

## **Chapter 9: Nutrition and Blood**

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## Key

R	Red drug see GMMMG RAG list Click on the symbols to access this list
À	Amber drug see GMMMG RAG list Click on the symbols to access this list
Gn	Green drug see GMMMG RAG list  Click on the symbols to access this list
U	If a medicine is unlicensed this should be highlighted in the template as follows
	Not Recommended
отс	Over the Counter
Order of Drug Choice	Where there is no preferred $1^{\text{st}}$ line agent provided, the drug choice appears in alphabetical order.



BNF chapter	9 Nutrition and Blood		
Section	9.1. Anaemias and some other blood disorders		
Subsection	9.1.1 Iron-deficiency anaemias		
Subsection	9.1.1.1 Oral iron		
First choice	Ferrous fumarate 322 mg tabs (100 mg iron) Ferrous fumarate 305 mg caps (100 mg iron)		
Alternatives	Ferrous fumarate 210 mg tabs (68 mg iron)		
	Ferrous sulphate 200 mg tabs (65 mg iron)		
	Ferrous fumarate 140 mg sugar free syrup (45 mg of iron/5 mL)  Sodium feredetate 190 mg sugar free elixir (27.5 mg of iron/5 mL)		
Grey drugs  Items which are listed as Grey are deemed not suitable for routine prescribing but may be suitable for a defined patient population	Ferric maltol capsules For treatment of iron deficiency anaemia in patients with intolerance to, or treatment failure with, two oral iron supplements.	Gn following specialist advice  Criterion 2 (see RAG list)	
Do Not Prescribe	Oral iron  Modified release preparations  Spatone	Criterion 1 (see RAG list)  Criterion 1 (see RAG list)	
Subsection	Iron-rich spa water from the mountains of Snowdonia		
Subsection First choice	9.1.1.2 Parenteral iron  Ferric carboxymaltose 50 mg/mL injection	R	
riist choice	(Ferinject®)  Iron isomaltoside 100 mg/mLinjection (Monofer®)	R	
Alternatives	Iron sucrose 20 mg/mL iron (Venofer®)	R Used first line in haemodialysis patients.	
	<b>Iron dextran</b> 50 mg/mL iron (CosmoFer <sup>®</sup> )	R	



#### **General Guidance applicable to all drugs**

MHRA DSU: Intravenous iron and serious hypersensitivity reactions: clarification of advice on new recommendations regarding initial test dose, Sept 2013

MHRA DSU: Intravenous iron and serious hypersensitivity reactions: new strengthened recommendations to manage and minimise risk, Aug 2013

British Society for Haematology: Management of iron deficiency in pregnancy.

NICE NG8: Anaemia management in people with chronic kidney disease



Subsection	9.1.2 Drugs used in megaloblastic anaemias		
First choice	bice Hydroxocobalamin 1 mg/mL injection NICE CG62: Antenatal care		
	Folic acid 400 micrograms tablets	NICE CG156 Fertility: Assessment	
	Folic acid 5 mg tablets	<u>and treatment for people with</u> <u>fertility problems</u> (Folic acid 400	
	<b>Folic acid</b> 2.5 mg/5 mL oral solution sugar free	micrograms for the prevention of neural tube defects prior to conception and during pregnancy.)	

#### **General Guidance applicable to all drugs**

British Society for Haematology: Diagnosis of B12 and Folate Deficiency (June 2014)

Subsection	9.1.3 Drugs used in hypoplastic haemolytic, and renal anaemias	
First choice	Darbepoetin alfa Epoetin alfa (biosimilar)	R R
Alternatives	Epoetin beta  Methoxy polyethylene glycol-epoetin beta ▼	R R

#### **General Guidance applicable to all drugs**

### All erythropoietins are RED and are prescribed and supplied by secondary care

Renal Association, Clinical Practice Guidelines: Anaemia of CKD (June 2017)

NICE CG114: Anaemia management in people with chronic kidney disease.

NICE TA323: Erythropoiesis-stimulating agents (epoetin and darbepoetin) for treating anaemia in people with cancer having chemotherapy (including review of TA142)

MHRA DSU: Recombinant human erythropoietins: new prescribing advice, Dec 2007

- Patients with cancer: risk of tumour progression and reduced overall survival
- · Patients with chronic kidney disease: risk of mortality and cardiovascular morbidity

MHRA DSU: recombinant human erythropoeitins: treating anaemia in cancer, Aug 2008



Iron Overload		
First choice	<b>Deferasirox</b> 125 mg, 250 mg, 500 mg tablets	R
	<b>Desferrioxamine mesilate</b> 2 g injection	R
Alternatives	<b>Deferiprone</b> 500 mg tablets	R
<b>General Guida</b>	nce applicable to all drugs	
All Iron Overloa	d treatments listed here are commissioned by NHS	SE.
Subsection	9.1.4 Drugs used in platelet disorders	
Chronic immu	ne (idiopathic) thrombocytopenic purpura	
	Eltrombopag 25 mg, 50 mg tablets	NICE TA293: Eltrombopag for treating chronic immune (idiopathic) thrombocytopenic purpura (review of technology appraisal 205)
		MHRA DSU: Eltrombopag (Revolade): reports of interference with bilirubin and creatinine test results (July 2018)
	Romiplostim 250 microgram vial	NICE TA221:Romiplostim for the treatment of chronic immune (idiopathic) thrombocytopenic purpura

### **General Guidance applicable to all drugs**

On publication of  $\underline{\text{NICE TA293}}$ , NICE discussed the differences in the wording of the above two guidance and the need to ensure clarity: NICE states that the recommendations for eltrombopag and romiplostim are for exactly the same patient population.

## **Essential Thrombocythaemia**

First choice	<b>Anagrelide</b> ▼ 500 micrograms capsules	R
Subsection	9.1.6 Drugs used in neutropenia	
First choice	Filgrastim Biosimilar	R
Alternatives	Lenograstim Pegfilgrastim	R R

### **General Guidance applicable to all drugs**

MHRA DSU: Filgrastim and pegfilgrastim: risk of potentially life-threatening capillary leak syndrome,



Sept 2013

NICE CG151: Neutropenic sepsis: prevention and management of neutropenic sepsis in cancer patients



BNF chapter	9 Nutrition and Blood	
Section	9.2. Fluids and electrolytes	
Subsection	9.2.1.1 Oral potassium	
Compensation	for Potassium loss	
First choice	Sando-K® effervescent tablets	
	Potassium bicarbonate and chloride equivalent to potassium 470 mg (12 mmol of K <sup>+</sup> ) and chloride 285 mg (8 mmol of Cl <sup>-</sup> )	
Alternatives	<b>Kay-Cee-L</b> <sup>®</sup> syrup sugar free Potassium chloride 7.5% (1 mmol/mL each of K <sup>+</sup> and Cl <sup>-</sup> )	
Management (	of Hyperkalaemia	
First choice	Calcium Resonium® powder (Calcium polystyrene sulfonate powder)	
Subsection	9.2.1.2 Oral sodium and water	
Sodium Chlori	de	
First choice	<b>Sodium Chloride</b> 600mg modified release tablets (Approximately 10 mmol each of Na <sup>+</sup> and Cl <sup>-</sup> )	
Oral Rehydrat	ion Therapy	
First choice	Electrolade® oral powder sachets	
Alternatives	<b>Dioralyte</b> ® oral powder sachets	
General Guida	ince applicable to all drugs	
None		



BNF chapter	9 Nutrition and Blood	
Section	9.4. Oral nutrition	
Subsection	9.4.1. Foods for special diets	
First choice	Dependent on dietetic assessment and in line with "ACBS" recommendations.	The availability / choice of products will also be influenced by GM and CCG policies and the local acute trust product contract.

### **General Guidance applicable to all**

#### Borderline Substances:

In certain conditions some foods have characteristics of drugs and the Advisory Committee on Borderline Substances advises as to the circumstances in which such substances may be regarded as drugs. The Advisory Committee's recommendations are detailed in the <a href="Drug Tariff">Drug Tariff</a> and are listed in Part XV – Borderline Substances. Prescriptions issued in accordance with the Committee's advice for the conditions stated and endorsed "ACBS" can be prescribed subject to any local or GM wide policy or guidance.

The GMMMG Gluten Free policy is available online.

Subsection	9.4.2. Enteral nutrition (tube feeds)	
First choice	Dependent on dietetic assessment  The choice of product may be influenced by the local supply contract.	
Subsection	9.4.2 Enteral nutrition (sip feeds)	
First choice	First choice product, after consideration / trial of food fortification, should be a powdered, ready to mix supplement	The choice of product may be influenced by the local supply contract.
Alternatives	Ready mixed products should be reserved for second line.	The choice of product may be influenced by the local supply contract.

## **General Guidance applicable to all**

NICE QS24: Quality standard for nutrition support in adults.

See local policies for management strategies, product choice and level of dietetic input available.



BNF chapter	9 Nutrition and Blood	
Section	9.5 Minerals	
Subsection	9.5.1 Calcium and magnesium	
	9.5.1.1 Calcium	
First choice	<b>Calcium Carbonate</b> 1.5g chewable tablets (Calcium 600 mg or Ca <sup>2+</sup> 15 mmol)	
	<b>Calcium Carbonate</b> 1.25g chewable tablets (Calcium 500 mg or Ca <sup>2+</sup> 12.5 mmol)	
Alternatives	Calcium Carbonate 1.25g effervescent tablets (Calcium 500 mg or Ca <sup>2+</sup> 12.5 mmol, when dispersin water)	sed
	Calcium gluconate 10% injection (Calcium 8.4mg/ml or Ca <sup>2+</sup> approximately 225 micromol/mL)	For severe, acute hypocalcaemia only. ECG monitoring required.  MHRA DSU: Calcium gluconate injection in small-volume glass containers: new contraindications due to aluminium exposure risk, Sept 2010
Do Not Prescribe	Calcium 500 mg with colecalciferol 400 units e.g. Calcichew D-3®	Criterion 1 (see RAG list)
<b>General Guida</b> None	nce applicable to all drugs	
Hyperparathyr	oidism	
	Cinacalcet 30mg, 60mg and 90mg tablets	(Primary hyperparathyroidism)  (Secondary hyperparathyroidism)  NICE TA117: Cinacalcet for the treatment of secondary hyperparathyroidism in patients with end-stage renal disease on maintenance dialysis therapy



First choice	Magnesium aspartate dihydrate 6.5 g sachet of powder for oral solution. (Each 6.5 g sachet of powder contains magnesium aspartate dihydrate equivalent to 243 mg (10 mmol) of magnesium.)	Treatment and Maintenance therapy
Alternatives	Magnesium sulfate injection BP 20% (Mg <sup>2+</sup> approximately 0.8 mmol/mL)	Treatment
	50% (Mg <sup>2+</sup> approximately 2 mmol/mL)	
	Magnesium glycerophosphate 4 mmol tablets	Maintenance therapy NICE ESUOM4: Preventing recurrent hypomagnesaemia: oral magnesium glycerophosphate
Additional Note None	es	
Section	9.5.2 Phosphorus	
	9.5.2.1 Phosphate supplements	
First choice	<b>Phosphate-Sandoz</b> ® effervescent tabs (phosphate 16.1 mmol/tablet)	
Alternatives	<b>Phosphates</b> Intravenous infusion (Providing PO <sub>4</sub> <sup>3-</sup> 100 mmol, K <sup>+</sup> 19 mmol, and Na <sup>+</sup> 162 mmol/litre)	R
Subsection	9.5.2.2 Phosphate-binding agents	
First choice	Calcium acetate 1 g tablets  (Calcium 250 mg or Ca <sup>2+</sup> 6.2 mmol)  Calcium acetate 667 mg capsules  (Calcium 169 mg or Ca <sup>2+</sup> 4.2 mmol)	Following specialist initiation  Following specialist initiation
Alternatives	Calcium Carbonate 1.25 g chewable tablets Calcium 500 mg or Ca2+ 12.5 mmol)  Sevelamer Carbonate 800 mg tablets	Following specialist initiation  Following specialist initiation  (NHS England commissioned for adult renal dialysis)



	Lanthanum 500 mg, 750 mg, 1 g tablets	(NHS England commissioned for adult renal dialysis)
	Osvaren® tablets (Calcium acetate 435 mg [calcium 110 mg or Ca2+ 2.7 mmol], heavy magnesium carbonate 235 mg [magnesium 60 mg])	Gn Following specialist initiation
<b>General Guidance</b>	e applicable to all drugs	
	erphosphataemia in chronic kidney disease: Management of h e 4 or 5 chronic kidney disease	yperphosphataemia in
Section	9.5.3 Fluoride	
First choice	Fluoride tablets, oral drops, mouthwashes and toothpaste	Dental prescribing only.
Grey drugs  Items which are listed as Grey are deemed not suitable for routine prescribing but may be suitable for a defined patient population	Prescription-only toothpastes and mouth washes e.g. Duraphat® Only dentists should prescribe these products, due to the risk of patients developing fluorosis	Gn following specialist initiation  Criterion 3 (see RAG list)
Do Not Prescribe	BioXtra® toothpaste and mouth rinse	<u>Criterion 1 (see</u> <u>RAG list)</u>
General Guidance	e applicable to all drugs	
Public Health Engla	and (2014) Delivering better oral health: an evidence-based t	oolkit for prevention
Section	9.5.4 Zinc	
First choice	<b>Zinc sulfate monohydrate</b> 125 mg effervescent tablets sugar free	
Section	9.5.5 Selenium	ı
	<b>Selenium</b> (as sodium selenite pentahydrate) oral solution 50 micrograms/mL	
General Guidance	e applicable to all drugs	'



BNF chapter	9 Nutrition and Blood		
Section	9.6 Vitamins		
Subsection	9.6.2 Vitamin B		
First choice	<b>Thiamine</b> 50 mg, 100 mg tablets	NICE CG100: alcohol use disorders	
Alternatives	<b>B vitamins High potency</b> intravenous and intramuscular injection	For severe deficiency states, especially as seen in chronic alcoholism	
	<b>Pyridoxine (vitamin B<sub>6</sub>)</b> 10 mg, 20 mg, 50 mg tablets	For pyridoxine deficiency that may occur during isoniazid or penicillamine treatment	
Grey drugs	Cyanocobalamin	Gn	
Items which are listed as Grey are deemed not suitable for routine prescribing but	tablets Only use in those patients who are truly unable to tolerate injections and who are vegan	Criterion 3 (see RAG list)	
may be suitable for a defined patient population	Vitamin B compound	Gn following specialist	
	Vitamin B compound strong	initiation	
	tablets	Criterion 1 (see RAG list)	
	Should only be used on the advice of a dietician, or in secondary care to prevent "re-feeding syndrome"		

### **General Guidance applicable to all drugs**

NICE CG32: Nutrition support in adults: Oral nutrition support, enteral tube feeding and parenteral nutrition

NICE CG100: Alcohol-use disorders: Diagnosis and clinical management of alcohol-related physical complications

MHRA DSU: Pabrinex: allergic reactions, Sept 2007

CKS [accessed 12th March 2015] Alcohol – problem drinking; Scenario: Dependence on alcohol

Subsection	9.6.4 Vitamin D		
First choice	Colecalciferol 20,000 units; 3, 200 units capsules Colecalciferol 800 units capsules or tablets	For the treatment and prevention of vitamin D deficiency	
	<b>Colecalciferol</b> 25,000 units in oral solution (ampoule)	Only licensed products should be used.	
		800 units strength are for maintenance only	
Alternatives	<b>Ergocalciferol</b> 7.5mg (300,000 units) /mL injection		
	Alfacalcidol	Gillowing specialist	



Capsules: 250 nanograms, 500 nanograms, 1microgram	initiation
<ul> <li>Oral drops 2 microgram/mL (1 drop contains approximately 100 nanograms)</li> </ul>	
Calcitriol capsules 250 nanograms, 500 nanograms	
<b>Healthy Start vitamins</b> – See section 9.6.7	

### General Guidance applicable to all drugs

The <u>GMMMG NTS group</u> recommends that the vitamin D and bone health clinical guideline for patient management from the <u>National Osteoporosis Society</u> be followed.

NTS recommendation: Management of Vitamin D Deficiency, Insufficiency and Maintenance in Children

Recent advice from the Chief Medical Officer (CMO) for England, Wales, Northern Ireland, and Scotland made specific recommendations on vitamin D supplementation in at risk groups

MHRA DSU: Unlicensed imported vitamin D (colecalciferol) capsules: potential peanut oil and soya oil allergens, March 2012

Subsection	9.6.4 Vitamin D (with calcium)		
First choice	<b>Calcium Carbonate</b> 1.5 g and <b>Colecalciferol</b> 10 micrograms tablets and chewable tablets	NICE (2014) Vitamin D:	
	<b>Calcium Carbonate</b> 750 mg and <b>Colecalciferol</b> 5 micrograms caplets	increasing supplement use among at-risk	
	<b>Calcium carbonate</b> 1.25 g and <b>Colecalciferol</b> 10 micrograms chewable tablets	groups (PH56)	
Alternatives	Calcium phosphate 3.1 g and Colecalciferol 20 micrograms powder		

#### **General Guidance applicable to all drugs**

The <u>GMMMG NTS group (May 2013)</u> recommends that the vitamin D and bone health clinical guideline for patient management from the <u>National Osteoporosis Society</u> be followed.

Subsection	9.6.5 Vitamin E	
First choice	Vitamin E Suspension (alpha tocopheryl acetate) 500 mg/5mL	
Subsection	9.6.6 Vitamin K	
First choice	Menadiol Phosphate 10 mg tablets	
	Phytomenadione Injection 10 mg/mL	
Subsection	9.6.7 Multivitamin Preparations	
	<b>Healthy Start vitamins</b> Pregnant women, women with a child under 12	



	months who are receiving Healthy Start voucher are entitled to free Healthy Start vitamins.
	Not available on FP10; NHS Choices advises where patients can be directed to obtain supplie
Renavit® tablets	For use in dialysis patients to replace water solu vitamins lost on dialysis.
Dalivit® drops	Preferred route for multivitamins in children sho be through the Healthy Start vitamins
Forceval® capsules	For use in gastric bypass / BPD*/DS* bariatric surgery on the recommendation of a dietician / specialist. (BPD = biliopancreatic diversion; DS sleeve gastrectomy with duodenal switch).
Pregnacare® tablets	For use in pregnant post gastric by-pass patient only, if not on Forceval capsules.

## General Guidance applicable to all drugs

NTS recommendation: Use of unlicensed vitamins, minerals and supplements

NTS recommendation: Vitamin and mineral supplements for age-related macular degeneration

\*(BPD = biliopancreatic diversion; DS = sleeve gastrectomy with duodenal switch).

Section	Supplements	
Grey drugs  Items which are listed as Grey are deemed not suitable for routine prescribing but may be suitable for a defined patient population	Co-enzyme Q10 Should only be used for the treatment of mitochondrial disorders under the care of a specialist	Gn following specialist initiation  Criterion 3 (see RAG list)
	Paravit-CF Capsules and liquid Only for use in patients with cystic fibrosis.	Gn following specialist initiation Criterion 3 (see RAG list)
Do Not Prescribe	Cod liver oil capsules	Criterion 3 (see RAG list)
	Gamolenic acid (starflower oil)	Criterion 1 (see RAG list)
	Herbal medicines	Criterion 3 (see RAG list)
	Homeopathic medicines	Criterion 3 (see RAG list)
	Multivitamins and mineral preparations for the management of age-related macular degeneration (ARMD)	Criterion 1 (see RAG list)
	e.g. lCaps <sup>®</sup> , Occuvite <sup>®</sup> , PreserVision <sup>®</sup> , Viteyes <sup>®</sup> , Visionace <sup>®</sup> , Vitalux-plus <sup>®</sup>	
	Vitamins, minerals and antioxidants	Criterion 3 (see RAG list)
	When used in people who have no clinical	



indication for use.