NS. Child 0.5-1mmol/kg/DOSE, max 30mmol (~30ml) may be infused slowly at 0.3-0.5 mmol/kg/hr diluted in NS.</p> <p>NOTE: MUST dilute IV before use, max rate 20mmol/hr, max IV conc 60-80mmol/L. ECG monitoring and repeated plasma potassium levels recommended before further doses.</p>

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GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
*Potassium Chloride Tab 600mg (Slow K) [K = 313mg/tab = 8mmoles/tab]	EDL	Supplement, adult 15-25 mmol/DAY or 1-3g potassium salt/DAY given in 2-3 divided doses, to be taken just after food, according to clinical response, monitor levels regularly.
Sodium Bicarbonate Inj 8.4% 10ml [Na = 230mg/10ml = 10mmol/10ml] Sodium Bicarbonate Inj 8.4% 50ml [Na = 1150mg/50ml = 50mmol/50ml]	EDL	Metabolic acidosis: IV infusion (in D5/NS), according to individual patient condition, usually 2-5mmol/kg over 4-8 hrs; in emergency e.g. cardiac arrest give initial dose of 1 mmol/kg (1 ml/kg of 8.4% solution) followed by not > 0.5mmol/kg every 10 min.

COMMENT/CAUTIONS:

- **Hypocalcaemia:** query post thyroid-op complication or idiopathic hypoparathyroidism (rare).
- **Iron therapy** should be given by mouth unless otherwise indicated, e.g. severe GI side effects, severe blood loss or malabsorption. Tolerance of oral iron therapy is improved by starting with a small dose and increasing gradually, and by taking iron preparations with food.
- **Iron S/E:** Commonly - nausea, epigastric pain, constipation or diarrhoea.
- **Iron drug interaction:** Magnesium trisilicate reduces iron absorption; oral iron reduces absorption of tetracyclines and possibly penicillamine (administer 2 hours later to avoid).
- **Potassium:** May cause nausea & vomiting, do not combine with spironolactone or other potassium-sparing diuretics, reduce dose in elderly and renal failure. Potassium-rich foods may affect levels (e.g. dates, bananas, mangos, oranges, tomatoes).
- **RDA (Elemental calcium):** < 6 mth 400mg, 6-12 mth 600mg, 1-5 yo 800mg, 6- 10 yo 800-1200mg, 11 yo-adult 1000-1500mg.
- **RDA (Elemental iron):** < 5 mth 5mg, 5 mth-10 yo 10mg, 11-18 yo (male) 12mg, 11-50 yo (female) 15mg, > 18 yo (male) or > 50 yo (female) 10mg.
- **RDA (Elemental magnesium):** <12 mth 40-60mg, 1-6 yo 80-120mg, 7-10 yo 170mg, 11-18 yo (male) 270-400mg (female) 280-300mg, > 19 yo (male) 350mg (female) 280mg.
- **RDA (Elemental potassium):** newborns 2-6mmol/kg, child 2-3mmol/kg, adult 40-80mmol.

8.02 VITAMINS

GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
Ascorbic Acid (Vitamin C) Tab 250mg	EDL	Prophylactic, 25-75mg daily. Therapeutic, minimum 250mg daily.
Folic Acid 5mg Tab	EDL	Folate-deficient megaloblastic anaemia: adult/child > 1 yr, initially 5mg daily for 4 mth; prophylaxis in chronic haemolytic states/renal dialysis; 5mg daily depending on diet or haemolysis rate; child <1yr 500ug/kg/DAY. Prevention of first occurrence of neural tube defect in pregnancy: 200-500ug daily up to the twelfth week; prevention of reoccurrence 5mg daily from at least 4 weeks before conception until twelfth week of pregnancy.
Phytomenadione (vitamin K) Inj 10mg/ml, 1ml [Adult use only, NOT for child < 2 yo, contains benzyl alcohol.]	MSL EDL	Less severe haemorrhage, IM 10-20mg; severe bleeding, slow IV 2.5-25mg (max 50mg) according to indication & INR levels (undiluted or diluted in D5/NS, over 15-30 min at max rate 1mg/min).
Pyridoxine (Vitamin B₆) Tab 10mg	EDL	Deficiency: 25-50mg up to 3 times daily. Idiopathic sideroblastic anaemia: 100-400mg daily in divided doses. Isoniazid neuropathy: prophylaxis 10mg daily; therapeutic 50mg 3 times daily.

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MULTIVITAMIN PREPARATIONS		
Multivitamin for Adults Tablet		>12 yo & adults, 1 tab daily or as required. See product literature for details.
Multivitamin for Children, Chewable Tablet		2-12yo, 1 tab daily or as required. See product literature for details.
Multivitamin with Iron for Children, Chewable Tablet		2-12 yo, 1 tab daily or as required. See product literature for details.
Multivitamin Suspension		Adult, 5mls daily or as required. See product literature for details.
Vitamin B Complex Tab		1-2 tab daily as required, See product literature for details.

COMMENT/CAUTIONS:

- **RDA: (vitamin B₁/thiamine)** < 6 mth 0.3mg, 6 mth–1 yo 0.4mg, 1-3 yo 0.7mg, 4-6 yo 0.9mg, 7-10 yo 1mg, 11-14 yo 1.1-1.3mg, > 14 yo 1.5mg.
- **RDA: (vitamin B₂/ riboflavin)** child 0.4-1.8mg, adult 1.2-1.7mg.
- **RDA: (vitamin B₆/pyridoxine)** 1-3 yo 0.9mg, 4-6 yo 1.3mg, 7-10 yo 1.6mg, adult 2mg.
- **RDA (vitamin B₁₂/cyanocobalamin)** child 0.3-2ug, adult 2ug.
- **RDA: (vitamin C/ascorbic acid)** < 6 mth 30mg, 6 mth-1 yo 35mg, 1-3 yo 40mg, 4-10 yo 45mg, 11-14 yo 50mg, adult 60mg.
- **RDA: (vitamin D/alfacalcidol/calcitriol):** < 6 mth 7.5ug (but if infants breast-fed and not exposed to sunlight an additional supplement of 5-7.5ug should be given), up to 24 yo 10ug, > 24 yo 5ug, pregnant/lactating women 10ug.
- **RDA: (folic acid):** neonates-6 mth 25-35ug, 6 mth-3 yo 50ug, 4-6 yo 75ug, 7-10 yo 100ug, 11-14 yo 150ug, > 15 yo-adult 200ug.

8.03 PARENTERAL SOLUTIONS

GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
Dextrose Inj 5% 500ml & 1000ml (Glucose)	EDL	Fluid replacement: IV infusion according to patient's requirements.
Dextrose Injection Prefilled Syringe 50% 5g/10mls, 50mls (Glucose)	EDL	Hypoglycaemia: IV up to 25ml or preferably diluted to 10-20% solution and given into a large vein through a large gauge needle.

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GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
Ringers Lactate Solution (Hartmann's/Compound Sodium Lactate Inj) [Na=131, K=5, Ca=2, Cl=111, HCO ₃ =29 mmol/L]	EDL	Fluid replacement or surgical use: IV infusion according to patient's requirements. Contains CaCl 0.027%, KCl 0.04%, NaCl 0.6% & sodium lactate 0.25%.
Sodium Chloride Inj 0.9% 10ml, 100ml & 500ml [Na = 9g/L = 154mmol/L]	EDL	For reconstitution use, or fluid/ electrolytes replacement as required.
Water for injection, Sterile 10ml	<i>MSL</i> EDL	For reconstitution of injections as required.

8.04 PLASMA SUBSTITUTES

GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
Gelatin 3.5% or 4% 500ml Inj (Haemaccel or Gelofusine)	EDL	IV infusion, initially 500-1000 ml of a 3.5-4% solution. See product literature for details.

8.05 IRRIGATION SOLUTIONS

GENERIC (TRADE) NAME	CAT.	INDICATION/DOSE
Balanced Salt Solution for Eye Irrigation, 500ml (BSS & BSS Plus)		For intra-ocular and topical irrigation of the eye during surgical procedures.
Sodium Chloride 0.9% for Irrigation 1000ml		For irrigation use.
Water for Irrigation 1000ml		For irrigation use.