NHS
Somerset

Prescribing Formulary

6th Edition – October 2009

Somerset Primary Care Trust - Primary Care Formulary 6th Edition – October 2009
Introduction

This formulary has been developed and reviewed by the Somerset PCT Medicines Management team, in liaison with Secondary Care NHS Trusts. It is intended to guide evidence based and cost-effective prescribing across Somerset. Key points to note with regard to the formulary are:

- It is intended to only cover first and in some cases second-line drug choices (other than where stated) in uncomplicated patients
- It is expected that practices will find the options provided are appropriate for the treatment of most new patients
- It is acknowledged that patients who are intolerant / unresponsive to formulary drugs, may require alternatives which are non-formulary
- It is anticipated that medication reviews will provide an opportunity to transfer appropriate patients from non-formulary to formulary drugs
- New products will by default be non-formulary initially and prescribers are thus asked to refrain from prescribing new drugs until they have been assessed and approved for addition to the formulary either by the Prescribing Forum or Drugs and Therapeutics Committee.
- Drugs which are classified as amber under the County Prescribing Group Traffic Lights Scheme are not generally included in the formulary, as they should be initiated by an appropriate specialist and only prescribed by GPs where there are arrangements for shared care
- The formulary is primarily aimed at prescribing for adults, guidance on prescribing for children can be found in the BNF for Children

It is acknowledged that to be effective the formulary needs to be accessible and thus an electronic rather than paper format is preferred by many. To aid decision support at the point of prescribing, this formulary will therefore be made available on general practice clinical systems. It is expected that this formulary will then be set as the default for all users within practices, including partners, retained doctors, locums and non-medical prescribers.

It is proposed to review the formulary at approximately six-monthly intervals, in light of emerging evidence, product availability and pricing. Prices quoted in this edition are taken from the October 2009 editions of the Drug Tariff and Chemist & Druggist monthly price list.

By rationalising the choice of drugs prescribed in Primary Care through adoption of the formulary, and by improving liaison with Secondary Care, it is hoped that prescribing across the Somerset health community can become more rational, cost-effective and seamless. In further support of this objective, the Out of Hours formulary and Somerset Traffic Lights Scheme are reproduced as appendices to this document.

Somerset PCT Medicines Management Team
October 2009

We believe the information in this document is correct at the time of production. Please notify the Medicines Management Team of any errors.
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ADMISSION AND DISCHARGE PROCESSES

Poor communication of information at transition points is responsible for as many as 50% of all medication errors and up to 20% of adverse drug events in hospital. Practices should have a process for medicines reconciliation before admission and after discharge from secondary care and a means of identifying patients at high risk of medicines related adverse events. NPC recommends a minimum dataset of information:

From Primary to Secondary Care

- Complete patient details
- The presenting condition plus co-morbidities
- A list of all the medicines currently prescribed for the patient with indications
- Any OTC medicines or supplements the patient takes
- Dose, frequency and route of all the medicines listed
- An indication of any medicines that are not intended to be continued (eg.acute prescriptions)
- Known allergies
- Known previous side effects

From Secondary to Primary care

- Complete patient details
- The diagnosis of the presenting condition plus co-morbidities
- Dose, frequency and route of all the medicines listed
- Medicines stopped and started, with reasons
- Length of courses where appropriate
- Details of increasing or decreasing regimes
- Known allergies

Suggestions for Drug Monitoring in Adults in Primary Care
The monitoring parameters cited are derived from a range of guideline sources, other reference sources and expert opinion and must therefore be considered suggestions only. Adherence to them will not ensure a successful outcome in every case. The ultimate judgement regarding a particular clinical result must be made by the doctor in light of the clinical data presented by the patient and the diagnostic and treatment options available.
http://nww.somersetpct.nhs.uk/pmm/Other%20prescribing%20guidelines/National%20policies%20and%20advice/Drug%20Monitoring%20guidance%20(Apr_08).pdf

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Therapeutic Area	Formulary Choices	Cost for 28 unless stated	Rationale for decision / comments
BNF Chapter 1: Gastro-intestinal **Detailed guidance on dyspepsia is provided by NICE: "Dyspepsia - management of dyspepsia in adults in primary care" (Aug'04)**			
Antacids	**Magnesium trisilicate** ***Asilone*®**	Suspension: £0.91 (pack 200ml) Suspension: £1.95 (pack 500ml)	Inexpensive, but contains 3mmol Sodium per 5ml so should be avoided in patients where Sodium intake restriction is desirable. Available OTC A combination of Magnesium and Aluminium antacids, plus an antiflatulent, also low in Sodium. Available OTC
Alginates	***Peptac*®** ***Gastrocote*®**	Liquid: £1.95 (pack 500ml) Suspension: £ 2.67 (pack 500ml) Tablets: £ 3.51 (pack 100)	Contains 3.1mmol of Sodium per 5ml so should be avoided in patients where restriction of Sodium intake is desirable. *Peptac*® is available in aniseed and peppermint flavours. Available OTC *Gastrocote*® liquid contains 1.8mmol of Sodium per 5ml and may therefore be more appropriate than *Peptac*® in patients where restriction of Sodium intake is desirable. *Gastrocote*® tablets contain 1mmol Sodium per tablet. Both suspension and tablets available OTC *Gaviscon Advance*® is NOT recommended due to its relatively high cost £ 5.21 per 500ml
Antispasmodics	**Mebeverine**	135mg tablets: £6.24 (pack 100)	Avoid prescribing as *Colofac IBS*® as this is OTC pack and more expensive.

Therapeutic Area	Formulary Choices	Cost for 28 unless stated	Rationale for decision / comments
H2- Receptor antagonists	**Ranitidine**	150mg tabs: £1.37 (pack 60) 300mg tabs: £1.45 (pack 30)	Ranitidine is recommended as first line treatment for mild-moderate GORD in the majority of patients. Ranitidine is available OTC, but only as 75mg tablets
Proton Pump Inhibitors NB. Refer to NICE guidance on use of PPIs	**Lansoprazole capsules**	15mg caps: £1.91 30mg caps: £2.99	**Based on licensed indications and availability of both as generics omeprazole and lansoprazole are now considered joint first line PPIs and the need to use other PPIs should therefore be limited.** Prescribing of Lansoprazole orodispersible tablets (*Zoton FasTabs*®) should be avoided where possible, as the cost is greater than generic capsules.
	Omeprazole capsules	10mg capsules: £1.77 20mg capsules: £1.77	Prescribing Omeprazole dispersible tablets (*Losec MUPS*®) should be avoided, as they cost about seven times more than generic capsules. Where Omeprazole 20mg once-daily is not effective, increasing dose to **2x20mg daily** (<u>not</u> 1x40mg) or using Lansoprazole 30mg daily is recommended.

Therapeutic Area	Formulary Choices	Cost for 28 unless stated	Rationale for decision / comments
HP Eradication	1st Line: **PPI** (as opposite) **+ Metronidazole** **+ Clarithromycin** all for 7 days or **PPI** (as opposite) **+ Amoxicillin** **+ Clarithromycin** all for 7 days 2nd Line: See opposite or seek specialist advice	 400mg BD 250mg BD 1g BD 500mg BD	*Helicobacter pylori* eradication is indicated in GU, DU and MALT lymphoma, whereas evidence of value in GORD and NUD is inconsistent. **Recommended PPI regimes for *H. pylori* eradication are either Omeprazole capsules 20mg bd or Lansoprazole 30mg bd**. The combination of a PPI + Clarithromycin and Metronidazole is now a recommended as first line therapy for *H. pylori* eradication. However the use of Clarithromycin or Metronidazole should be avoided if they have been used in the previous year for the treatment of any other infections as this significantly increases the likelihood of *H Pylori* being resistant. NB. Different doses of Clarithromycin indicated in the two regimes. Where patients require a second course of eradication, a regime should be chosen which does not include antibiotics given previously, see BNF for guidance or seek specialist advice.
Acute diarrhoea • Oral rehydration • Antimotility agents	 ***Electrolade*®** **Loperamide** **Codeine**	 £1.33 (pack 6) £4.99 (pack 20) 2mg capsules: £1.07 (pack 30) 15mg tablets: £1.19 (pack 28) 30mg tablets: £1.51 (pack 28)	**Avoid anti-diarrhoeals in children.** Available as multipack containing mixed flavours, less expensive than *Dioralyte*®. Available OTC Available OTC as generic loperamide or *Imodium*®. Just **3 days** of codeine containing medicines can lead to addiction – The PCT strongly recommends that prescribers consider discussing the risk of addiction when initiating new patients on any opioid containing medication and that this discussion is recorded in the patient notes. Watch for increasing frequency of requests for prescriptions

Therapeutic Area	Formulary Choices	Cost for 28 unless stated	Rationale for decision / comments
Chronic diarrhoea			In line with national guidance it is recommended that Mesalazine is prescribed by brand name to ensure consistency for patients.
	Mesalazine as *Mesren*®	400mg tablets: £19.50 (pack 90)	Where 400mg tablets are required *Mesren*® tablets are recommended as first line as they are considered to be bioequivalent to the original product *Asacol*®, but at a lower cost. Release of active ingredient occurs in the terminal ileum and large bowel. Note: patients already stabilised on Asacol should remain on that preparation. For all mesalazine preparations monitor renal function as recommended in SPC.
	or **as *Pentasa*®**	500mg tablets: £24.21 (pack 100)	Where 500mg tablets are required *Pentasa*® tablets are recommended. Release of the active ingredient occurs continuously from the duodenum to the rectum. Asacol 800mg tablets are **not recommended because of three times daily** dose regime
	2nd line *Mesavant*®	1200mg tablets: £62.44 (pack 60)	Consultant initiation only. All patients recommended to have evaluation of renal function prior to initiation and at least twice yearly whilst on treatment.
Bulk-forming laxatives	**Ispaghula Husk**	Generic 3.5g sachets: £1.84 (pack 30)	Available OTC. 3.4g sachets (e.g. *Regulan*®) are more expensive at £2.44 per 30

Therapeutic Area	Formulary Choices	Cost for 28 unless stated	Rationale for decision / comments
Stimulant laxatives	**Senna**	7.5mg tablets: £2.13 (pack 60) 7.5mg/5ml SF liquid: £2.69 (pack 500ml)	Available OTC.
	Glycerin	1g suppositories: £1.02 (pack 12) 2g suppositories: £1.02 (pack 12) 4g suppositories: £1.58 (pack 12)	Glycerin suppository sizes: • 1g = infant • 2g = child • 4g = adult All available OTC
Osmotic laxatives	**Lactulose**	£2.96/500ml	Takes 2 to 3 days to exert effect, "prn" use ineffective; should be taken with additional fluid. Therapeutic dose for adults 15ml twice daily. Available OTC. Laxatives should be considered for the treatment of constipation in people with IBS, but people should be discouraged from taking lactulose. NICE CG 61
	Macrogol as ***Laxido Orange®***	Sachets: £5.34 (pack 30)	Chronic use to be avoided. Efficacy requires adequate fluid intake. Contains Na^+, care in patients with hypertension / heart failure. *Laxido Orange®* replaces *Movicol®* as lower cost brand equivalent.

Therapeutic Area	Formulary Choices	Cost for 28 unless stated	Rationale for decision / comments
Peripheral opioid-receptor antagonist	**Methylnaltrexone Injection** 12mg/0.6ml	£21.05 (pack 1) £147.35 (pack 7)	Opioid-induced constipation in terminally ill patients, when response to other laxatives is inadequate. .Used **in addition** to existing laxative therapy. **Not licensed for use in any other circumstance.**
Rectal soothing agents	***Anusol®***	Cream: £1.96 (pack 23g) Ointment: £1.96 (pack 25g) Suppositories: £1.84 (pack 12)	Available as cream, ointment and suppositories. Available OTC.
Rectal corticosteroids	***Scheriproct®***	Ointment: £3.00 (pack 30g) Suppositories: £1.41 (pack 12)	*Scheriproct®* is recommended over the traditionally widely used *Proctosedyl®*, as the latter is one of the most costly preparations of its type at £10.34 per tube.
Preparations for Anal Fissure	***Rectogesic®*** (Glyceryl Trinitrate Ointment 0.4%)	Ointment: £ 34.80 (pack 30g)	When Glyceryl Trinitrate is indicated for the management of anal fissure, it should be prescribed as *Rectogesic®*, which is the only available licensed product for this indication. Prescriptions for other strengths will require the dispensing of “specials” which are unlicensed, often have a short shelf life and may cost upto £100 per pack. Maximum duration of use 8 weeks

BNF Chapter 2: Cardiovascular System		
Given the wide overlap between many drug groups and clinical indications and vice-versa, the indications for which each drug is included in the formulary are clearly stated in the comments section. Recommendations and local guidelines for the management of specified cardiovascular conditions are provided as inserts. • Hypertension – see page 17-18 • Heart Failure – see page 19-23 • DH statement on cholesterol targets – see page 29-30		
Therapeutic area and formulary choices	**Cost (per pack 28)**	**Comments / rationale for decision**
2.1. Positive Inotropic Drugs **Cardiac Glycosides** **Digoxin**	62.5mcg:£1.64 125mcg: £1.18 250mcg: £1.19	Digoxin is included in the formulary for use: • Atrial Fibrillation: but not paroxysmal AF • Heart Failure: where patients condition is worsening or severe (due to LVSD) despite ACEIs, B-Blockers and diuretics. Monitoring requirements are for U&Es 12 monthly. Digoxin levels are only required if toxicity is suspected or during dose adjustments.
2.3 Anti-arrhythmic drugs **Amiodarone**	100mg: £ 1.38 200mg: £ 1.52	Treatment should only be initiated by hospital specialist and only for the treatment of severe rhythm disorders not responding to other therapies. Prescribing at initial loading dose should be limited to 2 weeks. Amiodarone therapy requires monitoring of: • LFTs and TFTs at baseline and then every 6 months. • Ophthalmic examination at baseline and then twelve-monthly The long half-life of Amiodarone means the therapeutic and adverse effects persist for long periods after discontinuation of therapy **WARNING** Do not exceed Simvastatin 20mg in patients taking Amiodarone and monitor lipid levels to ensure lowest dose necessary of atorvastatin is used.

Therapeutic area and formulary choices	Cost (per pack 28)	Comments / rationale for decision
2.2 Diuretics		
Thiazides **Bendroflumethiazide**	2.5mg tablets: £0.85	Bendroflumethiazide is included in the formulary for: • Hypertension. in line with NICE guidance. Bendroflumethiazide 2.5mg daily is considered the optimal dose for hypertension, higher doses offer little or no additional antihypertensive effect but cause more hyponatraemia and hypokalaemia, and have effects on glucose tolerance, lipid and uric acid metabolism • Heart failure:. Bendroflumethiazide may have a limited role in mild heart failure or where patients are intolerant of loop diuretics.
Loop Diuretics **Furosemide**	20mg tablets: £0.85 40mg tablets: £0.90	Furosemide is included in the formulary for use • Heart Failure: to provide relief of symptoms • Hypertension: Whilst the antihypertensive effects of Furosemide are not as pronounced as those of Bendroflumethiazide, it may have a role in the management of hypertension, where there is intolerance or a C/I to standard therapies, or where BP remains sub-optimally controlled despite standard therapies.
Aldosterone Antagonists **Spironolactone**	25mg tablets: £1.82 50mg tablets: £2.44	Spironolactone is included in the formulary for : • Heart failure: for patients with NHYA Grade III-IV who remain symptomatic despite optimisation of therapies such as ACE inhibitors and Beta-blockers. Spironolactone is the aldosterone antagonist of choice in this situation; Eplenerone is considered an alternative only for specialist initiation. • Hypertension: where there is intolerance or a C/I to standard therapies, or where BP remains sub-optimally controlled despite standard therapies. • Regular monitoring (maintenance): U&E at 6,9 & 12 months, thereafter every 6m

2.4 Beta-adrenoreceptor antagonist drugs		
NB. Evidence suggests the combination of Beta-blocker and Thiazide increases risk of Type 2 DM and this is generally considered to be dose related. Recent evidence-based guidance for angina states that beta-blockers should be the first line therapy for the long-term prevention of angina. Beta-blockers are no longer preferred as routine therapy for hypertension		
Beta-blockers		
Atenolol	25mg: £0.89 50mg: £0.91 100mg: £0.92	Atenolol is included in the formulary for: • Hypertension: in line with NICE guidance. Atenolol dose for hypertension should not normally exceed 50mg daily. • Angina: for prophylaxis of symptoms, some additional benefit may be obtained by increasing the dose to 100mg.
Bisoprolol	1.25mg: £5.65 2.5mg: £5.24 3.75mg: £ 5.08 5mg: £1.19 7.5mg: £5.90 10mg: £1.26	Bisoprolol is included in the formulary for: • Heart failure: Where a beta-blocker is indicated for heart failure, Bisoprolol is first line drug, initiated at 1.25mg and titrated according to guidelines. • Hypertension: in line with NICE guidance. Alternative to Atenolol or Metoprolol • Angina: as alternative to Metoprolol • Post-MI: as alternative to Metoprolol
Metoprolol	50mg: £1.33 100mg: £1.70	Metoprolol is included in the formulary for: • Hypertension: in line with NICE guidance. Alternative to Atenolol or Bisoprolol • Angina: as alternative to Bisoprolol • Post-MI: as alternative to Bisoprolol

2.5 Renin-Angiotensin System Drugs and other antihypertensives		
Formulary choices	**Cost (per 28 unless stated)**	**Comments / rationale for inclusion**
ACE inhibitors		ACE Inhibitors (ACEIs) should be used in line with NICE / PCT guidance for hypertension and heart failure. All should be prescribed in a single daily dose where possible. Lisinopril and Ramipril are the recommended first line options. Monitoring requirements U+Es at baseline, repeated 1-2 weeks after each dose increase for heart failure and after final dose increase in hypertension, annually thereafter. Patients exhibiting ACE cough on first choice ACE should trial a second choice ACE before an ARB.
Lisinopril or	2.5mg:£0.92 5mg: £0.97 10mg: £1.05 20mg: £1.27	Lisinopril is included in the formulary for: • Hypertension: in line with NICE guidance. Usual dose range 2.5mg -20mg daily. May be commenced at dose of 10mg daily in patients without renal impairment and not on diuretics. • Post-MI: titrated to 5-10mg daily if possible • Heart failure: as guidelines, titrated to 35mg if possible • Diabetic nephropathy: initially 2.5mg once daily, adjusted to achieve sitting diastolic BP of < 75mmHg in normotensive IDDM and < 90mm Hg in hypertensive NIDDM, usual range 10- 20mg once daily
Ramipril capsules	1.25mg:£1.06 2.5mg: £1.11 5mg: £1.24 10mg: £1.46	Ramipril is included in the formulary for: • Hypertension: in line with NICE guidance. Dose range 1.25mg to 10mg daily • Post-MI: titrated to 10mg daily if possible • Heart failure: as guidelines, titrated to 10mg if possible
Enalapril	2.5mg £1.17 5mg £1.04 10mg £1.15 20mg £1.27	Enalapril is included in the formulary only for existing stabilised patients

Therapeutic Area and formulary choices	Cost (per 28 unless stated)	Comments / rationale for inclusion
Angiotensin Receptor Blocker (ARBs) 1st line: **Candesartan** 2nd line: **Losartan**	2mg:£11.96 4mg:£8.15 8mg:£9.89 16mg: £12.72 32mg: £16.13 25mg: £16.18 50mg: £12.80 100mg: £16.18	ARBs should **only** be used in patients with persistent troublesome ACEI induced cough (approximately 5% patients treated). ACEIs have a better evidence base and are more cost-effective. ARBs should be used in line with NICE / PCT guidance for hypertension and heart failure. Patients exhibiting ACE cough on first choice ACE should trial a second choice ACE before an ARB. **Dual therapy ACE+ARB not recommended.** Candesartan is included in the formulary for: • Hypertension: (where intolerant to ACEI) in line with NICE guidance, dose range 2-16mg daily • Heart failure: (where intolerant to ACEI) as per guidelines, titrated to 32mg daily if possible. Losartan is included in the formulary for: • Hypertension: (where intolerant to ACEI and to Candesartan) in line with NICE guidance, dose range 25-100mg once daily • Renal protection in Type 2 DM with Nephropathy: (where intolerant to ACEI) initially 50mg daily, increased after one month to 100mg daily according to blood pressure • Chronic heart failure (>60 yrs; ACE intolerant; LVEF <40% & clinically stable). Patients with heart failure who have been stabilised with an ACE inhibitor should not be switched to losartan. Initially 12.5mg, titrated at weekly intervals to usual maintenance dose of 50mg, as tolerated by patient.

3rd Line **Valsartan**	40mg:£13.97 80mg:£13.97 160mg:£18.41	Valsartan is only included in the formulary for: • Post-MI: (where intolerant to ACEI) initially 20mg bd, titrated to 160mg bd where tolerated • **Not included for hypertension**
Centrally acting drugs **Methyldopa** **Moxonidine**	 125mg: £14.53 (pack 56) 250mg: £6.83 (pack 56) 500mg: £10.03 (pack 56) 200mcg:£4.70 300mcg:£6.65 400mcg:£5.98	 Methyldopa is included in the formulary for: • Hypertension in pregnancy Moxonidine is included in the formulary for: • Hypertension: as an add-on option if BP cannot be controlled on routine antihypertensive drugs
Alpha-blockers **Doxazosin**	 1mg: £0.99 2mg: £1.05 4mg: £1.63	Doxazosin is included in the formulary for: • Hypertension: Note that Doxazosin should **not** be used as a first line antihypertensive. **The ALLHAT trial showed doxazosin monotherapy resulted in an 80% increase in heart failure and 26% increase in stroke compared to low dose diuretic therapy.** Alpha-blockers may however be a useful as an add-on option if BP cannot be controlled on other drugs and in patients with co-existing BPH. • Benign prostatic hyperplasia: See section 7 NB. Doxazosin MR (*Cardura XL*®) tablets are specifically **not** recommended for maintenance in hypertension and maximum licensed dose for other indications is 8mg. Stabilised hypertensive patients on Doxazosin MR tablets should be switched to standard 4mg tablets: • Doxazosin MR 4mg one daily > Doxazosin 4mg one daily • Doxazosin MR 8mg one daily > Doxazosin 4mg two daily

Hypertension – If patient has Diabetes or CVD follow specific relevant NICE Clinical Guideline

Somerset PCT recommends practices follow the revised joint NICE/BHS guidance on management of hypertension.
NB. All usual contra-indications apply - see BNF / SmPC for details. Key points of the new NICE guidance are as follows:

Step 1:

- > 55 years or black patients of any age Thiazide-type diuretic (e.g. Bendroflumethiazide 2.5mg) or calcium channel blocker (e.g Amlodipine)
- < 55 years ACE Inhibitor (e.g. Ramipril or Lisinopril)

Step 2:
Add second drug =>

- ACE + Calcium Channel Blocker or
- ACE + Thiazide type diuretic

(if intolerant to ACE ~5 % an ARB can be used (e.g. Candesartan)

Step 3:
Add third drug to make the combination

- ACE + Calcium channel blocker + Thiazide-type Diuretic

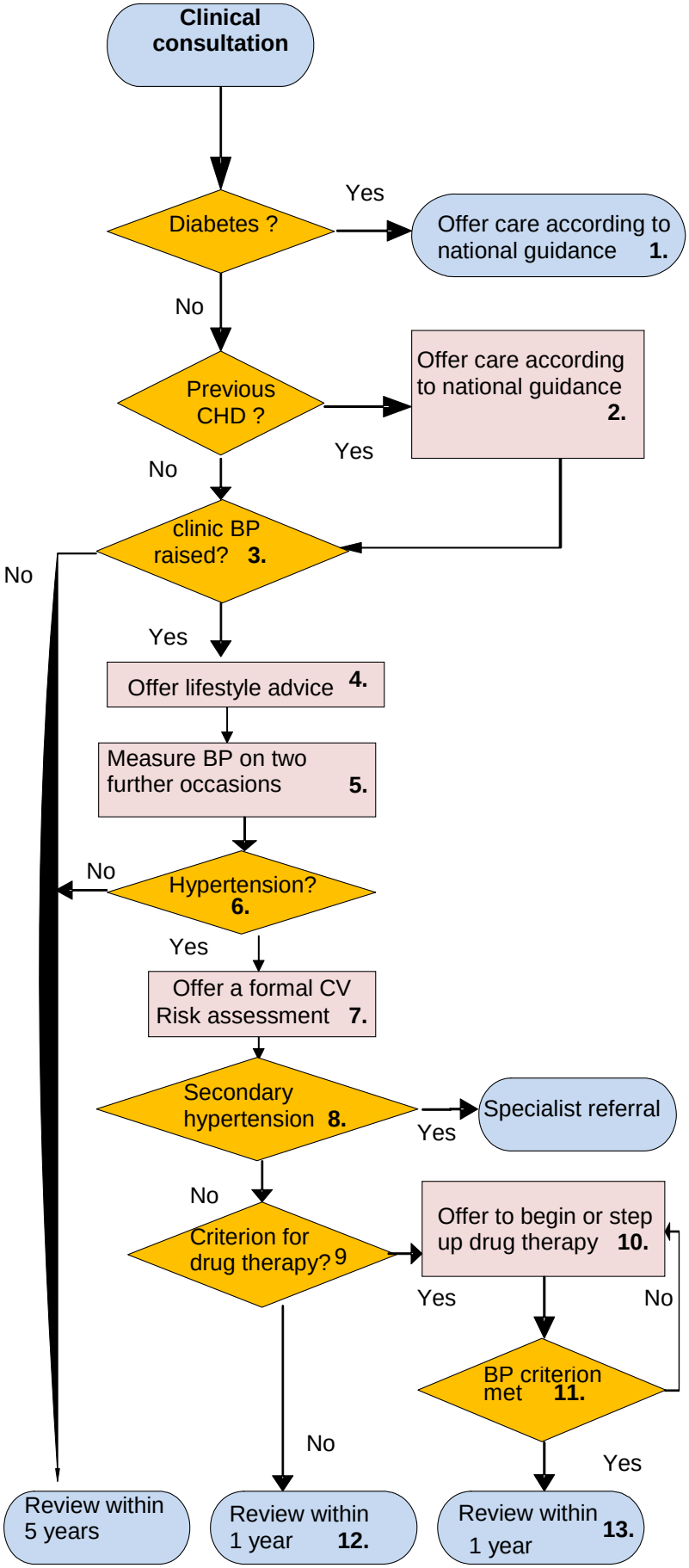
NB. Only dihydropyridine CCBs should be combined with a beta-blocker (i.e. **not** Diltiazem or Verapamil)

Step 4:
Add fourth drug

- Further diuretic therapy or
- Alpha blocker (plain doxazosin) or
- Beta-blocker

Consider seeking specialist advice

Beta-blockers should not usually be withdrawn if a patient has a compelling indication for being treated with one eg symptomatic angina or previous MI.



1. See the NICE clinical guideline 66 'Management of type 2 diabetes
2. See the NICE clinical guideline 48 'MI: Secondary Prevention'.
3. Raised blood pressure (BP) > 140/90 mmHg (BP > 140/90 means either or both systolic and diastolic exceed threshold). Take a second confirmatory reading at the end of the consultation. Take a standing reading in patients with symptoms of postural hypotension.
4. Explain the potential consequences of raised BP. Promote healthy diet regular exercise and smoking cessation.
5. Ask the patient to return for at least two subsequent clinics at monthly intervals, assessing BP under the best conditions available.
6. Hypertension: persistent raised BP > 140/90 mmHg at the last two visits.
7. Cardiovascular (CV) risk assessment may identify other modifiable risk factors and help explain the value of BP lowering and other treatment Risk charts and calculators are less valid in patients with cardiovascular disease (CVD) or on treatment.
8. Refer patients with signs and symptoms of secondary hypertension to a specialist. Refer patients with malignant hypertension or suspected phaeochromocytoma for immediate investigation.
9. Offer treatment for: (A) BP >160/100 mmHg; or (B) BP >140/90 mmHg and 10-year risk of CVD >20% or existing target organ damage.

   Consider other treatments for raised cardiovascular risk including lipid lowering and antiplatelet therapies.
10. As needed, add drugs in the order shown on p.16.
11. BP <140/90 mmHg or further treatment is inappropriate or declined.
12. Check BP, reassess CV risk and discuss lifestyle.
13. Review patient care: medication, symptoms and lifestyle.

Prescribing Guidelines for HEART FAILURE

This guidance is not intended to replace the full NICE guidance on Chronic Heart Failure (October 2003), but provides primary care prescribers with a summary of key points relevant in practice.

AIMS

- To relieve symptoms
- To improve exercise tolerance
- To reduce incidence of acute exacerbations
- To reduce hospitalisations
- To reduce mortality

Angiotensin Converting Enzyme (ACE) Inhibitors

Evidence shows that an ACE Inhibitor given at an adequate dose generally achieves these aims; therefore an ACE inhibitor is recommended for ALL patients with asymptomatic left ventricular dysfunction or symptomatic heart failure (unless contra- indicated).

ACE inhibitor treatment should be titrated up to the highest licensed dose which is tolerated where possible. Start with a low dose, double dose at not less than 2 weeks. GPs considering initiating ACE inhibitor therapy should consider specialist supervision and/or particularly careful monitoring for those:

- receiving multiple or high dose diuretics (Furosemide 80mg or equivalent)
- with hypovolaemic
- with hyponatraemia (<130mmol/l)
- with pre-existing hypotension (systolic < 90mm Hg)
- with unstable heart failure
- with renal impairment (creatinine > 150mmol/l)
- receiving high-dose vasoldilator therapy
- aged 70 years or more

NB. A small dose of an ACE inhibitor is better than no ACE at all.

Because of the risk of hypotension, especially in patients with hypovolaemia, consideration should be given to withholding or reducing the dose of diuretics for 24 hours prior to commencement of the ACE inhibitor.

- **PCT Formulary recommended ACE inhibitors:**
  LISINOPRIL initially 2.5-5mg od, titrated to 30-35mg od
  or
  RAMIPRIL initially 2.5mg od, titrated to 10mg od

Where possible all these ACE inhibitors should be used in a single daily dose to aid compliance and cost-effectiveness.

Angiotensin Receptor Blockers (ARBs)

The weight of evidence supporting use of ARBs in heart failure is not as robust as it is for use of ACE inhibitors and therefore an ARB can only be recommended for those patients who are intolerant of ACE inhibitor therapy due to intractable cough.

On the basis of the currently available evidence, Candesartan and losartan are the only ARBs licensed for use in heart failure.

- **PCT Formulary recommended ARB:**
  CANDESARTAN

Other ARBs remain unlicensed for use in heart failure. The triple combination of Valsartan, ACE inhibitor and beta-blocker should be avoided, based on current evidence.

As with ACE inhibitors it is recommended to exert particular care in using ARBs in the patient groups who are at greater risk of problems and consideration given to specialist input where appropriate.

Dual Therapy: In heart failure, dual RAS blockade was associated with more hypotension, worsening renal function and hyperkalaemia than ACE therapy alone. Not recommended.

Diuretics

A diuretic is usually required by most patients with heart failure to reduce symptoms of fluid overload, reduce hospitalisation due to acute exacerbation and increase exercise tolerance.

Most patients with heart failure will require a loop diuretic:

- **PCT Formulary recommended loop diuretic:**
  FUROSEMIDE 20mg each morning, titrated according to symptomatic response

A thiazide diuretic may be of benefit in patients with mild heart failure and good renal function; however thiazides are ineffective in patients with poor renal function.

- **PCT Formulary recommended thiazide diuretic:**
  BENDROFLUMETHIAZIDE 2.5mg each morning

If diuresis with one diuretic is insufficient, a combination of loop diuretic and thiazide may be tried.

Metolazone may provide useful additional efficacy, but the risk of profound diuresis and electrolyte disturbance, requires use with great caution and frequent monitoring. Where used, it is recommended to commence at very low dose e.g. 2.5mg daily.

Spironolactone

For patients with moderate to severe heart failure who are already receiving an ACE Inhibitor, a diuretic and in some cases a beta-blocker; low dose spironolactone has been shown to reduce both symptoms and mortality.

- **PCT formulary recommendation:**
  SPIRONOLACTONE initially 25mg each morning,
  reducing to 12.5mg daily or 25mg alternate days if neccessary

Although the doses of Spironolactone recommended for use in heart failure are much lower than those used for ascites, there is nonetheless a significant risk of electrolyte disturbance. Close monitoring of serum creatinine and potassium is therefore required; for example, baseline, 2 and 4 weeks after commencement and monthly thereafter

Beta-blockers

All patients with any grade of stable heart failure should be prescribed a beta-blocker for life long treatment if tolerated and not contra indicated.

Beta-blocker therapy should be initiated by those experienced in the management of heart failure and should commence at a very low dose and titrated up by doubling doses at intervals of not less than two weeks. Symptoms may deteriorate initially, calling for adjustment of concomitant therapy, such as temporary increase in dose of diuretics.

Bisoprolol is the PCT formulary recommended beta-blocker for heart failure, based on the CIBIS trials, once a day dosing and cost-effectiveness.

- **PCT Formulary recommended beta-blocker for heart failure:**
  Bisoprolol initially 1.25mg once daily,
  titrated according to response and tolerability to 10mg once daily

Where an alternative to Bisoprolol is required, for example where there is intolerance or concern that unopposed beta-blockade may be undesirable, Carvedilol should be considered as the appropriate alternative beta-blocker for heart-failure patients. There is also a stronger evidence base for Carvedilol in those patients with higher grades of heart failure and its use may be preferred in this situation. Prescribers should be aware that Carvedilol requires twice-daily dosing and the implications of this for compliance with therapy should be taken into account when selecting a beta-blocker for heart failure.

Although doses of beta-blockers should be titrated to the maximum tolerated, a small dose of a beta-blocker is better than no beta-blocker at all.

For those patients with well controlled hypertension or angina, already prescribed an alternative beta-blocker which is not licensed for heart failure (e.g. Atenolol) who then go on to develop heart failure should not automatically have their beta-blocker changed. However if symptoms worsen, despite concurrent ACE inhibitor and diuretic therapy then consideration should be given to switching the beta-blocker to one which is licensed, as above.

Digoxin

Digoxin is appropriate for patients with atrial fibrillation and any degree of heart failure. It is also recommended for those with worsening or severe heart-failure due to LV systolic dysfunction who remain symptomatic despite treatment with an ACE Inhibitor, a diuretic and a beta blocker.

Digoxin may improve symptoms, exercise tolerance and reduce hospitalisations. Digoxin has not been shown to reduce mortality. Because hypokalaemia predisposes to Digoxin toxicity, careful monitoring of U&Es is required, especially where patients are also prescribed loop or thiazide diuretics, especially if an ACE inhibitor, ARB or Spironolactone is not prescribed.

- **PCT formulary recommendation:**
  DIGOXIN 62.5mcg - 125 mcg once daily
  - higher doses are rarely appropriate in heart failure which is not associated with AF.

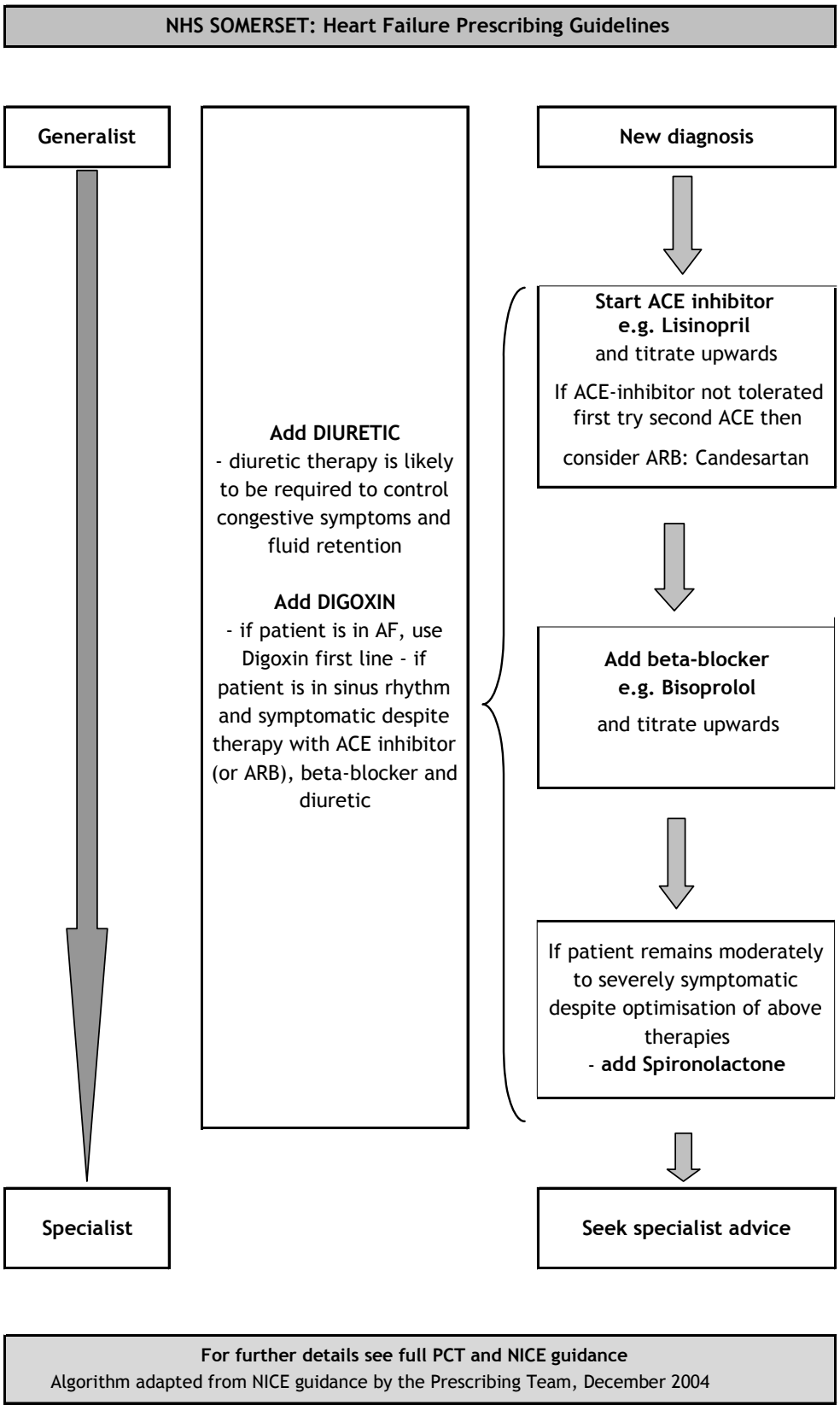
Calcium channel blockers

No Calcium Channel Blocker is licensed for the treatment of heart failure.

The use of calcium channel blockers with a direct effect on cardiac contractility i.e. Verapamil or Diltiazem should be specifically avoided in heart failure.

For those patients who develop heart failure whilst prescribed a long-acting dihydropyridine calcium channel blocker e.g. Nifedipine MR (Coracten), Felodipine MR (Felotens), Lercanidipine or Amlodipine (Amlostin) for hypertension or angina, it may be appropriate to re-assess the risks and benefits of continuing with such therapy. In this situation, Amlodipine is supported by evidence that it does not worsen heart failure, similar evidence does not currently exist for other dihydropyridines.

Where continuation of a dihydropyridine calcium channel blocker is considered essential for control of hypertension or angina, this may be justified where use of other therapies such as beta-blocker, ACE inhibitor and diuretic has been optimised.


NHS SOMERSET: Heart Failure Prescribing Guidelines
Generalist
New diagnosis
Add DIURETIC
- diuretic therapy is likely to be required to control congestive symptoms and fluid retention
Add DIGOXIN
- if patient is in AF, use Digoxin first line - if patient is in sinus rhythm and symptomatic despite therapy with ACE inhibitor (or ARB), beta-blocker and diuretic
Start ACE inhibitor
e.g. Lisinopril
and titrate upwards
If ACE-inhibitor not tolerated first try second ACE then
consider ARB: Candesartan
Add beta-blocker
e.g. Bisoprolol
and titrate upwards
If patient remains moderately to severely symptomatic despite optimisation of above therapies
- add Spironolactone
Specialist
Seek specialist advice
For further details see full PCT and NICE guidance
Algorithm adapted from NICE guidance by the Prescribing Team, December 2004

2.6 Nitrates, Calcium Channel Blockers and Potassium Channel Activators		
Therapeutic Area and Formulary choices	**Cost (per 28 unless stated)**	**Comments / rationale for decision**
Nitrates **Glyceryl Trinitrate (GTN) spray**	400mcg spray: £2.63 (180 dose)	Glyceryl trinitrate is included in the formulary for: • Angina: for as required use for relief of symptoms Note that GTN tablets are now significantly more costly than spray
Isosorbide Mononitrate Standard tablets and MR as *Isotard XL*®	10mg: £1.10 (pack 56) 20mg: £1.09 (pack 56) 40mg: £1.53 (pack 56) 40mg: £6.75 60mg: £5.75	Isosorbide Mononitrate is included in the formulary for: • Angina: for prophylaxis of symptoms as monotherapy where intolerance or C/I to use of a beta-blocker or rate-limiting CCB. As combination therapy with beta-blocker or CCB where monotherapy provides insufficient control.. First line is to prescribe standard Isosorbide mononitrate tablets asymmetrically to ensure a nitrate free period is maintained to reduce nitrate tolerance e.g. 20mg bd at 6-8am and 2-4pm. If patients cannot comply with this regime, MR preparations should be prescribed as the brand Isotard XL and only given once-daily to reduce nitrate tolerance. Where Isosorbide mononitrate has been added to provide symptom control pending angioplasty or CABG, consideration should be given to cautious withdrawal after successful completion of and recovery from the procedure
ISOSORBIDE DINITRATE is NON-FORMULARY **Except where initiated by a specialist for left ventricular failure**		

Calcium channel blockers - Dihydropyridines 1st line: **Amlodipine** 2nd line: **Felodipine MR**	 5mg:£1.12 10mg:£1.26 2.5mg: £6.44 5mg: £4.30 10mg: £5.78	**NB. Avoid short-acting dihydropyridines in BP and CHD.** Amlodipine is now first line, with Felodipine MR as a second line option for: • Hypertension: in line with NICE guidance • Angina: as monotherapy where intolerance or C/I to use of a beta-blocker or rate-limiting CCB. As combination therapy with beta-blocker where monotherapy provides insufficient control. NB. When prescribing Amlodipine generically, this should be as plain Amlodipine. Prescriptions for Amlodipine besilate will result in the supply of Istin and incur significantly greater costs.
Calcium channel blockers – Rate-limiting **Diltiazem MR** as *Slozem*®	 120mg: £7.00 180mg: £7.80 240mg: £8.20 300mg: £8.50	Diltiazem MR (as *Slozem*®) is included in the formulary for: • Angina: as monotherapy where intolerance or C/I to use of a beta-blocker. In combination with a beta-blocker where monotherapy provides insufficient control. - NB. caution required due to risk of bradycardia and heart-block. • Hypertension: in line with NICE guidance NB. Prescribing Diltiazem MR as the formulary preferred *Slozem*® brand ensures continuity of supply, as recommended nationally.
Verapamil and Verapamil MR as *Half Securon MR*® or *Securon MR*®	40mg: £1.56 (pack 84) 80mg: £1.83 (pack 84) 120mg MR: £7.86 240mg MR: £5.66	Verapamil is included in the formulary for: • Angina: as monotherapy where intolerance or C/I to use of a beta-blocker. • Hypertension: in line with NICE guidance. NB. Verapamil should **not** be combined with a beta-blocker for **any** indication due to high risk of bradycardia and heart-block
Potassium Channel Activators **Nicorandil**	 10mg: £8.18 (pack 60) 20mg: £15.54 (pack 60)	Where Nicorandil has been added for symptom control pending angioplasty or CABG, strong consideration should be given to cautious withdrawal after successful completion of and recovery from the procedure

2.8 Anticoagulant Drugs		
Warfarin As *Marevan*®	0.5mg tablets: £0.43 (pack 28) 1mg tablets: £0.31 (pack 28) 3mg tablets: £0.35 (pack 28) 5mg tablets: £0.47 (pack 28)	Warfarin is included in the formulary for the following indications (with target INRs): • Atrial fibrillation: target INR 2.5 • Treatment of deep-vein thrombosis and pulmonary embolism: target INR 2.5 • Recurrent deep-vein thrombosis and pulmonary embolism: target INR 3.5 • Mechanical prosthetic heart valves: target INR dependent on type and location of valve. Generally a target INR of 3 is recommended for mechanical aortic valves and a target INR of 3.5 for mechanical mitral valves **Management of patients on Warfarin should be in line with the National Enhanced Service specification. Refer to National Patient Safety Agency (NPSA) guidance on safe practices around use of anticoagulants.** **The brand Marevan® is recommended to ensure consistency of pack & colour for the patient and is available in 0.5mg strength.** **Management of haemorrhage**: haemorrhage is the main adverse effect of all oral anticoagulants. Checking the INR and omitting doses is essential, if the anticoagulant is stopped but not reversed , the INR should be checked again after 2 to 3 days to ensure that it is falling. The following recommendations apply to patients taking Warfarin and are based on the result of the INR and whether there is major or minor bleeding: Major bleeding: stop Warfarin; give Phytomenadione (Vitamin K_1) 5-10mg by slow intra-venous injection; give prothrombin complex concentrate (factirs II, VII, IX and X) 30-50units/kg (or if no concentrate available) fresh frozen plasma 15ml/kg. INR> 8.0, no bleeding or minor bleeding: stop Warfarin, re-start when INR < 5. If there are other risk factors for bleeding, give Phytomenadione (Vitamin K_1) 500mcg by slow intra-venous injection or 5mg by mouth, (for partial reversal of anticoagulation give smaller oral doses of Phytomenadione e.g. 0.5mg – 2.5mg, using the intravenous preparation orally); repeat dose of Phytomenadione if INR still too high after 24 hours. **See Chapter 9 for details of Phytomenadione preparations on the formulary.**

2.9 Antiplatelet Drugs		
Aspirin	Dispersible tablets 75mg: £0.86 (pack 28)	Aspirin is included in the formulary for: **ATT meta-analysis : Aspirin for primary prevention of CV disease** Aspirin is not licensed for the primary prevention of vascular events but there remains the possibility for particular sub-groups of individuals at higher CV risk (including conditions such as diabetes) that the risk:benefit of aspirin is favourable. Until more evidence is available, the use of Aspirin 75mg for patients with diabetes should be based on an individual risk assessment. • Secondary prevention of CV events: see notes regarding use in combination with Dipyridamole or Clopidogrel below • NB. there is evidence that: • Aspirin doses >75mg daily increase GI toxicity and general bleed risk • Enteric-coated Aspirin **does not** reduce GI events and may be less effective •
Dipyridamole (with Aspirin as *Asasantin Retard*®)	MR Capsules 200mg/25mg: £7.79 (pack 60)	Dipyridamole is included in the formulary for:: • Secondary prevention of CVA: in combination with Aspirin (as *Asasantin Retard*®) for a minimum period of 2 years after the event. Current NICE guidance recommends 2 years of Dipyridamole & Aspirin. The more recent ESPIRIT trial suggests that continuing the combination beyond 2 years may provide additional protection from recurrent events. Whenever Dipyridamole is stopped, antiplatelet therapy should continue with Aspirin alone.

Clopidogrel Following consideration of available evidence at Somerset Prescribing Forum it was agreed that generic versions of clopidogrel may be used for all indications	75mg tablets: £36.35 (pack 30)	Clopidogrel is included in the formulary for: • Patients with true aspirin allergy who require secondary prevention of cardiac or vascular disease • In combination with Aspirin 75mg daily following acute coronary syndrome (ACS) for a period of 12 months • In combination with Aspirin 75mg daily following insertion of drug-eluting stent for a period of 12 months • In combination with Aspirin 75mg daily following insertion of non-drug-eluting stent for a period of 1 month • In combination with Aspirin 75mg daily following a STEMI for a period of 28 days (secondary care provision) In all cases where Clopidogrel is initially used in combination with Aspirin, when the Clopidogrel is stopped, anti-platelet therapy continues with Aspirin 75mg daily alone. Conflicting evidence surrounds the concurrent use of PPI with clopidogrel, which may reduce the effects on platelet function and lead to poorer long-term patient outcomes (death and readmission). The combination should not be used routinely unless benefits outweigh risks.
Prasugrel	**5mg tablets:** **£47.56 (pack 28)** **10mg tablets:** **£47.56 (pack 28)**	Prasugrel in combination with aspirin is recommended as an option for preventing atherothrombotic events in people with acute coronary syndromes having percutaneous coronary intervention, only when: • immediate primary percutaneous coronary intervention for ST-segment-elevation myocardial infarction is necessary or • stent thrombosis has occurred during clopidogrel treatment or • the patient has diabetes mellitus. Treatment should continue for 12 months unless discontinued earlier eg. For side effects **(NICE TA182)**

2.12 Lipid-regulation

Primary prevention of CVD (based on NICE Clinical Guideline 67, Lipid Modification, May 2008)

- For primary prevention of CVD in primary care, a systematic strategy should be used to identify people aged 40–74 likely to be at high risk.
- People should be prioritised on the basis of an estimate of their CVD risk before a full formal risk assessment. Their CVD risk should be estimated using CVD risk factors already recorded in primary care electronic medical records.
- The Framingham 1991 10-year risk equations[1] should be used to assess CVD risk.
- People should be offered information about their absolute risk of CVD and about the absolute benefits and harms of an intervention over a 10-year period. This information should be in a form that:
  - presents individualised risk and benefit scenarios
  - presents the absolute risk of events numerically
  - uses appropriate diagrams and text (See www.npci.org.uk)
- Before offering lipid modification therapy for primary prevention, all other modifiable CVD risk factors should be considered and their management optimised if possible. Baseline blood tests and clinical assessment should be performed, and comorbidities and secondary causes of dyslipidaemia should be treated. Assessment should include:
  - smoking status
  - alcohol consumption
  - blood pressure (see 'Hypertension', NICE clinical guideline 34)
  - body mass index or other measure of obesity (see 'Obesity', NICE clinical guideline 43)
  - fasting total cholesterol, LDL cholesterol, HDL cholesterol and triglycerides (if fasting levels are not already available)
  - fasting blood glucose
  - renal function
  - liver function (transaminases)
  - thyroid-stimulating hormone (TSH) if dyslipidaemia is present
- Statin therapy is recommended as part of the management strategy for the primary prevention of CVD for adults who have a 20% or greater 10-year risk of developing CVD. This level of risk should be estimated using an appropriate risk calculator, or by clinical assessment for people for whom an appropriate risk calculator is not available or appropriate (for example, older people, people with diabetes or CKD or people in high-risk ethnic groups)[2.]
- Treatment for the primary prevention of CVD should be initiated with simvastatin 40 mg. If there are potential drug interactions, or simvastatin 40 mg is contraindicated, a lower dose or alternative preparation such as pravastatin may be chosen.

[1] Anderson KM, Odell PM, Wilson PW et al. (1991) Cardiovascular disease risk profiles. *American Heart Journal* 121: 293–8.
[2] This recommendation has been taken from 'Statins for the prevention of cardiovascular events', NICE technology appraisal 94. See ww.nice.org.uk/TA094

Secondary prevention of CVD (based on NICE Clinical Guideline 67, Lipid Modification, May 2008)

- For secondary prevention, lipid modification therapy should be offered and should not be delayed by management of modifiable risk factors. Blood tests and clinical assessment should be performed, and co-morbidities and secondary causes of dyslipidaemia should be treated. Assessment should include:
  - smoking status
  - alcohol consumption
  - blood pressure (see 'Hypertension', NICE CG 34)
  - body mass index or other measure of obesity (see 'Obesity', NICE clinical guideline 43)
  - fasting total cholesterol, LDL cholesterol, HDL cholesterol and triglycerides (if fasting levels are not already available)
  - fasting blood glucose (NICE CG 66)
  - renal function (NICE CG 73)
  - liver function (transaminases)
  - thyroid-stimulating hormone (TSH) if dyslipidaemia is present

- Statin therapy is recommended for adults with clinical evidence of CVD[1]
- Offer statins to people with CKD for secondary prevention of CVD irrespective of baseline lipid values
- Offer antiplatelet drugs to people with CKD for secondary prevention of CVD
- Treatment for the secondary prevention of CVD should be initiated with simvastatin 40 mg. If there are potential drug interactions, or simvastatin 40 mg is contraindicated, a lower dose or alternative preparation such as pravastatin may be chosen.

- In people taking statins for secondary prevention if total cholesterol less than 4 mmol/litre or LDL cholesterol less than 2 mmol/litre is not attained consider increasing to simvastatin 80 mg or a drug of similar efficacy and **acquisition cost (currently no such product is marketed)**. Any decision to offer a higher intensity statin[2] should take into account informed preference, comorbidities, multiple drug therapy, and the benefit and risks of treatment.

- People with acute coronary syndrome should be treated with a higher intensity statin[2]. Any decision to offer a higher intensity statin should take into account the patient's informed preference, comorbidities, multiple drug therapy, and the benefits and risks of treatment.
- For people with diabetes and existing or newly diagnosed CVD (or an increased albumin excretion rate) intensifying cholesterol lowering therapy with a more effective statin (first line) or ezetimibe (second line) to achieve TC < 4 or LDL <2.

[1] from 'Statins for the prevention of cardiovascular events', NICE technology appraisal 94. See www.nice.org.uk/TA94
[2] 'Higher intensity statins' are statins used in doses that produce greater cholesterol lowering than simvastatin 40 mg, for example simvastatin 80 mg.

Drug – statin interactions

✓ No restriction ✘ Contraindicated / not recommended ○ Dosing restrictions ◆ Monitor

Drug	Atorvastatin (ATV)	Pravastatin (PRV)	Rosuvastatin (RSV)	Simvastatin (SMV)
Amiodarone	Monitor lipid levels to ensure lowest dose ATV used ○	No interaction ✓	No interaction ✓	Recommended max dose 20mg SMV ○
Ciclosporin	Recommended start dose 10mg ATV and reduced max dose ○	Recommended start dose 20mg PRV, titrate to max 40mg with caution ○	Contraindicated ✘	Recommended max dose 10mg SMV ○
Clarithromycin	If on 40mg or 80mg ATV: reduce dose or temporarily suspend ATV ○	Monitor ◆	No interaction ✓	Contraindicated ✘
Diltiazem	Monitor lipid levels to ensure lowest dose ATV used ○	No interaction ✓	No interaction ✓	Recommended max dose 40mg SMV ○
Ezetimibe	Monitor ◆	No interaction mentioned in SmPC ✓	Monitor ◆	No interaction mentioned in SmPC ✓
Gemfibrozil	Recommended start dose 10mg ATV ○	Not recommended ✘	Recommended start dose 5mg RSV, max dose 20mg ○	Recommended max dose 10mg SMV ○
Grapefruit juice	Large quantities of grapefruit juice not recommended ✘	No interaction ✓	No interaction ✓	Not recommended ✘
Itraconazole	If on 80mg ATV: reduce dose or temprorarily suspend ATV ○	No interaction ✓	No dose restrictions recommended ✓	Contraindicated ✘
Protease inhibitors	Monitor lipid levels to ensure lowest dose ATV used ○	No interaction ✓	Not recommended ✘	Contraindicated ✘
Verapamil	Monitor lipid levels to ensure lowest dose ATV used ○	No interaction ✓	No interaction ✓	Recommended max dose 20mg SMV ○
Warfarin	More frequent INR monitoring ◆	No interaction (usual INR monitoring) ✓	More frequent INR monitoring ◆	More frequent INR monitoring ◆

All data sourced from SmPCs for ATV, PRV, RSV, and SMV.

Formulary choices	Cost (per pack 28)	Comments / rationale for decision
Statins 1st line: **Simvastatin**	10mg: £0.95 20mg: £1.02 40mg: £1.40 80mg: £3.27	Monitoring of statin treatment for primary and secondary prevention • People on a statin should be advised to seek medical advice if they develop muscle symptoms (pain, tenderness or weakness). If this occurs, creatine kinase should be measured. • Creatine kinase should not be routinely monitored in asymptomatic people who are being treated with a statin. • Baseline liver enzymes should be measured before starting a statin. Liver function (transaminases) should be measured within 3 months of starting treatment and at 12 months, but not again unless clinically indicated. • People who have liver enzymes (transaminases) that are raised but are less than 3 times the upper limit of normal should not be routinely excluded from statin therapy. • If a person develops an unexplained peripheral neuropathy, statins should be discontinued and specialist advice sought. It is recommended that attempts should always be made to get patients to national cholesterol levels with statin monotherapy, using all formulary statins, before consideration is given to adding in or changing to another agent. A summary of drug –statins interations is given on p.31. **Simvastatin is first line statin for all new patients unless contra-indicated.** It is included in the formulary for: • Hypercholesterolaemia • Primary prevention of cardiovascular events (where 10year CVD risk ≥ 20%) • Secondary prevention of CV events Note: • Simvastatin should be prescribed at night to optimise effect. • Simvastatin 10mg should only be prescribed for patients who cannot tolerate a higher evidence based dose of statin therapy • Simvastatin doses should not exceed 20mg for patients on Amiodarone or Verapamil or 40mg for patients on Diltiazem • See BNF or SPC for fuller information on interactions

2nd line:		
Pravastatin	10mg: £1.83 20mg: £2.22 40mg: £3.02	Pravastatin is included as a second line choice, for use where there are potential drug interactions with Simvastatin 40 mg or where it is contraindicated. It should be noted that the maximum reduction in total cholesterol which can be expected from Pravastatin is 24%. Higher intensity statins should not routinely be offered to people for the primary prevention of CVD. A target for total or LDL cholesterol is not recommended for people who are treated with a statin for primary prevention of CVD.
3rd line:		
Atorvastatin	10mg: £18.03 20mg: £24.64 40mg: £24.64 80mg:£28.21	Rosuvastatin and Atorvastatin are included in the formulary as third line statins for patients: • with familial Hypercholesterolaemia should be treated with a potent statin that will reduce LDL-C by 50%. • Diabetics with CVD (or albuminaemia) and TC <4 or LDL <2 on simvastatin 80mg • Patients with ACS
Rosuvastatin	5mg: £18.03 10mg £18.03 20mg £26.02 40mg £29.69	Pravastatin and Rosuvastatin have a different metabolic pathway to Simvastatin and Atorvastatin so may be tolerated when Simvastatin or Atorvastatin are not.

Other lipid regulating drugs		
Ezetimibe	10mg tablets (28 pack): £26.31	Ezetimibe is included in the formulary <u>only</u> for: • Use as monotherapy for patients intolerant to a minimum of two formulary statins • Use in addition to a statin for patients not at target on statin monotherapy, where higher doses of that statin and an alternative statin have been tried and are not tolerated **The ENHANCE study showed the addition of Ezetimibe had no effect on primary or secondary endpoints and emerging evidence contributes to lack of positive cardiovascular outcomes with ezetimibe alone.** **Note: the Ezetimibe & Simvastatin combination preparation (*Inegy*®) is non-formulary** due to its greater cost compared to separate Ezetimibe and Simvastatin.
Fibrates **Fenofibrate micronised**	160mg tablets £7.50 (as ***Supralip***®)	Fibrates should not be routinely offered for primary prevention of CVD. If statins are not tolerated fibrates may be considered. Fibrates may be considered for the secondary prevention of CVD for patients unable to tolerate statins. Prescribe a fibrate (fenofibrate) if triglyceride levels remain above 4.5mmol/litre despite attention to other causes. If cardiovascular risk is high eg. Type 2 diabetes, consider adding a fibrate (fenofibrate) to statin therapy if TG levels remain in the range 2.3-4.5mmol/litre despite statin therapy.

Nicotinic Acid MR **Anionic exchange resins**	Specialist recommendation only	These lipid lowering drugs are usually initiated in secondary care by clinical biochemists for patients with complex dyslipidaemias. Nicotinic Acid should not be offered for the primary prevention of CVD. Nicotinic acid may be considered for the secondary prevention of CVD for patients unable to tolerate statins. Shared care guidelines have been produced for the use of Nicotinic Acid MR (*Niaspan*®) Anion exchange resins may be considered for the secondary prevention of CVD for patients unable to tolerate statins. In general, the evidence for an effect on outcomes is less robust than for statin therapy. Additional monitoring may be required, particularly when Fibrates or Nicotinic Acid are used in combination with statins, due to increased risk of myopathy.
Omega-3 –acid ethyl esters as *Omacor*®	1g capsules: £14.24 (pack 28) £50.84 (pack 100)	*Omacor*® has been approved for prescribing in Somerset for the secondary prevention of MI in the following circumstances: • Dose of one capsule daily with food • *Omacor*® one capsule daily may be prescribed for patients who have had an MI within three months who are not achieving an intake of 7g of Omega-3 fatty acids per week by dietary means • In those patients that tolerate *Omacor*®, treatment should not exceed four years • *Omacor*® may be initiated by secondary care consultants or recommended by cardiac rehab nurses • It is recommended that all post MI patients are given dietary advice including how to increase Omega-3 intake from diet to the required 7g per week • *Omacor*® should not be initiated in patients who have had an MI more than three months earlier.
Note: There is no good evidence that other interventions such as Antioxidants are beneficial in either Primary or Secondary prevention of Coronary Heart Disease, prescribing of these is therefore **not** recommended.		

BNF Chapter 3: Respiratory System			
Therapeutic Area	**Formulary Choices**	**Cost (per inhaler)**	**Rationale for decision / comments**
Note: Patients ability to use different devices varies, assessment of response to a prescribed treatment should include evaluation of inhaler technique			
Short acting beta- 2 agonist bronchodilators (SABAs) If patient cannot manage an MDI plus spacer, use a breath-activated MDI:	**Salbutamol** cfc-free MDI - as *Ventolin*® breath actuated cfc-free MDI - as *Airomir Autohaler*® - as *Salamol Easi-breathe*®	 100mcg: £1.50 100mcg: £6.02 100mcg: £6.30	1st line: MDI (plus spacer if necessary) on grounds of cost *Aerochamber Plus*® spacer (medium-volume) fits all MDIs Using **TWO** or more canisters of beta2 agonist per month is a marker of poorly controlled asthma that puts patients at risk of fatal or near-fatal asthma
Long acting beta-2 agonist bronchodilators (LABAs)	1st Line: **Formoterol** - as *Easyhaler*® - as *Turbohaler*® 2nd line: **Salmeterol** - as cfc-free MDI - as *Accuhaler*®	 12mcg :£24.11 (120 dose pack) 6mcg:: £24.80 (60 dose pack) 12mcg: £24.80 (60 dose pack) 25mcg: £29.26 (120 dose pack) 50mcg: £29.26 (60 dose pack)	In asthma LABAs should only be started in patients who are already on inhaled corticosteroids. In COPD LABAs should be used in line with the local COPD guidance see p.36/37. If no benefit after trial period, stop treatment. **Formoterol is the first line LABA.** Maintenance dose is 6-12mcg once or twice daily. **The Easyhaler is the first line Formoterol option, at half the cost per dose than Turbohaler.** Turbohaler formulation is second line Formoterol option. It costs 2-4 times per dose more than an Easyhaler. 12mg and 6mg strengths cost the same so use 1x 12mcg bd rather than 2x6mcg bd. Licensed **over age of 6 years**. **Salmeterol is the second line LABA** Usual maintenance dose of Salmeterol is 50mcg bd so the cost of the MDI and *Accuhaler*® is the same at this dose. Licensed **over the age of 4 years**

Therapeutic Area	Formulary Choices	Cost (per device)	Rationale for decision / comments
Short acting anticholinergic bronchodilators	**Ipratropium** - as cfc-free MDI	20mcg: £5.05 (200 dose pack)	Ipratropium should not be co-prescribed with Tiotropium due to risk of increased anticholingeric adverse effects
Long acting anticholinergic bronchodilators	**Tiotropium** - as *Handihaler*® -as *Respimat*® ▼	30 dose: £33.17 (refill pack) 30 dose: £36.27 (starter pack) 30 dose £36.27	Tiotropium is only licensed for use in COPD and should be prescribed in line with the local COPD guidance, which is consistent with the NICE guidance, see p.40-41 If no benefit after trial period, stop treatment. Repeat prescriptions should only be for refill packs owing to cost. Tiotropium should not be combined with Ipratropium due to increased risk of anticholinergic side-effects Tiotropium *Respimat*® is not considered to offer any advantages over the *Handihaler*® and is more costly than the refill pack of the latter, it is added to the formulary for patient choice
Spacer devices	***Aerochamber Plus***® (medium volume) - standard adult (blue) - adult with mask (blue) - infant with mask (orange) - child with mask (yellow) ***Volumatic***® (large volume)	 £4.47 £7.45 £7.45 £7.45 £2.77	The *Aerochamber Plus*® is recommended as the spacer device of choice, in view of its portability and flexible inhaler orifice, which permits most MDIs to be used with it. MHRA advise that deposition and therefore effectiveness and adverse effects may differ from *Volumatic*®

Inhaled corticosteroids (ICS) NICE TAG 138 states: that for patients with chronic asthma in whom an ICS is appropriate, the least costly product that is suitable for the individual, within its license, is recommended BTS / SIGN Guideline 101 states: many children with recurrent episodes of viral-induced wheezing in infancy do not develop chronic atopic asthma and do not require regular inhaled steroids. **ALL patients on high dose ICS should be issued with a Steroid Card** If patient cannot manage *Easyhaler*® or an MDI plus spacer use a breath-activated MDI such as:	**Budesonide** - as Budesonide *Easyhaler*® **Beclometasone** MDIs Cfc-containing as generic Cfc-free: - as *Qvar*® - as *Clenil Modulite*▼® Breath-actuated MDI: Cfc-free - as *Qvar Easi-breathe*®	100mcg:£8.99 200mcg £17.98 50mcg: £3.05 100mcg: £5.42 200mcg: £16.58 250mcg: £12.41 50mcg: £7.87 100mcg: £17.21 50mcg: £3.70 100mcg: £7.42 200mcg: £16.17 250mcg: £16.29 50mcg: £7.74 100mcg: £16.95	Licensed from age 6 years. Beclometasone MDIs containing cfc's are to be phased out, consequently new patients should be started on cfc-free MDIs and existing patients changed over when appropriate. Where using BDP, MDI plus spacer is recommended first line. **Note cfc-free BDP MDIs should always be prescribed by brand name to avoid confusion over the product intended.** *Qvar*® is not equipotent to cfc-containing BDP MDIs e.g. cfc-containing BDP 100mcg is equivalent to *Qvar*® 50mcg. *Qvar*® is not licensed in patients < 12yrs. *Clenil Modulite*® is equipotent to cfc-containing BDP MDIs and is licensed in children, however it is a Black Triangle ▼ product and as such any adverse reactions should be reported to MHRA irrespective of severity. Manufacturers recommend children up to age 15 should use product with *Volumatic*®. *Qvar Easi-Breathe*® is **not** equipotent to cfc-containing BDP MDIs e.g. cfc-containing BDP 100mcg is equivalent to *Qvar*® 50mcg. *Qvar*® is not licensed in patients < 12yrs.

Combination long-acting beta-agonist steroid inhalers NICE TAG 138 states that for patients with chronic asthma in whom an ICS and LABA is appropriate, the following apply: - Use of a combination device within license is recommended as an option - The decision to use combinations or separates should be made on an individual basis - If a combination is chosen the least costly device that is suitable for the individual, within its license, is recommended **ALL patients on high dose ICS should be issued with a Steroid Card**	***Fostair*® ▼** (Beclomethasone + Formeterol) **OVER 18 YEARS ONLY** ***Symbicort*** **®** (Budesonide + Formoterol) - as *Turbohaler*®	100/6 £29.32 (120 doses) 100/6: £33.00 (120 doses) 200/6: £38.00 (120 doses) 400/12: £38.00 (60 doses)	**WARNING**: beclomethasone 100mcg in *Fostair*® is equivalent to 250mcg of beclomethasone in a generic MDI (because of extra fine particle size). Patient should receive training and information leaflet on this specific issue. Some dosing flexibility is possible with *Symbicort*®, it is still not as flexible as ICS and LABA prescribed separately. *Symbicort*® is the preferred combination as Budesonide is equipotent to BDP and Formoterol has a faster onset of action. It is licensed in COPD. The 100/6 strength is now licensed in age >6 yrs. *Symbicort*® Maintenance and Reliever Therapy (SMART). Patients over 18 years, at Step 3, who are poorly controlled may also use ***Symbicort*® *200/6*** as a rescue medication (maximum 12 puffs per day), rather than using Salbutamol. This approach to treatment requires careful patient education and quantity of inhalers used should be monitored. This management technique has not been investigated with other combination inhalers.
	Seretide **®** (Fluticasone & Salmeterol) - as cfc-free MDI (*Evohaler*®) **Seretide Evohaler 250mcg is non-formulary, due to cost and limited need for high dose Fluticasone in asthma.**	50mcg: £18.00 (120 doses) 125mcg: £35.00 (120 doses)	*Seretide*® 50mcg & 125mcg Evohalers included for: **Asthma**: for patients at Step 3 or above of the BTS / SIGN guidelines. Note that the 50mcg *Evohaler* ® is licensed for adults and children over 4 years and the 125mcg inhaler for adults and children over 12 years. This change is based on NICE guidance on inhaled corticosteroid for treatment of children with chronic asthma which states that the choice of product should be based on suitability for the individual child, licensed indication and cost.
	Seretide **®** (Fluticasone & Salmeterol) - as dry powder (*Accuhaler*®)	500mcg: £40.92 (60 dose)	*Seretide*® 500mcg *Accuhaler* is included for **moderate to severe COPD** where there is proven response to ICS. If no benefit after trial period, stop treatment.

GUIDANCE FOR MANAGING COPD IN ACCORDANCE WITH THE NICE RECOMMENDATIONS

ADAPTED BY NHS SOMERSET MEDICINES MANAGEMENT TEAM
FROM AN ORIGINAL PRODUCED BY SOMERSET LUNG CENTRE, MUSGROVE PARK, TAUNTON

INITIAL NOTES

- ❑ STOP SMOKING, VACCINATIONS (Flu/Pneumovax), THINK PULMONARY REHAB (MRC>3)
- ❑ Remember, COPD is generally NOT a steroid-responsive disease, but:
  - ❑ **There is evidence that some patients with more severe disease, or those who exacerbate frequently (more than twice a year), benefit from inhaled steroids. Trial data shows an improvement in both exacerbation frequency and health status of these groups but patients are at increased risk of contracting pneumonia.**
- ❑ **Smoking cessation MUST be offered**.
- ❑ Combivent was discontinued in June 2008. Options are separate salbutamol/ipratropium inhalers (non-persistent symptoms), or a trial of tiotropium (persistent symptoms).
- ❑ Mild disease 50-80% predicted FEV_1 • Moderate 30-49% predicted FEV_1 • Severe < 30% predicted FEV_1
- ❑ Don't just assess on physiology. Use symptoms to determine inhaler benefit. Withdraw add on therapy if no benefit after trial.

1. MILD DISEASE:
Use symptoms as a guide to response, trends in peak flow/FEV_1 helpful

- ➢ **Short-acting bronchodilators as needed.**
- ➢ **Or 4 to 6 hourly (MDI via spacing device).**
- ➢ **Then progress to long-acting bronchodilators**

- ❑ Salbutamol (as Ventolin): up to 4 puffs, i.e. 400mcg and/or Ipratropium: up to 4 puffs, i.e. 80mcg
- ❑ Consider leisure centre rehabilitation
- ❑ Follow up patients at least annually

2. MODERATE/SEVERE DISEASE (Infrequent exacerbator): Sequential therapy trial
Use symptoms as a guide to response, trends in peak flow/FEV_1 helpful

- ➢ **Trial of long-acting bronchodilators.**
- ➢ **Trial inhaled steroids.**
- ➢ **Trial of nebulised bronchodilator (refer).**
- ➢ **Consider pulmonary rehabilitation (refer).**
- ➢ **Consider oxygen therapy if Sat below 92% (refer).**

- ❑ 6-8 week trial of long-acting anticholinergic:
  - ➢ **Tiotropium 18mcg daily via Handihaler.**
- ❑ 2 week trial of a long-acting beta-agonist:
  - ➢ **Salmeterol 50mcg bd via MDI and spacer.**
  - ➢ **Formoterol 24mcg bd via Easyhaler or Turbohaler.**
- ❑ 3 month trial of inhaled corticosteroids:
  - ➢ **Beclometasone equivalent 500mcg bd via MDI and spacer.**
  - ➢ **Patients who are steroid responsive may benefit from a combination of inhaled steroid/long-acting beta agonist.**
- ❑ Follow up patients at least twice a year

3. FREQUENT EXACERBATORS (Moderate/Severe): **2 or more exacerbations per annum, FEV_1 generally < 50% predicted.**

- ❑ Use combination LABA/ICS:
  - ➢ **Symbicort Turbohaler 400/12 1-2 actuations bd or Seretide Accuhaler 500/50 1 actuation bd**

4. TREATING EXACERBATION: **increased or discoloured phlegm with breathlessness**

- ❑ Course of antibiotics:
  - ➢ **First line: Amoxicillin (500 mg tds) or doxycycline (200mg stat,100 mg od) or clarithromycin (500mg bd)**
  - ➢ **Second line: Co-amoxiclav (625mg tds)**
  - ➢ **Initially treat for 5 days, longer courses may be required for some patients**
- ❑ Oral prednisolone 30 mg daily for 7 -14 days.
- ❑ Patients, particularly frequent exacerbators, may be given standby courses of antibiotic and steroid if able to recognise exacerbation.

5. BRONCHITIC PATIENTS:

- ❑ Patients with copious or tenacious sputum should be trialled with Carbocisteine 750mg tds for 4 weeks, reducing to 750mg bd as condition improves, stop if ineffective.

TOP TIPS FOR COPD MANAGEMENT: always offer smoking cessation support

1. DIAGNOSIS: remember to class as mild, moderate or severe when you do spirometry, as this guides therapy

History: progressive breathlessness with little day to day change. Some patients may have more reactive airways symptoms (cough/chest tightness/wheeze). Remember to note yearly exacerbation frequency, as this will guide therapy choices.

Examination: poor chest expansion. Often barrelling of chest. May have coarse crackles or wheeze. Look for oedema in severe cases.

Investigation: obstructive spirometry.

Mild disease: FEV_1 50-80% predicted
Moderate: FEV_1 30-50% predicted
Severe: FEV_1 < 30% predicted

Reversibility, and separating COPD from asthma: in COPD, reversibility to beta-agonists is poor, but reversibility testing is not mandatory to make the diagnosis when history is strong and spirometry diagnostic. If diagnosis unclear, we suggest a 2 week trial of salbutamol 2 puffs qid, using a peak flow chart to look at reversibility and trend. For COPD, you wouldn't expect to see more than a 400ml change. If still unclear, and asthma a consideration, give a 6 week trial of inhaled beclomethasone at 500mcg bd. Asthmatics should have substantial response to steroid (>400mls or serial peak flow measurements showing >20% diurnal variation or day to day variability), but COPD generally won't .

2. EVALUATING RESPONSES: Spirometry to diagnose, but you can use serial Peak Flow to follow. However, do not judge treatment responses on figures alone. Use symptoms. Symptom scores, such as MRC breathlessness scale, can be used, as can quality of life questionnaires, and activities of daily living. Taunton Respiratory Questionnaire or St Georges questionnaire can be downloaded from the respiratory area at Taunton & Somerset Trust website (See 8). One-off measurements of reversibility are not recommended. The more severe the disease, the more intensive the treatment. Be logical when trying inhalers, and follow the guidance overleaf. Remember to stop treatment if therapy is ineffective.

3. LONG-ACTING BRONCHODILATORS: Current evidence suggests these should now be introduced earlier. Both tiotropium and salmeterol/ formoterol are beneficial, but not consistently so. Tiotropium takes longer than formoterol /salmeterol to show benefit, but may have a more sustained effect, in addition to reducing exacerbations.

4. INHALED STEROIDS AND COPD: A steroid trial isn't necessary to diagnose COPD. Patients with moderate/severe disease should also be given beclomethasone equivalent (500mcg bd), particularly if they have persisting airways symptoms. For patients with moderate/severe disease who exacerbate frequently, combination LABA/ICS inhalers are recommended (Symb/ST), as they improve health status.

5. COMBINATION LONG-ACTING BETA AGONIST/STEROID INHALERS: Flexibility of steroid dosing is lost with these. However, they are suitable for frequently exacerbating patients or those with severe disease who, for practical purposes, can't comply with separate inhalers. There is also some evidence to suggest an enhanced airway intracellular steroid effect in the presence of the long-acting beta agonist

6. NEBULISERS: Nebulisers should not be prescribed without a formal assessment, ideally via Somerset Lung Centre. The drugs are expensive and it is often possible to stabilise patients in other ways. Remember maintenance implications.

7. OXYGEN THERAPY : Patients should be assessed if they have FEV1 <30%, cyanosis, polycythaemia, peripheral oedema, raised JVP, Sa02 <92% breathing air (at least 5 weeks clear of an exacerbation). A trained healthcare professional can refer to the Somerset Lung Centre (Fax: 01823 344784) if any of the above is evident on assessment.

8. DAY TO DAY MANAGEMENT: remember the ABCDE system as a guide. Smoking cessation advice.

A **Airways Management:** Right Drug? Right Dose? Right Device? Exacerbation frequency?

B **Breathing Control:** have they been given advice on managing breathlessness? (Information from respiratory area of T&S website)

C **Crisis plan:** Do patients know how to recognise and act on exacerbation?

D **Diet:** COPD patients are often malnourished with low muscle bulk. Low and high BMI are adverse prognostic factors. Caloric and vitamin supplementation is necessary for thin patients; it may reduce exacerbation.

E **Exercise:** exercise has many benefits in COPD. Encourage mild cases to visit their local gym (Pro-active). Consider referring moderate and severe cases for pulmonary rehabilitation via our established route.

9. PATIENT INFORMATION: useful downloads from respiratory area of Musgrove Park Hospital Website
http://195.105.0.247/Directorate/Med/RespMed/Index.htm

BNF Chapter 3.4.1 Anti-histamines			
Therapeutic Area	**Formulary Choices**	**Cost (pack as stated)**	**Rationale for decision / comments**
Antihistamines	Non-sedating: 1st line: **Loratadine**	10mg tablets: £1.29 (pack 30) 5mg/5ml solution: £2.84 (pack 100ml)	Loratadine is first line on basis of low rate of motor impairment and cost-effectiveness. Loratadine is available OTC.
	2nd line: **Cetirizine**	10mg tablets: £1.01 (pack 30) 5mg/5ml solution: £2.42 (pack 200ml)	Cetirizine is second line as more likely to impair motor function than Loratadine. Cetirizine is available OTC.
	Sedating: **Chlorphenamine**	4mg tablets: £1.09 (pack 28) 2mg/5ml SF solution: £2.34 (pack 150ml)	Chlorphenamine is available OTC.

BNF Chapter 4: Central Nervous System			
Hypnotics and Anxiolytics			
Therapeutic group	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Hypnotics	**Temazepam** CD	10mg: £4.88 (per 28) 20mg: £2.77 (per 28)	Patients should be advised to adopt better sleep hygiene and other lifestyle changes, where appropriate. Leaflet advising on sleep hygiene measures is available on PCT website. http://nww.somersetpct.nhs.uk/pmm/Other%20prescribing%20guidelines/Patient%20information/Somerset%20coast%20PCT%20Insomnia%20Leaflet%20(draft%20Dec%202003).pdf Initial prescriptions for hypnotics should be limited to 7-14 days supply and not transferred to repeat without re-assessment of the patient. Tolerance can develop within 3 to 14 days of continuous use and long term efficacy is not assured. **In line with the NICE guidance on hypnotics the formulary does not recommend the initiation of "Z" drugs, such as zopiclone and zolpidem.** NB. whilst "Z-drugs" will continue to be used within T&ST(as a result of CD issues), no patient will be discharged on these drugs unless prescribed them prior to admission. Different rules may apply to patients cared for by Somerset NHS Partnership Trust. Some patients find other options effective for insomnia, for example sedating TCAs such as Amitriptyline (unlicensed use) at low dose (10-25mg) or sedating antihistamines.

Therapeutic group	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Anxiolytics	**Diazepam**	2mg: £0.98 (pack 28) 5mg: £1.01 (pack 28)	Treatment should be limited to lowest dose for the shortest period of time.
Antipsychotics NICE CG82: When deciding on the most suitable medication, consider the relative potential of individual antipsychotics to cause extrapyramidal side effects (such as akathisia), metabolic side effects (such as weight gain), and other side effects (including unpleasant subjective experiences).	**Risperidone** **Risperidone Consta** **Olanzapine**	1mg: £2.13 (pack 60) 2mg: £3.03 (pack 60) 3mg: £3.40 (pack 60) 4mg: £43.5 (pack 60) 25mg: £79.69 (pack 1) 37.5mg: £111.32 (pack 1) 50mg: £142.76 (pack 1) 2.5mg: £21.85 (pack 28) 5mg: £43.70 (pack 28) 7.5mg: £131.10 (pack 56) 10mg : £79.45 (pack 28) 15mg: £119.18 (pack 28) 20mg: £158.90 (pack 28)	Antipsychotics are usually initiated within secondary care following Somerset Partnership guidelines. Shared care guidelines exist. Risperidone is licensed for the short-term treatment, *up to 6 weeks*, of **persistent aggression** in patients with moderate – severe Alzheimer's dementia unresponsive to non-pharmacological approaches **and** when there is a risk of harm to self or others. All other antipsychotics are unlicensed for use in dementia. Prescribers are reminded that all antipsychotics are associated with an increased risk of serious adverse reactions in elderly patients with dementia, (mortality, stroke, TIA and possibly cognition).
Antidepressants: SSRIs	**Fluoxetine** or **Sertraline** or **Citalopram**	20mg: £1.15 (pack 30) 50mg £1.34 (pack 28) 100mg £1.59 (pack 28) 10mg £1.15 (pack 28) 20mg £1.32 (pack 28) 40mg £1.54 (pack 28)	Fluoxetine, citalopram and sertraline are all included as first-line options for SSRI. The long half-life of fluoxetine is a benefit on withdrawal, but a drawback when switching drugs eg. to a TCA. NB. SSRIs are known to increase risk of GI bleeds especially if co-prescribed with NSAIDs and in the very elderly.

Tricyclic and related antidepressants	1st line: **Lofepramine** 2nd line: **Amitriptyline**	70mg: £10.50 (pack 56) 10mg: £1.03 (pack 28) 25mg: £1.04 (pack 28) 50mg: £1.18 (pack 28)	Lofepramine is the drug of choice in this group as it is safer and produces fewer adverse effects than traditional tricyclics. NB. Lofepramine is now more expensive than Fluoxetine. TCAs should be avoided for the treatment of depression in the elderly, due to increased risk of adverse effects eg Cardiac especially in high doses.
Other anti-depressants	**Mirtazapine**	15mg: £6.50 (pack 28) 30mg: £2.90 (pack 28) 45mg: £6.49 (pack 28) Oro-disp 15mg £4.48 (pack 30) 30mg £5.29 (pack 30) 45mg £4.84 (pack 30)	Mirtazapine is a 2nd line option, sedating properties may be useful where insomnia is a problem, however it is significantly more expensive than first line SSRIs. 30mg standard Mirtazapine tablets should be used in preference to oroDispersible (*Zispin SolTabs*®.)
	Venlafaxine MR **As *Viepax XL*®**	75mg: £13.98 (pack 28) 150mg: £19.98 (pack 28)	See MHRA guidance

Drugs for Obesity			
Lipid absorption inhibitors	**Orlistat**	120mg: £32.27 (pack 84)	Only to be prescribed in line with NICE guidance: • BMI > 30kg/m^2 or > 28kg/m^2 where other risk factors e.g. type 2 DM, hypertension or hypercholesterolaemia • for patients who have lost ≥ 2.5kg by dietary control and increased physical activity during previous month • only for individuals between 18 and 75 years • arrangements should exist for primary care staff (mostly practice nurses) supported by community dieticians to offer advice, support and counselling on diet, physical activity and behavioural strategies • treatment should continue beyond 3 months only if weight loss of >5% from start of treatment • treatment should continue beyond 6 months only if weight loss is > 10% from start of treatment • treatment should not usually continue beyond 1 year and never beyond 2 years
Centrally acting appetite suppressants	**Sibutramine**	10mg: £25.00 (pack 28) 15mg: £25.00 (pack 28)	Only to be prescribed in line with NICE guidance: • BMI > 30kg/m^2 or > 27kg/m^2 where other risk factors such as type 2 DM and hypercholesterolaemia • Only for those individuals who have attempted seriously to lose weight by diet, exercise and other behavioural modifications • Arrangements should exist for appropriate healthcare professionals to offer specific advice, support and counselling on diet, physical activity and behavioural strategies • treatment should continue beyond 3 months only if weight loss of >5% from start of treatment • monitor BP and pulse monthly (month 4 to 6) thereafter at least every 3 months.

BNF Chapter 4: Central Nervous System			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Analgesics - Avoid soluble formulations of Paracetamol and Co-Codamol because of high sodium content (the equivalent of up to 9g of salt per day at full dose) which may contribute to or exacerbate hypertension or heart failure, in addition to which they are more expensive. **Refer to advice on OA management, including NICE guidance (February 2008) reproduced in Chapter 10 (p101)**			
Non-opioid analgesics	**Paracetamol**	500mg tablets: £1.72 (pack 100)	First choice drug in acute and chronic pain. If treatment not effective check that adequate dose being used (i.e 1g qds) before adding other options. Available OTC.

Weak opioids (Continued overleaf)	**Codeine**	15mg tablets: £1.19 (pack 28) 30mg tablets: £1.51 (pack 28) 60mg tablets: £ 1.98 (pack 28)	Note that around 10% of the Caucasian population lack the enzyme to metabolize Codeine so derive little benefit from it, but still suffer the side effects Prescribing Paracetamol and Codeine separately enables more appropriate dose titration and enables patients to take more control of their own pain management, eg. taking Paracetamol regularly and adding Codeine as required. Codeine alone is not considered a particularly effective analgesic. Combinations may be appropriate for patients where there is concern over risk of opiate abuse or where a fixed combination is known to be required regularly, is effective and tolerated. Just **3 days** of codeine or dihydrocodeine medicines can lead to addiction – The PCT strongly recommends that prescribers consider discussing the risk of addiction when initiating new patients on any opioid containing medication and that this discussion is recorded in the patient notes. When patients on long term opiate- containing medication (including co-codamol/co-dydramol) are reviewed the prescriber should discuss the risk of opiate addiction, and that this discussion is recorded in the patient notes. (Continued overleaf)

Weak opioids (Continued from previous page)	**Tramadol**		Tramadol may be appropriate to consider as an alternative to Codeine where its efficacy or tolerability is poor. Note cautions and contra-indications for use of Tramadol, including risk of seizures. Tramadol may be most effective when given with full therapeutic doses of Paracetamol.
	First line **Immediate release**	50mg capsules: £2.66 (pack 100)	For patients with long term chronic pain responsive to tramadol but who suffer significant side effects from the immediate release capsules a modified release product may be prescribed.
	Modified release as ***Marol MR®***	Cost 60 tablets: 100mg £9.12 150mg £13.68 200mg £18.24	
	Tradorec XL®	Cost 30 tablets 100mg £14.10 200mg £14.98 300mg £22.47	For patients suffering long term chronic night time pain and pain on early waking, ***Tradorec XL®*** is a formulary option. Maintenance dose for majority of patients is 200mg **IN THE EVENING** **Combination (e.g. *Tramacet®*) formulations are non-formulary.** **Buprenorphine Patches are non-formulary as not a cost-effective use of NHS resources**

Combination analgesics	**Co-Codamol** (Codeine/Paracetamol)	8/500 Tablets: £1.68 (pack 100)	Evidence that Co-Codamol 8/500 offers significantly better analgesia than Paracetamol alone is **poor** and many patients, especially the elderly, experience troublesome constipation. Co-Codamol 8/500 is available OTC.
		30/500 Tablets: £3.80 (pack 100)	Co-Codamol 30/500 is a potent analgesic carrying the full range of opioid side effects e.g. constipation and sedation, requiring particular care in the elderly – see BNF warning. NB. Co-codamol 30/500 x 8/day provides 240mg codeine **equivalent to Morphine 30mg !** Prescribe as separate components if possible. NB. Where prescribing Co-Codamol 30/500 please note tablets are >15% cheaper than capsules.
	Co-Dydramol (Dihydrocodeine/ Paracetamol)	10/500 Tablets: £1.86 (pack 100)	Co-Dydramol 10/500 may provide a useful alternative to Co-Codamol Just **3 days** of codeine or dihydrocodeine medicines can lead to addiction – The PCT strongly recommends that prescribers consider discussing the risk of addiction when initiating new patients on any opioid containing medication and that this discussion is recorded in the patient notes. When patients on long term opiate- containing medication (including co-codamol/co-dydramol) are reviewed the prescriber should discuss the risk of opiate addiction, and that this discussion is recorded in the patient notes.

Strong opioid analgesics	***First line*** **Morphine** - as *Oramorph*® solution - as *Zomorph*® for MR CD	10mg/5ml solution: £1.78 (100ml pack) 10mg capsules: £4.08 (pack 60) 30mg capsules: £9.77 (pack 60) 60mg capsules: £19.06 (pack 60) 100mg capsules: £30.18 (pack 60) 200mg capsules: £60.35 (pack 60)	Use oral solution for initial dose titration and breakthrough pain. NB. not subject to CD handwriting regulations. ***Zomorph***® CD is the recommended Morphine MR formulation. Prescribe 12-hourly. Subject to CD regulations. Capsules can be opened and sprinkled on semi-solid food (e.g. yoghurt) or given in water via NG tube. Management of Opioid overdosage may require use of Naloxone, refer to Chapter 15.
	2nd line Oxycodone CD	5 mg capsules £11.59 (pack 56) 10mg capsules £23.19 (pack 56) 20mg capsules £46.38 (pack 56) 5mg/5ml solution SF £9.85 (250ml pack)	Oxycodone CD is included only for patients where morphine is contra-indicated or not intolerated of morphine. Reviewing the available data does not provide any evidence of oxycodone's superiority to morphine. ***Targinact***® CD **is non-formulary as not cost-effective use of NHS resources**

<u>Initial suggested opioid conversion ratios.</u> The patient's clinical condition must be taken into account and breakthrough analgesia prescribed as necessary.

(Converting from) ***Current opioid***	*(Converting to)* ***New opioid and/or new route of administration***	*Divide **24 hour dose*** of current opioid (column 1) by relevant figure below to calculate initial **24 hour dose** of new opioid and/or new route (column 2)*
Example 120mg oral morphine in 24 hours	*subcutaneous diamorphine*	***Divide by 3*** *120mg/3 = 40mg subcutaneous diamorphine in 24 hours*
ORAL TO ORAL ROUTE CONVERSIONS		
oral codeine	*oral morphine*	***Divide by 10***
oral tramadol	*oral morphine*	***Divide by 5***
oral morphine	*oral oxycodone*	***Divide by 2***
oral morphine	*oral hydromorphone*	***Divide by 7.5***
ORAL TO TRANSDERMAL ROUTE CONVERSIONS		
oral morphine	*transdermal fentanyl*	*Refer to manufacturer's information **
oral morphine	*transdermal buprenorphine*	*Seek specialist palliative care advice*
ORAL TO SUBCUTANEOUS ROUTE CONVERSIONS		
oral morphine	*subcutaneous morphine*	***Divide by 2***
oral morphine	*subcutaneous diamorphine*	***Divide by 3***
oral oxycodone	*subcutaneous morphine*	***No change***
oral oxycodone	*subcutaneous oxycodone*	***Divide by 2***
oral oxycodone	*subcutaneous diamorphine*	***Divide by 1.5***
oral hydromorphone	*subcutaneous hydromorphone*	*Seek specialist palliative care advice*
OTHER ROUTE CONVERSIONS (RARELY USED IN PALLIATIVE MEDICINE)		
subcutaneous or intramuscular morphine	*intravenous morphine*	***No change***
intravenous morphine	*oral morphine*	***Multiply by 2***
oral morphine	*intramuscular morphine*	***Divide by 2***
**** The same units must be used for both opioids or routes, eg mg morphine to mg oxycodone*** ***** The conversion ratios of oral morphine : transdermal fentanyl specified by the manufacturer(s) vary from around 100:1 to 150:1***		

Neuropathic pain	1st line: **Amitriptyline** 2nd line: **Gabapentin** 3rd line: **Duloxetine** 4th line **Lignocaine (Lidocaine) Patches**	 10mg: £1.03 (pack 28) 25mg: £1.04 (pack 28) 50mg: £1.18 (pack 28) 100mg: £3.94 (pack 100) 300mg: £5.52 (pack 100) 400mg: £5.91 (pack 100) 600mg: £41.06 (pack 100) 800mg: £54.19 (pack 100) 60mg: £27.72 (pack 28) 5% medicated plaster £72.40 (pack 30)	 Unlicensed for use in neuropathic pain, but nonetheless first line drug due to established evidence base, clinical experience and lower cost Licensed for neuropathic pain, but expensive, see BNF for dosage advice. Gabapentin is now available as a generic. * Doses of 600mg and 800mg should be prescribed using doubled up 300mg and 400mg capsules, due to the pricing structure of the drug. Licensed for diabetic neuropathy. Treatment should be discontinued after 2 months if response inadequate. **Note: Pregabalin is non-formulary, on grounds of no proven advantages over gabapentin.** For primary care when recommended by a secondary care Pain Clinic

Drugs for migraine			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Acute management 1st Line: Simple analgesia	**Aspirin**	300mg dispersible tabs: £6.13 (pack 100)	Evidence supports the efficacy of Aspirin at a dose of 900mg for acute migraine. Available OTC.
	Ibuprofen	200mg: £2.13 (pack 84) 400mg: £1.87 (pack 84) 600mg: £3.63 (pack 84)	For severe headache , 400mg dose recommended. 200mg and 400mg tablets available OTC.
	Paracetamol	500mg tablets: £1.72 (pack 100)	Soluble preparations may have a role for occasional use but have high sodium content. Available OTC. Recommended dose 1000mg
2nd Line: Simple analgesia plus anti-emetic	**Paracetamol plus Domperidone** (prescribed separately)	500mg: £1.72 (pack 100) plus 10mg: £1.00 (pack 28)	Analgesic plus anti-emetic combinations are the second line therapy option when simple analgesia alone has proved inadequate. Combination products eg. *Migramax*® are significantly more expensive than separate prescriptions, one component of which is available OTC.
	Aspirin plus Metoclopramide (prescribed separately)	Dispersible 300mg: £6.13 (pack 100) plus 10mg: £1.00 (pack 28)	
3rd Line: Triptan	**Rizatriptan**	10mg tablets: £13.37 (pack 3) 10mg wafer: £13.37 (pack 3)	Rizatriptan has the best evidence base. Patients on beta-blockers should be prescribed the lower 5mg dose, which is provided most cost-effectively by using half a 10mg tablet.
	Sumatriptan	50mg: £1.94 (pack 6)	Sumatripan is now available as a generic and is included as a lower cost option. Evidence suggests little additional benefit from doses above 50mg.

Prophylaxis			**Consider prophylaxis when more than one or two attacks occur per month. See BNF for details.** **Induction of drug overuse headache is possible for all triptans. Risk becomes significant at 12 days per month of triptan intake.**
	1st Line: **Propranolol**	10mg:£0.93 (pack 28) 40mg: £0.96 (pack 28) 80mg: £1.58 (pack 56)	Propranolol is the recommended first line prophylactic therapy for migraine. Avoid using Propranolol MR products as significantly higher cost: *Inderal-LA*® (£1.91 pack 28) and *Half-Inderal LA*® (£5.40 pack 28).
	2nd Line: **Amitripyline**	10mg: £1.03 (pack 28) 25mg: £1.04 (pack 28) 50mg: £1.18 (pack 28)	Amitriptyline is recommended as second line prophylactic therapy for migraine. It should be noted that although is an unlicensed indication, it is supported by good evidence.

Drugs for Substance Abuse			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Smoking Cessation	**Nicotine Replacement Therapy (NRT)**	Patches - various Gum - various Lozenges – various Nasal spray	Prescribing for the management of nicotine addiction should be in line with NICE guidance Evidence for all aids to smoking cessation indicates that motivational support increase likelihood of successful quit attempt. Decisions around appropriate aids to smoking cessation should be made in agreement with the patient. Combinations of NRT, bupropion **and** varenicline for smoking cessation should <u>not</u> be used. Decisions around route of administration for NRT should be made in agreement with the patient. Combinations of NRT products should be considered for those with a high level of nicotine dependency or where previous attempts to stop smoking have been unsuccessful. Prescriptions should normally be for a sufficient to last until 2 weeks after the target stop date, subsequent prescriptions should only be given to people who demonstrate that their quit attempt is continuing.

Smoking Cessation (continued)	**Bupropion (Amfebutamone)**	150mg tablets: £47.82 (pack 60)	Prescribers should consider prescribing Bupropion a month at a time as this may minimise waste and link with patients receiving ongoing behavioural support. Bupropion should not be prescribed in pregnancy, lactation or to patients aged <18 years Bupropion is contra-indicated in patients • with history of seizures • eating disorders • CNS tumour • experiencing acute symptoms of benzodiazepine or alcohol withdrawal Bupropion should not be prescribed to patients with other risk factors for seizures unless the potential benefits of smoking cessation clearly outweigh the risk. Factors increasing seizure risk include: • Concomitant administration of drugs that lower seizure threshold eg. antidepressants, antimalarials (e.g. mefloquine or chloroquine), antipsychotics, quinolones, sedating antihistamines, systemic corticosteroids, theophylline and tramadol • Alcohol abuse • History of head trauma • Diabetes • Use of stimulants and anorectics

Smoking Cessation (continued)	**Varenicline▼**	Starter pack: 0.5mg tablets x 11 1mg tablets x 14 £27.30 0.5mg tablets £54.60 (pack 56) 1mg tablets: £27.30 (pack 28) £54.60 (pack 56)	Note Varenicline (*Champix*®) is a Black Triangle▼drug, consequently all adverse effects should be reported to the MHRA via the Yellow Card scheme. The MHRA have advised that following reports of depression and suicidal ideation: • Smoking cessation with or without pharmacotherapy may be associated with an exacerbation of underlying psychiatric illness, including depression. Care should be taken in such patients, who should be advised of the risk • Patients should be made aware of the possibility that trying to stop smoking might cause symptoms of depression • Patients who are taking varenicline who develop suicidal thoughts should stop their treatment and contact their doctor immediately. Varenicline is approved for prescribing in Primary Care with the following advice • Varenicline should only be prescribed within its licensed indications for smokers who have expressed a desire to quit smoking • Varenicline should normally only be prescribed as part of a programme of behavioural support • Varenicline should not be prescribed in pregnancy, lactation or to patients aged <18 years • Prescribers should consider prescribing the 12 week course of Varenicline a month at a time to minimise waste in patients and link in with patients receiving ongoing behavioural support.

BNF Chapter 5: Treatment of Infection			
Therapeutic Group	**Formulary Choices**	**Cost (per pack as stated)**	**Comments**
Penicillins	**Phenoxymethyl-penicillin (Penicillin V)**	250mg tablets: £1.29 (pack 28) 125mg/5ml solution SF: £3.98 (pack 100ml) 250mg/5ml solution SF: £5.38 (pack 100ml)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for penicillins**
	Flucloxacillin	250mg capsules: £1.84 (pack 28) 500mg capsules: £2.50 (pack 28) 125mg/5ml suspension: £4.03 (pack 100ml) 250mg/5ml suspension: £8.02 (pack 100ml)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for flucloxacillin**
	Amoxicillin	250mg capsules: £1.22 (pack 21) 500mg capsules: £1.55 (pack 21) 125mg/5ml SF suspension: £1.60 (pack 100ml) 250mg/5ml SF suspension: £1.82 (pack 100ml)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for amoxicillin**
	Co-amoxiclav	250/125 tablet: £3.17 (pack 21) 500/125 tablet: £6.30 (pack 21) 125/31 SF suspension: £4.20 (pack 100ml)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for co-amoxiclav** **Community use of Co-Amoxiclav has been implicated in the causation of *Clostridium Difficile* in Somerset.**

Cephalosporins **RESTRICTED USE ADVISED**	**Cefalexin**	250mg capsules: £2.01 (pack 28) 500mg capsules: £2.59 (pack 21) 125mg/5ml suspension: £1.97 (pack 100ml) 250mg/5ml suspension: £2.23 (pack 100ml)	**PCT Management of Infection Guidance have very limited role for cephalosporins first line. Cefalexin is indicated for second line use in UTIs where sensitivity is known and Trimethoprim or Nitrofurantoin are not appropriate.** **The spectrum of activity of Cefalexin and other oral cephalosproins means they are generally inappropriate for RTIs and skin and soft tissue infections.** **Cephalosporins are also commonly implicated in *Clostridium difficile* infection**
Tetracyclines	**Doxycycline**	100mg capsules: £1.25 (pack 8)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for doxycycline** Oxytetracycline has been removed from this section given probability of poor compliance with dosing requirements, together with clinical and cost-effectiveness of Doxycycline as viable alternative.

Macrolides	**Erythromycin** or **Clarithromycin** or **Azithromycin**	250mg EC tablets: £1.97 (pack 28) 250mg tablets: £3.34 (pack 14) 500mg tablets : £5.45 (pack 14) 125ml/5ml SF suspension: £5.58 (pack 70ml) 250ml/5ml SF suspension: £11.16 (pack 70ml) 250mg tablets: £8.81 (pack 4) 500mg tablets: £7.15 (pack 3)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for macrolides** NB. Erythromycin capsules (such as “Erymax”) are approximately 2x the price of the standard ec tablets. **Clarithromycin MR tablets (Klaricid XL) are non-formulary** on grounds of higher cost. Azithromycin is recommended for treatment of Chlamydia where compliance with other options may be poor.
Trimethoprim and sulphonamides	**Trimethoprim**	100mg tablets: £0.99 (pack 28) 200mg tablets: £0.95 (pack 14) 50mg/5ml suspension: £2.62 (pack 100ml)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for trimethoprim**

Metronidazole and tinidazole	**Metronidazole**	200mg tablets: £1.09 (pack 21) 400mg tablets: £1.21 (pack 21) 200mg/5ml suspension: £7.94 (pack 100ml)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for metronidazole**
Quinolones	**Ciprofloxacin**	250mg tablets: £1.09 (pack 10) 500mg tablets: £1.18 (pack 10) 750mg tablets: £5.52 (pack 10)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for quinolones** **Ciprofloxacin has very poor activity against common RTI pathogens and therefore should only be used on specialist advice for these indications.** **Quinolones are commonly implicated in *Clostridium difficile* infection**
Urinary tract infections	**Nitrofurantoin**	50mg tablets: £1.84 (pack 28) 100mg tablets: £4.67 (pack 28)	**Refer to PCT Management of Infection Guidance for appropriate clinical indications for nitrofurantoin** Consider Nitrofurantoin as an alternative to Trimethoprim as first line treatment for uncomplicated UTIs. 50mg is associated with significantly less nausea than 100mg.

Antifungals – for topical antifungals please refer to Chapter 13: Dermatology			
Antifungals	**Fluconazole**	50mg: £1.20 (pack 7) 150mg £1.04 (pack 1)	**See Antimicrobial Prescribing Guidelines** Note: Fluconazole is now available as a generic
	Itraconazole	100mg: £10.22 (pack 15)	**See Antimicrobial Prescribing Guidelines**
	Terbinafine	250mg: £3.22 (pack 28)	**See Antimicrobial Prescribing Guidelines** Note. Terbinafine is now available as a generic.
Antivirals – for topical antivirals please refer to Chapter 13: Dermatology			
Antivirals	1st line: **Aciclovir** 2nd line: **Valaciclovir**	 200mg tablets: £4.01 (pack 25) 400mg tablets: £7.31 (pack 56) 800mg dispersible tablets: £9.21 (pack 35) 250mg tablets: £130.87 (pack 60) 500mg tablets: £21.86 (pack 10)	 **See Antimicrobial Prescribing Guidelines** Valaciclovir is included in the formulary only for genital herpes for second line use when Aciclovir is not appropriate. **Famciclovir is non-formulary**, based on cost. Famciclovir 750mg daily costs £148 per 7 day course i.e. around 16x higher than an equivalent course of Aciclovir 800mg.
Influenza Vaccine	1st Line: choice of two **WYETH GENERIC VAC** **FLUARIX**	 £4.40 per dose £4.49 per dose	

Aims

- to provide a simple, best guess approach to the treatment of common infections
- to promote the safe, effective and economic use of antibiotics
- to minimise the emergence of bacterial resistance in the community

Principles of Treatment

1. This guidance is based on the best available evidence but its application must be modified by professional judgement.
2. This guidance should be used alongside references such as the BNF and SPCs accessed via www.emc.medicines.org.uk
3. Prescribe an antibiotic only when there is likely to be a clear clinical benefit.
4. Consider no prescription, or a delayed one, for acute sore throat, common cold, acute cough and acute sinusitis.
5. Limit prescribing over the telephone to exceptional cases.
6. Use simple antibiotics prescribed generically whenever possible.
7. Avoid broad spectrum antibiotics (eg co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as broad spectrum antibiotics increase risk of *Clostridium difficile*, MRSA and resistant UTIs.
8. Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations).
9. In pregnancy AVOID tetracyclines, aminoglycosides, quinolones, *high dose* metronidazole. Short-term use of trimethoprim (theoretical risk in first trimester in patients with poor diet or if taking another folate antagonist such as antiepileptic or proguanil) or nitrofurantoin (at term, theoretical risk of neonatal haemolysis) is unlikely to cause problems to the foetus.
10. The doses provided in this guide are the standard adult doses, except where a specific infection commonly occurs in children (e.g. otitis media). The BNF for Children should be used for guidance on paediatric doses in other situations.
11. For further advice contact the Microbiologists at Musgrove Park Hospital, out of hours via MPH switchboard ☎ 01823 333444

ILLNESS	COMMENTS	DRUG	DOSE	DURATION
UPPER RESPIRATORY TRACT INFECTIONS: Consider delayed antibiotic prescriptions.[A-]				
Influenza	**Annual vaccination is essential for all those at risk of influenza**. For otherwise healthy adults, antivirals are not recommended. Treat 'at risk' patients, only when influenza is circulating in the community, or in a care home when influenza is likely, within 48 hours of onset. At risk: 65 years or over, chronic respiratory disease (including COPD and asthma) significant cardiovascular disease (not hypertension), immunocompromised, diabetes mellitus, chronic neurological; renal disease or chronic liver disease. Use oseltamivir 75 mg oral capsule BD (for OD prophylaxis see (NICE Influenza) or zanamivir 10 mg (2 inhalations by diskhaler) BD for 5 days if there is resistance to oseltamivir. Patients under 13 years see HPA influenza link.			
Pharyngitis / sore throat / tonsillitis	**The majority of sore throats are viral; most patients do not benefit from antibiotics.** Consider no prescription, or a delayed one and explain soreness will take about 8 days to resolve. Patients with 3 of 4 centor criteria (history of fever, purulent tonsils, cervical adenopathy, absence of cough) or history of otitis media may benefit more from antibiotics.[A-] Antibiotics only shorten duration of symptoms by 8 hours.[A+] You need to treat 30 children or 145 adults to prevent one case of otitis media.[A+]			
	Evidence indicates that penicillin for 7 days is more effective than 3 days.[B+] Twice daily higher dose can also be used.[A-] QDS may be more appropriate if severe.[D]	*First line* phenoxymethylpenicillin	500 mg QDS Or 1G BD	10 days
		if allergic to penicillin clarithromycin	250 - 500 mg BD	10 days
Otitis media *(child doses)*	**Many are viral. Illness resolves over 4 days in 80% without antibiotics.[A+]** Use paracetamol or NSAID.[A] Need to treat 20 children >2y and seven 6-24m old to get pain relief in one at 2-7 days.[A+B+] Antibiotics do not reduce pain in first 24 hours, subsequent attacks or deafness.[A+] Children with otorrhoea, or <2years with bilateral acute otitis media, have greater benefit but are still eligible for delayed prescribing. Haemophilus is an extracellular pathogen, thus macrolides, which concentrate intracellularly, are less effective treatment.	*First line* amoxicillin	40 mg/kg/day in 3 divided doses Maximum 1g TDS	5 days*
		if allergic to penicillin clarithromycin	8-11kg 62.5mg BD 12-19kg 125mg BD 20-29kg 187.5mg BD 30-40kg 250mg BD	5 days*
		Second line co-amoxiclav	1-6 yrs 125/31mg TDS 6-12 yrs 250/62mg TDS	5 days*
Acute sinusitis	**Many are viral. Symptomatic benefit of antibiotics is small** - 69% resolve in 7-10 days without antibiotics; and 84% resolve with antibiotics.[A+] Reserve for severe[B+] or symptoms (>10 days). Cochrane review concludes that amoxicillin and phenoxymethylpenicillin have similar efficacy to the other recommended antibiotics. If failure to respond use another first line antibiotic then second line	phenoxymethylpenicillin OR amoxicillin [A+]	250 mg QDS/500mg BD 500 mg TDS	7 days 7 days
		if allergic to penicillin: doxycycline OR clarithromycin[A+]	200 mg stat/100 mg OD 250 - 500mg BD	7 days 7 days
		Second line: co-amoxiclav	500/125 mg TDS	7 days

* Standing Medical Advisory Committee guidelines suggest 3 days. In otitis media, relapse rate is slightly higher at 10 days with a 3 day course but long-term outcomes are similar.[A+.]

Pages 1 to 4 based on 2008 HPA template, adapted by Somerset PCT Medicines Management Team, with support of Mike Smith, Consultant Microbiologist, Somerset Pathology Service and Antony Zorzi, Antimicrobial Specialist Pharmacist, Musgrove Park, Taunton
Strength of evidence: A+ = systematic review, D = informal opinion. First edition 2001, last updated April 2009, next review April 2010

LOWER RESPIRATORY TRACT INFECTIONS

Note: *Low doses of penicillins are more likely to select out resistance. The quinolones ciprofloxacin and ofloxacin have poor activity against pneumococci; however, they do have use in PROVEN pseudomonal infections. Levofloxacin has some anti-Gram-positive activity but should not be needed as first line treatment. Avoid tetracyclines in pregnancy*

Acute cough, bronchitis	In primary care, antibiotics have marginal benefits in otherwise healthy adults.[A+] Patient leaflets can reduce antibiotic use.[B+]	amoxicillin OR doxycycline	500 mg TDS 200 mg stat/100 mg OD	5 days 5 days
Acute exacerbation of COPD	30% viral, 30-50% bacterial, rest undetermined **Use antibiotics if increased dyspnoea and increased purulence of sputum**[B+] In penicillin allergy use clarithromycin if doxycycline contraindicated If clinical failure to first line antibiotics	amoxicillin OR Doxycycline OR clarithromycin *Second line:* co-amoxiclav	500 mg TDS 200 mg stat, 100mg OD 500 mg BD 500/125 mg TDS	5 days 5 days 5 days 5 days
Community-acquired pneumonia - treatment in the community	**Start antibiotics immediately.**[B-] If no response in 48 hours consider admission or add clarithromycin first line or a tetracycline[C] to cover Mycoplasma infection (rare in over 65s) In severely ill give parenteral benzylpenicillin before admission[C] and seek risk factors for Legionella and *Staph. aureus* infection.[D]	amoxicillin OR clarithromycin Doxycycline	500 mg - 1g TDS 500 mg BD 200 mg stat/100 mg OD	Up to 10 days Up to 10 days Up to 10 days

MENINGITIS (NICE fever guidelines)

Suspected meningococcal disease	**Transfer all patients to hospital immediately.** Administer benzylpenicillin prior to admission, unless history of anaphylaxis,[B-] NOT allergy. Ideally IV but IM if a vein cannot be found.	IV or IM benzylpenicillin	Adults and children 10 yr and over: 1200 mg Children 1 - 9 yr: 600 mg Children <1 yr: 300 mg	

Prevention of secondary case of meningitis: Only prescribe following advice from Somerset Health Protection Agency accessible on ☎01823 287817 (Fax: 01823 287819) or out of hours via Musgrove Park switchboard on ☎ 01823 333444

URINARY TRACT INFECTIONS HPA UTI quick reference guide ESBLs CSK UTI

Note:. *Amoxicillin resistance is common, therefore ONLY use if culture confirms susceptibility. In the elderly (>65 years), do not treat asymptomatic bacteriuria; it occurs in 25% of women and 10% of men and is not associated with increased morbidity.*[B+]
In the presence of a catheter, antibiotics will not eradicate bacteriuria; only treat if systemically unwell or pyelonephritis likely.

Uncomplicated UTI ie no fever or flank pain in men & women	Use urine dipstick to exclude UTI -ve nitrite and leucocyte 95% negative predictive value. There is less relapse with trimethoprim than cephalosporins.[A-]	trimethoprim[B+] OR nitrofurantoin[A-]	200 mg BD 100mg M/R BD	3 days[B+] 7 days in men
	Community multi-resistant *E. coli* with Extended-spectrum Beta-lactamase enzymes are increasing so perform culture in all treatment failures	*Second line:* depends on susceptibility of organism isolated eg nitrofurantoin amoxicillin, cefalexin, co-amoxiclav or ciprofloxacin ESBLs are multi-resistant but often remain sensitive to nitrofurantoin		
UTI in pregnancy	Send MSU for culture. Short-term use of trimethoprim or nitrofurantoin in pregnancy is unlikely to cause problems to the foetus.[B+] Avoid trimethoprim if low folate status or taking folate antagonist eg. Antiepileptic or proguanil.	nitrofurantoin OR trimethoprim *Second line* cefalexin OR amoxicillin	100mg M/R BD 200 mg BD 500 mg BD 250 mg TDS	7 days 7 days 7 days 7 days
Children	Refer children <3 months to specialist. Send MSU in all for culture & susceptibility. If ≤ 3 years, use positive nitrite to start antibiotics. Only refer for imaging children < 6 months, or with atypical or recurrent UTI. NICE CG54 Upper UTI – co-amoxiclav	trimethoprim OR nitrofurantoin OR cefalexin If susceptible, amoxicillin Co-amoxiclav	For dosage see BNF for Children	Lower UTI 3 days Upper UTI 7-10 days
Acute pyelonephritis	Send MSU for culture. RCT shows 7 days ciprofloxacin is as good as 14 days co-trimoxazole.[A-] If no response within 24 hours admit.	ciprofloxacin[A-] OR co-amoxiclav If susceptible, trimethoprim	500 mg BD 500/125 mg TDS 200 mg BD	7 days[A-] 14 days 14 days
Recurrent UTI in women (≥3 episodes / year)	Post coital or nightly prophylaxis is equally effective. As compliance poor with prophylaxis, consider standby antibiotic. Nitrofurantoin is considered second line for prophylaxis due to the potential for pulmonary toxicity	Prophylactic *First line:* trimethoprim *Second line:* nitrofurantoin	 50 mg 100 mg	 Stat post coital, OR OD at night Stat post coital, OR OD at night

ILLNESS	COMMENTS	DRUG	DOSE	DURATION
GASTRO-INTESTINAL TRACT INFECTIONS				
Eradication of *Helicobacter pylori* Managing symptomatic relapse	Eradication is beneficial in DU, GU and low grade MALTOMA, but NOT in GORD.[A] In NUD, 8% of patients benefit. PPI should be either Omeprazole 20mg BD or Lansoprazole 30mg BD. Triple treatment attains >85% eradication.[A+] Do not use clarithromycin or metronidazole if used in the past year for **ANY** infection.[C] In treatment failure consider endoscopy for culture & susceptibility. Use 14d BD PPI PLUS 2 antibiotics, PLUS tripotassium dicitrato bismuthate. **DU/GU**: Retest for helicobacter if symptomatic, using breath or stool test. **NUD:** Do not retest, treat as functional dyspepsia.	*First line* PPI plus clarithromycin AND metronidazole (MZ) *Second line* PPI plus Clarithromycin AND amoxicillin (AM) *Treatment failure* PPI plus Bismuthate (De-Nol tabs) Plus a combination of 2 antibiotics not given previously. Seek specialist advice.	Dose PPI - See opposite 250mg BD 400mg BD 500mg BD 1g BD See opposite 240mg BD	All for 7 days[A] 14 days in relapse or maltoma 14 days
Infectious diarrhoea/ Gastro-enteritis	Check travel, food, hospitalisation and antibiotic history (*C. difficile* is increasing). Fluid replacement is essential. **Antibiotic therapy is not usually indicated as it only reduces diarrhoea by 1-2 days**[B+] and can cause resistance[B+] Initiate treatment, on advice of microbiologist, if the patient is systemically unwell or if pregnant. Please send stool specimens from suspected cases of food poisoning and after antibiotic use. Please notify suspected cases of food poisoning to, and seek advice from, Somerset Health Protection Agency on ☎ 01823 287817 (Fax: 01823 287819) or out of hours via the Musgrove Park Hospital switchboard on ☎01823 333444.			
Clostridium difficile	Stop unnecessary antibiotics and/or PPIs to re-establish normal flora. 70% respond to metronidazole in 5 days; 94% in 14 days. Severe if T>38.5; WCC>15, rising creatinine or signs/symptoms of severe colitis Avoid anti-motility anti-diarrhoeal agents such as Loperamide or Codeine .	*1st/2nd episodes:* Metronidazole *3rd episode or severe or no response to metronidazole:* Vancomycin	400 mg oral TDS 125mg oral QDS	10 -14 days 10-14 days
Traveller's diarrhoea	**Limit prescription of antibacterial to be carried abroad** and taken if illness develops (ciprofloxacin 750 mg single dose) to people travelling to remote areas and for people in whom an episode of infective diarrhoea could be dangerous. In areas of high ciprofloxacin resistance (Asia) can advise prophylactic bismuth subsalicylate (Pepto-Bismol) 2 tabs QDS			
Threadworms	Treat household contacts. Advise morning shower/baths and hand hygiene. Use piperazine in children < 6 months.	mebendazole in all >6mths piperazine/senna sachet	100 mg 3-12 mths 2.5ml spoon	stat stat, repeat after 2 weeks
GENITAL TRACT INFECTIONS – UK NATIONAL GUIDELINES Vaginal discharge quick reference guide BASHH				
Note: *Refer patients with risk factors for STIs (<25y, no condom use, recent (<12mth) or frequent change of sexual partner, previous STI, symptomatic partner) to GUM clinic or general practices with level 2 or 3 expertise in GUM.*				
Vaginal candidiasis	All topical and oral azoles give 80-95% cure.[A-] In pregnancy avoid oral azole.[B]	*First line:* clotrimazole *Second line:* fluconazole	5 g vaginal cream OR 500 mg pessary 150 mg orally	stat stat stat
Bacterial vaginosis	A 7 day course of oral metronidazole is slightly more effective than 2 g stat.[A+] Avoid 2g stat dose in pregnancy & breast feeding. Topical treatment gives similar cure rates[A+] but is more expensive.	metronidazole[A+] OR metronidazole 0.75% vag gel[A+] OR clindamycin 2% cream[A+]	400 mg BD 5 g applicatorful at night 5 g applicatorful at night	7 days 5 days 7 days
Chlamydia trachomatis	Treat contacts and refer to GUM clinic. In pregnancy or breastfeeding: azithromycin can be used but is 'off label'. It is recommended by WHO and USA CDC and is more effective that erythromycin and amoxicillin. If erythromycin or amoxicillin is used, retest after 5 weeks, as less effective.	doxycycline[A+] OR azithromycin[A+] erythromycin [A-] amoxicillin[A+]	100 mg BD 1 g stat 500 mg BD or 500 mg QDS 500 mg TDS	7 days 1 hr before or 2 hrs after food 14 days 7 days 7 days
Trichomoniasis	Refer to GUM. Treat partners simultaneously. In pregnancy or breastfeeding: avoid 2g single dose metronidazole. Topical clotrimazole gives symptomatic relief (not cure).	metronidazole[A-] clotrimazole	400 mg BD or 2 g in single dose 100 mg pessary	5 days 6 days
Pelvic Inflammatory Disease (PID)	Essential to test for N.gonorrhoea (as increasing antibiotic resistance) and Chlamydia. Microbiological and clinical cure greater with ofloxacin than with doxycycline. Refer contacts to GUM clinic	Metronidazole PLUS Ofloxacin OR Metronidazole PLUS doxycycline	400mg BD 400mg BD 400mg BD 100mg BD	14 days 14 days
Acute prostatitis	4 weeks treatment may prevent chronicity. Quinolones are more effective, as they have greater penetration into prostate.	ciprofloxacin or trimethoprim[C] or doxycycline	500 mg BD 200 mg BD 100mg bd	28 days 28 days 28 days

SKIN/SOFT TISSUE INFECTIONS – for MRSA screening or treatment see HPA MRSA quick reference guide

Panton-Valentine Leukocidin (PVL) is a toxin produced by 2% of *Staphylococcus aureus* and is associated with persistent pustules and carbuncles or cellulitis. On rare occasions it causes more severe invasive infections, even in otherwise fit people. Risk factors include: nursing homes, contact sports, sharing equipment, poor hygiene and eczema.

Impetigo	Systematic review indicates topical and oral treatment produces similar results[A+] As resistance is increasing reserve topical antibiotics for very localised lesions[C or D]Reserve Mupirocin for MRSA.	flucloxacillin OR erythromycin fusidic acid or w*here MRSA:* mupirocin	Oral 500 mg QDS Oral 500 mg QDS Topically TDS Topically TDS	7 days 7 days 5 days 5 days
Eczema	Using antibiotics, or adding them to steroids, in eczema encourages resistance and does not improve healing unless there are visible signs of infection. In infected eczema, use treatment recommended for impetigo.			
Cellulitis	If patient afebrile and otherwise healthy use Flucloxacillin as single drug treatment. If water exposure, discuss with microbiologist If febrile and ill, admit for IV treatment In facial cellulitis use co-amoxiclav[C]	flucloxacillin i*f penicillin allergic:* erythromycin co-amoxiclav	500 mg QDS 500mg QDS 500/125 mg TDS	7 – 14 days 7 – 14 days 7 - 14 days
Leg ulcers	Bacteria will always be present. **Antibiotics do not improve healing.**[A+] Culture swabs, antibiotics are only indicated if there is evidence of clinical infection/cellulitis; increased pain; enlarging ulcer or pyrexia.			
	Review antibiotics after culture result. Refer for specialist opinion if severe infection	flucloxacilln	500mg – 1g QDS	7-days then review
Animal bite Human bite	Surgical toilet most important. Assess tetanus and rabies risk. Antibiotic prophylaxis advised for – puncture wound; bite involving hand, foot, face, joint, tendon, ligament; immunocompromised, diabetics, elderly, asplenic Antibiotic prophylaxis advised. Assess HIV/hepatitis B & C risk	*First line animal & human prophylaxis and treatment:* co-amoxiclav[B-] *if penicillin allergic:* metronidazole PLUS doxycycline and review at 24 & 48 hrs	500/125 mg TDS 400 mg TDS 100 mg BD	7 days 7 days 7 days
Mastitis	Antibiotics are not always required. Self-help measures e.g. continuation of breastfeeding or expressing will aid resolution of mastitis.	flucloxacillin i*f allergic to penicillin* erythromycin	500mg QDS 500mg QDS	7 days 7 days
Dental Infections	The primary treatment of dental infections should be drainage of pus and removal of the source of infection. This will normally require attention by a dental practitioner. Urgent appointments (usually within 24 hours) can be obtained through the dental helpline 0845 7697691 Antibiotics are of limited use and should not be prescribed except for patients who are systemically unwell or if there are signs of severe infection (e.g. fever, lymphadenopathy, cellulitis, diffuse swelling).			
	Acute dental-alveolar infections: Pericoronitis:	Amoxicillin *if allergic to penicillin* metronidazole metronidazole	250mg TDS 200mg TDS 200mg TDS	Up to 5 days Up to 3 days 3 days
Conjunctivitis	Most bacterial infections are self-limiting:64% resolve on placebo[A+]. Usually unilateral with yellow-white mucopurulent discharge.	Chloramphenicol 0.5% drops PLUS 1% ointment OR 1% ointment	0.5% drops 2 hourly reducing to QDS At night QDS	For 48 hours after resolution
Scabies	Treat whole body including scalp, face, neck, ears, under nails. Treat all household contacts.	permethrin[A+] *If allergy:*malathion	5% cream 0.5% aqueous liquid	2 applications one week apart
Dermatophyte infection of the proximal fingernail or toenail. For children seek advice	Take nail clippings: Start therapy only if infection is confirmed by laboratory. Terbinafine is more effective than the azoles, but idiosyncratic liver reactions occur rarely Itraconazole is also active against yeasts and non-dermatophyte moulds.[C]	amorolfine 5% paint (for superficial) terbinafine[A-] itraconazole	1-2x/weekly fingers toes 250 mg OD fingers toes 200 mg BD fingers toes	6 months 12 months 6 – 12 weeks 3 – 6 months 7 days/month x2 7 days/month x3
Dermatophyte infection of the skin	Take skin scrapings for culture. Treatment: 1 week terbinafine is as effective as 4 weeks azole. [A-]If intractable consider oral itraconazole. Discuss scalp infections with specialist.	Topical 1% terbinafine [A+] topical undecenoic acid or 1% azole [A+]	OD - BD 1-2x/daily	1 week[A+] 4 – 6 weeks[A+]
Varicella zoster/ Chicken pox & Herpes zoster/ shingles	If pregnant or immunocompromised seek advice. **Chicken pox**: In immunocompetent value of antivirals minimal unless severe pain, or adult or on steroids, or secondary household case and treatment started <24h of rash onset[A-] **Shingles**: Always treat if ophthalmic, and Ramsey Hunt or eczema. **Non-ophthalmic shingles**: Treat >-50yr [A+] if <72h of rash onset, post-herpetic neuralgia rare <50yr but occurs in 20% >50 yr [A+].	aciclovir	800 mg 5x/day	7 days

Pages 1 to 4 based on 2008 HPA template, adapted by Somerset PCT Medicines Management Team, with support of Mike Smith, Consultant Microbiologist, Somerset Pathology Service and Antony Zorzi, Antimicrobial Specialist Pharmacist, Musgrove Park, Taunton
Strength of evidence: A+ = systematic review, D = informal opinion. First edition 2001, last updated April 2009, next review April 2010

Appendix.1

Methicillin Resistant Staphylococcus Aureus (MRSA) Decolonisation Policy

If clinical infection is suspected medical staff must discuss treatment options with a Consultant Microbiologist.

Where there is clinical infection, decolonisation treatment should be undertaken **in addition** to any systemic treatment given.

Topical decolonisation treatment must be commenced immediately, using nasal **and** skin preparations as below.

This is used for 5 days then stopped for 2 days and the patient is re-screened on day 8 to determine if the patient is still MRSA positive

Mupirocin (Bactroban) Nasal Ointment: Three times daily to nostrils

PLUS

Skinsan*: Once daily wash, include at least one hair wash daily
OR
Octenisan*: Once daily wash, include at least one hair wash daily

*** Although these may not be listed on all GP clinical system prescribing databases, they can be prescribed on FP10.**

If the patient remains positive after the first course of decolonisation a further course of topical treatment should be carried out as above, followed by a further screen. If the second course of decolonisation is unsuccessful, the Somerset PCT Infection Control Team must be contacted to discuss further options.

The issues associated with the treatment for decolonising wounds is complex and should be discussed with a member of the Somerset PCT Infection Control Team.

For patients in community hospitals, decolonisation therapy must be prescribed and staff must record decolonisation as per the Topical Therapy Chart.

The Somerset PCT Infection Control Team can be contacted for further advice via the PCT switchboard on ☎01935 384000.

Further advice (and documents, including topical therapy chart) is also available on the Infection control page of the Somerset PCT website nww.somersetpct.nhs.uk

BNF Chapter 6: Endocrine System

Section 6.1: Drugs used in Diabetes

Guidance on treatment of Type 2 diabetes is provided in NICE CG87. See summary chart on p70 and guidance on insulin therapy on p.71.

Guidance on the use of Blood Glucose Testing Strips is on p.78

Before any pharmacological interventions are considered there should be a **3 month** period of diet & lifestyle interventions.

- Education provide structured education to every patient and/or their carer at and around the time of diagnosis and review annually.
- Diet provide individualised and ongoing specialist nutritional advice.
- Lifestyle encourage weight loss and exercise.

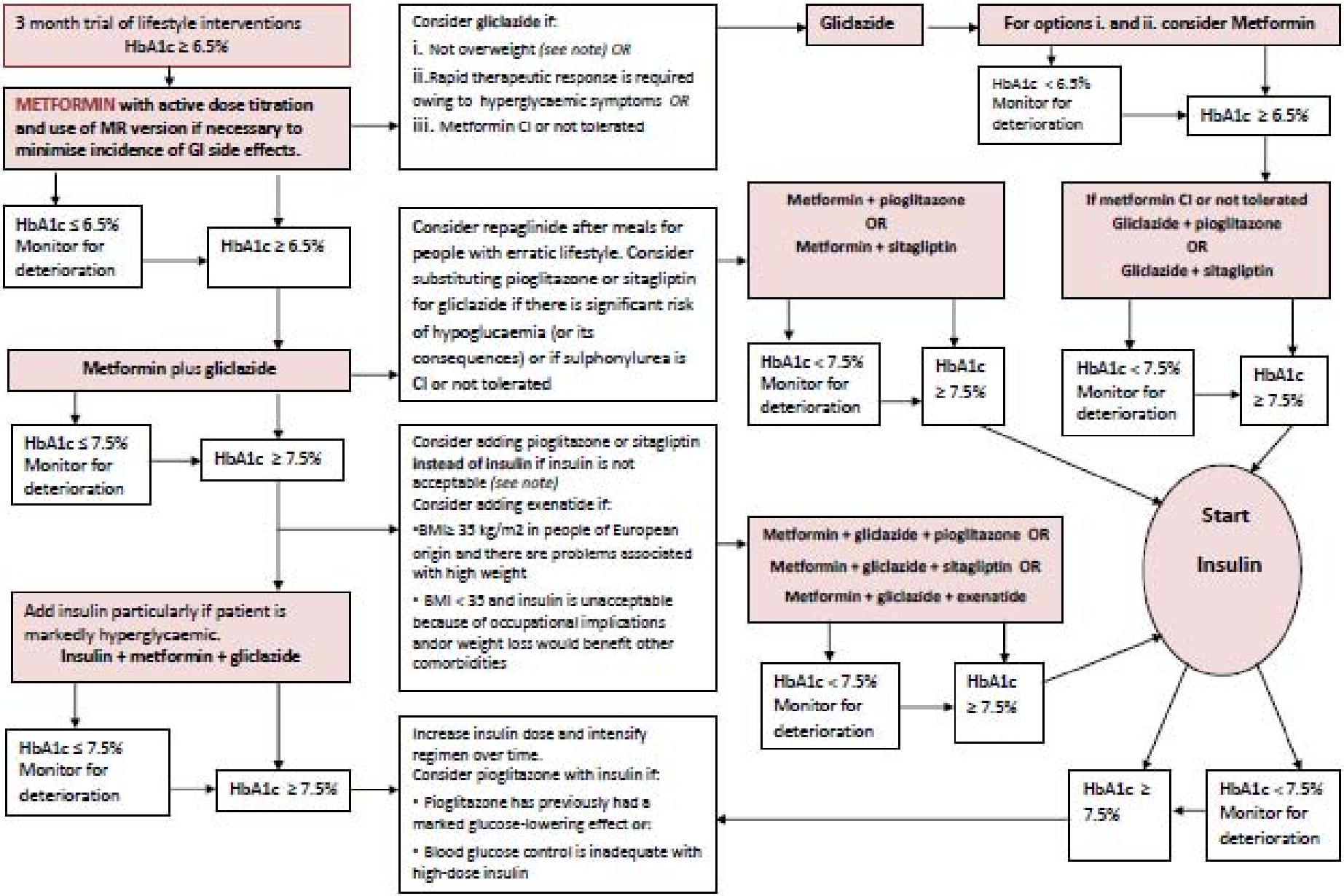
The VADT, ACCORD and ADVANCE trials show that tight control of blood glucose in long standing Type 2 diabetics (reducing HbA1c to below 7%) may be harmful. CG 87 confirms this view and recommends:

- Involve the person in decisions about their individual HbA1c target which may be above the general target of 6.5%.
- Offer lifestyle advice and medication to help achieve and maintain the HbA1c target.
- Inform patients with a higher HbA1c that any reduction towards the agreed target is advantageous to their health.
- Avoid pursuing highly intensive management to levels of <6.5%.

- Self-monitoring of blood glucose should be offered to a patient newly diagnosed with T2DM only as an integral part of his/her self-management education. Its purpose should be discussed and there should be agreement how the results should be interpreted and acted upon.

NB DH require that HbA1c should always be measured in millimoles per mol (mmol/mol) as well as by percentage.

HbA1c of 6.5% is equivalent to 48 mmol/mol.


3 month trial of lifestyle interventions
HbA1c ≥ 6.5%
METFORMIN with active dose titration and use of MR version if necessary to minimise incidence of GI side effects.
HbA1c ≤ 6.5% Monitor for deterioration
HbA1c ≥ 6.5%
Metformin plus gliclazide
HbA1c ≤ 7.5% Monitor for deterioration
HbA1c ≥ 7.5%
Add insulin particularly if patient is markedly hyperglycaemic.
Insulin + metformin + gliclazide
HbA1c ≤ 7.5% Monitor for deterioration
HbA1c ≥ 7.5%
Consider gliclazide if:
i. Not overweight (see note) OR
ii. Rapid therapeutic response is required owing to hyperglycaemic symptoms OR
iii. Metformin CI or not tolerated
Consider repaglinide after meals for people with erratic lifestyle. Consider substituting pioglitazone or sitagliptin for gliclazide if there is significant risk of hypoglucaemia (or its consequences) or if sulphonylurea is CI or not tolerated
Consider adding pioglitazone or sitagliptin instead of insulin if insulin is not acceptable (see note)
Consider adding exenatide if:
• BMI≥ 35 kg/m2 in people of European origin and there are problems associated with high weight
• BMI < 35 and insulin is unacceptable because of occupational implications andor weight loss would benefit other comorbidities
Increase insulin dose and intensify regimen over time.
Consider pioglitazone with insulin if:
• Pioglitazone has previously had a marked glucose-lowering effect or:
• Blood glucose control is inadequate with high-dose insulin
Glidazide
For options i. and ii. consider Metformin
HbA1c < 6.5% Monitor for deterioration
HbA1c ≥ 6.5%
Metformin + pioglitazone OR Metformin + sitagliptin
HbA1c < 7.5% Monitor for deterioration
HbA1c ≥ 7.5%
If metformin CI or not tolerated Gliclazide + pioglitazone OR Gliclazide + sitagliptin
HbA1c < 7.5% Monitor for deterioration
HbA1c ≥ 7.5%
Metformin + gliclazide + pioglitazone OR Metformin + gliclazide + sitagliptin OR Metformin + gliclazide + exenatide
HbA1c < 7.5% Monitor for deterioration
HbA1c ≥ 7.5%
Start Insulin
HbA1c ≥ 7.5%
HbA1c < 7.5% Monitor for deterioration

Insulin therapy in Type 2 Diabetes (based on NICE CG 87, Type 2 Diabetes, May 2009)

When other measures do not keep HbA1c to < 7.5% (or other higher level agreed with the individual), discuss the benefits and risks of insulin therapy. Start insulin therapy if the person agrees. NB Insulin may be considered unacceptable for employment, social, recreational or other personal issues, or obesity.

When starting insulin therapy, use a structured programme employing active insulin dose titration that encompasses:

- structured education
- continuing telephone support
- frequent self-monitoring
- dose titration to target
- dietary understanding
- management of hypoglycaemia
- management of acute changes in plasma glucose control
- support from an appropriately trained and experienced healthcare professional.

First-line: Human NPH insulin (intermediate-acting insulin) at bedtime or twice daily

OR: Long-acting insulin analogue (insulin detemir, glargine) once daily if:

- lifestyle and compliance factors make more frequent injections inappropriate
- the patient is unable to self-inject NPH insulin
  target HbA1c is not reached or lifestyle is restricted because of hypoglycaemia
- significant hypoglycaemia occurs with NPH insulin

Alternative Options:

Biphasic human insulin (pre-mix) once or twice-daily particularly where HbA_{1c} is above 9.0%.

Biphasic human insulin analogues (pre-mix) if:

- immediate injection before a meal is preferred, or
- hypoglycaemia is a problem, or
- blood glucose levels rise markedly after meals .
-

Intensifying Insulin Therapy (HbA1c levels not controlled)

Monitor patients on:

NPH or long-acting insulin analogue to identify the need for injections of short-acting insulin before meals or pre-mixed insulin

Pre-mixed insulin once or twice daily to identify the need for injections of short-acting insulin before meals or a change to mealtime plus basal insulin regime.

Therapeutic Area	Formulary Choices	Cost (pack as stated)	Rationale for decision / comments
Insulins **Short acting:**	**Insulin aspart (NovoRapid®)**	**5 x 3ml cartridge = £29.14** **10ml vial = £16.60**	
	Insulin lispro (Humalog®)	**5 x 3ml cartridge = £28.31** **10ml vial = £16.61**	
Intermediate acting:	**Soluble Insulin (Human Actrapid®)**	**10ml vial = £7.48**	
	Biphasic Insulin Aspart (NovoMix 30®)	**5 x 3ml cartridge = £29.43**	
	Biphasic Insulin Lispro (Humalog®Mix25)	**5 x 3ml cartridge = £29.46**	
Long acting:	**Biphasic Isophane Insulin (Human Mixtard 30®)**	**5 x 3ml cartridge = £19.08**	
	Isophane Insulin (Human Insulatard®)	**5 x 3ml cartridge = £19.08** **10ml vial = £7.48**	
	Insulin Glargine (Lantus®)	**5 x 3ml cartridge = £39.00** **10ml vial = £26.00**	

This section specifically cover drugs used for management of blood glucose, however the majority of patients with diabetes should be considered to be at high risk of CVD and hence should also be prescribed **Simvastatin 40mg for primary prevention** (unless C/I) and blood pressure management is one of the treatment priorities for people with diabetes.

ATT meta-analysis : Aspirin for primary prevention of CV disease
Aspirin is not licensed for the primary prevention of vascular events but there remains the possibility that for particular sub-groups of individuals at higher CV risk (including conditions such as diabetes) the risk:benefit of aspirin is favourable. Until more evidence is available, the use of Aspirin 75mg for patients with diabetes should be based on an individual risk assessment.

Therapeutic Area	Formulary Choices	Cost (pack as stated)	Rationale for decision / comments
Biguanides	1st line: **Metformin**	500mg: £1.46 (pack 84) 850mg: £1.33 (pack 56) 2nd line: 500mg MR: £3.07 (pack 28) 750mg MR: £3.20 (pack 28) 1000mg MR: £4.26 (pack 28) Metformin sachets 500mg £6.58 (pack 60) 1000mg £13.16 (pack 60)	Metformin should be • First line in Type 2 DM because of cardioprotective effect unless not overweight, rapid therapeutic response required or metformin C/I • introduced at low dose and given with or after food to minimise GI adverse effects e.g. 500mg daily and gradually titrated to 2g per day (or 3g under specialist supervision). • continued in patients with Type 2 DM who require Insulin, as Metformin reduces insulin requirements. • Use with caution in those at risk of a sudden deterioration in kidney function Metformin MR is approved for patients who would otherwise stop Metformin therapy due to GI side effects. Metformin sachets for patients with swallowing difficulties are much less expensive than 'special' liquid formulation.

Therapeutic Area	Formulary Choices	Cost (pack as stated)	Rationale for decision / comments
Sulphonylureas	Gliclazide	80mg: £1.11 (pack 28)	NICE CG87 1.5.2.4 Prescribe a sulfonylurea with a low acquisition cost (but not glibenclamide) when a sulfonylurea is indicated.
Normal third line option, if HbA1c remains at ≥ 7.5% HbA1c (or level agreed with individual) is to initiate insulin therapy (see p.63) in addition to metformin and sulphonylurea (or other dual oral therapy) in preference to adding other drugs to control blood glucose unless there is strong justification not to.			

<table>
<tr><td colspan="4">Glitazones (thiazolidinediones)
Prescribing of glitazones should be in line with MHRA / EMEA advice (December 2007 & February 2008) and NICE guidance (May 2008):
• Glitazones should not be started in people who: ○ are at higher risk of fracture
○ have evidence of heart failure
• The incidence of heart failure is increased when glitazones are combined with insulin
• Inform patient of risk of oedema and what to do if this happens. Closely monitor patients during treatment with glitazones for signs and symptoms of fluid retention.
• Rosiglitazone might be associated with a small increased risk of cardiac ischaemia, particularly in combination with insulin
• Rosiglitazone is contraindicated in patients with acute coronary syndrome
• Rosiglitazone is not recommended for use in patients with ischaemic heart disease or peripheral arterial disease, because of concerns about increased risk of myocardial infarction
• Rosiglitazone is CI with insulin
•</td></tr>
<tr><td>Thiazolidinediones</td><td><u>1st Line:</u>
Pioglitazone

<u>2nd line:</u>
Rosiglitazone</td><td>
15mg: £14.25 (pack 28)
30mg: £33.25 (pack 28)
45mg: £36.96 (pack 28)

4mg: £20.00 (pack 28)
8mg: £30.00 (pack 28)</td><td>Pioglitazone is the first line glitazone due to:
• greater concerns over the cardiac safety of Rosiglitazone.
• the PROACTIVE trial which showed improvements in secondary outcomes
• evidence of favourable effect on the lipid profile (for group of patients who will already require a statin)
• pioglitazone is licensed for use with insulin
• opinion of local diabetologists

Continue only if there is a reduction ≥ 0.5% points in HbA1c in 6 months

Rosiglitazone is to be used only where patients do not tolerate Pioglitazone and other drugs for the management of blood glucose are not appropriate</td></tr>
</table>

DPP-4 inhibitors **Continue only if there is a reduction of ≥0.5% points in HbA1c in 6 months**	*1st line* **Sitagliptin**	100mg: £33.26 (pack 28)	DPP-4 inhibitor may be preferable to a glitazone: • To prevent weight gain • If the patient has not responded to, or not tolerated or has a contraindication to a glitazone **Sitagliptin is preferred formulary gliptin because licensed for triple therapy with metformin & sulphonylurea.** **NB Group 2 drivers are required to notify DVLA if taking combination of gliptin with sulphonylurea.**
	2nd Line **Saxagliptin**	5mg £31.60 (pack 28)	
	Vildagliptin	50mg £31.76 (pack 56)	
Other options: **Rapid acting insulin secretagogue**	**Repaglinide**	500mcg tablets £11.76 (pack 90) 1mg tablets £11.76 (pack 90) 2mg tablets £11.76 (pack 90)	Repaglinide may have a role in patients who fail to achieve target HbA1c with Metformin +/- Sulphonylurea, or when either of these two classes of drug are contra-indicated or not tolerated. **Consideration should be given to a trial of Repaglinide before initiating a glitazone.** **Repaglinide may have a particular role in patients with an erratic lifestyle / irregular eating pattern.** Repaglinide should be given in the 30 minute period before a meal, up to TDS.
	Acarbose	50mg tablets £6.27(pack 90) 100mg tablets £11.57(pack 90)	Acarbose may have a role for a person unable to use other oral glucose lowering medications (contra-indicated or not tolerated) or in patients who fail to achieve target HbA1c with Metformin +/- Sulphonylurea. Titrate dose slowly to reduce incidence of GI adverse effects.

GLP-1 mimetic **Specialist initiation and monitoring for first 6 months for both exenatide and liraglutide** **♦ Continue only if there is a reduction of ≥ 1.0% points in HbA1c and ≥ 3% loss of initial body weight in 6 months.**	**Exenatide** 5 microgram 60 dose pre-filled pen: £68.24 10microgram 60 dose pre-filled pen: £68.24	Exenatide may be considered for triple therapy in addition to metformin and a sulphonylurea in people whose HbA1c is above agreed level if **ALL** the following apply: BMI ≥ 35 kg/m^2 in those of European descent (with appropriate adjustment for other ethnic groups) & other specific psychological or medical problems associated with high body weight BMI < 35 kg/m^2 and insulin therapy would have significant occupational implications, or where weight loss would benefit other significant co-mobidities such as sleep apnoea. **♦ Switch to amber care and continue only if there is a reduction of ≥ 1.0% points in HbA1c and ≥ 3% loss of initial body weight in 6 months.** **NB Group 2 drivers are required to notify DVLA if taking combination of exenatide with sulphonylurea.**
	Liraglutide 6mg/ml solution for inj. pre-filled pens 2x3ml: £78.48 3x3ml: £117.72	Liraglutide included only for patients intolerant of exenatide. NICE criteria for continued use applies as for exenatide.

Guidance on the use of Blood Glucose Testing Strips based on CG87 NICE national guidelines for the management of blood glucose levels in people with type 2 diabetes May 2008

1. In line with NICE guidelines, regular HbA1c testing (every two to six months) is the standard measurement. Pathology services in Somerset currently allow a minimum interval of 3 months between tests. An individual target HbA1c should be set with every patient.

2. Blood glucose testing strips are primarily intended for people with diabetes treated with insulin. The frequency of testing should be as agreed between the health professional and the individual with diabetes. (Those converting to insulin need to test more frequently during the dose titration phase, which is usually managed by diabetes specialist nurses. Those with type 1 diabetes may need to test 4 or more times daily).

2. Self monitoring in patients with Type 2 diabetes, who are controlled by diet or oral hypoglycaemic agents, should only be instigated as an integral part of a patient's self-management plan. The purpose of self-monitoring should be discussed along with agreement about how the results should be interpreted **and acted upon.** eg:

   To provide information on hypoglycaemia

   To assess changes in glucose control resulting from medication and lifestyle changes

   To monitor changes during illness

   To ensure safety during activities such as driving

   Urine glucose monitoring is an option if blood glucose monitoring is not acceptable.I

   Frequency of self-testing is variable but is likely to be higher if a patient is unwell or titrating their medication. One pack of 50 strips will be sufficient for 6-12 months for most patients in this group.

4. Practices should assess at least annually the continuing benefit of the intervention including:

   Appropriate frequency of testing

   Use made of results obtained

   Impact on quality of life

   Self-monitoring skills

BNF Chapter 6: Endocrine System			
Section 6.2: Thyroid and anti-thyroid drugs			
Therapeutic Area	**Formulary Choices**	**Cost (per pack stated)**	**Rationale for decision / comments**
Thyroid hormones	**Levothyroxine**	25mcg: £2.15 (pack 28) 50mcg: £1.10 (pack 28) 100mcg: £1.09 (pack 28)	Monitoring requirements are for TFTs annually
Anti-thyroid hormones	**Carbimazole** **Propylthiouracil**	5mg: £4.53 (pack 100) 20mg: £16.83 (pack 100) 50mg: £36.25 (pack 56)	New patients should be counselled regarding warning signs of haematological toxicity. Monitoring requirements are for FBC, LFTS and TFTs annually Propylthiouracil is included only for patients intolerant to Carbimazole. Monitoring requirements are for FBC, LFTS and TFTs annually NB. Under **no** circumstances should Carbimazole and Propylthiouracil be combined.
Section 6.3: Corticosteroids			
Glucocorticoid therapy	**Prednisolone**	1mg tablets: £1.02 (pack 28) 5mg tablets: £1.09 (pack 28) 2.5mg EC tablets: £5.58 (pack 30) 5mg EC tablets: £5.63 (pack 30)	Patients on long-term oral corticosteroids, should be provided with a steroid warning card, these are available for practices to requisition from supplies at: Support Services Somerset Community health East Reach House East Reach Taunton TA1 3EN

BNF Chapter 6: Endocrine System			
Section 6.4: Sex Hormones			
6.4.1. Hormone Replacement Therapy (HRT)			
• **HRT should no longer be used a first line intervention in osteoporosis,** preparations marked with an asterisk are those licensed for osteoporosis as well as relief of menopausal symptoms, all other preparations are only licensed for menopausal symptoms. • In view of increasing evidence that HRT may have harmful effects on CVD, this needs to be carefully discussed with patients at commencement and annually at review. • Oral preparations recommended 1st line on cost, although transdermal route may be more appropriate for some patients e.g. diabetics • HRT should be prescribed by brand name to avoid confusion			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Unopposed oestrogen	***Elleste Solo***®	1mg tablets: £5.07 (pack 84) 2mg tablets: £5.07* (pack 84)	*Elleste Solo*® tablets are first line on cost grounds.
	Evorel®	25mcg patch: £2.75 (pack 8) 50mcg patch: £3.11 *(pack 8) 75mcg patch: £3.31 * (pack 8) 100mcg patch:£3.43 *(pack 8)	*Evorel*® is recommended where a patch formulation is required, due to lower cost, range of doses available and patient acceptability of matrix patches. **Note: Premarin is no longer included in the formulary**
Cyclical combined	***Elleste Duet***®	1mg tablets: £9.72 (pack 84) 2mg tablets: £9.72* (pack 84)	*Elleste Duet*® tablets are first line on cost grounds.
	Femoston®	1/10 tablets: £13.47* (pack 84) 2/10 tablets: £13.47* (pack 84)	*Femoston*® (Estradiol and Dydrogesterone) offers alternative with a C21 progestogen. **Note: *Prempak-C*® is no longer included in the formulary**

Continuous combined:	***Kliovance***® ***Kliofem***® ***Femoston Conti***®	Tablets: £13.20* (pack 84) Tablets: £11.43* (pack 84) Tablets: £20.36* (pack 84)	Continuous combined products should **not** be used until 12 months after the menopause. Irregular bleeding patterns may occur for the first few months and may persist for some women, requiring a move back to cyclical preparations and/or investigation. *Kliovance*® has identical composition to *Elleste Duet Conti*®, but at a lower cost **Tibolone is now non-formulary.** It is expensive and benefits over HRT have not been demonstrated for menopausal symptoms. The MHRA have advised of increased risk of stroke in older women (LIFT study) and in February 2009 noted the increased risk of recurrent breast cancer when tibolone was used for vaso-motor symptoms in women with a history of breast cancer (LIBERATE trial).
Progestogens	**Norethisterone**	5mg: £2.62 (pack 30)	Norethisterone (15mg/day from days 5 to 26 of menstrual cycle) is an option for management of heavy menstrual bleeding, however it is not recommended as first line by NICE Clinical Guideline No.44. Norethisterone may cause more androgenic effects than some other progestogens.
	Medroxy-progesterone	2.5mg: £1.84 (pack 30) 5mg: £1.23 (pack 10) 10mg: £2.47 (pack 10)	Medroxyprogesterone may produce less androgenic adverse effects than Norethisterone. Note: Dydrogesterone ("*Duphaston*®") was withdrawn from UK market in March 2008.

6.4.2. Male sex hormones and antagonists			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
5-Alpha Reductase Inhibitors (5-ARIs)			Cross refer to section 7.4.1. for further details on the management of Lower Urinary Tract Symptoms (LUTS) associated with Benign Prostatic Hyperplasia (BPH), for which 5-ARIs are indicated.
	Finasteride	5mg tablets: £3.11 (pack 28)	Finasteride is the only recommended 5-ARI, due to the weight of clinical evidence and cost-effectiveness. **Dutasteride (*Avodart*®) is non-formulary following rejection by the T&ST D&TC**

BNF Chapter 6: Endocrine System

Section 6.6: Drugs Affecting Bone Metabolism

Lifestyle interventions:

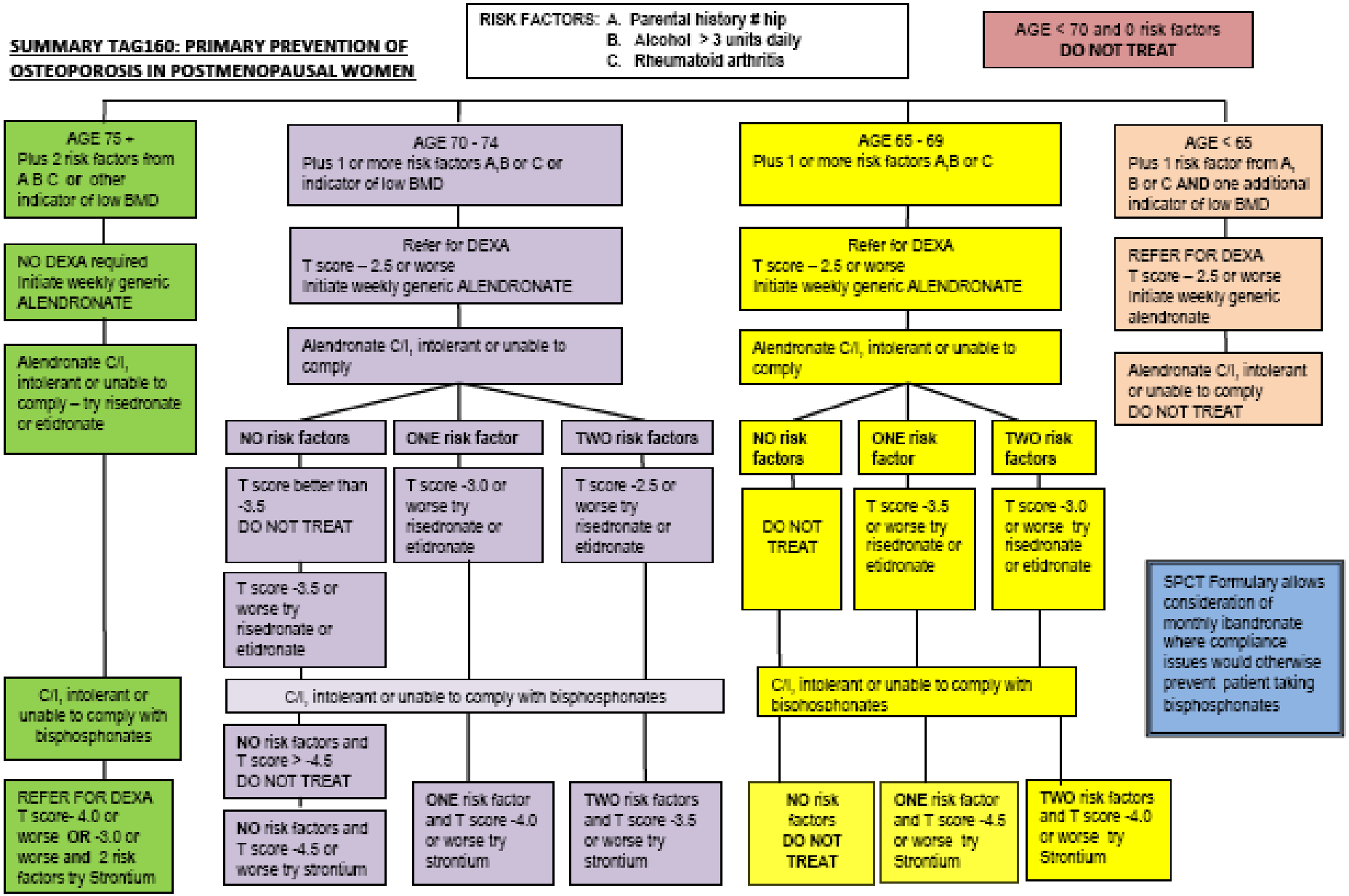
- Nutrition (especially Calcium and Vitamin D intake)
- Weight bearing exercise
- Smoking cessation
- **Avoid excess alcohol**

Investigations:

- FBC
- Plasma viscosity,
- Calcium, LFTs, creatinine,
- TSH,
- Gamma GT,
- ? radiology to exclude other # causes.
- Testosterone in males (sex hormone + SHBG)

- Guidance on **primary** prevention of osteoporosis in postmenopausal women is provided in NICE TAG 160 See summary table p85
- Guidance on **secondary** prevention of osteoporosis in postmenopausal women is provided by NICE TAG 161. See summary table p87
- The evidence of benefit from Bisphosphonate and Strontium therapy comes from trials which ensured patients had intake of therapeutic doses of Calcium and Vitamin D, supplementation with Calcium and Vitamin D is therefore recommended for patients prescribed these drugs.
- Where Calcium and Vitamin D is recommended, *Adcal D3* ® (Calc.Carb. 1500mg and Vit D 400iu per tablet), *Calcichew D3* ***FORTE***® or *Calceos*® are all formulary products providing a range of flavours & formulation to encourage concordance.
- Preparations such as *Calcichew D3*® or Calcium & Ergocalciferol BP do not provide evidence based doses of the constituents and may be more costly.
- Calcium and Vitamin D should be considered for all women over age of 75 yrs.

Patient group	Formulary product	Cost (per pack as stated) and notes	
Primary prevention of osteoporosis in postmenopausal women	1st line: **Alendronic Acid** 2nd line **Risedronate 35mg** or **Disodium Etidronate 400mg as *Didronel PMO*®** 3rd line: **Strontium Ranelate** **All with calcium and vitamin D supplement** ***Adcal D3***® or ***Adcal D3 Dissolve***® or ***Calcichew D3 Forte***® Or **Calceos®**	70mg: £1.16 (pack 4) 35mg: £19.51 (pack 4) £20.29 (14 x 400mg etidronate plus 76 calcium supplement tablets) 2g sachets: £25.60 (pack 28) £3.89 (pack 56) £4.99 (pack 56) £4.32 (pack 60) £3.69 (pack 60)	**Weekly alendronate** is recommended first line for the primary prevention of osteoporotic fracture in susceptible postmenopausal women where specified combinations of BMD; age; independent risk factors or other indicator of low bone mineral density apply. The flow chart on p74 summarises the conditions. Independent risk factors considered: * Parental history of hip fracture * Alcohol intake > 3 units daily * Rheumatoid arthritis * **I**ndicators of low bone mineral density : * BMI < 22 kg/m2 * Ankylosing spondylitis * Crohn's disease * Prolonged immobility * Untreated premature menopause Osteoporosis confirmed by DEXA scan is expected except by local agreement for women over 75 with 2 independent risk factors or other indicator of low BMD. Risedronate and etidronate are recommended as alternatives where alendronate is contra-indicated or not tolerated and Strontium is recommended where treatment with a bisphosphonate is not appropriate and specified BMD, age & risk factors apply. Raloxifene is not recommended as a treatment option for primary prevention of osteoporotic fractures.


SUMMARY TAG160: PRIMARY PREVENTION OF OSTEOPOROSIS IN POSTMENOPAUSAL WOMEN
RISK FACTORS: A. Parental history # hip
B. Alcohol > 3 units daily
C. Rheumatoid arthritis
AGE < 70 and 0 risk factors
DO NOT TREAT
AGE 75 +
Plus 2 risk factors from A B C or other indicator of low BMD
NO DEXA required
Initiate weekly generic ALENDRONATE
Alendronate C/I, intolerant or unable to comply – try risedronate or etidronate
C/I, intolerant or unable to comply with bisphosphonates
REFER FOR DEXA
T score- 4.0 or worse OR -3.0 or worse and 2 risk factors try Strontium
AGE 70 - 74
Plus 1 or more risk factors A,B or C or indicator of low BMD
Refer for DEXA
T score – 2.5 or worse
Initiate weekly generic ALENDRONATE
Alendronate C/I, intolerant or unable to comply
NO risk factors
ONE risk factor
TWO risk factors
T score better than -3.5
DO NOT TREAT
T score -3.0 or worse try risedronate or etidronate
T score -2.5 or worse try risedronate or etidronate
T score -3.5 or worse try risedronate or etidronate
C/I, intolerant or unable to comply with bisphosphonates
NO risk factors and T score > -4.5
DO NOT TREAT
NO risk factors and T score -4.5 or worse try strontium
ONE risk factor and T score -4.0 or worse try strontium
TWO risk factors and T score -3.5 or worse try strontium
AGE 65 - 69
Plus 1 or more risk factors A,B or C
Refer for DEXA
T score – 2.5 or worse
Initiate weekly generic ALENDRONATE
Alendronate C/I, intolerant or unable to comply
NO risk factors
ONE risk factor
TWO risk factors
DO NOT TREAT
T score -3.5 or worse try risedronate or etidronate
T score -3.0 or worse try risedronate or etidronate
C/I, intolerant or unable to comply with bisphosphonates
NO risk factors DO NOT TREAT
ONE risk factor and T score -4.5 or worse try Strontium
TWO risk factors and T score -4.0 or worse try Strontium
AGE < 65
Plus 1 risk factor from A, B or C AND one additional indicator of low BMD
REFER FOR DEXA
T score – 2.5 or worse
Initiate weekly generic alendronate
Alendronate C/I, intolerant or unable to comply
DO NOT TREAT
SPCT Formulary allows consideration of monthly ibandronate where compliance issues would otherwise prevent patient taking bisphosphonates

Secondary prevention of osteoporosis in postmenopausal women	1st line: **Alendronic Acid** 2nd line **Risedronate 35mg** or **Disodium Etidronate 400mg as *Didronel PMO*®** 3rd line **Strontium Ranelate** or **Raloxifene 60mg** **All with calcium and vitamin D supplement** ***Adcal D3***® or ***Adcal D3 Dissolve***® or ***Calcichew D3 Forte***® or ***Calceos***®	70mg: £1.16 (pack 4) 35mg: £19.51 (pack 4) £20.29 (14 x 400mg etidronate plus 76 calcium supplement tablets) 2g sachets: £25.60 (pack 28) 60mg: 17.06 (pack 28) £3.89 (pack 56) £4.99 (pack 56) £4.32 (pack 60) £3.69 (pack 60)	Weekly alendronate is recommended first line for the secondary prevention of osteoporotic fracture in women with confirmed osteoporosis who have also sustained a clinically apparent osteoporotic fracture. NB Local agreement for women over 75 – DEXA not required. Where alendronate is not appropriate and in accordance with particular combinations of BMD, age and independent risk factors risedronate or etidronate are recommended. Where bisphosphonate is not appropriate, strontium or raloxifene may be used again dependent on BMD, age & other risk factors. Teriparetide is a treatment option following assessment in secondary care where other therapies are not appropriate. Teriparetide is a RED drug under the traffic light classification. This information is summarised in the flow chart on p74 The FRAX algorithm is a tool to calculate 10 year probablilty of hip and other major osteoporotic fractures using the same risk factors as NICE plus glucocorticoid use and smoking status • http://www.shef.ac.uk/FRAX/index.htm

SUMMARY TAG161: SECONDARY PREVENTION OF OSTEOPOROSIS IN POSTMENOPAUSAL WOMEN

Weekly generic Alendronate is recommended for postmenopausal women who are confirmed to have osteoporosis (central T score -2.5 or worse). For women over 75 years DEXA not required.

If alendronate is not appropriate ie. Contra-indicated, intolerant, unable to comply or unsatisfactory response to treatment, options depend on combination of age, T score and independent clinical risk factors.

RISK FACTORS: A. Parental history # hip
B. Alcohol > 3 units daily
C. Rheumatoid arthritis

1.6 Intolerance of alendronate, risedronate or etidronate : persistent upper gi disturbance occuring even though instructions for administration have been followed correctly and sufficiently severe for treatment to be stopped.

1.7 Intolerance of strontium: persistent nausea or diarrhoea, either of which warrants discontinuation of treatment.

1.8 Unsatisfactory response: when a women has another fragility fracture despite adhering fully to the treatment for 1 year and there is evidence of a decline in BMD below her pre-treatment baseline

2.6 Fragility fracture: fracture occurring as the result of a force equivalent to the force of a fall from a height equal to, or less than, the height of an ordinary chair.

Age	If T-score not available	Alendronate not option: Treat with risedronate or etidronate		
		0 risk factor	1 risk factor	2 risk factors
50 – 54	Refer for DEXA	Not recommended	- 3.0	- 2.5
55 – 59	Refer for DEXA	- 3.0	- 3.0	- 2.5
60 – 64	Refer for DEXA	- 3.0	- 3.0	- 2.5
65 – 69	Refer for DEXA	- 3.0	- 2.5	- 2.5
70 – 74	Refer for DEXA	- 2.5	- 2.5	- 2.5
75 and older	DEXA not required	- 2.5	- 2.5	- 2.5

Alendronate and second bisphosphonate not option: Treat with strontium or raloxifene		
0 risk factors	1 risk factor	2 risk factors
Not recommended	- 3.5	- 3.5
- 4.0	- 3.5	- 3.5
- 4.0	- 3.5	- 3.5
- 4.0	- 3.5	- 3.0
- 3.0	- 3.0	- 2.5
-3.0	- 2.5	- 2.5

Strontium or raloxifene not option: refer to secondary care assessment for teriparetide	
2 fragility fractures or less	More than 2 fragility fractures
Not recommended	Not recommended
Not recommended	- 4.0
Not recommended	- 4.0
- 4.0	- 3.5
- 4.0	- 3.5
- 4.0	- 3.5

SPCT Formulary allows consideration of monthly ibandronate where compliance issues would otherwise prevent patient taking bisphosphonates

Steroid induced osteoporosis (6 months at >7.5mg Prednisolone equivalent)	**Alendronic Acid** **Plus calcium and vitamin D supplement** ***Adcal D3***® or ***Adcal D3 Dissolve***® or ***Calcichew D3 Forte***® or ***Calceos***®	70mg: £1.16 (pack 4) £3.89 (pack 56) £4.99 (pack 56) £4.32 (pack 60) £3.69 (pack 60)	To reduce the risk of osteoporosis doses of oral corticosteroids should be as low as possible and courses of treatment as short as possible. The risk of osteoporosis may be related to cumulative dose of corticosteroids; even intermittent courses can therefore increase the risk. The greatest rate of bone loss occurs during the first 6–12 months of corticosteroid use and so early steps to prevent the development of osteoporosis are important. Long-term use of high-dose inhaled corticosteroids may also contribute to corticosteroid-induced osteoporosis Patients taking (or who are likely to take) an oral corticosteroid for 3 months or longer should be assessed and where necessary given prophylactic treatment; those aged over 65 years are at greater risk. Patients taking oral corticosteroids who have sustained a low-trauma fracture should receive treatment for osteoporosis. The therapeutic options for *prophylaxis* and *treatment* of corticosteroid-induced osteoporosis are the same: • a bisphosphonate • calcitriol [unlicensed indication] • hormone replacement: HRT in women, testosterone in men [unlicensed indication]
Breast cancer treatment-induced bone loss:			See: **'Guidance for the management of breast cancer treatment-induced bone loss: A consensus position statement from a UK expert group (2008)'1**

Men	**Alendronic Acid** **Plus calcium and vitamin D supplement** ***Adcal D3***® or ***Adcal D3 Dissolve***® or ***Calcichew D3 Forte***® or ***Calceos***®	70mg: £1.16 (pack 4) £3.89 (pack 56) £4.99 (pack 56) £4.32 (pack 60) £3.69 (pack 60)	NB All young men with osteoporosis should be referred for specialist advice. Alendronate 70mg is not licensed in men, but is used outside of license for this indication, prescribers should ensure that patients are aware of unlicensed nature.
Primary Prevention of osteoporosis • Frail elderly women	**Calcium and Vitamin D supplement as above**		Indicated for those at increased fracture risk e.g. patients in Nursing or residential homes.

BNF Chapter 7: Gynaecology and urinary-tract disorders			
Therapeutic Area	**Choices**	**Cost**	**Rationale for decision / comments**
Preparations for vaginal atrophy	Estradiol as ***Vagifem***®	£7.92 (pack 15 vaginal tabs)	
Anti-infective drugs • Antifungals	<u>First line:</u> **Fluconazole** <u>Second line:</u> **Clotrimazole**	£1.20 (pack 150mg capsule) £3.04 (pack 1 x 500mg pess) £5.51 (combi-pack cream/pessary) £1.77 (pack 20g cream)	Fluconazole is recommended as first line due to ease of use and cost-effectiveness. Available as a generic. Clotrimazole pessaries are second line due to higher cost. Note that available OTC, often at cost lower than the NHS prescription charge

Contraceptives
• **COCPs**
  • low strength
 	
  • standard strength
 	
• **POPs**
 	
• **EHC**
	Loestrin 20®
	
	Ovranette®
	Cilest®
	Femodene®
	Tri-Novum®
	(tri-phasic)
	
	Micronor®
	Femulen®
	
	Levonelle 1500®
		£2.75 (pack 63)
		
		£2.20 (pack 63)
		£2.99 (pack 63)
		£6.90 (pack 63)
		£2.78 (pack 63)
		
		£1.69 (pack 84)
		£3.31 (pack 84)
		
		£5.37 (pack 1)
			NB. 3rd generation COCPs containing the progestogens gestodene or desogestrel (e.g. Femodene) are associated with a higher risk of VTE.
			
			Available via PGD through many pharmacies across Somerset, free of charge to those who are exempt from prescription charges and at the standard prescription charge to those who are not exempt

BNF Chapter 7: Gynaecology and urinary-tract disorders			
Section: 7.4.1 Drugs for urinary retention	Management of Lower Urinary Tract Symptoms (LUTS) associated with Benign Prostatic Hyperplasia (BPH) involves: • Alpha-blockers – as below, cross refer to CV section for recommendations on use of alpha-blockers in hypertension • 5-alpha reductase inhibitors – cross refer to section 6.4.2. for details Evidence from the MTOPS study which combined Finasteride with Doxazosin showed that dual-therapy provides additional symptomatic benefit for patients and delays the progression of BPH, compared to monotherapy. Further guidance on management of LUTS associated with BPH is available on CD-ROM from the British Association of Urological Surgeons.		
Therapeutic Area	**Formulary Choices**	**Cost**	**Rationale for decision / comments**
Alpha-blockers	First line: **Doxazosin** - as MR (initiation only) - as std for continuation	4mg MR tabs: £5.70 (pack 28) 4mg tablets: £1.63 (pack 28)	Patients should be initiated on the 4mg MR preparation and then switched to the more cost-effective standard 4mg tablet once stabilised e.g. after one to two months therapy.
	Second line: **Tamsulosin MR** as *Tabphyn MR®*	400mcg MR capsules: £4.55 (pack 30) 400mcg MR capsules: £4.49 (pack 30)	Tamsulosin has greater selectivity for the alpha-receptors predominant in the urinary tract, however the clinical significance of this remains debateable. In view of this and its greater cost, Tamsulosin should only be used where there is intolerance to Doxazosin. Generic Tamsulosin capsules are now available. **Tamsulosin MR tablets (*Flomaxtra XL®*) are not included in the formulary**

BNF Chapter 7: Gynaecology and urinary-tract disorders			
Therapeutic Area	**Formulary Choices**	**Cost**	**Rationale for decision / comments**
Drugs for urinary frequency, enuresis and incontinence			Before initiating treatment a thorough investigation of the underlying cause of incontinence should be carried out.
	1st line: **Oxybutynin** (non-MR)	2.5mg tablets: £7.36 (pack of 56) 5mg tablets: £5.89 (pack of 84)	As per NICE guidance Oxybutynin (non-MR) is recommended as the first line antimuscarinic for managing urinary incontinence as a result of detrusor instability on the basis of its good efficacy and low cost. Research has shown that concordance after 3 years is less than 10% regardless of class of drug use with little to differentiate treatment options.
	2nd line: **Oxybutynin MR** or **Solifenacin** or **Tolterodine MR**	5mg MR: £11.03 (pack 30) 10mg MR: £22.05 (pack 30) 5mg £27.62 (pack of 30) 10mg £35.91 (pack of 30) 4mg MR capsules: £25.78 (pack 28)	Oxybutynin MR, Solifenacin and Tolterodine MR are recommended **only** as second line alternatives to standard Oxybutynin for use when antimuscarinic adverse effects such as dry-mouth have are problematic and affect patient compliance. **Darifenacin is non formulary** **Note: Trospium is no longer included in the formulary** having been replaced by Oxybutynin MR in the range of second line options from October 2007.

<table>
<tr><td rowspan="2">Drugs for erectile dysfunction</td><td colspan="3">The drugs for the treatment of erectile dysfunction in men listed below are considered appropriate for initiation in general practice, where patients meet the following criteria for NHS prescribing and are endorsed as SLS:
Diabetes mellitus
Multiple sclerosis
Parkinson's disease
Poliomyelitis
Prostate Cancer
Severe pelvic injury
Single gene neurological disease
Spina Bifida
Spinal cord injury
Dialysis for renal failure
Radical pelvic surgery, prostatectomy or kidney transplant
were receiving Caverject, Erecnos, MUSE, Viagra or Viridal for ED at NHS expense on 14th September 1998</td></tr>
<tr><td><u>1st line</u>:
Sildenafil

<u>2nd line</u>:
Tadalafil

or
Vardenafil</td><td>25mg: £16.59 (pack of 4)
50mg: £21.27 (pack of 4)
100mg: £23.50 (pack of 4)

10mg: £26.99 (pack of 4)
20mg: £26.99 (pack of 4)

5mg: £16.59 (pack of 4)
10mg: £22.24 (pack of 4)
20mg: £23.50 (pack of 4)</td><td>Sildenafil is considered the first line option due to weight of clinical experience, however it should not be used in patients taking nitrates.

Tadalafil and Vardenafil are offered as a second line options for patients who are intolerant or unresponsive to Sildenafil. They should not be used in patients taking nitrates.

Cialis Once Daily® is non-formulary</td></tr>
</table>

BNF Chapter 8: Malignant Disease and Immunosupression			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Prostate cancer & Gonadorelin analogues	1st line: **Triptorelin** as ***Decapeptyl SR®***	3mg (4.2mg vial): £69.00 11.25mg (15mg vial): £207.00	*Decapeptyl SR®* is recommended as the first line GnRH anaologue within its licensed indications for prostate cancer.
	2nd line: **Goserelin**	3.6mg PFS: £84.14 10.8mg PFS: £267.48	Goserelin is considered as second line GnRH analogue for use within its licensed indications, where Decapeptyl is not appropriate. No GnRH analogues should be prescribed for non-oncological indications in female patients, requests to prescribe should be returned to the appropriate specialists.

BNF Chapter 9: Nutrition and blood			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Iron deficiency	**Ferrous Fumarate**	210mg tablets: £1.44 (pack 100) 322mg tablets £0.79 (pack 28)	210mg Ferrous Fumarate provides 68mg elemental iron, usual dose 210mg tds. 322mg Ferrous Fumarate provides 100mg elemental iron, usual dose 322mg bd **Ferrous Sulphate is no longer included in the formulary** as Ferrous Fumarate provides equivalent at lower cost. For reference 200mg Ferrous sulphate tablets provide 65mg elemental iron.
Megaloblastic anaemia	**Folic Acid** **Hydroxocobalamin**	400mcg tablets: £2.37 (pack 90) 5mg tablets: £0.99 (pack 28) 1mg injection: £4.62 (pack 5)	400mcg daily is indicated for prevention of neural tube defects
Potassium Salts	**Potassium chloride**	600mg MR tablets: £2.14 (pack 100)	
Oral rehydration therapy	***Electrolade***®	£1.33 (pack 6) £4.99 (pack 20)	*Electrolade*® offers a lower cost alternative to *Dioralyte*®

Calcium supplements	**Calcium carbonate - as *Adcal*®**	£7.25 (pack 100)	Evidence for efficacy of Calcium supplements is in combination with Vitamin D, there should be few situations where Calcium alone is indicated**.**
Vitamin D supplements with Calcium	**Calcium and Vit D:** ***Adcal D3***® or ***Adcal D3 Dissolve***® or ***Calcichew D3 Forte***® or ***Calceos***®	£3.89 (pack 56) £4.99 (pack 56) £4.32 (pack 60) £3.69 (pack 60)	*Adcal D3*® preparations or *Calcichew D3 Forte*® should be considered as an intervention to reduce fracture risk for all women over 75 yrs. **Calcium & Ergocalciferol tablets BP are now non-formulary as they provide an inadequate dosage for most patients.**
Vitamin K_1	**Phytomenadione**	10mg tablets: £1.59 (pack 10) 10mg/ml injection: 1ml: £3.85 (pack 10) 0.2ml: £4.81 (pack 5)	For use in the management of haemorrhage due to Warfarin, cross refer to anticoagulant section of formulary.

BNF Chapter 10: Musculo-skeletal system			
Summary of NICE Clinical Guideline on management of Osteoarthritis included at end of Musculoskeletal section			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
NSAIDs **Consider use of cytoprotection with PPIs for patients who require systemic NSAIDs. Recommended PPIs are: Lansoprazole 15mg or Omeprazole 20mg**	1st line: **Ibuprofen** 2nd line: **Naproxen** **Diclofenac sodium**	200mg tablets: £2.13 (pack 84) 400mg tablets: £1.87 (pack 84) 600mg tablets: £3.63 (pack 84) 250mg tablets: £1.42 (pack 28) 500mg tablets: £1.90 (pack 28) 25mg ec tablets: £1.27 (pack 84) 50mg ec tablets: £1.43 (pack 84)	**Note that all NSAIDs should be prescribed at the minimum effective dose for the minimum period in order to limit cardiovascular, renal and GI toxicity.** **Consider trial of topical NSAIDs before moving to systemic NSAID for Osteoarthritis.** Ibuprofen is 1st choice on grounds of safety and cost **Naproxen EC tablets are non-formulary**, evidence that EC reduces GI events is poor and they are three times the price of standard tablets **Evidence suggests Diclofenac at doses > 100mg / day may carry similar CV risk as a "coxib", if any NSAID is essential in such patients consider Ibuprofen or Naproxen instead. Diclofenac MR preparations are non-formulary, on grounds of cost.** Naproxen in a "bd" regime may be alternative. Note all standard generic Diclofenac sodium tablets are EC, there is no cost-premium for prescribing these.

BNF Chapter 10: Musculo-skeletal system			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
COX-2 selective NSAIDs **Consider use of cytoprotection with PPIs for patients who require systemic COX-2s. Recommended PPIs are: Lansoprazole 15mg or Omeprazole 20mg**	1st line: **Meloxicam** 2nd line: **Etodolac**	7.5mg: £2.64 (pack 30) 15mg: £3.13 (pack 30) 300mg capsules: £8.14 (pack 60) 600mg MR tablets: £15.50 (pack 30)	**Note that all NSAIDs including COX-2s should be prescribed at the minimum effective dose for the minimum period in order to limit cardiovascular, renal and GI toxicity. Consider trial of topical NSAIDs before moving to systemic COX-2 selective NSAID for Osteoarthritis.** Etodolac is included as 2nd line alternative COX-2 selective NSAID, 300mg capsules may be more suitable for "prn" users **Note Etoricoxib and Celecoxib are non-formulary**

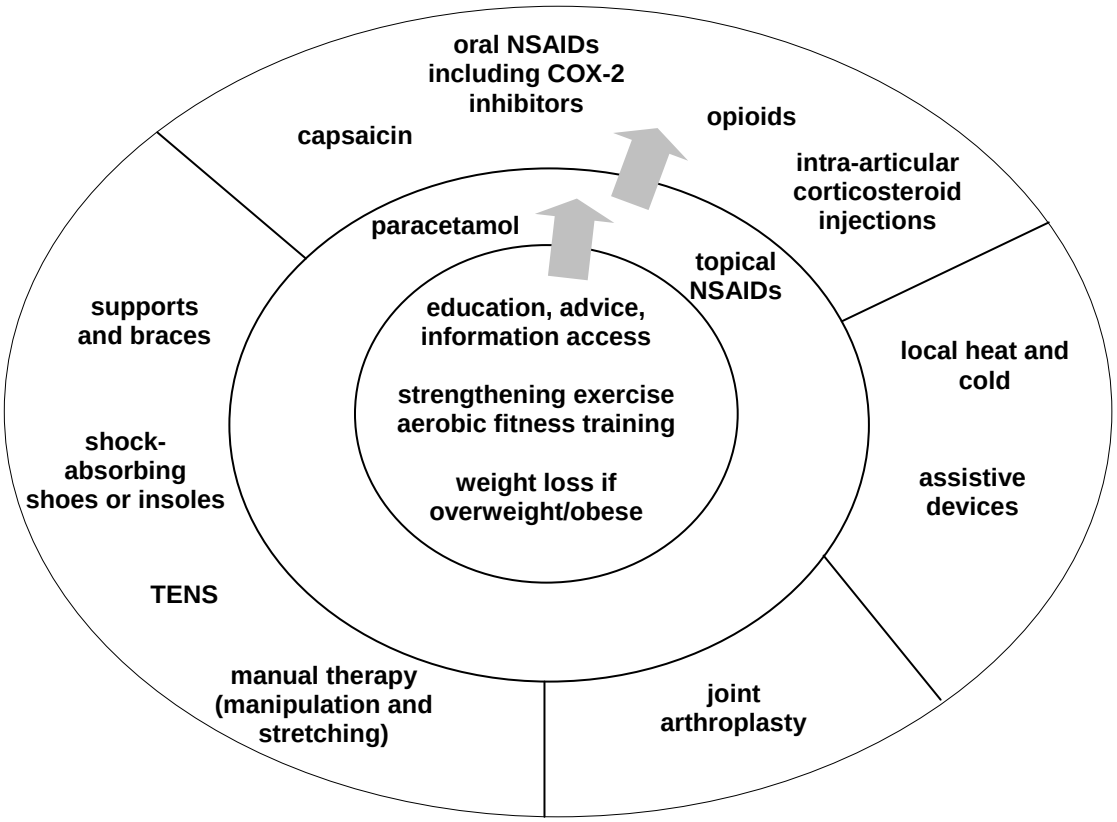
Rubefacients and topical NSAIDs	1st line: ***Algesal®***	£1.21 (pack 50g)	In minor-sprains and strains *Algesal®* or *Transvasin®* should be considered 1st line as less expensive than topical NSAIDs. Rubefacient products such as *Transvasin®* are however NOT recommended in Osteoarthritis
	Transvasin®	£1.16 (pack 40g)	
	Capsaicin	0.025% cream £18.05 (45g) 0.075% cream £14.58 (45g)	Topical capsaicin should be considered as an adjunct to core treatment for **knee** or **hand** osteoarthritis
	Ibuprofen Gel 5% as ***Fenbid®* gel**	£2.65 (pack 50g)	Nice CG 59 Paracetamol and/or Topical NSAIDs should be considered AHEAD of oral NSAIDs for OSTEOARTHRITIS Topical NSAIDs should be considered for use in addition to core treatment for **knee** or **hand**
	Ketoprofen Gel	£3.10 (pack 100g)	For patients using large volumes of topical NSAIDs, generic Ketoprofen or Piroxicam gel are the most cost-effective, prescribed in 100g or 112g tubes respectively. Prescribers are reminded that topical ketoprofen can give rise to photosensitivity reactions on exposure to direct sunlight, uv lamps, etc, **Felbinac (*Traxam®*) and Diclofenac (*Voltarol®*) gels / foams are non-formulary**
	Piroxicam Gel	£3.19 (pack 112g)	

Gout			Guidelines on management of gout available from The British Society for Rheumatology and British Health Professionals in Rheumatology accessible at: http://rheumatology.oxfordjournals.org/cgi/reprint/kem056av1
Acute attacks	1st line: **NSAIDs**	See above	Oral NSAIDs at maximum doses are the drugs of choice where there are no contra-indications.
	2nd line: **Colchicine**	500mcg: £27.00 (pack 100)	Colchicine can be an effective alternative to NSAIDs, but has a slower onset of action. To reduce risk of diarrhoea it should be used in doses of 500mcg bd to qds.
Long term control of gout **Consider use of cytoprotection with PPIs for patients who require systemic NSAIDs. Recommended PPIs are:** **Lansoprazole 15mg or** **Omeprazole 20mg**	1st line: **Allopurinol**	100mg: £1.08 (pack 28) 300mg: £1.33 (pack 28)	Allopurinol is first line therapy for lowering uric acid. In uncomplicated gout, therapy should be started if a second attack, or further attacks occur within 1 year. Commence 1-2 weeks after inflammation of acute attack has settled. Treatment should be initiated with 50-100mg/day and increased at 50-100mg increments every few weeks, adjusted in necessary for renal function, until the therapeutic target (Serum Uric Acid < 300μmol/litre) is reached. Maximum dose 900mg/day.
	2nd line: **Sulfinpyrazone**	100mg: £5.66 (pack 84) 200mg: £11.25 (pack 84)	Uricosuric therapy with Sulfinpyrazone (usually 200-600mg/day) may be an appropriate second line option for patients with normal renal function who are under-excretors of uric acid and those resistant to, or intolerant of, Allopurinol. For those with mild/moderate renal impairment seek further advice.

Management of Osteoarthritis

NICE Clinical Guideline (No.59) was published in February 2008, quick reference summary: http://www.nice.org.uk/nicemedia/pdf/CG59quickrefguide.pdf

Therapy options for OA are summarised in the following:



Oral analgesics

Healthcare professionals should consider offering paracetamol for pain relief in addition to core treatment (see figure 2); regular dosing may be required. Paracetamol and/or topical non-steroidal anti-inflammatory drugs (NSAIDs) should be considered ahead of oral NSAIDs, cyclo-oxygenase 2 (COX-2) inhibitors or opioids.
If paracetamol or topical NSAIDs are insufficient for pain relief for people with osteoarthritis, then the addition of opioid analgesics should be considered. Risks and benefits should be considered, particularly in elderly people.

Topical treatments

Healthcare professionals should consider offering topical NSAIDs for pain relief in addition to core treatment (see figure 2) for people with knee or hand osteoarthritis.
Topical NSAIDs and/or paracetamol should be considered ahead of oral NSAIDs, COX-2 inhibitors or opioids.
Topical capsaicin should be considered as an adjunct to core treatment for knee or hand osteoarthritis.
Rubefacients are not recommended for the treatment of osteoarthritis.

NSAIDs and highly selective COX-2 inhibitors

Although NSAIDs and COX-2 inhibitors may be regarded as a single drug class of 'NSAIDs', these recommendations continue to use the two terms for clarity, and because of the differences in side-effect profile. The recommendations in this section are derived from extensive health-economic modelling, which included December 2007 NHS drug tariff costs. This guideline replaces the osteoarthritis aspects only of NICE technology appraisal guidance 27. The guideline recommendations are based on up-to-date evidence on efficacy and adverse events, current costs and an expanded health-economic analysis of cost effectiveness. This has led to an increased role for COX-2 inhibitors, an increased awareness of all potential adverse events (gastrointestinal, liver and cardio-renal) and a recommendation to co-prescribe a proton pump inhibitor (PPI).

Where paracetamol or topical NSAIDs are ineffective for pain relief for people with osteoarthritis, then substitution with an oral NSAID/COX-2 inhibitor should be considered. Where paracetamol or topical NSAIDs provide insufficient pain relief for people with osteoarthritis, then the addition of an oral NSAID/COX-2 inhibitor to paracetamol should be considered.

Oral NSAIDs/COX-2 inhibitors should be used at the lowest effective dose for the shortest possible period of time.

When offering treatment with an oral NSAID/COX-2 inhibitor, the first choice should be either a standard NSAID or a COX-2 inhibitor (other than etoricoxib 60 mg). In either case, these should be co-prescribed with a PPI, choosing the one with the lowest acquisition cost.

All oral NSAIDs/COX-2 inhibitors have analgesic effects of a similar magnitude but vary in their potential gastrointestinal, liver and cardio-renal toxicity; therefore, when choosing the agent and dose, healthcare professionals should take into account individual patient risk factors, including age. When prescribing these drugs, consideration should be given to appropriate assessment and/or ongoing monitoring of these risk factors.

If a person with osteoarthritis needs to take low-dose aspirin, healthcare professionals should consider other analgesics before substituting or adding an NSAID or COX-2 inhibitor (with a PPI) if pain relief is ineffective or insufficient.

Nutraceuticals

The use of glucosamine or chondroitin products is **not** recommended for the treatment of osteoarthritis.

Intra-articular injections

Intra-articular corticosteroid injections should be considered as an adjunct to core treatment for the relief of moderate to severe pain in people with osteoarthritis.
Intra-articular hyaluronan injections are **not** recommended for the treatment of osteoarthritis.

BNF Chapter 11: Eye			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Antibacterials	Chloramphenicol	0.5% drops: £2.02 (pack 10ml) 1% ointment:: £2.18 (pack 4g)	Chloramphenicol drops and ointment are now both available OTC at a cost lower than NHS prescription charge **but restrictions apply to sales.** **Fusidic Acid (*Fucithalmic*®) is non formulary**
Antivirals	Aciclovir	3% eye ointment:: £9.53 (pack 4.5g)	
Corticosteroids	As advised by secondary care	As advised by secondary care	As advised by secondary care
Other anti-inflammatory products	Sodium cromoglicate	2% drops: £1.94 (pack 13.5ml)	Available OTC. When prescribing note that 5ml and 10ml pack sizes are OTC products, and are more expensive when being used regularly.
Mydriatics and cyloplegics	As advised by secondary care	As advised by secondary care	As advised by secondary care
Glaucoma	As advised by secondary care	As advised by secondary care	Note that where a prostaglandin analogue is indicated for reducing IOP, Travaprost (*Travatan*®) is now the recommended first line

Dry eyes	Hypromellose Polyvinyl Alcohol as *SnoTears*® Carbomer 980 as *Geltears*® White Soft Paraffin with Liquid Paraffin as *Lacrilube*®	0.3% drops: £1.68 (10ml) 1% drops: £0.96 (10ml) 1.4% drops: £1.06 (pack 10ml) £2.80 (pack 10g) Ointment: £2.28 (pack 3.5g)	Treatment for dry eyes associated with tear deficiency should normally commence with the least viscous agent e.g. Hypromellose 0.3% drops and work through alternatives in increasing order of viscosity. *Geltears*® are the Carbomer product of choice on grounds of cost-effectiveness

BNF Chapter 12: Ear, Nose and Throat			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Otitis Externa	Flumetasone with Clioquinol as *Locorten-Vioform®* Betamethasone with Neomycin as *Vista-Methasone -N®*	Drops: £ 2.35 (pack 10ml) Drops: £1.20 (pack10ml)	Note 7.5ml pack being phased out and replaced by 10ml pack
Otitis media	See Chapter 5		
Removal of wax	Olive Oil Docusate Sodium as *Waxsol®*	OTC 0.5% Drops: £1.21 (pack 10ml)	For all preparations used in removal of ear wax patients should be advised to lie with affected ear uppermost for 5 minutes to ensure penetration of the ear canal. Simple oils such as Olive (or Almond) Oil should be used first line. Available OTC

Therapeutic Area	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Nasal Allergy			Symptoms of nasal allergy are usually controlled with nasal corticosteroids and / or oral antihistamines.
Antihistamines	1st line:		
Non-sedating:	**Loratadine**	10mg tablets: £1.29 (pack 30) 5mg/5ml solution: £2.84 (pack 100ml)	Loratadine is first line on basis of low rate of motor impairment.
	2nd line:		
	Cetirizine	10mg tablets: £1.01(pack 30) 5mg/5ml solution: £2.42(pack 200ml)	Cetirizine is more likely to impair motor function than Loratadine.
Sedating:	**Chlorphenamine**	4mg tablets: £1.09 (pack 28) 2mg/5ml SF solution: £2.34 (pack 150ml)	Chlorphenamine should be used where sedation is not a concern.
Nasal steroids	1st line:		
	Beclometasone as Beconase 200 dose	50mcg/puff: £2.19 (200 dose unit)	Beclometasone nasal sprays are available OTC, unbranded versions at less than NHS prescription charge.
	2nd line:		
	Budesonide	64mcg/puff: £4.49 (120 dose unit)	**Note: All Fluticasone nasal sprays are non-formulary.**
	Mometasone	50mcg/dose: £7.68 (140 dose unit)	
	Triamcinolone	55mcg/dose: £7.39 (120dose unit)	
Anticholinergics	**Ipratropium**	21mcg/puff (0.03%): £3.99 (180 dose unit)	Use Ipratropium **only** if rhinorhoea is main problem.

Therapeutic Area	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Decolonisation of nasal MRSA	**Mupirocin**	Nasal ointment 2% £5.80 (3g pack)	For use in decolonisation of nasal MRSA, standard regime is TDS nasal application for 5 days. Where there is clinical infection, nasal decolonisation treatment should be undertaken in addition to any systemic treatment given
	Naseptin® (Chlorhexidine HCl 0.1%, neomycin sulphate 0.5%)	Nasal cream £1.90 (pack 15g)	Please refer to PCT Management of Infection Guidance and MRSA Policy for further details.
Oral ulceration and inflammation	**Benzydamine**	0.15% mouthwash: £3.81 (pack 300ml)	May be diluted with water if stinging occurs. Available OTC
	Hydrocortisone	2.5mg pellets: £2.03 (pack 20 tabs)	Available OTC

Oropharyngeal anti-infectives			Preparations for oral candidiasis should be used after food and retained in the mouth for as along as is practical.
	Miconazole	0.2% gel: £2.85 (15g pack) £4.47 (80g pack)	Oral candidiasis is often associated with the use of inhaled corticosteroids, use of spacer devices and rinsing the mouth with water after using such inhalers may be helpful.
	Nystatin	100,000u/ml Suspension: £1.84 (30ml pack)	Miconazole gel is available OTC. Use with caution if patient taking warfarin.
	Amphotericin	Lozenges: £3.53 (60 pack)	
Mouthwashes	**Chlorhexidine**	Mouthwash 0.2%: £1.99 (300ml pack)	Available OTC.
Dry mouth	***Glandosane*®**	Spray: £4.70 (50ml pack)	Approved for NHS prescribing where they fulfil the borderline substances criteria, for dry mouth caused by: • radiotherapy • sicca syndrome Prescriptions should accordingly be endorsed as ACBS. All these products are available OTC, some at less than the NHS prescription charge
	***Salivix*®**	Pastilles: £3.50 (50 pack)	

BNF Chapter 13: Dermatological preparations			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Emollients: • Always ensure that sufficient quantities are prescribed: liberal twice daily application to the whole adult body will use at least 500g per week. Total quantity of emollient per week (based on "bd" application) for an adult: Face: 15-30g, Trunk: 400g, Both arms / legs: 100-200g, Both hands: 25-50g, Groins and genitalia: 15-25g, Scalp: 50-100g • The more greasy an emollient the more effective it is but this needs to be balanced against cosmetic acceptability and compliance • Emollient creams and emulsifying ointment can be used as soap substitutes as well as moisturisers • Emollients should be applied by smoothing onto the skin in direction of any hairs (not by rubbing) • Regular re-application, especially after washing, with drying by patting not rubbing, will increase the effectiveness of all emollient therapy			
Emollients **Creams**	1st line: Aqueous cream 2nd line: *Cetraben*® emollient cream or *Doublebase*® or *Aveeno*® 1st line: Emulsifying ointment or White soft paraffin 2nd line: WSP/Liq Par 50/50 or *Hydromol*® ointment	£1.86 (500g) £1.17 (pack 50g) £2.88 (pack 150g) £5.39 (pack 500g pump) £2.69 (pack 100g) £5.92 (pack 500g pump) £3.97 (100mll) £2.36(500g) £2.25 (500g) £4.13 (500g) £4.74(500g)	Aqueous Cream is recommended as the first line emollient for general use and as a soap substitute, but for some patients richer emollients will be more effective. Where Aqueous Cream is not appropriate or effective, *Cetraben*® should be considered as the preferred alternative, on grounds of cost effectiveness. Note the *Cetraben*® pump-pack is associated with less waste than most other similar pump-packs. *Aveeno*® is approved as a borderline substance, prescriptions should be endorsed ACBS accordingly. *Hydromol*® ointment has same ingredients as *Epaderm*® and is cheaper. ***Epaderm*® is non formulary.**
Ointments			

Therapeutic Area	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Creams with antimicrobials	*Dermol 500*®	£6.13 (500ml)	Use preparations with antimicrobials **only** if infection present or strongly suspected
Emollient bath preparations:	1st line: *Dermalo*®	£3.50 (500ml)	*Dermalo*® is recommended first line as a cost-effective fragrance-free liquid paraffin based bath additive. *Dermalo*® has similar constituents to *Oilatum*® and is less costly, ***Oilatum***® **is non formulary**.
	2nd line: *Diprobath*® (lanolin-free)	£6.84 (500ml)	
Emollient bath / shower preparations with antimicrobials :	*Dermol 200*® Shower emollient	£3.61 (200ml)	Use preparations with antimicrobials **only** if infection present or strongly suspected
	or *Dermol 600*® Bath emollient	£7.67 (600ml)	
	or *Emulsiderm*® liquid emulsion	£3.92 (300ml) £12.18 (1000ml)	
	or *Oilatum Plus*® bath additive	£6.98 (500ml) £8.05 (600ml)	

Topical corticosteroids
The Finger Tip Unit (FTU) is useful means of calculating approximate quantities required, as follows (1 FTU = 0.5g)
Face and neck: 2.5 FTU , Trunk: 7 FTU (front) and 7 FTU (back), One arm: 3 FTU, One hand: 1 FTU, One leg: 6 FTU, One foot: 2 FTU
Total quantities of topical steroids required per week based on "bd" application for an adult:
Face and neck: 15-30g, Trunk: 100g, Both arms: 50g, both hands: 15-30g, Both legs: 100g, Groins and genitalia: 15-30g
General note: Avoid prescribing dermatologicals that need to be made extemporaneously as these can cost an extra £100 per prescription.
This does not apply to ready made dilutions such as Betnovate RD

Topical corticosteroids **Mild**:	Hydrocortisone 1%	Cream £2.79 (30g pack) Ointment £2.84 (30g pack)	Most available as creams and ointments.
Moderate:	Clobetasone (*Eumovate*®) 0.05% Betamethasone (*Betnovate RD*®) 0.025% Fludroxycortide (*Haelan*®) 0.0125%	£1.89 (30g), £5.54 (100g) £3.21 (100g) £3.26 (60g)	Evidence now supports the use of all topical corticosteroids once-daily
Potent:	1st line: Betamethasone (*Betnovate*®) 0.1% 2nd line: Hydrocortisone butyrate (*Locoid*®) 0.1% Mometasone (*Elocon*®) 0.1% Fluticasone (*Cutivate*®) Fluocinolone (*Synalar*®) 0.025%	Cream £1.43 (30g), Ointment £1.43 (30g) Cream/Ointment £7.05(100g) £4.45 (30g), £12.82 (100g) £2.32 (15g), £4.50 (50g) £3.76 (30g), £10.68 (100g)	Potent topical steroids should not be prescribed on repeat prescriptions.
Very potent:	Clobetasol (*Dermovate*®)	£2.75 (30g), £8.06 (100g)	**Very potent topical steroids should not be prescribed on repeat prescriptions**.

Therapeutic Area	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Acne **Initial treatment should be based on whether the acne is predominantly inflammatory or comedonal and its severity.**			
Topical Treatments	Keratolytics Benzoyl Peroxide as *PanOxyl Aquagel®*	2.5% gel: £1.76 (40g) 5% gel: £1.92 (40g)	Benzoyl peroxide may be effective for both comedonal and inflammatory acne. Treatment should start with lower strength preparations, in an aqueous base
	Topical antibacterials: Clindamycin with Zinc as *Zindaclin Gel®*	£8.66 (30g)	Topical antibiotics are probably best reserved for patients with inflammatory acne who do not wish to take systemic antibiotics or who cannot tolerate them.
	Retinoids: Tretinoin	0.01% gel: £5.39 (60g) 0.025% gel: £5.39 (60g)	Retinoids are useful in treating comedonal acne. **Retinoids are contra-indicated in pregnancy** and women of child bearing age should take adequate contraceptive precautions. Tretinoin Cream was discontinued in March 2008.

Therapeutic Area	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Oral Treatments **Antibacterials**	Doxycycline or Lymecycline	100mg: £1.69 (100mg od for 28 day) 408mg: £7.77 (408mg od for 28 day)	. Oral antibiotic treatment should be reviewed after 3 months, however maximum benefit may only be seen after 4 to 6 months. Oxytetracycline has been removed from this section given probability of poor compliance with dosing requirements in long term use. **Minocycline is not recommended owing to safety concerns** requiring LFT monitoring when used >6 months, higher cost and lack of evidence of superiority over Lymecycline in acne
Hormonal	Co-Cyprindiol	£3.92(pack 63)	The MHRA have highlighted that the risk of VTE with Co-Cyprindiol is higher than with conventional low-dose COCPs and recommend that: • it should only to be used after systemic antibiotics have failed or are not tolerated • it should only be used in licensed indication • it should not be used solely for contraception • it should be discontinued 3-4 months after resolution of symptoms

Therapeutic Area	Formulary Choices	Cost (per pack as stated)	Rationale for decision / comments
Anti-infective skin preparations Avoid widespread use of topical antibiotics, especially those agents also available as systemic preparations.			
Antibacterials	Fusidic Acid	Cream 2%: £1.92 (15g) or £3.64 (30g) Ointment 2%: £2.23 (15g) or £3.79 (30g)	Refer to PCT Management of Infection Guidance for indications Refer to PCT Management of Infection Guidance for indications. Reserve for MRSA. For nasal use see Chapter 12.
	Mupirocin	Cream 2% or Ointment 2%: £4.38 (15g)	
Antifungals	Amorolfine	Nail lacquer 5%: £18.17 (5ml)	Refer to PCT Management of Infection Guidance for indications. Available OTC . **Systemic treatment is more effective than topical for nail infections BNF 13.10.2**
	Clotrimazole	Cream 1%: £1.77 (20g) or £4.79 (50g)	Refer to PCT Management of Infection Guidance for indications. Available OTC
	Miconazole	Cream 2%: £1.85 (30g)	Refer to PCT Management of Infection Guidance for indications. Available OTC
	Terbinafine	Cream 1%: £4.59 (15g) or £3.36 (30g)	Refer to PCT Management of Infection Guidance for indications. Available OTC
Antivirals	Aciclovir	Cream 5%: £1.16 (2g) or £2.09 (10g)	For treatment of labial herpes simplex (cold sores), most effective if applied at prodromal phase. Use 5x/day for 5 days Available OTC

BNF Chapter 15: Anaesthesia			
15.1.7: Antagonists for central and respiratory depression			
Therapeutic Area	**Formulary Choices**	**Cost (per pack as stated)**	**Rationale for decision / comments**
Opioid overdose	**Naloxone**	400mcg /ml injection: 1ml ampoule: £4.92 1mg/ml injection: 2ml PFS: £8.36	Refer to Emergency Treatment of Poisoning section of current BNF for guidance on management of opioid overdose / respiratory depression.

BNF Appendix 7 Borderline Substances			
Food supplements Standard ACBS indications: short-bowel syndrome, intractable malabsorption, pre-operative preparation of under-nourished patients, proven inflammatory bowel disease following total gastrectomy, bowel fistulas, or disease-related malnutrition and dysphagia General Practitioners are reminded that the ACBS recommends products on the basis that they may be regarded as drugs for the management of specified conditions.	***Complan Shake***®	£0.86 (serving) Strawberry Vanilla Chocolate banana milk	For patients who are able to add whole milk to a powder, or have a carer / home staff. Not suitable for lactose intolerance. Assess nutritional status before starting use of food supplements and offer advice about enriching nutritional value of normal diet. Aim of treatment should be recorded and record of weight kept. Malnutrition Universal Screening Tool (MUST) is available on the Medicines Management section of the PCT intranet: http://nww.somersetpct.nhs.uk/pmm/Other%20prescribing%20guidelines/National%20policies%20and%20advice/Malnutrition%20Universal%20Screening%20Tool%20(MUST).pdf A short leaflet produced by NHS Somerset dieticians can be found at: http://nww.somersetpct.nhs.uk/pmm/Other%20prescribing%20guidelines/Patient%20information/Food%20Fortification%20(Somerset%20Community%20Dieticians%202008).pdf NAGE (Nutrition Advisory Group for Elderly People) produce a range of advice leaflets & posters – details available at: http://www.bda.uk.com/Downloads/NAGE_orderform_Jan07.pdf
Gluten-free foods	Prescribing Guide to Gluten Free foods indicating quantities of products appropriate for a range of people with coeliac disease is available on the Medicines Management section of the PCT intranet: http://nww.somersetpct.nhs.uk/pmm/Other%20prescribing%20guidelines/National%20policies%20and%20advice/Gluten-free_foods.pdf		

Appendix 1. OUT OF HOURS FORMULARY

DORSET AND SOMERSET URGENT CARE SERVICE FORMULARY

Introduction

The National Out-of-Hours formulary is a core drug list which contains the *minimum* medicines that a patient should be able to access out-of-hours. The Dorset and Somerset Out-of-Hours formulary is based on the national formulary. Only medicines contained in the Dorset and Somerset formulary should normally* be supplied by local treatment centres or prescribed on form FP10 in the Out-of-Hours period.

Medicines are supplied to local treatment centres (LTC) in Dorset by the Royal Bournemouth Hospital which means that the cost price of products stocked in treatment centres in Dorset is determined by the current NHS discount price (Acute Trust) and not as given in the current Drug Tariff. Items prescribed on form FP10, however, are supplied by community pharmacists and are priced according to the Drug Tariff.

Points to note

Red drugs

In the Out-of-Hours period only those medicines considered appropriate for prescribing 'in hours' and included on Primary Care Trust formularies should be prescribed. Medicines categorised as RED on local formularies should not be prescribed out of hours.

Chronic conditions

Out-of-Hours practitioners provide urgent care to manage the immediate situation. It is not appropriate in this situation to commence therapies that are intended to treat chronic conditions e.g. hypertension. In the Out-of-Hours period if the patient does not require emergency admission to hospital they should be referred to their General Practitioner at the earliest opportunity. If the GP does feel it necessary to prescribe in order to avoid a hospital admission, then only sufficient treatment for five days or the smallest pack size should be prescribed and the patient advised to see their GP or visit a local practice as a temporary resident at the earliest opportunity.

Emergency supplies

Patients who request prescription only medicines in the OOHs period because they have forgotten their medication etc. should be encouraged to request an 'Emergency Supply' from the nearest community pharmacy before visiting the UCS. The pharmacist may supply up to five days of medication. Emergency supplies by community pharmacists are private transactions and the pharmacist may charge the patient for this service. Emergency supplies cannot be made by community pharmacists for Schedule 1, 2 or 3 controlled drugs except Phenobarbital when required for epilepsy.

'***If the GP is required to prescribe for a patient then only sufficient treatment for a maximum of seven days or the smallest pack size should be prescribed.'***

Methadone

Requests from registered addicts for Methadone, Subutex (Buprenorphine) or any other substance prescribed by the addictions team should be refused. Methadone has a prolonged half-life of between 15 to 60 hours. Withdrawal symptoms appear slowly and not usually until 24 to 48hrs after the last dose.

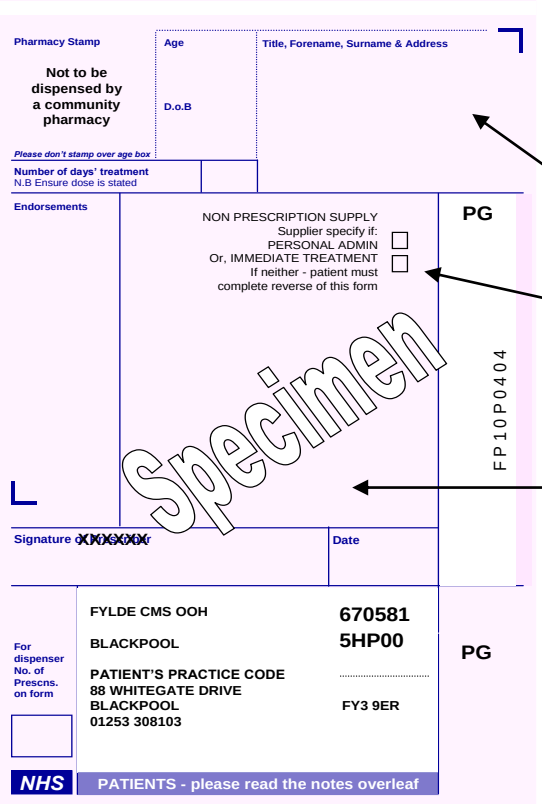
In the rare event that a community pharmacist contacts the UCS to request a prescription on behalf of a client and the GP feels that it is appropriate to provide a prescription, then the GP must complete an incident form. An incident form must be generated on every occasion when a substance used by the addictions team is prescribed in the UCS so that the circumstances leading to the prescription can be investigated and steps taken to avoid further similar incidents. The incident forms will be shared with the local Primary Care Trust.

Prescription pads

Prescribers are reminded that prescription pads (FP10) are **controlled stationary**. Every effort should be made to prevent loss or theft of the forms.

Form FP10PREC

Whenever medicines are supplied or administered to patients in the Out-of-Hours treatment centre this needs to be recorded on a form FP10PREC (see below). This includes the supply of medicines in accordance with the written authorisation of a patient group direction.



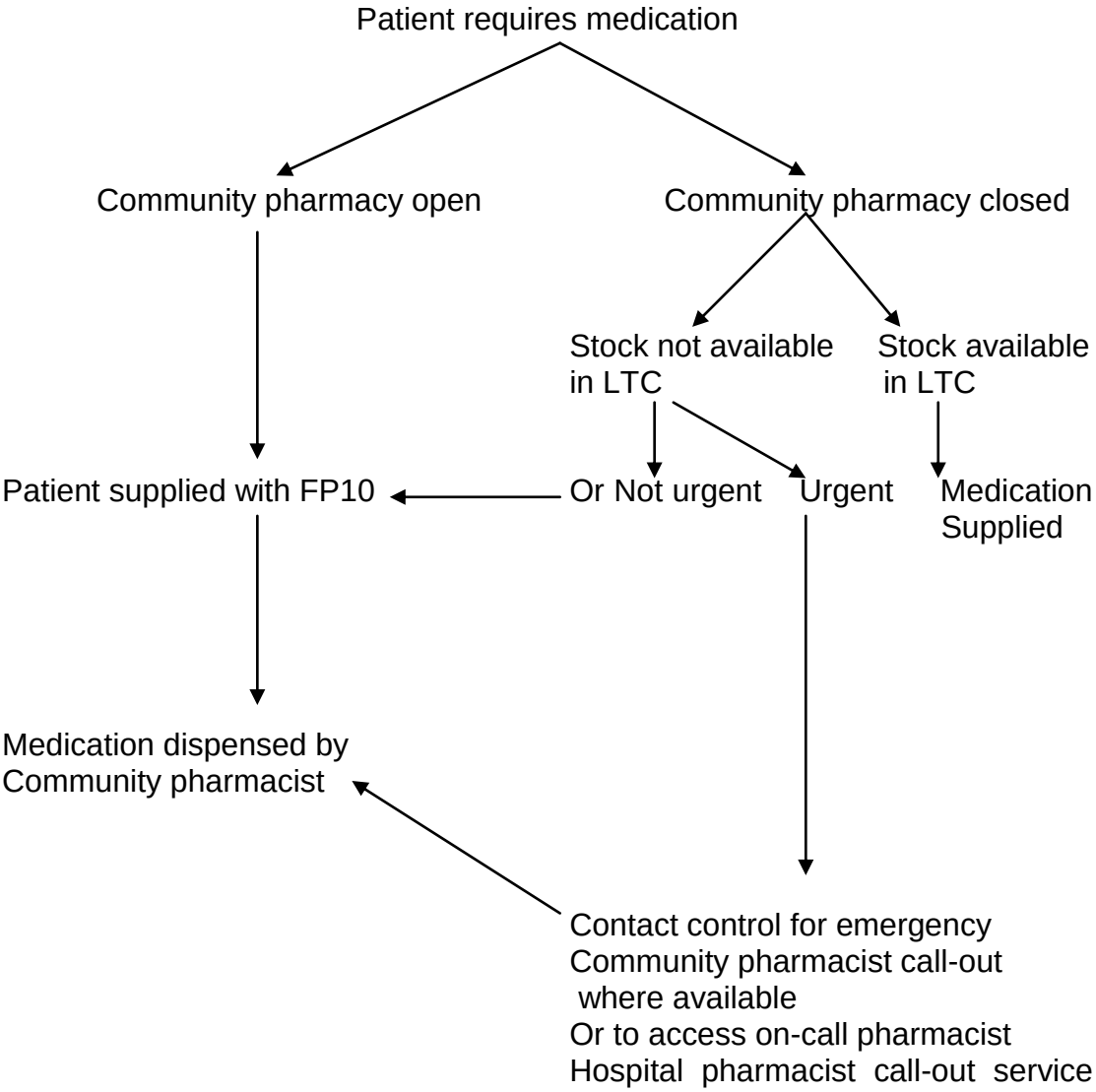
In order to produce useful data the forms must be completed correctly. Please ensure that for each supply the following information is recorded:

- **Full patient details.**
- **State if the medicine was personally administered or for immediate treatment.**
- **Name, form, strength and quantity of preparation supplied or administered.**
- **Obtain a declaration of exemption on the reverse of the form if appropriate.**

Completing the form correctly is important as it enables a complete audit trail to be maintained for all medicines. Nationally, Out-of-Hours service providers are now required to submit completed form FP10PRECs to the Prescription Pricing Division of the NHS Business Authority each month. This allows the data they contain to be captured and used to produce electronic PACT reports for the commissioning primary care trusts. Unlike form FP10 the FP10PREC is not used for reimbursement purposes. However, the data produced does help the hospital pharmacy staff to maintain a correct stock level in the centre and monitor the use of individual medicines. Completing the reverse of the form facilitates the collection of a prescription charge from patients who are liable to pay for their prescriptions. **It is important that all patients who are supplied with medicines to take home or are left a course of treatment following a home visit are asked to complete the reverse of the form and make a declaration of exemption if appropriate.** Patients who are not exempt from prescription charges should be issued with a 'Promise to Pay' form which is available in the centre. Prescription charges will then be collected by the primary care trust.

Supply of medicines in the Out-of-Hours period

SUMMARY OF MEDICINES SUPPLY ROUTE



DORSET & SOMERSET URGENT CARE SERVICE FORMULARY

Please note that where arrangements have been made for stocks of controlled drugs to be held in local treatment centres the GP will require photographic ID in order to obtain the keys to the controlled drug cupboard.

NB Contents of formulary last reviewed 2006

DRUG	COMMENT	PREPARATIONS STOCKED IN DORSET TREATMENT CENTRES	PREPARATIONS FOR FP10 PRESCRIBING ONLY (Not stocked in LTC)
ANALGESIA			
Morphine (Diamorphine*)	Diamorphine is preferred for its use in both cardiac pain and palliative care. See p.118 for other issues around use of alternatives to diamorphine. Oral formulations to be supplied as a full course to appropriately treat the presenting condition. See p.46 in main formulary for opiod initial dose conversion chart.	Morphine sulphate injection 10mg and 30mg are kept in Red Clinic Poole only. Morphine sulphate 10mg in 5ml unit dose vials (6s)	
Codeine	Codeine has a dual role for pain relief and diarrhoea. Oral formulations to be supplied as a full course to appropriately treat the presenting condition.	Codeine phosphate tablets 15mg (28s)	Codeine phosphate tablets 30mg
Diclofenac	Oral formulations to be supplied as a full course to appropriately treat the presenting condition.	Diclofenac 75mg in 3ml injection (10s) Diclofenac suppositories 50mg (5s) Diclofenac 25mg EC tablets (28s)	
Ibuprofen	Oral formulations to be supplied as a full course to appropriately treat the presenting condition.	Ibuprofen 100mg in 5ml suspension (150ml) Ibuprofen 400mg tablets (16s)	

DRUG	**COMMENT**	**PREPARATIONS STOCKED IN DORSET TREATMENT CENTRES**	**PREPARATIONS FOR FP10 PRESCRIBING ONLY (Not stocked in LTC)**
Paracetamol	Oral formulations to be supplied as a full course to appropriately treat the presenting condition.	Paracetamol 120mg in 5ml suspension (140ml) Paracetamol 500mg tablets (32s) Paracetamol 500mg soluble tablets (24s) Paracetamol suppositories 125mg suppositories (10s)	
ASTHMA/RESPIRATORY			
Ipratropium	Supply as a full course to appropriately treat the presenting condition.	Ipratropium bromide 20mcg per metered dose CFC free inhaler Ipratropium bromide 500mcg in 2ml nebules (20s)	
Salbutamol	Supply as a full course to appropriately treat the presenting condition.	Salbutamol 2.5mg in 2.5ml nebules (20s) Salbutamol 5mg in 2.5ml nebules (20s) Salbutamol 100mcg per metered dose CFC free inhaler	
Prednisolone	Oral formulations to be supplied as a full course to appropriately treat the presenting condition. Soluble tablets may be used in adults and children.	Prednisolone 5mg EC tablets (40s) Prednisolone 5mg soluble (6s)	
Dexamethasone	Single dose (150mcg/kg) to be given orally in cases of severe croup or mild croup that might cause complications prior to transfer to hospital.	Dexamethasone 2mg in 5ml oral solution (150ml)	
Spacer device		Aerochamber Plus Aerochamber Plus Child (with mask)	

		Volumatic	
DRUG	**COMMENT**	**PREPARATIONS STOCKED IN DORSET TREATMENT CENTRES**	**PREPARATIONS FOR FP10 PRESCRIBING ONLY (Not stocked in LTC)**
CARDIAC EMERGENCIES			
Adrenaline	Suitable for treatment of cardiac arrest.	Adrenaline 1 in 10,000 10ml Min-I-Jet X 6 per site	
Aspirin	For use in all patients with suspected myocardial infarction unless contraindicated or already taken.	Aspirin 75mg tablets (14s) Aspirin 300mg soluble tablets	
Atropine	For use in cardiac emergencies	Atropine sulphate 1mg in 5ml Pre-filled syringe X 6 per site	
Morphine (Diamorphine)	(See above 'Analgesia')		
Frusemide	Supply as a full course to appropriately treat the presenting condition. Full course of oral tablets is expected to be 7 days maximum.	Furosemide 40mg tablets (7s) Furosemide 10mg in 1 ml injection (2ml)	
Glyceryl trinitrate sublingual	Supply as a full course to appropriately treat the presenting condition.	Glyceryl trinitrate 400mcg per metered dose spray	
ALLERGY/ANAPHYLAXIS			
Adrenaline	Suitable for the treatment of anaphylaxis	Adrenaline (Epipen) 0.3mg injection Adrenaline (Epipen) 0.15mg injection Adrenaline 1 in 1000 (1mg in 1ml) Pre-filled syringe.	
Hydrocortisone	Hydrocortisone sodium succinate can be used for anaphylaxis, asthma and hypoadrenalism.	Hydrocortisone sodium phosphate 100mg in 1ml injection	
Chlorphenamine	Supply as a full course to appropriately treat the presenting condition.	Chlorphenamine 10mg in 1ml injection Chlorphenamine 2mg in 5ml syrup	

		150ml Chlorphenamine 4mg tablets (6s)	
DRUG	**COMMENT**	**PREPARATIONS STOCKED IN DORSET TREATMENT CENTRES**	**PREPARATIONS FOR FP10 PRESCRIBING ONLY (Not stocked in LTC)**
Non-sedating antihistamine	Supply as a full course to appropriately treat the presenting condition.	Cetirizine 10mg tablets (7s)	
DIABETIC EMERGENCIES			
Glucagon injection	Current recommendation is for both Glucose IV and Glucagon to be carried. Children may not respond to Glucagon so are more likely to need glucose. Patients not responding should be admitted.	Glucagon 1mg injection	
Glucose		Glucose (500ml) 10% IV infusion Hypostop X 1	
OPIOID OVERDOSE			
Naloxone	Any patient with an opioid overdose should be admitted to hospital, as repeated doses may be necessary.	Naloxone 800mcg in 2ml Min-I-Jet	
GASTROINTESTINAL			
Antacid	Supply as a full course to appropriately treat the presenting condition.	Magnesium trisilicate mixture (200ml) Gaviscon tablets (20s) Omeprazole 20mg capsules (7s)	Peptac liquid 500ml Lansoprazole 15/30mg Ranitidine 150/300mg
Domperidone	Supply as a full course to appropriately treat the presenting condition.	Domperidone 10mg tablets (10s) Domperidone 30mg suppositories (10s)	
Glycerol suppositories	Included for immediate symptom relief.	Glycerin 4g adult suppositories (4s) Glycerin 1g infant suppositories (4s)	
Anti-spasmodic	Supply as a full course to appropriately treat the presenting condition.	Hyoscine-N-butylbromide 10mg tablets (10s) Hyoscine-N-butylbromide injection 20mg in 1ml	

Loperamide	Supply as a full course to appropriately treat the presenting condition.	Loperamide 2mg capsules (6s)	
DRUG	**COMMENT**	**PREPARATIONS STOCKED IN DORSET TREATMENT CENTRES**	**PREPARATIONS FOR FP10 PRESCRIBING ONLY (Not stocked in LTC)**
Metoclopramide	Included as there is no parenteral formulation of domperidone.	Metoclopramide 10mg in 2ml injection Metoclopramide 10mg tablets (10s)	
Oral rehydration sachets	Supply as a full course to appropriately treat the presenting condition.	Dioralyte natural (6s)	
Phosphate enema	Included for immediate symptom relief.	Sodium citrate micro enema	
Prochlorperazine	Supply as a full course to appropriately treat the presenting condition.	Prochlorperazine 3mg buccal tablets (10s) Prochlorperazine 12.5mg in 1ml injection	
PSYCHIATRIC EMERGENCIES			
Diazepam	Supply as a full course to appropriately treat the presenting condition. Smaller quantities may be more appropriate. An appropriate rectal formulation to be included.	Diazepam 2mg tablets (9s) Diazepam 2mg in 5ml syrup (100ml) Diazepam (Diazemuls) 10mg in 2ml injection (IV use) Diazepam 10mg in 2ml injection (IM use) Diazepam rectal tube 5mg Diazepam rectal tube 2.5mg	
Haloperidol	Supply as a full course to appropriately treat the presenting condition. May also be used for the treatment of severe nausea and vomiting.	Haloperidol 5mg in 1ml injection Haloperidol 500mcg capsules (10s)	

Procyclidine	Supply as a full course to appropriately treat the presenting condition.	Procyclidine 5mg tablets (4s) Procyclidine 10mg in 2ml injection	
DRUG	**COMMENT**	**PREPARATIONS STOCKED IN DORSET TREATMENT CENTRES**	**PREPARATIONS FOR FP10 PRESCRIBING ONLY (Not stocked in LTC)**
OBSTETRIC AND GYNAECOLOGY			
Levonorgestrel 1500	Do not prescribe the OTC product 'Levonelle One Step' on FP10. This is significantly more expensive than the POM medicine.	Levonelle 1500 tablet (1s)	
PALLIATIVE CARE DRUGS			
Morphine (Diamorphine∞)	(See above 'Analgesia' for Morphine/Diamorphine) Quantities supplied should be enough to allow appropriate symptom relief until formal review by palliative care team or GP. Selected community pharmacies carry a full stock of formulary palliative care drugs. For stock list and details of pharmacies see Appendix 1.	(See above 'Analgesia')	Diamorphine injection 10mg and 100mg Morphine sulphate 10mg in 5ml oral solution Morphine sulphate 100mg in 5ml concentrated oral solution.
Cyclizine		Cyclizine 50mg in 1ml Injection	
Dexamethasone		Dexamethasone 500mcg tablets (10s)	Dexamethasone injection 4mg/ml 2ml injection
Hyoscine		Hyoscine 400mcg in 1ml injection	
Methotrimeprazine/ Levomepromazine		Methotrimeprazine/ Levomepromazine injection 25mg in 1ml	Levomepromazine 25mg tablets
Midazolam		Midazolam 10mg in 2ml injection	
Fentanyl			Fentanyl patches
Oxycodone			Oxycodone 10mg in 1ml injection

LOCAL ANTIBIOTIC CHOICE			
Prescribers are reminded of the recommendations of the Standing Medical Advisory Committee (SMAC) report, 'Four things you can do to make a difference': • No prescribing of antibiotics for simple coughs and colds • No prescribing of antibiotics for viral sore throats • Limit prescribing for uncomplicated cystitis to three days in otherwise fit women • Limit prescribing of antibiotic agents over the telephone to exceptional cases Non-prescription pads are available in all treatment centres. See current BNF and Children's BNF for dosage of antibiotics.			
Indication	**Comment**	**First line**	**Second line**
Cellulitis and other skin infections	Supply as a full course to appropriately treat the presenting condition. Avoid topical antibiotics to minimise bacterial resistance. Antibiotic prophylaxis advised if animal bite	Cellulitis – (Dose given four times a day for seven days) Flucloxacillin 500mg capsules (28s) Flucloxacillin 250mg in 5ml suspension 100ml Impetigo – Flucloxacillin 500mg capsules (28s) Flucloxacillin 250mg qds capsules (28s) Flucloxacillin 125mg/5ml qds elixir (100ml) Human/animal bite –	*(Dose given every twelve hours for seven days)* *Clarithromycin 500mg tablets (14s)* Clarithromycin 250mg in 5ml syrup 70ml Clarithromycin 500mg tablets (14s) Clarithromycin 250mg in 5ml syrup 70ml Clarithromycin 125mg in 5ml syrup 70ml Doxycycline 100mg capsules (10s) + Metronidazole tablets 400mg (10s)

	wound > or = 48hrs old, puncture face or hand wound and for all human bites. Human bites assess HIV/Hepatitis risk	Co-amoxiclav 250/125 tablets (21s) Co-amoxiclav 125/31 in 5ml suspension 100ml	
Respiratory infections	Supply as a full course to appropriately treat the presenting condition. Antibiotics rarely indicated in acute bronchitis. Acute COPD exacerbation. Patients most likely to benefit from antibiotics are those with: • Increased sputum volume • Purulent sputum • Increasing dyspnoea Treat if 2/3 above present. Bacterial community acquired pneumonia. (If no response admit after 48hrs)	Acute bronchitis – Antibiotics very rarely needed Acute COPD - Amoxicillin 250mg or 500mg capsules (21s) Amoxicillin 125mg SF 125mg in 5ml 100ml Amoxicillin 500mg capsules (21s)	Penicillin allergy – Oxytetracycline tablets 250mg (28s) Penicillin allergy – Oxytetracycline tablets 250mg (500mg dose) (28s) or Clarithromycin 500mg tablets (14s)
Upper respiratory tract infections	Supply as a full course to appropriately treat the presenting condition. Most sore throats are viral and self-limiting. Antibiotics only shorten the duration of symptoms by 8hrs. Reassure and offer post-dated prescription/ non-prescription form. 80% of cases of Otitis media resolve without antibiotics. Antibiotics do not reduce pain in first 24hrs. Reassure and offer post-dated prescription or non-prescription form.	Sore throat (Haemolytic Streptococcus) - Penicillin V 250mg tablets (28s) Penicillin V 250mg in 5ml elixir 100ml Otitis media - Amoxicillin 250mg capsules (21s) Amoxicillin 125mg SF 125mg in 5ml 100ml Sinusitis - Amoxicillin 250mg	Penicillin allergy – Clarithromycin 250mg tablets (14s) Clarithromycin 250mg in 5ml syrup 70ml Clarithromycin 125mg in 5ml syrup 70ml Penicillin allergy – Trimethoprim 200mg tablets (10s) Trimethoprim 50mg in 5ml suspension 100ml Penicillin allergy – Oxytetracycline 250mg tablets (28s) or Clarithromycin 250mg tablets (14s) Clarithromycin 250mg in 5ml syrup

	Antibiotics indicated for severe cases only.	capsules (21s) Amoxicillin 125mg SF 125mg in 5ml 100ml	70ml Clarithromycin 125mg in 5ml syrup 70ml
Urinary tract infections	Supply as a full course to appropriately treat the presenting condition. Antibiotics not necessary if dipstick test is negative for nitrites and leucocytes. 3 days treatment for uncomplicated UTI 7 days pregnancy, children, men and acute pyelonephritis. Children with proven UTI require investigation. Patients with severe symptoms and diabetic or pregnant should be referred to hospital.	Trimethoprim tablets 200mg (6s) Trimethoprim tablets 200mg (14s) Trimethoprim 50mg in 5ml suspension 100ml Pregnancy – Cephalexin 250mg tablets (28s)	Nitrofurantoin tablets 50mg (28s) Acute pyelonephritis Ciprofloxacin 500mg tablets (20s)
Bacterial conjunctivitis	Supply as a full course to appropriately treat the presenting condition.	Chloramphenicol 1% eye ointment 4g	
Candidiasis (topical)	Included for immediate symptom relief	Nystatin 100,000 units in 1ml suspension 30ml	
Herpes zoster	Supply as a full course to appropriately treat the presenting condition. Included as current evidence suggests that early treatment is appropriate.	Aciclovir 800mg tablets (35s)	
Meningococcal meningitis or septicaemia	Immediate treatment only. Patients with suspected meningitis should be transferred to hospital urgently.	Benzylpenicillin 600mg (adult dose 1.2G) injection (5s)	

ADDITIONAL PRODUCTS			
Sodium chloride 0.9% injection	Diluent	Sodium chloride 0.9% injection 10ml ampoule	
Water for injection	Diluent	Water for injection 10ml ampoule	
Pregnancy testing kit	Do not prescribe on FP10. Immediate use only.	Clearview HCG pregnancy test	Do not prescribe
Instillagel	Do not prescribe on FP10. Immediate use only.	Instillagel 2% (11ml) gel	
Oral liquid dispenser 2.5ml	Do not prescribe on FP10. If indicated by dose then pharmacists will supply automatically.	Oral liquid dispenser 2.5ml	
Urine testing sticks	Do not prescribe on FP10. For use where diagnosis cannot safely wait e.g to identify patients with urgent treatment needs or who should be admitted to hospital.	Combur 9 test strips	Do not prescribe
Blood glucose testing strips	Do not prescribe on FP10. For use where diagnosis cannot safely wait e.g to identify patients with urgent treatment needs or who should be admitted to hospital.	Advantage Plus reagent strips	Do not prescribe

For some **patients with acute pain** it may be possible to use other approaches to analgesia in place of diamorphine:

- Injectable morphine or non-steroidal agents are frequently used in trauma and injury.
- Morphine is used in many parts of the world for acute cardiac pain. Intravenous morphine can be substituted for intravenous diamorphine, but it is important to check the equivalent dose.
- In the very acute injury situation, Entonox may be a useful adjunct.
- Nerve blocks can also be useful e.g. femoral nerve block in fractured neck of femur.
- For breakthrough pain oral morphine is effective.

Options for patients receiving subcutaneous Diamorphine by syringe driver if supply problems exist::

If there is a need to continue on subcutaneous analgesia, options include: subcutaneous morphine
subcutaneous oxycodone

A patient receiving diamorphine sc 60mg/24 hrs should be converted to: either morphine sc 90mg in 24 hours
or oxycodone sc 60mg in 24 hours

However, it is important that patients should be kept under close observation during conversion, as equipotent doses vary between patients. Consideration must also be given to:

- Drug compatibility - Drugs are frequently mixed in the same syringe driver (eg antiemetic and an opioid). Some combinations are incompatible (for example cyclizine is incompatible with oxycodone and precipitation occurs). In some circumstances two separate syringe drivers may be needed.
- Volume of infused drugs - As morphine and oxycodone are less soluble than diamorphine the volume of infusion may be larger. This can be managed in several ways, depending on the volume required and the type of syringe driver being used. It may be possible to use a larger syringe (eg. 20mls rather than 10mls) or alternatively it may be possible to run the syringe over 12 hours rather then 24 hours. In some cases two syringe drivers might be needed in parallel. It is recommended that advice be sought, if needed, from a local specialist palliative care team or on-call hospital pharmacist.
- When a patient has a mixture of drugs in a subcutaneous syringe driver, it is possible to run the diamorphine infusion from a second separate driver, so that if other drugs (e.g. antiemetic) need to be changed, then the diamorphine is not wasted.
- When a patient cannot swallow, a fentanyl patch at equipotent dose can be used to maintain analgesia, rather than a syringe driver. It is important to note that steady state levels of fentanyl are only achieved after 15 – 18 hours so the transfer needs to be managed with care. A patient receiving diamorphine sc 60mgs/24 hrs might be changed to a transdermal fentanyl 50micrograms/hr patch. For patients on lower doses of diamorphine 25 micrograms/hr may be appropriate. Adequate analgesia needs to be continued until a stable blood level is achieved.
- Levomepromazine and haloperidol are used for anti-emesis in the dying; their long half-life means they can be given by single subcutaneous injection daily.

Appendix 1

A) DORSET COMMUNITY PHARMACY ENHANCED SERVICE TO PROVIDE PALLIATIVE CARE DRUGS

Bournemouth and Poole

West Howe Pharmacy

24/26 Cunningham Crescent, West Howe, Bournemouth, BH11 8DU

Pharmacy is open:

9am to 1 pm and 2pm to 5.30pm Monday to Friday.

9am to 1pm Saturday.

Sunday Closed.

Contact number 01202 573751

Asda Superstore Pharmacy

St Pauls Road, Bournemouth, BH8 8DL

Pharmacy is open:

8am to10pm Monday to Friday.

8am to 8pm Saturday.

10am to 4pm Sunday.

Contact number 01202 200090

Sainsbury's Pharmacy

4 Alder Park, Talbot Heath, Poole, BH12 4BA

Pharmacy is open:

8am to 1.30pm and 2.30pm to 9pm Monday to Friday.

8am to 1.30pm and 2.30pm to 8pm Saturday.

10am to 4pm Sunday.

Contact number 01202 748533

Asda Superstore Pharmacy

West Quay Road, Poole, BH15 1JQ

Pharmacy is open:

8am to 11pm Monday.

7am to 11pm Tuesday to Friday.

7am to 10pm Saturday.

10am to 4pm Sunday.

Contact number 01202 207000

South East Dorset

Lloyds Pharmacy

23 Station Road, Verwood, BH31 7PY

Pharmacy is open:

9am to 6.30pm Monday to Friday.

9am to 1pm Saturday.

Sunday Closed.

Contact number 01202 822364

Sainsbury's In-store Pharmacy

1 Lyndhurst Road, Christchurch, BH23 4RY

Pharmacy is open:

7am to 11pm Monday to Friday.

7am to 10pm Saturday.

10am to 4pm Sunday.

Contact number 01425 277885

West Dorset

Market Pharmacy

4 South Terrace, South Street, Dorchester, DT1 1DE

Pharmacy is open:

9am to 6pm Monday to Friday.

9am to 5.30pm Saturday.

Sunday Closed.

Contact Number 01305 264193

The Pharmacy

The Street, Charmouth, DT6 6PU

Pharmacy is open:

9am to 1pm and 2pm to 5.30pm Monday to Wednesday, Friday.

9am to 1pm Thursday and Saturday.

Sunday Closed.

Contact number 01297 560261

Angel Pharmacy (Crescent St)

24 Crescent Street, Weymouth, DT4 7BX

Pharmacy is open:

8.30am to 1pm and 2pm to 6:30pm Monday to Friday.

9am to 12.30pm Saturday.

Sunday Closed.

Contact number 01305 781500

B) SOMERSET COMMUNITY PHARMACY ENHANCED SERVICE TO PROVIDE PALLIATIVE CARE DRUGS

Yeovil

Asda Pharmacy (Preston Road)

Preston Rd, Yeovil, BA20 2HB

Pharmacy is open:

7:30am to 11pm Monday.

7am to 11pm Tuesday to Thursday.

7am to 11.30pm Friday.

7am to 9pm Saturday.

10am to 4pm Sunday.

Contact number 01935 709510

Street

Sainsbury's Pharmacy (Gravenchon Way)

Gravenchon Way, Street, BA16 0HS.

Pharmacy is open:

7am to 11pm Monday to Friday.

7am to 10pm Saturday.

10am to 4pm Sunday.

Contact number 01458 442764

Frome

Sainsbury Pharmacy (Wessex Fields)

Wessex Fields, Marston Road, Frome, BA11 4DH

Pharmacy is open:

7am to 11pm Monday to Friday.

7am to 10pm Saturday.

10am to 4pm Sunday.

Contact number 01373 473284

Bridgwater

Sainsbury Pharmacy (The Clink)

The Clink, Bridgwater, TA6 4AB

Pharmacy is open:

8am to 8pm Monday to Wednesday.

8am to 9pm Thursday and Friday.

8am to 7pm Saturday.

10am to 4pm Sunday.

Contact number 01278 422108

Minehead

Boots the Chemist (The Parade)

14-16 The Parade, Minehead, TA24 5UG

Pharmacy is open:

8.30am to 1.30pm and 2.30pm to 5.30pm Monday to Saturday.

10am to 4pm Sunday.

Contact number 01643 702004

Taunton

Asda Pharmacy (Creechbarrow Road)

Creechbarrow Road, Taunton, TA1 2AN

Pharmacy is open:

9am to 9pm Monday to Saturday.

10am to 4pm Sunday.

Contact number 01823 448010

Glastonbury

Glastonbury Pharmacy

Feversham Lane, Glastonbury, BA6 9LP

Pharmacy is open:

7am to 11pm Monday to Friday.

7am to 7pm Saturday.

9am to 1pm and 1.30pm to 5.30pm Sunday.

Contact number 01458 834986

Dorset and Somerset Palliative Care Drug Stock List:-

Drug	Form	Quantity
Cyclizine 50mg/ml	Injection	10 x 1ml
Dexamethasone 4mg/ml	Injection	10 x 2ml
Dexamethasone 2mg	Tablets	100
Diamorphine 10mg	Injection	5
Diamorphine 100mg	Injection	5
Diazepam 5mg/ml	Injection	10 x 2ml
Diazepam 10mg	Rectal Tubes	5
Diclofenac 100mg	Suppositories	10
Domperidone 30mg	Suppositories	10
Fentanyl 25mcg	Patches	1 x 5
Fentanyl 50mcg	Patches	1 x 5
Fentanyl 75mcg	Patches	1 x 5
Fentanyl 100mcg	Patches	1 x 5
Glycopyrronium bromide 200mcg/ml	Injection	10 x 1ml
Haloperidol 5mg/ml	Injection	5 x 2ml
Hyoscine butylbromide 20mg/ml	Injection	10 x 1ml
Hyoscine hydrobromide 400mcg/ml	Injection	10 x 1ml
Levomepromazine 25mg	Tablets	84
Levomepromazine 25mg/ml	Injection	10 x 1ml
Metoclopramide 5mg/ml	Injection	10 x 2ml
Midazolam 5mg/ml	Injection	10 x 2ml
Morphine sulphate 10mg/ml	Injection	40 x 1ml
Morphine sulphate 30mg/ml	Injection	40 x 1ml
Morphine sulphate (Oramorph) 10mg/5ml	Oral Solution	5 x 100ml
Morphine sulphate (Oramorph) 100mg/5ml	Concentrated Oral Solution	1 x 30ml
Oxycodone 10mg/ml	Injection	20 x 1ml
Prochlorperazine 25mg	Suppositories	10
Sodium chloride 0.9%	Injection	10 x 10ml
Water for Injection	Injection	10 x 10ml

Appendix 2. TRAFFIC LIGHT GUIDANCE

SOMERSET PRESCRIBING FORUM

"TRAFFIC LIGHT" SYSTEM

November 2009 revision

Summary

BACKGROUND

Aim

*The "traffic light" system defines where responsibility for prescribing between primary and secondary care should lie through categorising individual drugs as **red, amber** or **green**. The system is intended to encourage appropriate shifts in prescribing between specialists and general practitioners (GPs) consistent with clinical responsibility and supported by shared care arrangements.*

Following review of clinical data on efficacy, safety and cost-effectiveness by the Somerset Prescribing Forum, drug treatments will either be:

***recommended,** following which they will receive a "traffic light" category as follows:*

red - for specialist prescribing;

amber - appropriate for shared care;

green – appropriate for prescribing in primary and secondary care;

***not recommended,** that is where prescribing is **not** generally recommended in primary or secondary care.*

*Drugs not categorised as red, amber, green, or not recommended will **not** have been referred to the Prescribing Forums. Prescribing of these will be at the discretion of individual NHS Trusts and GPs.*

Where drug treatments have been appraised by the National Institute for Health and Clinical Excellence (NICE), their categorisation will be consistent with the recommendations that have been made.

For unlicensed medicines the prescriber, patient and GP should be aware of unlicensed nature of the drug and reference to the protocol on the use of unlicensed drugs should be made.

CATEGORIES

Red

These are drugs for which it is considered that responsibility for prescribing should be retained within secondary care. These will generally be specialist treatments requiring special monitoring or where rigorous supervision is required due to their side-effect profile

Amber

These are drugs for which transfer of responsibility for prescribing, from secondary to primary care, is considered appropriate when:

the GP has agreed to accept clinical responsibility for an individual patient. It is the responsibility of the consultant to approach the GP with the drug and patient information, and any relevant shared care guideline;

the shared care agreement in place between the consultant and GP. should clarify to the doctor accepting responsibility what monitoring is required and at what point further advice should be sought and how to access this advice;

where appropriate, a shared care guideline should be developed by the specialist in the format outlined below (Appendix 1) and accepted by the Prescribing Forum to support the transfer of clinical responsibility.

It should be noted that an amber categorisation is made on the basis that:

the specialist clinician is usually responsible for initiating and stabilising treatment;

where possible, the GP is contacted to agree future shared care ***prior*** *to initiating treatment;*

monitoring requirements and responsibility for monitoring treatment have been clearly defined;

the drug is being used for the indication and in accordance with the shared care guidance that has been agreed;

a GP may choose ***not*** *to accept clinical responsibility on the basis of lack of familiarity or experience with a drug or if it is being used outside of the guidance that has been agreed;*

Cost of a medicine is not a basis for transferring care or a reason for refusing to accept clinical responsibility.

Green

Drugs categorised as green are not complex specialist drugs and their introduction is regarded as appropriate in both primary and secondary care.

Categorisation of a drug as green is on the basis that it is considered to offer significant benefit over existing treatment and that its use as a first, second or third-line drug has been defined.

Not recommended

For a drug treatment to be categorised as "not recommended" it will have been referred to, and been reviewed by, the Somerset Prescribing Forum.

A drug treatment may also be categorised as "not recommended" as an interim measure pending review of the drug treatment. When this is the case, it should be clearly stated and a date for completion of the review agreed.

It should be noted that there may be occasions where the use of a drug treatment that has been categorised as "not recommended" is considered appropriate. This should be managed by NHS Trusts and Primary Care Trusts on an individual patient basis.

REQUESTS FOR CHANGES TO THE LIST

All requests should be made on the form at Appendix 2

Summary of "Traffic Light Drugs"

The table attached provides a summary of the drugs categorised as red, amber, and not recommended listed in alphabetical order. ***A line at the right hand side of the table indicates entries that have been added or amended since the previous edition.***

The Somerset Medicines Formulary should also be referred to for drugs categorised as green.

Information on the "traffic light" system, guidelines included in the Somerset Medicines Formulary and shared care guidelines can be accessed on the Somerset Primary Care Trust Extranet (nww.somersetpct.nhs.uk). *Further information can be obtained from the Head of Medicines Management, Somerset PCT or NHS Trust Chief Pharmacists.*

SUMMARY OF "TRAFFIC LIGHT DRUGS"

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
5-Alpha Reductase Inhibitor	5-ARI				See under individual treatments: • Dutasteride • Finasteride
α4β2-nicotinic acetylcholine receptor partial agonist					See under Varenicline
Abrasive agents, topical	Aluminium oxide paste		*Brasivol*®	**Not recommended**	**For acne**: ◢ Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Acamprosate			*Campral EC*®	Amber	For maintenance of abstinence in alcohol dependent patients in accordance with locally agreed shared care guideline.
Acetylcholinesterase inhibitor	ACHE inhibitor				See under individual treatments: • Donezepril hydrochloride • Galantamine • Rivastigmine
Aciclovir	Acyclovir		Non-proprietary *Zovirax*®	Green	**First-line** choice for herpes virus infections.
Acnisal®					See under Salicylic acid, topical
Acrivastine			*Benadryl Allergy Relief*®	**Not recommended**	Only currently available for oral use in OTC formulation *Benadryl Allergy Relief*® capsules.

1 CD = Schedule 1, 2 or 3 controlled drug; NHS = Products not prescribable on FP10 prescription.

2 Medicines and Healthcare Regulatory Authority (MHRA) and Commission on Human Medicines (CHM) intensively monitored medicines are identified by ▼ and **all** suspected adverse drug reactions (including any not considered to be serious) must be reported using the MHRA / CHM "Yellowcard" see BNF or www.yellowcard.gov.uk for details.

3 All medicines should normally prescribed by generic name unless otherwise indicated or for certain medicines for patient safety reasons or if disparity in bioequivalence between brands exists (as as detailed in the BNF.)

4 ◢ = Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing; D&TC = Drug and Therapeutics Committee; OTC = over-the-counter medicines (GSL or pharmacy-only medicines); SPC = summary of product characteristics available at www.medicines.org.uk.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Actinac®					See under Chloramphenicol / hydrocortisone / allantoin / butoxyethyl nicotinate / precipitated sulphur, topical
Actinomycin D					See under Dactinomycin
Adalimumab		▼	*Humira*®	Red	For rheumatoid arthritis and ankylosing spondylitis in accordance with locally agreed guidance and the recommendations made by NICE for Etanercept and Infliximab.
				Red	Psoriatic Arthritis
Adefovir dipivoxil			*Hepsera*®	Red	Chronic hepatitis B NICE guidance (NICE TA96 February 2006)
Agomelatine		▼	*Valdoxan*®	**Not recommended**	Reviewed by Somerset Prescribing Forum and not recommended. Rejected for use in Scotland by the Scottish Medicines Consortium. Only licensed for use in the treatment of Major Depressive Episodes (MDE) in adults.
Alemtuzumab		▼	*MabCampath*®	Red	
Alpha interferon					See under Interferon alfa
Alglucerase			*Ceredase*®	Red	Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment. Product not licensed` in the UK.
Alitretinoin		▼	*Toctino*®	Red	In accordance with NICE guidance (NICE TA 177 August 2009). **Warning: teratogenic risk** **Note:** SPC states should only be prescribed by dermatologists or physicians with experience in the use of systemic retinoids and a full understanding of the risks of systemic retinoid therapy and monitoring requirements.
Alprostadil			*Caverject*® *Viridal Duo*® *MUSE*®	Green	*Erectile dysfunction.* *When used in accordance with Health Service Circular 1999/148 (see BNF or Drug Tariff for details) otherwise* NHS. *FP10 prescriptions must be endorsed 'SLS'.*
Alprostadil			*Prostin VR*®	Red	*For congenital heart defects in neonates prior to corrective surgery.*

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Amantadine			*Lysovir*® *Symmetrel*®	Red	*For the use in the treatment of multiple sclerosis (MS) Unlicensed indication.*
				Not recommended	***For influenza:*** *NICE guidance (NICE TA158 September 2008) recommends against use.*
Amsacrine			*Amsidine*®	Red	Cytotoxic drug (Antineoplastic agent)
Ambrisentan		▼	*Volibris*®	Not recommended	No application for review by acute trust D&TC or Prescribing Forum received.
Amisulpride			Non-proprietary *Solian*®	Amber	In accordance with the recommendations made by NICE for the use of atypical antipsychotic drugs for the treatment of schizophrenia (Appraisal No. 43 June 2002) and locally agreed shared care guideline.
Amoxicillin (for prophylaxis of infective endocarditis)	Amoxycillin		Non-proprietary *Amoxil*®	**Not recommended**	For prophylaxis of infective endocarditis prior to certain dental or medical procedures unless at site of suspected infection in line with the recommendations of NICE guidance (NICE CG64 March 2008.)
Anastrozole			*Arimidex*®	Amber	For adjuvant endocrine treatment of postmenopausal patients with advanced oestrogen receptor-positive breast cancer, in accordance with NICE guidance (NICE TA112 November 2006) and locally agreed shared care guideline.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Angiotensin converting enzyme inhibitors	ACEI ACE inhibitor				See under individual treatments: • Cilazapril • Co-zidocapt • Enalapril maleate / hydrochlorothiazide • Fosinopril sodium • Imidapril hydrochloride • Lisinopril (**first-line**) • Lisinopril / hydrochlorothiazide • Moexipril hydrochloride • Perindopril erbumine • Perindopril arginine • Perindopril arginine / indapamide • Quinanpril • Quinapril / hydrochlorothiazide • Ramipril (**first-line** when prescribed as capsules) • Ramipril / felodipine • Trandolapril • Trandolapril / verapamil 

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Angiotensin Receptor Blocker	AIIR antagonist A2RA Angiotensin-II receptor antagonsits ARB Sartan				See under individual treatments: • Candesartan cilexetil • Eprosartan • Irbesartan • Irbesartan / hydrochlorothiazide • Losartan potassium • Losartan / hydrochlorothtiazide • Olmesartan medoxomil • Olmesartan medoxomil / hydrochororthiazide • Telmisartan • Telemisartan / hydrochlorothiazide • Valsartan • Valsartan / hydrochlorothiazide
Anidulafungin		▼	*Ecalta*®	Red	
Anti-D (Rh_0) immunoglobulin			Non-proprietary *D-Gam*® *Partobulin SDF*® *Rhophylac*® *WinRho SDF*®	Red	**For routine antenatal anti-D prophylaxis for RhD-negative women in accordance with the recommendations made by NICE (Appraisal No. 41 May 2002).**
Antimuscarinics					See under individual treatments: • Darifenacin (Not recommended) • Solefenacin (Second-line choice) • Trospium (Not recommended)
Antibiotics (for prophylaxis of infective endocarditis)				**Not recommended**	**For prophylaxis of infective endocarditis prior to certain dental or medical procedures unless at site of suspected infection in line with the recommendations of NICE guidance (NICE CG64 March 2008.)**

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Antioxidant vitamins, minerals, lutein, meso-zeaxanthin and zeaxanthin for AMD				**Not recommended**	
Anti-retrovirals for HIV				Red	**Drug treatments include:** **Nuceoside reverse transcriptase inhibitors: Abacavir (*Ziagen*®), Abacavir / lamivudine (*Kivexa*®), Abacavir / lamivudine / zidovudine (*Trizivir*®), Didanosine [ddI, DDI] (*Videx*®), Emtricitabine (*Emtriva*®), Lamivudine [3TC] (*Epivir*®, *Zeffix*®), Stavudine [d4T] (*Zerit*®), Tenofovir disoproxil ▼ (*Viread*®), Tenofovir / emtricitabine (*Truvada*®), Zidovudine [Azidothymidine, AZT] (*Retrovir*®), Zidovudine / lamivudine (*Combivir*®).** **Protease inhibitors: Atazanazir ▼ (*Reyataz*®), Darunavir ▼ (*Prezista*®), Fosamprenavir ▼ (*Telzir*®), Indinavir (*Crixivan*®), Lopinavir / ritonavir (*Kaletra*®), Nelfinavir (*Viracept*®), Ritonavir (Norvir®), Saquinavir (Invirase®), Tipanavir ▼ (Aptivus®)** **Non-nucleoside reverse transcriptase inhibitors: Efavirenz (*Sustiva*®), Etravirine ▼ (*Intelence*®), Nevirapine (*Viramune*®).** **Integrase transfer inhibitors: Raltegavir ▼(*Isentress*®)** **Other retrovirals: Enfuvirtide (*Fuzeon*®), Maraviroc ▼ (*Celsentri*®)** **Combination products: Efavirenz / emtricitabine / tenofovir (*Atripla*®),**
Antithymocyte immunoglobulin (rabbit)	Rabbit anti-human thymocyte immunoglobulin	▼	*Thymoglobuline*®	Red	
Apomorphine			*APO-go*®	Red	Treatment is managed by the Parkinson's disease speciality nurses. Patients must receive domperidone for at least two days before starting treatment.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Aripiprazole			*Abilify*®	Amber	In accordance with the recommendations made by NICE for the use of atypical antipsychotic drugs for the treatment of schizophrenia (Appraisal No. 43. June 2002) and locally agreed shared care guideline.
Aromatase inhibitors					See under individual treatments: • Anastrozole • Exemestine • Letrozole
Arsenic trioxide			*Trisenox*®	Red	Antineoplastic drug
Arthrotec®					See under Diclofenac sodium / misoprostol, oral
Asasantin Retard®	Dipyridamole / aspirin modified-release capsules		*Asasantin Retard*®	Green	Recommended in preference to prescribing dipyridamole and aspirin separately: Formulation provides evidence-based dose of dipyridamole and aspirin. Use to be in accordance with the recommendations made by NICE for the use of clopidogrel and dipyridamole in vascular disease (Appraisal No 90. May 2005).
Aspirin, oral, non-dispersible (low dose)	Aspirin, low dose		*Angettes*®	**Not recommended**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug. Recommend use aspirin 75mg dispersible tablets as the most cost-effective option.
Aspirin, oral, enteric-coated (low dose)	Aspirin e/c, low dose Aspirin gastro-resistant Aspirin g/r		Non-proprietary *Micropirin*® *Nu-Seals*®	**Not recommended**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug. Recommend use aspirin 75mg dispersible tablets as the most cost-effective option.
Aspirin, oral, modified release (low dose)			*Flamasacard*®	**Not recommended**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug. Licensed for secondary prophylaxis following a coronary or cerebovascular ischaemic event
Aspirin / dipyridamole combination					See under *Asasantin Retard*®

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Atomoxetine		▼	*Strattera*®	Amber	**Second-line** use according to locally agreed shared care guideline and in line with NICE (TA098 March 2006).
Auranofin			*Ridaura*®	Amber	In accordance with the guidance on the use of disease modifying anti-rheumatic drugs (DMARDs).
Azacitidine		▼	*Vidaza*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Azathioprine			Non-proprietary *Imuran*®	Amber	In accordance with the guidance on the use of disease modifying anti-rheumatic drugs (DMARDs).
Basiliximab			*Simulect*®	Red	Specialist use only – prophylaxis of organ rejection Please to refer to relevant NICE guidance (NICE TA99 April 2006)
Beta interferon					See under Interferon beta
Betaine			*Cystadane*®	Red	Specialist use only
Bevacizumab		▼	*Avastin*®	Red	Antineoplastic drug (monoclonal antibody) Please to refer to relevant NICE guidance (NICE TA118 January 2007 and NICE TA178 August 2009) The Scottish Medicines Consortium has recommended against use.
Bexarotene			*Targretin*®	Red	Antineoplastic drug (retinoid X receptor agonist)
Bicalutamide			Non-proprietary *Casodex*®	Amber	For locally advanced disease as an alternative to LHRH and also as neo-adjuvant/adjuvant treatment prior to and after radiotherapy.
				Not recommended	CSM has advised (October 2003) not to be used in treatment of localised prostate cancer
Bile acid sequestrants					See under individual treatments: • Colsevelam hydrochloride • Colestyramine • Colestipol hydrochloride
Bleomycin			Non-proprietary *Bleo-Kyowa*®	Red	Cytotoxic drug (Cytotoxic antibiotic)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Bortezomib		▼	*Velcade*®	Red	Antineoplastic drug (proteasome inhibitor) Please to refer to relevant NICE guidance (NICE TA129 October 2007) The Scottish Medicines Consortium has recommended against use for multiple myeloma.
Botulinum toxin type A			*Botox*® *Dysport*® *Vistabel*®	Red	**Acquired spasticity in Adults** **Multiple schlerosis (MS)** **Spasticity in Children** **Stroke**
Botulinum toxin type B			*NeuroBloc*®		
Brasivol®					See under Abrasive agents, topical
Buprenorphine, transdermal	Buprenorphine patches		*BuTrans*® *Transtec*®	**Not recommended**	Rejected after consideration by TST D&TC. Not suitable for the treatment of acute pain **NB:** Each *BuTrans*® transdermal patch is replaced after **five** days. Each *Transtec*® transdermal patch is replaced after **seven** days.
Bupropion			*Zyban*®	Green	NRT remains the first-line recommendation. **As an adjunct to smoking cessation in combination with motivational support in accordance with the recommendations made by NICE (NICE TA39 March 2002 and NICE TA123 July 2007.)** **CSM has issued a reminder that should not be used in patients with a history of seizures or eating disorders, a CNS tumour, or who are experiencing acute symptoms of alcohol or benzodiazepine withdrawal (see BNF for details.)**
Buserelin			*Suprefact*®	Amber	Shared care guideline to be developed for use in prostatic cancer.
			Suprecur®	Amber	Shared care guideline to be developed for use in endometriosis.
Busulfan	Buslphan	▼	*Busilvex*®	Red	Cytotoxic drug (Alkylating agent)
			Myleran®		
Bulsulfan, unlicensed preparations	Buslphan, unlicensed preparations			Red	Cytotoxic drug (Alkylating agent)
C1 esterase inhibitor	C-1 esterase inhibitor	▼	*Berinert*®	Red	

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Calcium acetate / magnesium carbonate			*Rephoren*®	Red	For the treatment of hyperphosphatemia associated with chronic renal insufficiency in patients undergoing dialysis
Calcium folinate	Calcium leucovorin		Non-proprietary	Red	For use cytotoxic-induced side-effects.
Calcium levofolinate	Calcium levoleucovorin		*Isovorin*®	Red	For use cytotoxic-induced side-effects.
Cannabinoid					See under individual treatments: • Cannabis Mouth Spray • Nabilone
Cannabis Mouth Spray CD	Cannabis Sativa L. Extract Cannabinoid oramucosal spray	Unlicensed	*Sativex*®	**Not recommended**	Currently not licensed in the UK. Application for license in UK declined pending further evidence of effectiveness and safety. (Also refer to "Clinical Trials Drugs")
Cancer drugs				Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment. Red category also includes oral cancer treatments
				Red	Drug treatments reviewed and recommended by NICE.
Candesartan cilexetil			*Amias*®	Green	**ACEIs remain renin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** ARB and only initiated after intolerance to ACEIs established. For hypertension and heart failure.
CAPD	Continuous Ambulatory Peritoneal Dialysis fluids			Red	Special purchasing arrangements in place through secondary care.
Capecitabine			*Xeloda*®	Red	Cytotoxic drug (Antimetabolite) Please to refer to relevant NICE guidance (NICE TA100 April 2006)
Captopril / hydrochlorothiazide					See under Co-zidocapt

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Carboplatin			*Carboplatin*® *Paraplatin*®	Red	Cytotoxic drug (Platinum compound) Please to refer to relevant NICE guidance (NICE TA55 January 2005 and NICE TA91 May 2005)
Carmellose, ocular			*Optive*®	**Not recommended**	Rejected for use by TST D&TC. NB: Other brands of carmellose eye-drops are available but these have not been considered by the acute trust D&TCs or the Somerset Prescribing Forum.
Carmustine			*BiCNU*® *Gliadel*®	Red	Cytotoxic drug (Alkylating agent)
Caspofungin			*Cancidas*®	Red	
Cerazette®					See under Desogestrel
Cetuximab		▼	*Erbitux*®	Red	Antineoplastic drug (monoclonal antibody) Please to refer to relevant NICE guidance (NICE TA118 January 2007 and NICE TA176 August 2009)
				Not recommended	In combination with platinum-based chemotherapy for the treatment of head and neck cancer (squamous cell carcinoma) in accordance with NICE guidance (see NICE TA172 June 2009.)
Chloral hydrate			Extemporaneously prepared or obtained from "Specials" manufacturers.	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Chloral betaine			*Welldorm*®	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Chlorambucil			*Leukeran*®	Red	Cytotoxic drug (Alkylating agent)
Chondroitin			(See notes)	**Not recommended**	Not licensed medicines. Legal status of "food supplements." Currently only available in the UK in combination with other food supplements NICE (see NICE CG59 February 2008) recommended against use in osteoarthritis See also under Glucosamine

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Chorionic gonadotrophin			*Choragon*® *Pregnyl*®	Red	Special purchasing arrangements in place through secondary care.
Chloramphenicol / hydrocortisone / allantoin / butoxyethyl nicotinate / precipitated sulphur, topical			*Actinac*®	**Not recommended**	**For acne:** ◪ Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Ciclosporin			*Neoral*®	Red	For transplant patients.
			Sandimmun®	Red	In accordance with the guidance on the use of disease modifying anti-rheumatic drugs. No commissioned monitoring service available.
Cidofovir			*Vistide*®	Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment.
Cilazapril			*Vascace*®	**Not recommended**	**First-line** ACEIs remain ramipril capsules or lisinopril
Cincalcet			*Mimpara*®	Red	In accordance relevant NICE guidance (NICE TA)
Cisplatin			Non-proprietary	Red	Cytotoxic drug (platinum compounds) Please to refer to relevant NICE guidance (NICE TA55 January 2005, NICE TA91 May 2005, and NICE TA183 October 2009)
Cladribine			*Leustat*®	Red	Cytotoxic drug (Antimetabolite)
			Litak®		
Clinical trial drugs				Red	
Clofarabine		▼	*Evoltra*®	Red	Cytotoxic drug (Antimetabolite)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Clopidogrel			*Plavix*®	Green	For patients hypersensitive to aspirin or patients not tolerating low-dose aspirin or a combination of low-dose aspirin + gastroprotective agent. In accordance with the recommendations made by NICE for the use of clopidogrel and dipyridamole in vascular disease (NICE TA 90. May 2005).
				Amber	*In accordance with the recommendations made by NICE for the use of clopidogrel in the treatment of non-ST-segment-elevation acute coronary syndrome (NICE TA80 July 2004) clopidogrel should be used for up to 12 months.* Post stent insertion (unless follows acute coronary syndrome (see above)): • Clopidogrel should be used for one month following insertion of a non-drug eluting stent. • Clopidogrel should be used for 12 months following insertion of a drug-eluting stent (DES.)
Clozapine			*Clozaril*® *Denzapine*® *Zaponex*®	Red	In accordance with the recommendations made by NICE for the use of atypical antipsychotic drugs for the treatment of schizophrenia (NICE TA43 June 2002).
Colesevelam hydrochloride		▼	*Cholestagel*®	Amber	Specialist recommendation only: usually initiated in secondary care by clinical biochemists for patients with complex dyslipidaemias.
Colestyramine	Cholestyramine		Non-proprietary *Questran*® *Questran Light*®	Amber	Specialist recommendation only: usually initiated in secondary care by clinical biochemists for patients with complex dyslipidaemias.
Colestipol hydrochloride			*Colestid*®	Amber	Specialist recommendation only: usually initiated in secondary care by clinical biochemists for patients with complex dyslipidaemias.
Colistin			*Colomycin*® *Promixim*®	Red	Inhaled use as an adjunct to standard antibacterial therapy in patients with cystic fibrosis.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Co-dydramol	Dihydrocodeine / paracetamol Dihydrocodeine / acetaminophen		Non-proprietary *Remedeine*® *Remedeine Forte*® *Paramol*®	**Not recommended**	500mg paracetamol in combination with 10mg, 20mg or 30mg of dihydrocodeine depending on manufacturer / brand. Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Continuous subcutaneous insulin infusion					See under Insulin (Continuous subcutaneous insulin infusion)
Co-proxamol	Dextropropoxyphene / paracetamol Dextropopoxyphene / acetaminophen		Non-proprietary *Distalgesic*®	**Not recommended**	Paracetamol 325mg / dextropropoxyphene 32.5mg No longer licensed because of safety concerns: The licences for all products containing co-proxamol were cancelled by the MHRA in 2007, following advice from the CSM. The CSM found that there is little evidence to show that co-proxamol is more effective at relieving pain than paracetamol alone. Prior to license cancellation around 300-400 self-poisoning deaths each year, of which around a fifth are accidental, involved co-proxamol.
Co-zidocapt	Captopril / hydrochlorothiazide		Non-proprietary *Capozide*®	**Not recommended**	Combination products not recommended: **First-line** ACEIs remain ramipril capsules or lisinopril **First-line** thiazide remains bendroflumethiazide 2.5mg
Crisantaspase			*Erwinase*®	Red	Antineoplastic drug (*Erwinia chrysanthemi* asparaginase)
Cyclophosphamide			Non-proprietary *Endoxana*®	Red	Cytotoxic drug (Alkylating agent)
Cyproterone			Non-proprietary *Cyprostat*®	Amber	For use in treatment of prostate cancer. **Note:** *Androcur*® brand only licensed for use severe hypersexuality and/or sexual deviation in the adult male
Cytarabine			Non-proprietary	Red	Cytotoxic drug (Antimetabolite)
	Liposomal cytarabine suspension	▼	*DepoCyte*®		
Cytokine modulators					See under individual agents: • Adalimumab • Etanercept • Infliximab

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Daclizumab			*Zenapax*®		Product discontinued
Dabigatran etexilate		▼	*Pradaxa*®	Red	In accordance with NICE TA157 (Sep 2008.) Patients must be closely monitored for signs of bleeding or anaemia
Darcarbazine			Non-proprietary	Red	Antineoplastic drug
Dactinomycin	Actinomycin D		*Cosmegan Lyovac*®	Red	Cytotoxic drug (Cytotoxic antibiotic)
Darifenacin	M3 muscarinic acetylcholine receptor blocker	▼	*Esmelex*®	**Not recommended**	Considered by both TST and YDH D&TC and turned down on a basis of lack of evidence. No evidence provided to substantiate theoretical superiority of side-effect profile compared to other antimuscarinic drugs due to reported greater M3 muscarinic acetylcholine receptor selectivity.
Darbepoetin alfa			*Aranesp*®	Red	See MHRA / CHM advice regarding: • CKD patients and target haemoglobin concentrations • Use outside licensed indications See CSM advice regarding pure red cell aplasia.
Darusentan	Endothelin type A antagonist			**Not recommended**	Not yet marketed in the UK. No application for review by either acute trust D&TCs or Prescribing Forum received.
Dasatinib		▼	*Sprycel*®	Red	Cytotoxic drug (protein kinase inhibitor) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Daunorubicin			Non-proprietary *DaunoXome*®	Red	Cytotoxic drug (Anthracycline antibiotic)
Deferasirox mesilate		▼	*Exjade*®	Red	
Degarelix	Gonadotrphin releasing hormone antagonist GnRH anatgonist	▼	*Firmagon*®	Red	No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Deferiprone			*Ferriprox*®	Red	
Deflazacort			*Calcort*®	**Not recommended**	Insufficient evidence of significant additional clinical benefit over prednisolone.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Degarelix		Unlicensed	*Firmagon*®	**Not recommended**	Not currently licensed in the UK: Launched in Europe for treatment of patients with advanced hormone-dependent prostate cancer. No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Denosumab	AMG 162	Unlicensed	*Prolia*®	**Not recommended**	Not yet marketed in the UK. Currently undergoing trials for use in the treatment of osteoporosis, treatment-induced bone loss, bone metastases, rheumatoid arthritis, multiple myeloma and giant cell tumor of bone.
Desferrioxamine mesilate	Deferoxamine mesilate		Non-proprietary *Desferal*®	Red	
				Not recommended	Not recommended for patients with myelodysplastic syndromes
Desloratadine			*NeoClarityn*®	**Not recommended**	Not approved for use by acute trust D&TCs: No advantages over formulary choices. **First-line** choices for antihistamines remain chorphenamine, cetirizine, or loratadine **Note:** Desloratadine is a metabolite of loratadine
Desogestrel			*Cerazette*®	Green	In accordance with local guideline.
Dexrazoxone		▼	*Cardioxane*® *Savene*®	Red	For use cytotoxic-induced side-effects.
Dextromoramide CD			*Palfium*®	**Not recommended**	No products licensed for marketing in the UK are currently available. *Palfium*® discontinued in 2003. Very short half-life and only suitable of single PRN doses if used.
Diclofenac potassium, oral			V*oltarol Pain-eze*® *Voltarol Rapid*®	**Not recommended**	V*oltarol Pain-eze*® is a high-cost pharmacy-only medicine that is available OTC and should not be prescribed on cost grounds.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Diclofenac sodium, oral			Non-proprietary *Dicloflex*® *Diclomax*® *Fenactol*® *Motifene*® *Rheumatac Retard*® *Voltarol*®	Green	**First-line** NSAID remains ibuprofen (immediate release preparations) **Second-line** NSAID remains naproxen. Enteric-coated naproxen remains non-formulary. Diclofenac sodium modified-release / sustained release preparations are non-formulary. Evidence suggests diclofenac daily doses >100mg may carry similar CV risk to COX-II inhibitors.
Diclofenac sodium / misoprostol, oral	Diclofenac / misoprostol		*Arthrotec*®	**Not recommended**	Not cost-effective compared to PPIs for NSAID cytoprotection, dose required is poorly tolerated and no other indications warrant inclusion Use of prostaglandin analogues in combination preparations such not recommended as the dose of misoprostol contained in these is not the most effective.
Diconal® CD					See under Dipipanone / cyclizine
Diltiazem, topical			Unlicensed product	**Not recommended**	Unlicensed medicine. Licensed products are available for the treatment of some conditions that this product would be used for. No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug.
Dipeptidyl peptidase type 4 inhibitor	DPP4 inhibitor Gliptin				See under individual agents: • Saxagliptin • Sitagliptin **(first-choice)** • Vildagliptin
Dipipanone / cyclizine CD			*Diconal*®	**Not recommended**	*Diconal*® = Dipipanone 10mg + cyclizine 30mg tablets Potentially highly addictive. Sedating and anticholinergic effects of cyclizine makes the combination unsuitable for long-term use. Maximum daily dose of *Diconal*® is 12 tablets / 24 hours (i.e. 360mg of cyclizine.) Maximum daily dose of cyclizine is 150mg. Acute pain indication specified as only indication in BNF. Not recommended in palliative care

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Dipyridamole / aspirin combination					See under *Asasantin Retard®*
Dipyridamole m/r capsules			*Persantin Retard®*	Green	In accordance with the recommendations made by NICE for the use of clopidogrel and dipyridamole in vascular disease (NICE TA90 May 2005). If to be be prescribed in combination with aspirin see *Asantin Retard®*.
Disease modifying anti-rheumatic drugs	DMARDs				See under individual agents: • Auranofin • Azathioprine • Hydroxychloroquine • Methotrexate, oral • Methotrexate, parenteral • Sodium auromthiomalate
Disodium folinate	Folinic acid		*Sodiofolin®*	Red	For use cytotoxic-induced side-effects. In accordance with relevant NICE guidance where applicable (see NICE TA176 August 2009.)
Disodium levofolinate	Levofolinic acid		Non-proprietary	Red	For use cytotoxic-induced side-effects.
Disodium pamidronate	aminohydroxypropyliden edi-phosphonate APD		Non-proprietary *Aredia* *Dry Powder®*	Red	For use in the management of multiple myeloma.
DMARDs					See under Disease modifying anti-rheumatic drugs
Docetaxel			*Taxotere®*	Red	Cytotoxic drug (taxane) Please to refer to relevant NICE guidance (NICE TA30 September 2001, NICE TA101 June 2006, and NICE TA109 September 2006)
Donepezil hydrochloride			*Aricept* *Aricep Evess®*	Amber	In accordance with the recommendations made by NICE (NICE TA111 Amended September 2007). Patients should be **assessed every six months** by secondary care specialist, and treatment continuation reviewed in accordance with NICE TA111.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Doripenem		▼	*Doribax*®	Red	
Dornase alfa	Phosphorylated glycosylated deoxyribonuclease 1 rhDNase		*Pulmozyme*®	Red	Management of cystic fibrosis patients.
Doxorubicin hydrochloride			Non-proprietary	Red	Cytotoxic drug (Anthracycline antibiotic)
Doxorubicin, liposomal		▼	*Myocet*®	Red	Cytotoxic drug (Anthracycline antibiotic)
Doxorubicin, pegylated liposomal		▼	*Caelyx*®	Red	Cytotoxic drug (Anthracycline antibiotic) Please to refer to relevant NICE guidance (NICE TA91 May 2005)
DPP4-inhibitor					See under individual agents: • Saxagliptin • Sitagliptin **(first-choice)** • Vildagliptin
Dressings available on prescription (FP10)					Please to NHS Somerset Wound Formulary for guidance on prescribing and use of dressings.
Dressings not available on prescription (FP10) for dispensing in primary care 				Red	Items not listed in Part IXA of the Drug Tariff cannot be prescribed on FP10
Droperidol		▼	*Xomolix*®	Red	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Licensed for the prevention and treatment of post-operative nausea and vomiting.
Drospirenone / ethinylestradiol	Drospirenone / ethinyloestradiol				See under *Yasmin*®
Drotrecogin alfa (activated)	Recombinant activated protein C	▼	*Xigris*®	Red	In accordance with the recommendations made by NICE (NICE TA84 September 2004).

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Duloxetine		▼	*Cymbalta*®	Green	For **third or fourth line** for use in Peripheral Neuropathic pain associated with diabetic neuropathy. **Note:** Duloxetine branded as *Yentreve*® ▼ has different licensed indications.
Dutasteride			*Avodart*®	**Not recommended**	Non-formulary following rejection by the TST D&TC
Eflornithine, topical			*Vaniqa*®	**Not recommended**	
Electro-acupuncture				**Not recommended**	NICE (see NICE CG59 February 2008) recommended against use in osteoarthritis
Enalapril maleate / hydrochlorothiazide			Non-proprietary *Innozide*®	**Not recommended**	Combination products not recommended: **First-line** ACEIs remain ramipril capsules or lisinopril **First-line** thiazide remains bendroflumethiazide 2.5mg
Enoxaparin sodium			*Clexane*®	Amber	For Venous Thromboembolism prophylaxis (VTE) in pregnancy. Shared care agreement in preparation.
				Amber	All indications except VTE prophylaxis in pregnancy – no shared care agreement(s) developed.
Entacapone			*Comtess*®	Amber	Used as an adjunct to levodopa therapy in patients who cannot be stabilised, particularly those with "end-of-dose" fluctuations. Refer to locally agreed guidance on drug treatment of Parkinson's disease and shared care guideline.
Entecavir		▼	*Baraclude*®	Red	Chronic hepatitis B
Epinastine			*Relestat*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Epirubicin hydrochloride			*Pharmorubicin*®	Red	Cytotoxic drug (Anthracycline antibiotic)
Eplerenone		▼	*Inspra*®	Amber	Used, in addition to standard therapy, to reduce the risk of cardiovascular mortality and morbidity after recent myocardial infarction in stable patients with left ventricular dysfunction and clinical evidence of heart failure, as an alternative to spironolactone, where sex hormone mediated adverse effects experienced.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Eprosartan			*Teveten*®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain renin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.)
Epoprostenol			*Flolan*®	Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment.
Epoetin alfa		▼	*Binocrit*®	Red	See MHRA / CHM advice regarding: • CKD patients and target haemoglobin concentrations • Use outside licensed indications See CSM advice regarding pure red cell aplasia.
			Eprex®		
Epoetin beta			*NeoRecormon*®		
Epoetin zeta		▼	*Retacrit*®		
Erlotinib		▼	*Tarceva*®	Red	Cytotoxic drug (protein kinase inhibitor) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Erythropthropoietin	Recombinant human erythropoietins			Red	The prescriber must specify which epoetin is required: See under Darbepoetin alfa, Epoetin alfa, Epoetin beta, Epoetin delta, Epoetin zeta
Escitalopram			*Cipralex*®	Amber	**Third line** for the treatment of **Major Depressive Disorder** (MDD) after fluoxetine, citalopram and sertraline failure in primary care, and as an alternative to venlafaxine. May be initiated by Somerset Partnership consultant psychiatrists only. Escitalopram is the active enantiomer of citalopram. See CSM advice regarding treatment of depressive illness in children and adolescents with SSRIs.
				Not recommended	All other indications other than for Major Depressive Disorder initiated by Somerset Partnership consultant psychiatrists. Escitalopram has not been approved for use by physicians at TST or YDH.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Estradiol / drospireone (HRT)			*Angeliq*®	**Not recommended**	Not approved for use by acute trust D&TCs Drug and Therapeutics Bulletin (2009; **47**, 41) recommends that cheaper forms of hormone replacement therapy (HRT) are a better option for most women who need HRT than *Angeliq*®
Estrarmustine phosphate			*Estracyt*®	Red	Cytotoxic drug (Alkylating agent)
Etanercept		▼	*Enbrel*®	Red	For **rheumatoid arthritis** in accordance with the recommendations made by NICE (NICE TA130 October 2007).
				Red	Ankylosing spondylitis
				Red	Plaque Psoriasis and Psoriatic Arthritis in accordance with recommendations made by NICE (NICE TA103 and NICE TA104 July 2006).
Ethinylestradiol / drospirenone	Ethinyloestradiol / drospirenone				See under *Yasmin*®
Etonogestrel			*Implanon*®	Green	Only to be administered by doctors and other healthcare professionals who have documentary proof of completion Faculty of Family Planning and Reproductive Health Care (FFPRHC) recognised training and have been assessed as competent in the insertion and removal of *Implanon*® subdermal implants. Training must be up-to-date and competence maintained.
Etoposide			Non-proprietary *Eposin*® *Etopohos*® *Vepesid*®	Red	Cytotoxic drug **For oral etoposide** (*Vepesid*®): please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Everolimus		▼	*Afinitor*®	**Not recommended**	Cytotoxic drug (Protein kinase inhibitor) No application for approval for use has been made to acute trust D&TCs.
Exemestane			*Aromasin*®	Amber	For adjuvant endocrine treatment of postmenopausal patients with advanced oestrogen receptor-positive breast cancer, in accordance with NICE guidance (NICE TA112 November 2006) and locally agreed shared care guideline.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Exenatide		▼	*Byetta*®	Amber	**In accordance with locally agreed Shared Care guideline.** All prescribers are reminded to review the latest DVLA guidance on this product.
Ezetimibe		▼	*Ezetrol*®	Green	For primary hypercholestraemia in accordance with NICE guidance (NICE TA132 November 2007 and NICE CG66 May 2008) Ezetimibe is included in the formulary only for: • Use as monotherapy for patients intolerant to a minimum of two formulary statins • Use in addition to a statin for patients not at target on statin monotherapy, where higher doses of that statin and an alternative statin have been tried and are not tolerated
Ezetimibe / simvastatin		▼	*Inergy*®	**Not recommended**	The ezetimibe & simvastatin combination preparation (*Inegy*®) is **non-formulary** due to its greater cost compared to separate ezetimibe and simvastatin.
Factor Xa inhibitor					See under Rivaroxaban
Famciclovir			*Famvir*®	**Not recommended**	**First-line** choice remains Aciclovir.
Fentanyl, buccal CD		▼	*Abstral*® *Actiq*® *Effentora*®	**Not recommended**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug.
Fentanyl, ionotophoretic transdermal system CD			*Ionsys*®		Product discontinued
Ferric carboxymaltose		▼	*Ferinject*®	Red	
Fesoterodine		▼	*Toviaz*®	**Not recommended**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug. **Note:** Fesoterodine is a prodrug for tolterodine
Filgrastim	Recombinant human granulocyte-colony		*Neupogen*®	Red	

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
	stimulating factor G-CSF	▼	*Ratiograstim*®		
Finasteride			Non-proprietary *Proscar*® **Note:** 5mg tablets	Green	Only 5-Alpha Reductase Inhibitors (5-ARIs) recommended.
			Propecia® NHS **Note:** 1mg tablets	**Not recommended**	Finasteride 1mg daily for the treatment of androgenetic alopecia. NHS Prescribing by brand of some products on FP10 not allowed – please check Drug Tariff for details.
Flucytosine, oral		Unlicensed		Red	Tablets are available on a named-patient basis only.
Flucytosine, parenteral			*Ancotil*®	Red	
Fludarabine			*Fludara*®	Red	Cytotoxic drug (Antimetabolite)
Fluorouracils					See under individual treatments: • Fluorouracil, oral • Fluorouracil, parenteral • Fluorouracil, topical
Fluorouracil, oral			Non-proprietary	Red	Cytotoxic drug (Antimetabolite) Only available on a named-patient basis.
Fluorouracil, parenteral			Non-proprietary	Red	Cytotoxic drug (Antimetabolite)
Fluorouracil, topical			*Efudix*®	Amber	No shared care agreement available Cytotoxic drug (Antimetabolite)
Flutamide			Non-proprietary *Drogenil*®	Amber	Advanced prostate cancer.
Folinic acid					See under individual treatments: • Calcium folinate • Calcium levofolinate • Disodium folinate

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Follitropin alfa and beta	Recombinant human follicle stimulating hormone				See under individual treatments: • Follitropin alfa • Follitropin beta
Follitropin alfa			*Gonal-F*®	Red	Special purchasing arrangements in place through secondary care.
Follitropin beta			*Puregon*®	Red	Special purchasing arrangements in place through secondary care.
Fosaprepitant		▼	*Ivemend*®	Red	
Foscarnet sodium			*Foscavir*®	Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment.
Fosfomycin	Phosphomycin Phosphonomycin (3-Methyloxiran-2-yl)phosphonic acid		*Monurol*®	Red	Inpatients at TST only for the treatment of ESBL on microbiologist approval only. Unlicensed medicine in the UK.
Fosinopril sodium			Non-proprietary *Staril*®	**Not recommended**	**First-line** ACEIs remain ramipril capsules or lisinopril
Fesoteradine		▼	*Toviaz*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Fluvastatin			*Lescol*® *Lescol XL*® *Luvinsta XL*®	**Not recommended**	**First-line** statin remains simvastatin
Fulvestrant			*Faslodex*®	Red	
Ganciclovir, ocular			*Virgan*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. **First-line** *herpes simplex* treatment remains acyclovir.
Ganciclovir, parenteral			*Cymevene*®	Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Gefitinib		▼	*Iressa*®	Red	Treatment of locally advanced or metastatic non-small cell lung cancer (NSCLC) with activating mutations of EGFR-TK. See statement from NICE that unable to recommend use (see NICE TA175 July 2009 (Terminated appraisal.)) No application for review by either acute trust D&TCs or Prescribing Forum received.
Gemcitabine			*Gemzar*®	Red	Cytotoxic drug (Antimetabolite)
Glatiramer acetate			*Copaxone*®	Red	Please to refer to relevant NICE guidance (NICE TA32 January 2002)
Glimepiride			Non-proprietary *Amaryl*®	**Not recommended**	
Gliptin	Dipeptidyl peptidase type 4 inhibitor DPP4 inhibitor				See under individual treatments: • Saxagliptin • Sitagliptin **(first-choice)** • Vildagliptin
Glitazone	PPARγ agonist Thiazolidinedione				See under indivual treatments: • Pioglitazone • Rosiglitazone
GLP-1 analogue					See under Liraglutide

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Glucosamine	2-Amino-2-deoxy-β-D-glucopyranose Chitosamine Glucosamina Glucosaminium	▼	*Alateris*®	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing. Licensed for symptomatic relief of mild to moderate osteoarthritis of the knee. NICE guidance (NICE CG59 February 2008) advised against use in osteoarthritis Scottish Medicines Consortium recommends against use in osteoarthritis
			Some products in combination with other food supplements: Non-proprietary *Arheumacare*® *BackOsamine*® *Healtheries Musseltone & Glucosamine*® *Flexese*® *Joint-e-Licious*® *Joint Action*® *Jointace*® *JointCare Max*®	**Not recommended**	Not licensed medicines. Legal status of "food supplements." NHS Prescribing by brand of some products on FP10 not allowed – please check Drug Tariff for details. NICE guidance (NICE CG59) advising against use in osteoarthritis Scottish Medicines Consortium recommends against use in osteoarthritis
Glycopyrronium bromide	Glycopyrrolate		*Robinul*®	Red	Iontophoretic treatment of hyperhidrosis
				Green	For use in Palliative care for excessive respiratory secretion. **NB:** May be difficult to obtain. Hyoscine hydrobromide is an alternative.
Gold				Amber	See under individual agents: • Auranofin • Sodium auromthiomalate

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Gonadorelin analogue					See under individual treatments: • Goserelin • Leuprorelin acetate • Nafarelin • Triptorelin
Gonadotrophin					See under individual treatments: • Follitropin alfa and beta • Menotropin • Urofollitropin
Goserelin			*Zoladex*® *Zoladex LA*®	Amber	Shared care guideline to be developed for use in prostatic cancer. **First-line** choice of LHRH analogue is triptorelin (*Decapeptyl SR*®.formulations) (Not to be confused with the triptorelin *Gonapeptyl Depot*® formulations)
				Red	Endometriosis
Granisetron			*Kytril*®	Red	
Grazax®	Standardised allergen extract of grass pollen from Timothy grass (*Phleum pratense*)	▼	*Grazax*®	**Not recommended**	Reviewed at local Drugs and Therapeutics committees and **not recommended** on a basis of lack of evidence. **Note:** SPC states that treatment should only be initiated by physicians with experience of treating allergic diseases. Treatment initiation required 16-weeks prior to anticipated hay fever season. First dose required under medical supervision.
Growth hormone					See under Somatropin
Hepatitis A / hepatitis B vaccine			*Ambirix*® *Twinrix Adult*® *Twinrix Paediatric*®	**Not recommended**	Bivalent vaccine **not recommended** for primary care prescribing on FP10 prescription – different criteria for NHS prescribing of hepatitis A compared to hepatitis B.
Hepatitis B / hepatitis A vaccine					See under Hepatitis A / hepatitis B vaccine

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Histerlin acetate		▼	*Vantas*®	**Not recommended**	Synthetic analogue of naturally occurring lutenising releasing hormone (LH-RH.) No application for approval for use has been made to acute trust D&TCs.
HPV vaccine					See under individual treatments: • Human papilloma vaccine, bivalent • Human papilloma vaccine, tetravalent
Human papilloma virus vaccine	HPV vaccine				See under individual treatments: • Human papilloma vaccine, bivalent • Human papilloma vaccine, tetravalent
Human papilloma virus vaccine, bivalent	HPV vaccine, bivalent	▼	*Cervarix*®	**Not recommended**	**Not recommended** for primary care prescribing on FP10 prescription. **Recommended** for certain groups as part of the National vaccination programme and 'Catch-up' programme only. See BNF and 'Green Book' for details.
Human papilloma virus vaccine, tetravalent	HPV vaccine, tetravalent	▼	*Gardasil*®	**Not recommended**	**Not recommended** for primary care prescribing on FP10 prescription. See under Human papilloma virus vaccine, bivalent for recommended vaccine for certain groups as part of the National vaccination programme and 'Catch-up' programme only.
Hydroxycarbamide	Hydroyurea		Non-proprietary *Hydrea*®	Amber	Licensed indications only: Awaiting locally agreed shared care agreement. Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001.)
				Not recommended	**Unlicensed indication:** For reducing the frequency of crises in sickle-cell disease and reduce the need for blood transfusions. **MHRA guidance**: licensed products should be used for unlicensed ("off-label") indications in preference to unlicensed products. Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001.)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
		▼	*Siklos*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Licensed for prophylaxis of recurrent painful vaso-occlusive crises including acute chest syndrome in patients with sickle-cell disease only. Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Hydroxychloroquine			*Plaquenil*®	Amber	In accordance with the guidance on the use of disease modifying anti-rheumatic drugs.
Hylan G-F 20			*Synvisc*®	**Not recommended**	Use reviewed by NICE (see NICE CG59 February 2008) and recommended against use.
Hyaluronic acid and derivatives:	Hyaluronans			**Not recommended**	NICE guidance advises against use (see NICE CG59 February 2008). See under individual agents: • Hylan G-F 20 • Sodium hyaluronate
Hyaluronidase			*Hyalase*®	Red	For introduction of fluids by subcutaneous infusion (hypodermoclysis)
Hydroquinone, topical	Quinol (NB: Do not confuse with hydroquinine)		*Eldopaque*® *Eldoquin*® *Solaquin*®	**Not recommended**	Used as a dipigmenting agent. May be carcinogenic. Side-effect ochronosis (probably irreversible.)
Human menopausal gonadotrophin					See under individual treatments: • Menotrophin • Urofollotropin
Ibandronic acid, oral (50mg tablets)	Ibandronate	▼	*Bondronat*®	**Not recommended**	Reduction of bone damage in bone metastases in breast cancer. Not approved for use in NHS Somerset. Non-formulary at TST and RUH. NB: Cancer treatments and adjuncts to cancer treatment are categorised as “red” unless otherwise specified.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Ibandronic acid, parenteral (1mg / ml concentrate for IV infusion)	Ibandronate	▼	*Bondronat*®	**Red**	Reduction of bone damage in bone metastases in breast cancer or hypercalcaemia of malignancy
ICaps®				**Not recommended**	Not licensed medicines. Legal status of "food supplements."
Icatibant		▼	*Firazyr*®	**Not recommended**	Reviewed by local Drug & Therapeutic Committees and not recommended for use in Somerset. Only licensed for the treatment of acute attacks of hereditary angioedema in adults with C1-esterase inhibitor deficiency. Only licensed for administration by a healthcare professional. Scottish Medicines Consortium (SMC) recommend against use on basis of lack of robust economic analysis.
Idarubicin hydrochloride			*Zavedos*®	Red	Cytotoxic drug (Anthracycline antibiotic)
Ifosamide			*Mitoxana*®	Red	Cytotoxic drug (Alkylating agent)
Imatinib		▼	*Glivec*®	Red	Cytotoxic drug (protein kinase inhibitor) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Imidapril hydrochloride			*Tanatril*®	**Not recommended**	**First-line** ACEIs remain ramipril capsules or lisinopril
Incretinnimetic agent					See under Exenatide
Indapamide, modified release			*Ethibide XL*® *Natrilix SR*®	**Not recommended**	**First-line** thiazide or related diuretic remains bendroflumethiazide
Infliximab			*Remicade*®	Red	For rheumatoid arthritis in accordance with the recommendations made by NICE guidance (NICE TA130 October 2007).
				Red	For Crohn's disease in accordance with the recommendations made by NICE guidance (NICE TA40 April 2002).
				Red	Ankylosing Spondylitis
				Red	Psoriatic Arthritis in accordance with recommendations made by NICE (NICE TA104 July 2006).

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Inosine pranobex	Inosine acedoben dimepranol		*Imunovir*®	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Insulin (Continuous subcutaneous insulin infusion)				Red	In accordance with the recommendations made by NICE guidance (NICE TA57 February 2003)
Insulin, inhaled			*Exubera*®		Product discontinued
Insulin glargine			*Lantus*®	Green	In accordance with the recommendations made by NICE guidance (NICE TA53 December 2002). Refer also to locally agreed guidance.
Interferon alfa	Alpha interferon				See under Interferon alfa-2b (rbe)
Interferon alfa-2b (rbe) (See also Peginterferon alfa)			*IntronA*® *Roferon-A* *Viraferon*®	Red	For chronic myeloid leukaemia.
				Red	Chronic hepatitis B
				Red	Chronic hepatitis C NICE guidance (NICE TA75 January 2004)
Interferon beta	Beta interferon				See under individual treatments: • Interferon beta-1a • Interferon beta-1b
Interferon beta-1a			*Avonex*® *Rebif*®	Red	Multiple sclerosis In accordance with the recommendations made by NICE (NICE TA32 January 2002) and Department of Health guidance contained in HSC 2002/004.
Interferon beta-1b			*Betaferon*® *Betaject Light*® *Extavia*®	Red	Multiple sclerosis In accordance with the recommendations made by NICE (NICE TA32 January 2002) and Department of Health guidance contained in HSC 2002/004.
Intravenous antibiotics				Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Intravenous immunoglobulins:					See under: • Anti-D (Rh_0) immunoglobulin • Normal Immunoglobulins for Intavenous Use • Tetanus Immunoglobulin for Intravenous Use
Iodised Oil Fluid Injection B.P.		Unlicensed	*Lipiodol Ultra Fluid*®	Red	Emergency drug approved for use at TST. Unlicensed in the UK.
Irbesartan			*Aprovel*®	**Not recommended**	**ACEIs remain renin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.)
Irbesartan / hydrochlorothiazide			*CoAprovel*®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** thiazide remains bendroflumethiazide 2.5mg.
Irinotecan hydrochoride			*Campto*®	Red	Cytotoxic drug (Topoisomerase I inhibitor) Please to refer to relevant NICE guidance (NICE TA93 August 2005 and NICE TA176 August 2009)
Isotretinoin, oral			Non-proprietary *Roaccutane*®	Red	Isotretonoin is an isomer of tretinoin. **Important: teratogenic risk.** Pre-treatment assessment, treatment monitoring and side-effects, and post-treatment requirements need specialist supervision.
Isotretinoin, topical			*Isotrex*®	Red	Isotretonoin is an isomer of tretinoin. **Important: teratogenic risk.** Pre-treatment assessment, treatment monitoring and side-effects, and post-treatment requirements need specialist supervision.
Isotretinoin / erythromycin, topical			*Isotrexin*®		
Ivabradine		▼	*Procoralan*®	Amber	Secondary-care consultant initiation only for licensed indications.
Japanese encephalitis vaccine	Inactivated Japanese encephalitis virus, suspension	▼	*Ixiaro*® NHS	**Not recommended**	NHS Prescribing on FP10 not allowed – please check Drug Tariff for details.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Kava					Food supplement / medicinal plant **banned** in the UK over safety concerns.
Lacosamide		▼	*Vimpat*®	Amber	Antiepileptic for adjunctive treatment of partial seizures with or without secondary generalization. Consultant initiation only.
Lanreotide			*Somatouline Autogel*® *Somatuline LA*®)	Red	**Third-line** treatment for acromegaly (**second-line** if patient is unfit for surgery).
Latanoprost			*Xalatan*®	Green	Second-line. First-line prostaglandin analogue remains travoprost.
Lanthanum		▼	*Fosrenol*®	Amber	For patient's unable to tolerate other phosphate-binding agents. A shared care document is awaited from the Royal Devon & Exeter NHS Foundation Trust.
Lapatinib		▼	*Tyverb*®	Red	NICE has rejected for routine use in breast cancer. Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Leflunomide			*Arava*®	Amber	For **third-line** use in patients with active rheumatoid arthritis when treatment with sulphasalazine and methotrexate is contra-indicated or has been found to be ineffective or not tolerated. Treatment is initiated by a consultant rheumatologist who will prescribe for the first month. Refer to locally agreed shared care guideline.
Lenalidomide		▼	*Revlimid*®	Red	Patient, prescriber, and supplying pharmacy must be registered with Celgene Ltd and comply with a pregnancy prevention programme.
Letrozole			*Femara*®	Amber	For adjuvant endocrine treatment of postmenopausal patients with advanced oestrogen receptor-positive breast cancer, in accordance with NICE guidance (NICE TA112 November 2006) and locally agreed shared care guideline.
Leukotriene receptor antagonist					See under individual treatments: • Montelukast • Zafirlukast

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Leuprorelin acetate			*Prostap 3*® *Prostap SR*®	**Not recommended**	
Levocetirizine hydrochloride			*Xyzal*®	**Not recommended**	Not approved for use by acute trust D&TCs: No advantage over formulary choices. **First-line** choices for antihistamines remain chorphenamine, cetirizine, or loratadine **Note:** Levocetirizine is an isomer of cetririzine
Levofloxacin, ocular		▼	*Oftaquix*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Not yet reviewed by the Antibiotic Prescribing Forum.
Levofolinic acid					See under Disodium levofolinate
Levonorgestrel			*Levonelle-1500*®	Green	Emergency post-coital contraception. Not to be prescribed on FP10 as *Levonelle One-Step*® (Pharmacy-Only medication that can be sold OTC.)
			Levonelle One-Step®	**Not recommended**	High-cost alternative with restricted product license if prescribed as OTC product. Not to be prescribed on FP10 as *Levonelle One-Step*®
Lidocaine / tetracaine, topical	Lidocaine / tetracaine medicated plasters Tetracaine / lidocaine, topical		*Rapydan*®		No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Scottish Medicines Consortium (SMC) recommend against use for surface anaesthesia

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Linezolid		▼	*Zyvox*®	Red	Indicated for the treatment of complicated skin and soft tissue infections **only** when microbiological testing has established that the infection is known to be caused by susceptible Gram positive bacteria. Licensed indicated initiation should be in a hospital environment and after consultation with a relevant specialist such as a microbiologist or infectious diseases specialist. See **CSM advice** on haematopoetic disorders and optic neuropathy. **NB:** Not active against infections caused by Gram negative pathogens **NB:** Reversible non-selective monoamine oxidase inhibitor (MAOI) and patients must be advised accordingly.
Lipiodol Ultra Fluid®					See under Iodised Oil Fluid Injection B.P.
Liposomal doxorubicin					See under Doxorubicin, liposomal
Lisinopril			Non-proprietary	Green	**First-line** ACEI when prescribed generically
			Carace® *Zestril*®	**Not recommended**	Not recommended when prescribed as *Carace*® *or Zestril*®
Lisinopril / hydrochlorothiazide			Non-proprietary *Carace Plus*® *Liscostad*® *Zestoretic*®	**Not recommended**	Combinations not recommended: **First-line** ACEI remains ramipril capsules or Lisinopril **First-line** thiazide remains bendroflumethiazide 2.5mg
Liraglutide	Glucogen-like peptide-1 analogue GLP-1 analogue	▼	*Victoza*®	Amber	Approved for use in patients who fulfil the criteria set out by NICE for the use of exenatide but are intolerant or contra-indicated for the use of exenatide.
Lomustine			Non-proprietary *CCNU*®	Red	Cytotoxic drug (Alkylating agent)
Lormetazepam			Non-proprietary	**Not recommended**	Only licensed for short-term use in insomnia. Exceptionally high cost benzodiazepine compared to alternatives – NICE recommends use of most cost-effective option if prescribing of hypnotics clinically appropriate.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Losartan potassium			*Cozaar*®	Green	**ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **Second-line** ARB: For hypertension after intolerance to ACEIs and candesartan established; For renal protection in type-2 diabetes mellitus with nephropathy after intolerance to ACEI established.
Losartan potassium / hydrochlorothiazide			*Cozaar-Comp*®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** thiazide remains bendroflumethiazide 2.5mg.
Loteprednol etabonate		▼	*Lotemax*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Licensed for treatment of post-operative inflammation following ocular surgery.
Lutein Rx-Eye Vcaps®				**Not recommended**	Not licensed medicines. Legal status of "food supplements."
Lutenizing hormone-releasing hormone analogue	LHRH analogue				See under individual treatments: • Goserelin • Leuprorelin acetate • Nafarelin • Triptorelin
M3 muscarinic acetylcholine receptor blocker	Selective M3 antimuscarinic				See under individual treatments: • Darifenacin • Solifenacin
Measles vaccine, single antigen				**Not recommended**	**Not recommended** for primary care prescribing on FP10 prescription. No single antigen vaccine available in the UK

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Melatonin			Unlicensed preparations	Red	Unlicensed preparations.
		▼	*Circadin*®	**Not recommended**	Limited license – short-term use in primary insomnia in patients aged 55 years and older. No application for review by acute trust D&TC or Prescribing Forum received. Considered by Somerset Partnership D&TC and turned down.
Memantine			*Ebixa*®	**Not recommended**	In accordance with the recommendations of NICE (TA111 Amended September 2007).
Menotrophin	Purified extract of human-post-menopausal urine containing follicle-stimulating hormone (FSH) and luteinising hormone (LH)		*Merional*® *Menopur*®	Red	Special purchasing arrangements in place through secondary care.
Melphalan			*Alkeran*®	Red	Cytotoxic drug (Alkylating agent)
Mercaptopurine			*Puri-Nethol*®	Red	Cytotoxic drug (Antimetabolite) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Mesna			*Uromitexan*®	Red	For use cytotoxic-induced side-effects. Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Methotrexate	MTX				See under: • Methotrexate, oral • Methotrexate, parenteral

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Methotrexate, oral	MTX		Non-proprietary *Maxtrex®*	Amber	**For the treatment of rheumatoid arthritis only** - Refer to locally agreed shared care guideline: Cytotoxic drug (Antimetabolite) In accordance with the guidance on the use of Disease modifying anti-rheumatic drugs (DMARDs) Please refer to *NPSA Patient Safety Alert 13: Improving Compliance with Oral Methotrexate Guidelines* (Reissued June 2006) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001) **Note:** Methotrexate should be prescribed as 2.5mg tablets **not 10mg tablets**. See CSM advice on blood dyscrasias and liver cirrohosis with low-dose Methotrexate.
				Red	**All other indications.** Cytotoxic drug (Antimetabolite) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001) See CSM advice on blood dyscrasias and liver cirrohosis with low-dose Methotrexate.
				Not recommended	**10mg tablets** not recommended on reasons of patient safety. All doses should be prescribed using 2.5mg tablets.
Methotrexate, parenteral	MTX		Non-proprietary *Metoject®*	Red	Cytotoxic drug (Antimetabolite) Due to significant health and safety issues.
Methoxy polethylene glycol – epoetin alfa	Methoxy PEG – epoetin alfa Pegzerepoetin alfa	▼	*Mircera®*	Red	See MHRA / CHM advice regarding: • CKD patients and target haemoglobin concentrations • Use outside licensed indications See CSM advice regarding pure red cell aplasia.
Methylnaltrexone bromide		▼	*Relistor®*	Green	For opioid-induced constipation in terminally ill patients, when response to other laxatives is inadequate.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Methylphenidate hydrochloride CD			Non-proprietary *Concerta XL*® *Equasym*® *Equasym XL*® *Medikinet*® *Medikinet XL*® *Ritalin*®	Amber	In accordance with the recommendations made by NICE (TA98 March 2006). **Refer also to locally agreed shared care guideline.** The prolonged-release ("XL") formulations should be reserved for patients experiencing problems with conventional tablets. Treatment should be initiated by the consultant, on an individual patient basis, following review and the patient's GP informed of the rationale for this decision.
Micafungin		▼	*Mycamine*®	Red	
Midodrine			*Gutron*® *ProAmatine*®	Red	Currently no licensed product available in the UK.
Minocycline			Non-proprietary *Acnamino MR*® *Aknemin*® *Minocin*® *Minocin MR*® *Sebomin MR*®	**Not recommended**	
Minoxidil			*Regaine*® NHS	**Not recommended**	NHS Prescribing by brand of some products on FP10 not allowed – please check Drug Tariff for details.
Misoprostol			Cytotec	**Not recommended**	Not cost-effective compared to PPIs for NSAID cytoprotection, dose required is poorly tolerated and no other indications warrant inclusion
Mitomycin			*Mitomycin C Kyowa*®	Red	Cytotoxic drug (Cytotoxic antibiotic)
Mitotane			*Lysodren*®	Red	Antineoplastic drug All unlicensed indications – no application for use has been received by acute trust D&TCs or the Somerset Prescribing Forum. Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
				Not recommended	Antineoplastic drug. Licensed indication: For the symptomatic treatment of advanced (unresectable, metastatic or relapsed) adrenal cortical carcinoma. Rejected for use by NHS Scotland by the Scottish Medicines Consortium (November 2006.)
Mitoxantrone	Mitozantrone		Non-proprietary *Onkotrone*®	Red	Cytotoxic drug (Anthracycline derivative)
Mitozantrone					See under Mitoxantrone
Modafanil		▼	*Provigil*®	Amber	For the treatment of narcolepsy only in accordance with locally agreed guideline.. All other licensed and unlicensed uses remain RED (including in MS)
				Red	All other indications including multiple sclerosis (MS)
Moexipril hydrochloride			*Perdix*®	**Not recommended**	**First-line** ACEIs remain ramipril capsules or lisinopril
Monoclonal antibodies				Red	"Red" unless otherwise specified
Montelukast			*Singulair*®	Green	See British Thoracic Society recommendations for the management of chronic asthma in adults and children (see BNF Chapter 3.)
Mumps vaccine, single antigen				**Not recommended**	**Not recommended** for primary care prescribing on FP10 prescription. No single antigen vaccine available in the UK
Mupirocin, topical			*Bactroban*®	Green	In accordance Somerset Infection Control Guidelines – only for use in MRSA-confirmed cases of impetigo. **Note:** fusidic acid cream / sodium fusidate ointment is **first-line** treatment for localised impetigo.
Mycophenolic acid	MPA		*Myfortic*®	Red	See also Mycophenolate mofetil **Note:** Active metabolite of mycophenolate mofetil.
Mycophenolate mofetil	MMF		*CellCept*®	Red	See also Mycophenolic acid **Note:** mycophenolate mofetil undergoes complete presystemic metabolism to mycophenolic acid.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Nabilone			Non-proprietary	**Not recommended**	Removed from formulary at TST November 2009. (Previously classified as a "Red" drug.)
Nafarelin			*Synarel*®	Red	Use for *in vitro* fertilisation. Special purchasing arrangements in place through secondary care.
Naltrexone			*Nalorex*® *Opizone*®	Amber	As an adjunct to prevent relapse in detoxified, formerly opioid-dependent patients. Naltrexone may be used as an amber drug in accordance with locally agreed shared care guideline where supporting infrastructure is available to primary care.
Naprotec®	Naproxen / misoprostol combination pack		*Naprotec*®	**Not recommended**	Not cost-effective compared to PPIs for NSAID cytoprotection, dose required is poorly tolerated and no other indications warrant inclusion Use of prostaglandin analogues in combination preparations such not recommended as the dose of misoprostol contained in these is not the most effective.
Natalizumab		▼	*Tysabri*®	Red	Please to refer to relevant NICE guidance (NICE TA127 August 2007)
Nepafenac, ocular		▼	*Nevanac*®	**Not recommended**	Non-steroidal anti-inflammatory pro-drug licensed for the prevention and treatment of post-operative pain and inflammation associated with cataract surgery. No application for approval for use has been made to acute trust D&TCs.
Nelarabine		▼	*Atriance*®	Red	Cytotoxic drug (Antimetabolite)
Nicorandil			*Ikorel*®	Green	**Third line** drug for symptom control in patients intolerant of nitrates.
Nicotinic acid, prolonged release			*Niaspan*®	Amber	Specialist recommendation only: usually initiated in secondary care by clinical biochemists for patients with complex dyslipidaemias.
Nilotinib		▼	*Tasigna*®	Red	Cytotoxic drug (protein kinase inhibitor) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Nitrazepam			Non-proprietary *Mogadon*®  *Remnos*®  *Somnite*® 	**Not recommended**	Very long half-life. Implicated in falls in the elderly.
NMDA-receptor antagonist					See under Memantine
Normal Immunoglobulins for Intavenous Use			*Flebogamma*® *Gammagard S/D*® *Octagam*® *Sandoglobulin NF*® *Vigam S*® *Vigam Liquid*®	Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment. See also CHM advice on intravenous normal immunoglobulin (see BNF.)
Octreotide			*Sandostatin*® *Sandostatin Lar*®	Red	**Third-line** treatment for acromegaly (second-line if patient is unfit for surgery).
				Red	For carcinoid syndrome and use in palliative care.
Ocuvite Lutein® *Ocuvite PreserVision*®				**Not recommended**	Not licensed medicines. Legal status of "food supplements."
Olanzapine					See under: • Olanzapine, oral • Olanzapine, parenteral
Olanzapine, oral			*Zyprexa*® *Zyprexa Velotab*®	Amber	In accordance with the recommendations made by NICE (NICE TA43 June 2002) and locally agreed shared care guideline. See CSM advice on increased risk of stroke associated with olanzapine.
Olanzapine, injection		▼	*Zypadhera*® *Zyprexa*®	Red	In accordance with the recommendations made by NICE (NICE TA43 June 2002) See CSM advice on increased risk of stroke associated with olanzapine.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Olmesartan medoxomil			*Olmetec*®	**Not recommended**	Not approved for use by acute trust D&TCs**.** Only licensed for the treatment of hypertension. **ACEIs remain renin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.)
Olmesartan medoxomil / hydrochlorothiazide		▼	*Olmetec Plus*®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** thiazide remains bendroflumethiazide 2.5mg.
Olmesartan medoxomil / amlodipine		▼	*Sevikar*®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** calcium-channel blocker remains amlodipine
Omega-3-acid ethyl esters **Note:** Not to be confused with omega-3-marine triglycerides (*Maxepa*®)			*Omacor*®	Amber	Adjunct in secondary prevention after myocardial infarction. Initiated by secondary care consultants or when recommended by cardiac rehabilitation nurses. Treatment should not exceed four years.
				Not recommended	All other indications
Omacor®					See under Omega-3-acid ethyl esters
Omalizumab		▼	*Xolair*®	Red	In accordance with NICE guidance (NICE TA133 November 2007)
Ondansetron			Non-proprietary *Ondemet*® *Zofran*® *Zofran Melt*®	Red	
Oral retinoid for acne					See under Isotretinoin

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Orlistat			*Xenical*®	Green	In accordance with the recommendations made by NICE clinical guideline (NICE CG43 December 2006). Not to be prescribed generically at OTC strength (60mg).
			Alli®	**Not recommended**	High-cost alternative with restricted product license if prescribed as OTC product. **NB:** Different strength (60mg) compared to Prescription-only product (120mg.) Not to be prescribed on FP10 as *Alli*®
Oseltamivir			*Tamiflu*®	Green	**Influenza:** NHS except for the treatment and prophylaxis of influenza in accordance with the recommendations made by NICE (NICE TA158 September 2008.) FP10 prescriptions must be endorsed 'SLS'.
				Not recommended	**All other indications:** NHS except for the treatment or prophylaxis of influenza (see above.)
Oxaliplatin			*Eloxatin*®	Red	Cytotoxic drug (Platinum compound) Please to refer to relevant NICE guidance (NICE TA93August 2005, NICE TA100 April 2006, and NICE TA176 August 2009)
Oxycodone / naloxone		▼	*Targinact*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Not recommended for use by NHS Scotland by the Scottish Medicines Consortium
Paclitaxel			*Abraxane*® *Taxol*®	Red	Cytotoxic drug (taxane) Please to refer to relevant NICE guidance (NICE TA30 September 2001, NICE TA91 May 2005, and NICE TA108 September 2006)
Palfermin		▼	*Kepivance*®	Red	For use cytotoxic-induced side-effects.
Panitumumab		▼	*Vectibix*®	Red	Cytotoxic drug (monoclonal antibody)
Paperveretum CD			Non-proprietary	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Paperveretum / hyoscine CD			Non-proprietary	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Paricalcitol		▼	*Zemplar*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Pegaptanib			*Macugen*®	**Not recommended**	For the treatment of wet aged-related macular degeneration (AMD): not recommended in accordance with NICE guidance (NICE TA155 August 2008.)
Peginterferon alfa (See also Interferon alfa)	Pegylated interferon alfa				See under individual treatments: • Peginterferon alfa-2ª • Peginterferon alfa-2b (rbe)
Peginterferon alfa-2a			*Pegasys*®	Red	For chronic myeloid leukaemia.
				Red	Chronic hepatitis B In accordance with NICE guidance (NICE TA96 February 2006) for Peginterferon alfa-2a.
				Red	Chronic hepatitis C In accordance with NICE guidance (NICE TA75 January 2004 and NICE TA106 August 2006)
Peginterferon alfa-2b (rbe)			*Pegintron*® *ViraferonPeg*®	Red	For chronic myeloid leukaemia.
				Red	Chronic hepatitis B In accordance with NICE guidance (NICE TA96 February 2006) for Peginterferon alfa-2a.
				Red	Chronic hepatitis C In accordance with NICE guidance (NICE TA75 January 2004 and NICE TA106 August 2006)
Pegylated liposomal doxorubicin,					See under Doxorubicin, pegylated liposomal
Pemetrexed			*Alimta*®	Red	Cytotoxic drug (Antimetabolite) In accordance with relevant NICE guidance (see NICE TA181 September 2009)
Pentazocine CD			Non-proprietary *Fortral*® DHS	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing. Available in oral and parenteral formulations.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Pentostatin			*Nipent*®	Red	Antineoplastic drug
Peripherally-acting μ-opiod receptor antagonist	Peripherally-acting mu-opiod receptor antagonist				See under Methylnaltrexone
Phosphate-binding agent					See under individual agents: • Lanthanum • Sevelamer
Phosphates, oral			*Diafalk*® *Fleet Phospho-Soda*®	Red	
Phosphodiesterase type-5 inhitibitor					See under individual agents: • Sildenafil (**first-line** choice) • Tadalafil • Vardenafil
Penicillamine			Non-proprietary *Distamine*®	Amber	In accordance with the guidance on the use of disease modifying anti-rheumatic drugs (DMARDs).
Perindopril arginine			*Coversyl Arginine*®	**Not recommended**	No application for review by acute trust D&TC or Prescribing Forum received. Not bioequivalent to Perindopril erbumine. **Note**: **First-line** ACEIs remain Lisinopril and Ramipril.
Perindopril arginine / indapamide			*Coversyl Arginine Plus*®	**Not recommended**	Combination products not recommended: **First-line** ACEIs remain ramipril capsules or lisinopril **First-line** thiazide remains bendroflumethiazide 2.5mg
Perindopril erbumine	Perindopril *tert*-butylamine		Non-proprietary *Coversyl*®	**Not recommended**	Patients admitted to TST will be changed to formulary ACEI. YDH policy: consultant cardiologist initiated only as third-line ACEI in certain circumstances only, however, prescribing policy currently under review. **Note**: **First-line** ACEIs remain Lisinopril and Ramipril.
Pethidine, oral CD			Non-proprietary	**Not recommended**	Moderate to severe pain
Pethidine, parenteral CD			Non-proprietary	**Not recommended**	Moderate to severe pain

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
				Red	Obsteric analgesia
				Red	Peri-operative pain
Pethidine / promethazine, parenteral CD			*Pamergan P100*®	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Pimecrolimus			*Elidel*®	Amber	In accordance with the recommendations made by NICE guidance (NICE TA82 August 2004) and locally agreed shared care guideline.
Pioglitazone		▼	*Actos*®	Green	Please refer to MHRA / CHM advice regarding cardiovascular safety (see current BNF.) In accordance with the recommendations made by NICE (NICE TA63 August 2003). In patients who fulfil the NICE guidance for glitazone (thiazolidinedione) prescribing pioglitazone is recommended ahead of rosiglitizone.
Porfimer sodium		▼	*Photofrin*®	Red	Cytotoxic drug (photodynamic therapy)
Posaconazole		▼	*Noxafil*®	**Not recommended**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug.
Pramipexole		▼	*Mirapexin*®	Green	In accordance with locally agreed guidance on drug treatment of Parkinson's disease.
Prasugrel		▼	*Efient*®	Amber	In accordance with NICE guidance (NICE TA182 October 2009) where appropriate: Prasugrel in combination with aspirin is recommended as an option for preventing atherothrombotic events in people with acute coronary syndromes having percutaneous coronary intervention, only when: • immediate primary percutaneous coronary intervention for ST-segment-elevation myocardial infarction is necessary **or** • stent thrombosis has occurred during clopidogrel treatment **or** • • the patient has diabetes mellitus No Shared Care Protocol available.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Pravastatin			Non-proprietary *Lipostat*®	Green	In accordance with NICE guidance (NICE TA94 January 2006 and NICE CG66 May 2008) where appropriate. Simvastatin remains the **first-line** recommendation.
Pregabalin		▼	*Lyrica*®	Amber	**Epilepsy:** Secondary-care consultant initiation on named patient basis for epilepsy only where all other therapies inappropriate
				Not recommended	Peripheral neuropathic pain.
				Not recommended	All other indications: Categorisation to be reviewed in the light of peer-reviewed evidence. Patients currently receiving drug should be maintained on therapy if they are deriving benefit from it.
PreserVision®				**Not recommended**	Not licensed medicines. Legal status of "food supplements."
Probiotics				**Not recommended**	Not licensed medicines. Legal status of "food supplements."
Procarbazine			Non-proprietary	Red	Cytotoxic drug Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Protein kinase inhibitor					Cytotoxic drugs. See under individual agents: • Dasatinib • Erlotinib • Imatinib • Nilotinib • Sorafenib • Sunitinib
Quaternary ammonium antimuscarinic					See under Trospium
Quetiapine			*Seroquel*®	Amber	In accordance with the recommendations made by NICE (NICE TA43 June 2002) and locally agreed shared care guideline.
Quinapril			Non-proprietary *Accupro*®	**Not recommended**	**First-line** ACEIs remain ramipril capsules or lisinopril

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Quinapril / hydrochlorothiazide			*Accuretic*®	**Not recommended**	Combination products not recommended: **First-line** ACEIs remain ramipril capsules or lisinopril **First-line** thiazide remains bendroflumethiazide 2.5mg
Raltitrexed			*Tomudex*®	Red	Cytotoxic drug (Antimetabolite)
Ramipril			Non-proprietary	Green	**First-line** ACEI prescribed generically as capsules.
			Tritace®	**Not recommended**	Not recommended when prescribed generically as tablets or as *Tritace*®
Ramipril / felodipine			*Triapin*® *Triapin mite*®	**Not recommended**	Combination products not recommended: **First-line** ACEIs remain ramipril capsules or lisinopril **First-line** calcium-channel blockers remain amlodipine and felodipine
Ranibizumab			*Lucentis*®	Red	In accordance with NICE guidance (NICE TA155 August 2008.) For three months initial treatment only for wet age-related macular degeneration (AMD.)
Ranolazine		▼	*Ranexa*®	Red	Application for review by acute trust D&TC or Prescribing Forum received and in process. Add-on therapy in stable angina. **NB:** Contraindicated with concomitant potent CYP3A4 inhibitors. Prolongs QT interval. Cautions in renal impairment, hepatic impairment and heart failure
Raloxifene hydrochloride			*Evista*®	Green	In accordance with the recommendations made by NICE (NICE TA87 January 2005).
Rasagaline			*Azilect*®	Amber	As alternative to selegiline
Repaglinide			*Prandin*®	Green	Repaglinide may have a role in patients who fail to achieve target HbA1c with metformin +/- sulphonylurea, or when either of these two classes of drug are contra-indicated or not tolerated.
Retapamulin		▼	*Altargo*®	**Not recommended**	No application for review by acute trust D&TC or Prescribing Forum received. Not yet reviewed by Antibiotic Prescribing Forum Limited license – non-MRSA superficial skin infections resistant to first-line topical antibacterials.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Retinoid					See under individual treatments: • Alitretinoin • Isotretinoin, oral • Isotretinoin, topical • Isotretinoin / erythromycin, topical • Tretinoin, oral • Tretinoin, topical
Ribavirin	Tribavirin		*Copegus*® *Rebetol*® *Virazole*®	Red	For use in combination with pegylated interferon alfa in the management of hepatitis C in accordance with the recommendations made by NICE (NICE TA75 January 2004).
Riluzole			*Rilutek*®	Amber	In accordance with the recommendations made by NICE (NICE TA 20 January 2001). Refer also to locally agreed shared care guideline.
Rimonabant		Product withdrawn	*Acomplia*®▼	Product license suspended	The European Medicines Agency suspended marketing authorisation on 25/10/08 with regards to concerns about its psychiatric safety.
Risperidone					See under: • Risperidone, oral • Risperidone, parenteral
Risperidone, oral		▼	Non-proprietary *Risperdal*® *Risperdal Quicklet*®	Amber	In accordance with the recommendations made by NICE (NICE TA43 June 2002) and locally agreed shared care guideline. See CSM advice on increased risk of stroke associated with risperidone.
Risperidone, parenteral		▼	*Risperdal Consta*®	Amber	In accordance with the recommendations made by NICE (NICE TA43 June 2002) and locally agreed shared care guideline. See CSM advice on increased risk of stroke associated with risperidone.
Rituximab			*MabThera*®	Red	Please to refer to relevant NICE guidance (NICE TA65 September 2003, NICE TA110 September 2006, NICE TA137 February 2008, and NICE TA 174 July 2009)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Rivaroxaban		▼	*Xarelto*®	Red	In accordance with NICE guidance (NICE TA170 April 2009.) Licensed for prophylaxis of venous thromboembolism following knee replacement surgery or hip replacement surgery.
Rivastigmine					See under: • Rivastigmine, oral • Rivastigmine, transdermal
Rivastigmine, oral		▼	*Exelon*®	Amber	In accordance with the recommendations made by NICE guidance (NICE TA111 Amended September 2007). Patients should be **assessed every six months** by secondary care specialist, and treatment continuation reviewed in accordance with NICE TA111.
Rivastigmine, transdermal		▼	*Exelon*®	Amber	In accordance with the recommendations made by NICE guidance (NICE TA111 Amended September 2007). Consultant psychiatrist initiated treatment only to be used when a patient diagnosed with Alzheimer's Disease could not swallow and within licensed indications. Patients should be **assessed every six months** by secondary care specialist, and treatment continuation reviewed in accordance with NICE TA111.
Rosiglitazone			*Avandia*®	Green	Please refer to MHRA / CHM advice regarding cardiovascular safety (see BNF.) In patients who fulfil the NICE guidance for glitazone (thiazolidinedione) prescribing pioglitazone is recommended ahead of rosiglitizone.
Rubefacients				**Not recommended**	**Osteoarthritis:** NICE (NICE CG59 February 2008) recommended against use in osteoarthritis.
Rubella vaccine, single antigen				**Not recommended**	**Not recommended** for primary care prescribing on FP10 prescription. No single antigen vaccine available in the UK

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Rupatadine		▼	*Rupafin*®	**Not recommended**	Second-generation anthistamine, long-acting histamine antagonist with selective peripheral H_1-receptor antagonist activity. No application for approval for use has been made to acute trust D&TCs.
Salicyclic acid, topical			*Acnisal*®	**Not recommended**	**For acne**: ◢ Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing.
Sapropterin dihydrochloride	Synthetic 6R BH4 Synthetic tetrahydrobiopterin	▼	*Kuvan*®	Red	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Sapropterin is a synthetic form of tetrahydrobiopterin.
Sartan					See under Angiotensin Receptor Blocker
Saxagliptin		▼	*Onglyza*®	Green	First-line choice of gliptin (DPP-4 inhibitor) remains sitagliptin. Saxagliptin and vildagliptin are second-choice gliptins.
Selective endothelin-A receptor antagonist					See under Ambrisentan
Sevelamer			*Renagel*®	Amber	For hyperphosphatraemia in patients on haemodialysis or peritoneal dialysis. A shared care document is awaited from the Royal Devon & Exeter NHS Foundation Trust.
Sibutramine hydrochloride			*Reductil*®	Green	In accordance with the recommendations made by NICE clinical guideline (NICE CG43 December 2006).
Sirolimus		▼	*Rapamune*®	Red	Specialist use only – prophylaxis of organ rejection
Sildenafil			*Viagra*®	Green	Erectile dysfunction (**first-line** choice.) Not to be used in patients taking nitrates. When used in accordance with Health Service Circular 1999/148 (see BNF or Drug Tariff for details) otherwise ◢NHS. FP10 prescriptions must be endorsed 'SLS'.
				Red	Unlicensed use: Sildenafil in combination with clopidogrel for severe Raynauds disease. Only approved for use at TST by consultant prescribing on a named-patient basis.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
		▼	*Revatio*®	Red	Pulmonary Hypertension
Silver sulfadiazine, topical	Silver sulphadiazine		*Flamazine*®	**Not recommended**	Associated with delays in wound healing and the need for more dressing changes. See recent review published on The Cochrane Library website. Large areas of application associated with significant systemic absorption - side-effects and interactions as for oral sulphonamides.
Simvastatin			Non-proprietary *Simvador*®	Green	**First-line** recommendation – target dose 40mg unless contra-indicated. In accordance with NICE guidance (NICE TA94 January 2006 and NICE CG66 May 2008) where appropriate.
			Zocor®	**Not recommended**	Prescribing as *Zocor*® brand not recommended as a cost-effective option.
Sitagliptin		▼	*Januvia*®	Green	First-line choice of gliptin (DPP-4 inhibitor)
Sitaxentan		▼	*Thelin*®	**Not recommended**	Licensed for specialist prescribing only. Specialists require training as part of the access to sitaxentan sodium scheme before supply can be made. No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug.
Sodium auromthiomalate			*Myocrisin*®	Amber	In accordance with the guidance on the use of disease modifying anti-rheumatic drugs (DMARDs).
Sodium chloride, hypertonic (nebuliser solution)	Hypertonic sodium chloride Sodium chloride 6% nebuliser solution		*MucoClear*®	**Not recommended**	For mobilising lower respiratory tract secretions in mucous consolidation (e.g. cystic fibrosis). No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug.
Sodium clodronate			*Bonefos*® *Clasteon*® *Loron*®	Amber	For use in the management of multiple myeloma.
			Bonefos® *Loron*®	Amber	For osteolytic lesions and bone pain. In accordance with locally agreed Shared Care Protocol.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Sodium cromoglicate, ocular	Sodium cromoglycate		Non-proprietary *Hay-Crom Aqueous*® *Opticrom Aqueous*® *Vividrin*®	Green	Prescription products available in 13.5ml pack size only. Not to be prescribed on FP10 as OTC brand name or generically specifying pack size of 5ml or 10ml
			Non-proprietary *Comolux*® *Opticrom Allergy*® *Optrex Allergy Eyes*®	**Not recommended**	Pharmacy-Only medication that can be sold OTC - available as 5ml or 10ml pack sizes. High-cost alternative with restricted product license if prescribed as OTC product. Not to be prescribed on FP10 as OTC brand name or generically specifying pack size of 5ml or 10ml
Sodium hyaluronate			*Arthrease*® *Durolane*® *Fermathron*® *Hyalgan*® *Orthovisc*® *Ostenil*® *Supartz*® *Suplasyn*®	**Not recommended**	Use reviewed by NICE (see NICE CG59 February 2008) and recommended against use.
Solifenacin	M3 muscarinic acetylcholine receptor blocker		*Vesicare*®	Green	Second line for the treatment of for urinary frequency, enuresis and incontinence alongside Oxybutynin (MR) and tolterodine MR. **Note**: First-line treatment of for urinary frequency, enuresis and incontinence remains oxybutynin (non-MR).
Somatostatin analogues					See under individual treatments: • Lanreotide • Octreotide

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Somatropin	Synthetic Human Growth Hormone		*Genotropin*® *Humatrope*® *Norditropin*® *NutropinAq*® *Omnitrope*® *Saizen*® *Zomacton*®	Red	Use in children: In accordance with the recommendations made by NICE (NICE TA42 May 2002).
				Red	Use in adults: In accordance with the recommendations made by NICE (NICE TA64 August 2003)
Sorafenib			*Nexavar*®	Red	Cytotoxic drug (protein kinase inhibitor) In accordance with relevant NICE guidance where applicable (see NICE TA178 August 2009.) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Spacer device (for use with pressurised (aerosol) inhalers)			*Able Spacer*® *AeroChamber Plus*® *Nebuchamber*® *Pocket Chamber*® *Optichamber*® *Volumatic*®	Green	In line with relevant NICE guidance (NICE CG12 Feb 2004, NICE TA10 Aug 2000, NICE TA38 Mar 2002, NICE TA131 Nov 2007, and NICE TA138 Mar 2008.) **NB:** Some spacer devices will only accommodate specific brands of pressurised (aerosol) inhaler.
			Babyhaler® NHS *PARI Vortex Spacer*® NHS		NHS Not prescribable on FP10 prescription
Statin	3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors HMG CoA reductase inhibitors				See under indivual treatments: • Pravastatin • Simvastatin (N.B. **first line** treatment of choice)
Sterimar®	Saline microdiffusion Hypetonic saline nasal spray Sea water nasal spray			Red	NHS Not prescribable on FP10 prescription

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Stiripentol			*Diacomit*®	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received.
Strontium ranelate		▼	*Protelos*®	Green	**Third-line** for patients where bisphonate therapy is not tolerated or contra-indicated. **Caution:** Severe allergic reactions, including drug rash with eosinophilia and systemic symptoms (DRESS) have been reported for patients taking strontium. **DRESS can be fatal**. (See BNF for further information.)
Sugammadex		▼	*Bridion*®	Red	
Sunitinib			*Sutent*®	Red	Cytotoxic drug (protein kinase inhibitor) In accordance with relevant NICE guidance (see and NICE TA178 August 2009 and NICE TA179 September 2009.) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Tacrolimus, oral (**Note:** Different brands available in different pack-sizes with different licensed dosage schedules.)			*Advagraf*® *Prograf*®	Red	Prophylaxis of organ rejection in liver, kidney, and heart allograf recipients and allograf rejection resistant to conventional immunosuppressive regimens. See MHRA / CHM advice (December 2008) warning of the potential for **serious medication errors**: *Prograf*® and *Advagraf*® are not interchangeable; switching between *Prograf*® and *Advagraf*® requires careful therapeutic monitoring. Substitution should be made only under the close supervision of a transplant specialist.
Tacrolimus, parenteral			*Prograf*®	Red	Prophylaxis of organ rejection in liver, kidney, and heart allograf recipients and allograf rejection resistant to conventional immunosuppressive regimens.
Tacrolimus, topical			*Protopic*®	Amber	In accordance with the recommendations made by NICE (NICE TA82 August 2004) and locally agreed shared care guideline.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Tadalafil			*Cialis*® NHS	Green	Erectile dysfunction (**second-line** choice.) Not to be used in patients taking nitrates. When used in accordance with Health Service Circular 1999/148 (see BNF or Drug Tariff for details) otherwise NHS. FP10 prescriptions must be endorsed 'SLS'.
			Cialis Once Daily® NHS	**Not recommended**	Not approved for use by acute trust D&TC.
Tafluprost, ocular		▼	*Saflutan*®	Amber	Approved for use by TST D&TC only for use as prostaglandin analogue for patients if PROVEN allergy to preservatives in other PG analogue eye-drops exists.
Tamoxifen			Nor-proprietary *Nolvadex-D*® *Soltamox*®	Green	Primary care prescribers should ensure all patients on tamoxifen are reviewed after five years treatment.
Targinact®					See under Oxycodone / naloxone
Taxanes					Cytotoxic drugs. See under individual treatments: • Docetaxel • Paclitaxel
Tegafur / uracil	Uracil / tegafur		*Uftoral*®	Red	Cytotoxic drug (Antimetabolite) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Teicoplanin			*Targocid*®	Red	For both IV and IM use.
Telmisartan			*Micardis*®	**Not recommended**	Not approved for use by acute trust D&TCs Only licensed for the treatment of hypertension. **ACEIs remain renin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.)

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Telmisartan / hydrochlorothiazide			*Micardis Plus*®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** thiazide remains bendroflumethiazide 2.5mg.
Temoporfin		▼	*Foscan*®	Red	Cytotoxic drug (photodynamic therapy) The Scottish Medicines Consortium has recommended not to use in palliative treatment of advanced head and neck cancer
Temozolomide			*Temodal*®	Red	Antineoplastic drug Please to refer to relevant NICE guidance (NICE TA23 June 2001 and NICE TA121 June 2007) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Temsirolimus		▼	*Torisel*®	Red	Specialist use only In accordance with relevant NICE guidance where applicable (see NICE TA178 August 2009.)
Tenofovir disoproxil fumarate		▼	*Viread*®	Red	For the treatment of HIV infection.
				Red	For the treatment of Hepatitis B infection in accordance with relevant NICE guidance (see NICE TA173 July 2009.)
Teriparatide		▼	*Forsteo*®	Red	In accordance with locally agreed guidance.
Testosterone, transdermal patches		▼	*Intrinsa*®	**Not recommended**	Not approved for use by acute trust D&TCs. *Drug & Therapeutics Bulletin* (DTB) (2009; **47**,24)raised concerns over safety.
Tetanus Immunoglobulins for Intavenous Use				Red	Hospital Trusts are responsible for making the necessary arrangements for patients to receive intravenous treatment. Named-patient basis.
Tetracaine / Lidocaine topical					See under lidocaine / tetracaine, topical

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Thalidomide		Unlicensed		Red	Unlicensed drug. MHRA guidance: licensed products should be used for unlicensed ("off-label") indications in preference to unlicensed products.
		▼	*Thalidomide Pharmion*®	Red	Licensed for use in combination with melphalan and prednisolone as first-line treatment for untreated multiple myeloma, in patients aged 65 years and over or those not eligible for high-dose chemotherapy. Contraindicated during pregnancy and in women of childbearing potential unless all the conditions of the *Thalidomide Pharmion*® Pregnancy Prevention Programme (TPPPP) are met **Warning:** Teratogenic. Should **never** be used except under specialist supervision. Should **never** be given to women of child-bearing potential
Thiazolidinedione	Glitazone PPARγ agonist				See under indivual treatments: • Pioglitazone • Rosiglitazone
Thioguanine					See under Tioguanine
Thiotepa			Non-proprietary	Red	Cytotoxic drug (Alkylating agent)
Thyrotropin alfa	Recombinant human thyroid stimulating hormone Recombinant TSH rhTSH		*Thyrogen*®	Red	
Tiludronic acid			*Skelid*®	Red	Only licensed for treatment of Paget's disease of the bone
Tioguanine	Thioguanine		*Lanvis*®	Red	Cytotoxic drug (Antimetabolite) Please refer to *NPSA Rapid Response Report – Risks of incorrect dosing of oral anticancer medicines* (NPSA/2008/RRR001)
Tiotropium			*Spiriva*®	Green	In accordance with locally agreed guidance.
		▼	*Spiriva Respimat*®	Green	For use in COPD in patients with poor manual dexterity and difficulty using the *Handihaler*® device - In accordance with locally agreed guidance.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Tizanidine			Non-proprietary *Zanaflex*®	Amber	Initiated in accordance with local guideline. Awaiting shared care agreement from secondary care. **Note:** Caution when in combination with other drugs that prolong the QT_c interval.
Tobramycin, inhaled			*Bramitob*® *Tobi*®	Red	Nebuliser solution: Chronic pulmonary *Pseudomonas aeruginosa* infection in patients with cystic fibrosis
Tobramycin, parenterlal			Non-proprietary	**Not recommended**	Not recommended for inhalation in chronic pulmonary *Pseudomonas aeruginosa* infection in patients with cystic fibrosis. Licensed preparation should be used for this indication – see under tobramycin, inhaled.
Tocilizumab	Interleukin-6 inhibitor	▼	*RoActemra*®	Red	
Tolcapone			Tasmar®	Red	
Tolterodine			*Detrusitol*®	Green	For **second-line** use in patients who are unable to tolerate or who do not respond to oxybutynin.
Tolvaptan		▼	*Samsca*®	**Not recommended**	Rejected for use by TST D&TC (November 2009.)
Topotecan			*Hycamtin*®	Red	Cytotoxic drug (Topoisomerase I inhibitor) Please to refer to relevant NICE guidance (NICE TA91 May 2005, NICE TA183 October 200, and NICE TA184 November 2009))
Total Parenteral Nutrition	TPN			Red	Hospital Trusts are responsible for making the necessary arrangements for TPN.
TPN					See under Total Parenteral Nutrition
Trabectedin		▼	*Yondelis*®	Red	Cytotoxic drug The Scottish Medicines Consortium has recommended against use for the treatment of advanced soft-tissue sarcoma.
Tramadol, oral, non-sustained release	Tramadol, instant-release		Non-proprietary	Green	First-line analgesic remains paracetamol. First-choice opiate analgesic remains codeine phosphate. Tramadol may be appropriate to consider as an alternative to Codeine where its efficacy or tolerability is poor. Note cautions and contra-indications for use of Tramadol, including risk of seizures. Tramadol may be most effective when given with full therapeutic doses of Paracetamol.
			Tramake® *Zamadol*® *Zydol*®	**Not recommended**	

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Tramadol, oral, modified release			*Dromadol SR®* *Larapam SR®* *Mabron®* *Maxitram SR®* *Tramquel SR®* *Zamadol 24hr®* *Zamadol SR®* *Zeridame SR®* *Zydol SR®* *Zydol XL®*	**Not recommended**	First-line analgesic remains paracetamol. First-choice opiate analgesic remains codeine phosphate. If tramadol is considered clinically appropriate non-sustained release is recommended in preference to modified release formulations (recommended to be prescribed as *Marol MR®* or *Tradorec XL®*)
			Marol MR®	Green	Tramadol may be appropriate to consider as an alternative to Codeine where its efficacy or tolerability is poor. Note cautions and contra-indications for use of Tramadol, including risk of seizures. Tramadol may be most effective when given with full therapeutic doses of Paracetamol. For patients with long term chronic pain responsive to tramadol but who suffer significant side effects from the immediate release capsules a modified release product may be prescribed. *Marol MR®* = 12-hour sustained release formulation *Tradorec XL®* = 24-hour sustained release formulation
			Tradorec XL®		
Tramadol / paracetamol, oral			*Tramacet®*	**Not recommended**	No application for review by either acute trust or partnership D&TC or Prescribing Forum received. Fixed dose combination not recommended. Contains sub-therapeutic doses of paracetamol (325mg per tablet) and tramadol (37.5mg per tablet). Licensed dose = two tablets not more than every six hours.
Triamcinolone acetonide in oromucosal paste			*Adcortyl in Orabase®*		Product discontinued
Trandolapril			Non-proprietary *Gopten®*	**Not recommended**	**First-line** ACEIs remain ramipril capsules or lisinopril

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Trandolapril / verapamil		▼	*Tarka*®	**Not recommended**	Preparation considered by the BNF Joint Formulary Committee to be less suitable for prescribing. **First-line** ACEIs remain ramipril capsules or lisinopril
Trastuzumab		▼	*Herceptin*®	Red	Cytotoxic drug Please to refer to relevant NICE guidance (NICE TA107 August 2006)
Travoprost			*Travatan*®	Green	**First-line** prostaglandin analogue
Travoprost / timolol		▼	*DuoTrav*®	Green	
Treosulfan			Non-proprietary	Red	Cytotoxic drug (Alkylating agent)
Tretinoin, oral			*Vesanoid*®	Red	Cytotoxic drugs **Note:** Tretinoin is the acid form of vitamin A
Tretinoin, topical			*Retin-A*®	Green	For treatment of comedonal acne **Note:** Tretinoin is the acid form of vitamin A
Triptorelin (**Note:** Different brands available in different pack-sizes with different licensed dosage schedules.)			*Decapeptyl SR*® **Note:** Available in 4.2mg and 15mg vial	Amber	Shared care guideline to be developed for use in prostatic cancer
				Red	Endometriosis.
			Gonapeptyl Depot® **Note:** Available in 3.75mg prefilled syringe only.	**Not recommended**	
Trospium			*Regurin*®	**Not recommended**	No longer included in the PCT formulary having been replaced by Oxybutynin MR in the range of second-line options in 2007 for treatment of the treatment of for urinary frequency, enuresis and incontinence **Note**: First-line treatment of for urinary frequency, enuresis and incontinence remains oxybutynin (non-MR).
Uracil / tegafur					See under Tegafur / uracil

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Urofollitropin	Purified extract of human-post-menopausal urine containine follicle-stimulating hormone (FSH)		*Fostimon*®	Red	Special purchasing arrangements in place through secondary care.
Ustekinumab		▼	*Stelara*®	Red	For the treatment of moderate to severe psoriasis In accordance with relevant NICE guidance (see NICE TA180 September 2009.)
Valaciclovir			*Valtrex*®	Green	Second-line**: approved for genital herpes will replace any use of Famciclovir in patients not controlled with aciclovir.** Note: **Valaciclovir is a pro-drug of aciclovir**
Valganciclovir			*Valcyte*®	Red	Potential teratogen and carcinogen. **Note:** Valganciclovir is the pro-drug of ganciclovir
Valsartan			*Diovan*®	Green	**ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **Third-line** ARB: Only for post-myocardial infarction (post-MI) where ACEI not tolerated. Not for hypertension only.
Valsartan / hydrochlorothiazide			*Co-Diovan* ®	**Not recommended**	Not approved for use by acute trust D&TCs **ACEIs remain rennin-angiotensin system drugs of choice for first-line treatment.** ARB formulary choices (i.e. if several ACEIs not tolerated) remain candesartan (first-line), losartan (second-line), and valsartan (third-line.) **First-line** thiazide remains bendroflumethiazide 2.5mg.
Vardenafil			*Levitra*®	Green	Erectile dysfunction (**second-line** choice.) Not to be used in patients taking nitrates. When used in accordance with Health Service Circular 1999/148 (see BNF or Drug Tariff for details) otherwise  . FP10 prescriptions must be endorsed 'SLS'.

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Varenicline	α4β2-nicotinic acetylcholine receptor partial agonist	▼	*Champix*®	Green	NRT remains the first-line recommendation. **As an adjunct to smoking cessation in combination with motivational support in accordance with the recommendations made by NICE (NICE TA39 March 2002 and NICE TA123 July 2007.)**
Vildagliptin		▼	*Galvus*®	Green	First-line choice of gliptin (DPP-4 inhibitor) remains sitagliptin. Saxagliptin and vildagliptin are second-choice gliptins.
Vildagliptin / metformin		▼	*Eucreas*®	**Not recommend**	No local acute trust Drugs and Therapeutics committee has yet received an application to consider this drug. **Note:** Requires LFTs prior and during treatment. Monitoring for skin disorders also required regularly during treatment. License for marketing in the USA is pending receipt of further safety data.
Vinblastine sulphate			Non-proprietary *Velbe*®	Red	Cytotoxic drug (Vinca alkaloid)
Vincrisitne sulphate			Non-proprietary *Oncovin*®	Red	Cytotoxic drug (Vinca alkaloid)
Vindesine sulphate			*Eldisine*®	Red	Cytotoxic drug (Vinca alkaloid)
Vinorelbine			Non-proprietary *Navelbine*®	Red	Cytotoxic drug (Vinca alkaloid)
VisiVite Original® *VisiVite Smokers Formula*®				**Not recommended**	Not licensed medicines. Legal status of "food supplements."
Vitamin A					See under: • Alitretinoin • Tretinoin, oral • Tretinoin, topical
Voriconazole			*Vfend*®	Red	
VSL#3 Probiotic®	Lactic acid bacteria and bifidobacteria			**Not recommended**	Not a licensed medicine. Legal status of "food supplement."
Xipamide			*Diurexan*®	**Not recommended**	**First-line** thiazide or related diuretic remains bendroflumethiazide

Drug[1]	Synonym(s)	MHRA / CHM[2]	Generic / brand[3]	Category	Notes[4]
Yasmin®	Drospirenone / ethinylestradiol			**Not recommended**	Insufficient evidence of benefit over existing preparations and absence of long-term safety data.
Yohimbine	Aphrodine Yohimbe		*Procomil*® *Prowess*®	**Not recommended**	
Warfarin			Non-proprietary *Marevan*®	Green	Initiated and monitored in accordance with *NPSA Patient Safety Alert 18*. Anticoagulant treatment booklets should be issued to patients.
Zafirlukast			*Accolate*®	Green	See British Thoracic Society recommendations for the management of chronic asthma in adults and children (see BNF Chapter 3.)
Zanamivir			*Relenza*®	Green	**Influenza:** NHS except for the treatment of influenza in accordance with the recommendations made by NICE (NICE TA158 September 2008.) FP10 prescriptions must be endorsed 'SLS'.
				Not recommended	**All other indications** (e.g. post-exposure prophylaxis of influenza): NHS except for the treatment of influenza (see above.)
Zinc and other food supplements for AMD				**Not recommended**	
Zoledronic Acid		▼	*Aclasta*®	Red	Annually administered intravenous (IV) infusion for the treatment of postmenopausal osteoporosis. **Note:** Not to be confused with zolendronic acid concentrate for intravenous infusion (*Zometa*®)
			Zometa®	Red	Adjunctive therapy in the treatment of cancer

Appendix 1

Shared Care Agreement Format

A shared care agreement needs to include the following details as a minimum. Draft agreements need to be sent to the Somerset Prescribing Forum for approval.

SOMERSET PRIMARY CARE TRUST

Shared Care Guideline for the use of XXXXXXX in the Management of XXXXXXXXXX.

Introduction

What is this medicine, why will it benefit patients to transfer care etc.

Indications for Use

Whats it being used for and what is the usual dose

Safety Issues

Contra-indications
Special warnings and precautions
Common side-effects
Assessment and monitoring requirements
Significant drug interactions

Responsibilities of the specialist

Confirmation that they have demonstrated benefit and lack of adverse effects in patient.
Advice on when the GP should seek specialist support.
Provide clear contact details that a GP can use to obtain advice or support.

Responsibilities of the GP

Provide advice on which side effects need to be discussed with specialists
Set out monitoring expected to be done by GP and any actions they are expected to take as a result.
Details of any circumstances when patient should be referred back to specialist.

Appendix 2

Somerset Prescribing Forum
Request for change in Traffic Light Status of a medicine

Please attach any supporting papers e.g. draft shared care guideline and complete section A, B, C and D.
Then send complete form to SHAUN GREEN, Associate Director - Head of Medicines Management, Somerset PCT Wynford House, Lufton Way, Yeovil, Somerset BA22 8HR

A. Details about the medicine

Name, form and strength of the medicine:

Does the medicine have a black triangle status? **Yes / No**

Condition for which the medicine is used:

Is this a licensed indication for this medicine? **Yes / No**

B. Current provision of the medicine

Who is prescribing or recommending the medicine?

Consultant, Specialist Nurse, Pharmacist, GP, other (please state)

What method is currently in use? (please indicate)

FP10HP / Outpatient prescription / recommendation by phone call / letter to a GP

Setting in which the medicine is prescribed / recommended (please indicate):

Outpatient clinic, specialist nurse led clinic, telephone clinic, community hospital clinic,
other (please state)

What is the GPs current involvement in prescribing / monitoring this medicine?

Who administers the medicine?

C. Traffic Light Status

Current Traffic Light Status: **Red / Amber / Green / Not recommended**

Requested Traffic Light Status: **Red / Amber / Green**

Reason for change in status (include details on service developments e.g. nurse led clinics)**:**

Estimate the number patients annually across Somerset who will be affected by this change:

Evidence of appropriateness of change in TLS:

Other NHS Trusts who have adopted the requested TLS:

If requesting a switch from red to amber please attach a draft shared care agreement (this may be from another trust which has been adapted for Somerset PCT.

D. Contact Details

Name and status of requestor:

NHS Organisation:

Phone number:

Email address:

E. Prescribing Forum Information only

Is the medicine "Payments By Results" excluded?

Likely impact on primary care:

Cost of medicine per patient per year:

Monitoring requirements:

Administration:

Request to change traffic light status accepted: **Yes / No**

New Traffic light status: **Red/ amber /green**

NHS
Somerset

November 2009