Corby Clinical Commissioning Group
Kettering General Hospital NHS Trust
Nene Clinical Commissioning Group
Northampton General Hospital NHS Trust
Northamptonshire Healthcare Foundation Trust

Northamptonshire Prescribing Advisory Group

NPAG

Primary Care Drugs Formulary

This document will be updated as required.

Last Update – 25/04/2017

Introduction

All drugs recommended by a NICE technology appraisal are available within NHS Corby and Nene Clinical Commissioning Groups as a treatment option for the disease or condition covered, if the patient meets the clinical criteria set out in the guidance. If the clinician concludes and the patient agrees that the drug recommended by the NICE technology is the most appropriate one to use, based on a discussion of all available treatments, then that treatment can be chosen.

This primary care drugs formulary lists medicines that are preferred choice within Northamptonshire.

Please check the traffic light section on Pathfinder RF for listings of amber (recommended and/or initiated in secondary care), red (hospital only) and double red (prior approval required) drugs.

BNF CHAPTER 1 - GASTRO-INTESTINAL

1.1 *Antacids (All available OTC)*

Co-Magaldrox - Low Na^+ **-** cheaper if prescribed as Mucogel Brand.

Alginate-containing (Reflux only)

Peptac Liquid - available as aniseed and peppermint flavour.
Gastrocote Suspension – if Low Na^+ is required but more expensive than Peptac.
Topal tablets

1.2 *Antispasmodics*

Mebeverine
(135mg strength available OTC)

1.3 *Ulcer Healing Drugs*

Concomitant use of **clopidogrel and omeprazole or esomeprazole** is to be discouraged unless considered essential
MHRA - Drug Safety Update - **link**

Omeprazole 20mg Capsules
Omeprazole 2 x 20mg Capsules - (not as 40mg strength)

Lansoprazole 15mg Capsules – maintenance
Lansoprazole 30mg Capsules – treatment dose

Ranitidine Tabs 150mg & 300mg

***NSAID Prophylaxis* - Omeprazole 20mg Daily**

1.4 *Anti-motility*

Loperamide 2mg Caps – available OTC

1.5 *Aminosalicylates*

Mesalazine – prescribe by brand.
Preferred brands are **Octasa** or **Pentasa**
Sulfasalazine - prescribe by brand.
Preferred brand **Salazopyrin**

Corticosteroids
Hydrocortisone 10% foam (Colifoam)
Prednisolone foam enema

1.6 ***Laxative - First line options also available OTC***

Bisacodyl Tabs

Senna Tabs

Ispaghula Husk and Lactulose both need to be used regularly. Ensure adequate fluid intake

Ispaghula Husk
Lactulose - 15ml BD then adjusted to patient's needs.
Macrogol '3350' - cheaper if prescribed as Laxido Sugar-Free or Cosmocol brand.
Relaxit Microenema

Prucalporide (initiation by secondary care only). The consultant is required to make a Prior Approval Request before recommending prescribing is continued in primary care.

Prucalopride for the treatment of chronic constipation in women (NICE TA 211 December 2010)
Prucalporide is an option for the treatment of chronic constipation in women for whom treatment with at least 2 laxatives from different classes, at the highest tolerated recommended doses, for at least 6 months, has failed and invasive treatment is being considered. Prucalopride should be prescribed only by clinician's expereienced in the treatment of chronic constipation. Treatment should be reviewed if prucalopride is not effective after 4 weeks - **link**

1.7 Anusol cream / ointment available OTC
Scheriproct ointment / suppositories

BNF CHAPTER 2 – CARDIOVASCULAR SYSTEM

2.1 *Positive inotropic drugs*

Digoxin

2.2 *Diuretic*

Indapamide 2.5mg

Indapamide 2.5mg is now the diuretic of choice in hypertension. For people who are already having treatment with bendroflumethiazide and whose blood pressure is stable and well controlled, continue treatment with the bendroflumethiazide. ACEI/ARB or CCBs should be considered before thiazide-like or thiazide diuretics for most patients.
NICE CG 127 - Clinical management of primary hypertension in adults - link

Bendroflumethiazide 2.5mg

Furosemide

Co-amilofruse 5/40

Spironolactone

Spironolactone 25mg is an option following specialist advice for patients with moderate to severe heart failure (NYHA class III-IV)
NICE CG 108 - Chronic heart failure (August 2010) - link

Eplerenone

Eplerenone - NPAG recommended that spironolactone should continue to be the first line aldosterone antagonist at all stages of heart failure. Eplerenone should be reserved for patients who have had a MI or side effects with spironolactone e.g. gynaecomastia. This is on the basis that spironolactone has high quality, randomised controlled trial evidence of effectiveness from the RALES study in heart failure NYHA class III or IV and established data for hyperkalaemia risks. It is likely (but not known) that spironolactone would also be effective at other stages of heart failure as well as NYHA III and IV, and it has a broad licence for congestive cardiac failure which is not restricted to any heart failure class - **link**

2.4 *Beta-adrenoreceptor blocking drugs*

Atenolol
Propranolol
Bisoprolol

Beta-blockers and ACE inhibitors are first line treatment for heart failure. A Beta-blocker licensed for heart failure should be used e.g. **Bisoprolol**. Dose titration is required. Maximum dose of **Bisoprolol** is 10mg once a day.
NICE CG 108 - Chronic heart failure (August 2010) - link

2.5 *Drugs affecting the renin-angiotensin system and some other antihypertensive drugs*

α blockers only as 4th line antihypertensive agents, unless there is compelling indication for their use e.g. prostatism.
NICE CG 127– Clinical management of primary hypertension in adults (August 2011) - link

Do NOT use **Doxazosin XL** as it is "Double Red".

Doxazosin

2.5.5.1 *Angiotensin-converting enzyme inhibitors*

Ramipril
Lisinopril
Perindopril

2.5.5.2 *Angiotensin- II- receptor antagonists*

ACEI are first line for all indications where a Renin Angiotensin Drug is required except for hypertension. In the NICE hypertension guidance an ACEI or an Angiotensin II Receptor Antagonists can be considered when a Renin Angiotensin Drug is recommended, except for patients of African or Caribbean family origin when an Angiotensin II Receptor Antagonists is preferred. In all other indications the Angiotensin II Receptor Antagonists should only be used where patients have a cough that cannot be tolerated**.**

Losartan
Candesartan – drug of choice in heart failure if AIIRA required

2.6.2 *Nitrates, calcium-channel blockers and potassium-channel activators*

Glyceryl Trinitrate – Spray and tablets
Monomil XL – first line nitrate
Isosorbide mononitrate - standard release asymmetric dosing (e.g. 8 am & 2 pm),
Amlodipine
Verapamil

Diltiazem m/r – prescribe by brand. Preferred brands are
Slozem OR Zemtard – ONCE a day preparation
Tildiem Retard – TWICE a day preparation

2.6.3 Nicorandil
Ivabradine – Amber 2 for both angina and heart failure
NICE TA 267 - Ivabradine for treating chronic heart failure (November 2012) - link

2.6.4 ***Peripheral Vasodilators and related drugs***
Naftidrofuryl oxalate

Naftidrofuryl oxalate is recomended by NICE as an option for the treatment of intermittent claudication in patients with peripheral arterial disease in patients in whom vasodilator therapy is considered appropriate.
NICE TA 223 - Cilostazol, naftidrofuryl oxalate, pentoxifylline and inositol nicotinate for the treatment of intermittent claudication in people with peripheral arterial disease (May 2011) - link

2.8 ***Anticoagulants***
Warfarin

Apixiban
Dabigatran
Rivaroxaban

Apixaban, Dabigatran and Rivaroxaban are categorised:

GREEN for Stroke prevention in Atrial Fibrillation.
AMBER 2 for treatment and prevention of DVT and PE
RED for prevention of DVT post-knee and hip replacement

NICE TA 249 - Dabigatran etexilate for the prevention of stroke and systemic embolism in atrial fibrillation - link
NICE TA 256 - Atrial fibrillation (stroke prevention) – rivaroxaban - link
NICE TA 275 - Apixaban for preventing stroke and systemic embolism in people with nonvalvular atrial fibrillation (February 2013) - link
NICE TA 261 - Rivaroxaban for the treatment of deep vein thrombosis and prevention of recurrent deep vein thrombosis and pulmonary embolism - link
NICE TA 287 - Rivaroxaban for treating pulmonary embolism and preventing recurrent venous thromboembolism - link

2.9 *Antiplatelet drugs*

The NICE guidance "**Clopidogrel and modified-release dipyridamole for the prevention of occlusive vascular events**" (TA 210) - **link** advises that:

After an ischaemic stroke: Generic clopidogrel is recommended as first choice. Aspirin plus MR dipyridamole is now recommended **only** if clopidogrel is contraindicated or not tolerated. There is no limit on duration.

After a transient ischaemic attack (TIA): This NICE guidance recommends aspirin plus MR dipyridamole as the first choice for people who have had a TIA. However the latest edition of the RCP's "National clinical guideline for stroke" (2012) recommends clopidogrel as the first line treatment also for patients after a TIA. The guideline states that whilst clopidogrel is not licensed for the management of TIA the working group believed that clopidogrel should be recommended first line as it is more cost-effective and better tolerated. Furthermore it was felt that a unified approach to the treatment of TIA and ischaemic stroke would be appropriate.
The Northamptonshire Prescribing Advisory Group decided to adopt the RCP recommendation that **clopidogrel should be the treatment of choice for patients following a TIA and ischaemic stroke**. This decision has been endorsed by the KGH and NGH stroke physicians.

After a myocardial infarction (MI): Aspirin remains first line choice for long- term prophylaxis. This guidance should be considered alongside existing NICE guidance on clopidogrel in combination with aspirin in people with unstable angina or NSTEMI (see **CG94**), ticagrelor for the treatment of acute coronary syndromes (see **TA236**) and those who have had an MI (see **CG48**) and Prasugrel for the treatment of acute coronary syndromes with percutaneous coronary intervention (see **TA317**)

Peripheral arterial disease (PAD) or multivascular disease: Clopidogrel is recommended as the first choice option for patients with PAD or multivascular disease.

Note - This guidance does not apply to people with atrial fibrillation (AF). NICE guidance on prophylaxis of stroke in people with AF is given in **CG36**. It also does not apply to those who need treatment to prevent occlusive events after coronary revascularisation or carotid artery procedures.
See **Antiplatelet guidelines - link**

Clopidogrel – prescribed as the Generic

Prasugrel

Ticagrelor

Dipyridamole 200mg m/r

2.12 *Lipid-regulating drugs*

Lipid modification
NICE CG181 (July 2014) Lipid modification; cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease - link
Also Tablet Press Extra for a summary of the guidance link

Atorvastatin

Simvastatin

Pravastatin - for use in patients co-prescribed Warfarin

Simvastatin: Increased risk of myopathy at high dose (80 mg)
MHRA (May 2010)
There is an increased risk of myopathy associated with high-dose (80 mg) simvastatin. The 80-mg dose should be considered only in patients with severe hypercholesterolaemia and high risk of cardiovascular complications who have not achieved their treatment goals on lower doses, when the benefits are expected to outweigh the potential risks.

Ezetimibe

NICE CG181 (July 2014) - Lipid modification: cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease – link

Ezetimibe should only be considered as a treatment option for the treatment of adults with primary (heterozygous-familial or non-familial) hypercholesterolaemia

BNF CHAPTER 3 - RESPIRATORY

Which inhalation device?
Inhalation devices of **first choice** for children under 5 are pressurised metered-dose inhalers (**pMDI**), used with or without a **spacer device (see 3.1.5)** - **link**

For older children, pMDI plus spacer is the first choice device for inhaled corticosteroids; however, for the short-acting bronchodilator (reliever), consideration should be given to a wider range of devices, depending on the needs of the individual - **link**

Patients should be given adequate **training** in the proper use of the device at initial prescription and their inhaler technique **assessed** from time to time thereafter.

Inhaler technique training should be kept simple; the "7 steps to success**"** reminder cards, available from www.simplestepseducation.co.uk are a useful resource.

In brief, to achieve optimum lung deposition, the inspiratory effort should be:
pMDI (aerosol) – SLOW AND STEADY
DPI (dry powder inhaler) – QUICK AND DEEP

Before stepping up treatment for a patient, consideration should be given to the possibility that **poor compliance, lack of understanding or poor inhaler technique** could contribute to the apparent lack of symptom control by the medication.

Second choice of inhalation device is dependent on the needs of the patient, the reasons why the pMDI is deemed unsuitable, and the availability of a suitable alternative.

3.1 *Bronchodilators*

3.1.1.1 *Selective beta2 agonists*

Short-acting

Salbutamol CFC-free pMDI 100microgram per inhalation

Easyhaler Salbutamol Dry Powder inhaler 100 or 200microgram per inhalation.

Long acting

CHM advice for asthma:
Long Acting Beta Agonists (LABAs) should

- Be added only if regular use of standard-dose ICS has failed to control asthma adequately;
- Not be initiated in patients with rapidly deteriorating asthma;
- Be introduced at a low dose and the effect properly monitored before considering dose increase;
- Be discontinued in the absence of benefit;
- Be reviewed as clinically appropriate: stepping down therapy should be considered when good long-term asthma control has been achieved.

Formoterol Easyhaler
Salmeterol pMDI or Accuhaler

3.1.2 *Antimuscarinic bronchodilators*

<u>Short acting</u>
Ipratropium pMDI

<u>Long acting</u>
Aclidinium (Eklira Genuair) - COPD only
Tiotropium via "Zonda" device ("Braltus") - COPD only
Tiotropium via "Respimat" device if unable to use "Zonda" device.

NB – Take the risk of cardiovascular side effects into account when prescribing tiotropium delivered via Respimat or Handihaler [or Zonda] to patients with certain cardiac conditions, who were excluded from clinical trials of tiotropium (including TIOSPIR). See MHRA statement Feb 2015: Link

Spiriva Respimat in asthma: specialist use only.

3.1.3 *Theophylline*

Modified Release Theophylline tablet– *prescribe by brand*

3.1.4 Compound bronchodilator preparations

Specialist initiation only (COPD)

- Aclidinium bromide (LAMA)/formoterol fumarate (LABA) (Duaklir Genuair)
- Umeclidinium(LAMA)/vilanterol(LABA) (Anoro Ellipta)

3.1.5 *Spacer devices and Peak Flow Meters*

It is recommended that spacers are used in the following way:

- Use repeated single actuations of the MDI into the spacer, each followed by inhalation as soon as possible
- Tidal breathing is as effective as single breaths
- Clean **monthly**
- Replace at least every 12 months

NICE CG 101 - COPD (updated) (May 2010) - link

A2A spacer

Volumatic

Aerochamber Plus

Peak flow meter

3.2 *Corticosteroids*

High doses of inhaled corticosteroids used for prolonged periods can induce adrenal suppression. Patients using such high doses should be given a **"steroid card"** and may need corticosteroid cover during periods of stress.

High doses are >= 800 microgram (BDP or equivalent) daily for adults and >=400microgram (BDP or equivalent) daily for children.

Monitoring of patients on inhaled corticosteroids:

- Physicians should remain vigilant for the development of pneumonia and other infections of the lower respiratory tract eg bronchitis in patients with COPD who are treated with inhaled drugs that contain steroids because the clinical features of such infections and exacerbation frequently overlap. Any patient with severe COPD who has had pneumonia during treatment with inhaled drugs that contain steroids should have their treatment reconsidered
  Drug Safety Update October 2007 - **link**

- Psychological and behavioural side effects may occur in association with use of inhaled and intranasal formulations of corticosteroids
  Drug Safety Update September 2010 - link

When switching between corticosteroid products beware of dose inequivalence.

Single component inhaled corticosteroid products are only licensed for use in asthma.

Beclometasone

Prescribing should be for a **named brand** of "CFC-Free" beclometasone as brands are **NOT THERAPEUTICALLY EQUIVALENT** at the same dose.

See **Appendix 1 "Inhaled Corticosteroid products with BDP equivalent." of Asthma Stepping Down guidance:**
Link

Clenil Modulite (cfc-free Beclometasone) pMDI

QVAR EasiBreathe breathe-actuated MDI

See NPAG asthma (adult) and COPD Guidelines - link

Combination (LABA/ICS) inhalers:

If both ICS and LABA are required, a combination device may be used, depending on the needs of the individual; the cheapest device available should be chosen. **TA131** and **TA138**

Inhalers which combine a LABA with a corticosteroid have **not** been shown to improve **compliance** in the medium to long-term or to have a clinically significant difference **in efficacy** from the same ingredients inhaled separately. However, in order to ensure that a LABA is not taken without an ICS, where LABAs are prescribed for people with asthma, they should be prescribed with an ICS in a single combination inhaler. https://www.nice.org.uk/advice/ktt5/chapter/evidence-context

Prescribe by brand.

Fostair 100/6 and 200/6 (Formoterol plus fine-particle beclometasone) – beware of dose inequivalence if switching "from" or "to" another inhaler.

NB - Fostair 100/6, as pMDI and NEXThaler (DPI), is licensed for use in COPD and asthma in those over 18 years.
Fostair 200/6 (high strength) (as pMDI or NEXThaler) is licensed only for use in asthma in those over 18 years.

DuoResp Spiromax (Budesonide plus formoterol) - licensed for asthma and for COPD in adults over 18 years.

Symbicort Turbohaler (Budesonide plus formoterol DPI) licensed for asthma, from 6 years, and for COPD in adults.

Symbicort 200/6 pMDI (Budesonide 200microg plus formoterol 6microgram per actuation) – licensed in COPD, in adults, only.

AirFluSal Forspiro (fluticasone 500microg plus salmeterol 50 microg per actuation DPI) licensed for severe asthma and for COPD, in adults only.

Seretide Evohaler (pMDI) and Accuhaler (DPI) (Fluticasone and salmeterol)

All Seretide products are licensed for use in asthma. The lowest strength is licensed from age 4 years, higher strengths from age 12 years.
Seretide 500 Accuhaler is the only Seretide product licensed for use in COPD; AirFluSal Forspiro (see above) is a more cost-effective alternative.

Consider using a single combination inhaler as a "preventer" and "reliever" for patients with troublesome or on-going exacerbations e.g. MART (Fostair pMDI) or SMART (Symbicort Turbohaler) - **link**

3.3 *Cromoglicate, related therapy and leukotriene antagonists*

Leukotriene antagonists should be stopped if there is no improvement in steroid dose, symptoms or lung function within 6 weeks
British Guideline on the management of asthma SIGN/BTS May 2004

Montelukast (licensed from age 6 months)
Zafirlukast

3.4 *Antihistamines (available OTC)*

Cetirizine
Loratadine
Chlorphenamine

N.B. Desloratadine (as liquid only); Levocetirizine and Rupatadine are double red

3.7 *Mucolytics*

Carbocysteine – 4 week trial; stop if no benefit seen

BNF CHAPTER 4 – CENTRAL NERVOUS SYSTEM

Hypnotics and Anxiolytics

4.1

Insominia Newer Hypnotic Drugs
NICE TA77 – (April 2004)
1.1 When, after due consideration of the use of non-pharmacological measures, hypnotic drug therapy is considered appropriate for the management of severe insomnia interfering with normal daily life, it is recommended that hypnotics should be prescribed for short periods of time only, in strict accordance with their licensed indications.
1.2 It is recommended that, because of the lack of compelling evidence to distinguish between zaleplon, zolpidem, zopiclone or the shorteracting benzodiazepine hypnotics, the drug with the lowest purchase cost (taking into account daily required dose and product price per dose) should be prescribed.
1.3 It is recommended that switching from one of these hypnotics to another should only occur if a patient experiences adverse effects considered to be directly related to a specific agent. These are the only circumstances in which the drugs with the higher acquisition costs are recommended.
1.4 Patients who have not responded to one of these hypnotic drugs should not be prescribed any of the others.

Benzodiazepine indications
BNF 63 (p216)
1. Benzodiazepines are indicated for the short-term relief (two to four weeks only) of anxiety that is severe, disabling, or causing the patient unacceptable distress, *occurring alone or in association with insomnia or short-term psychosomatic,* organic, or psychotic illness.
2. The use of benzodiazepines to treat short-term ‘mild’ anxiety is inappropriate.
3. Benzodiazepines should be used to treat insomnia only when it is severe,

Diazepam
Zopiclone

Zaleplon, **zolpidem** and **zopiclone** are non-benzodiazepine hypnotics, but they act at the benzodiazepine receptor. They are not licensed for long-term use; dependence has been reported in a small number of patients. (BNF 64 p215)

4.3 *Antidepressant drugs*

Depression - link
(NICE CG90, October 2009)
Consider antidepressants, usually an SSRI in a generic form, for people with:
– A past history of moderate or severe depression **or**
– Initial presentation of sub threshold depressive symptoms present for at least two years **or**
– sub threshold depressive symptoms or mild depression persisting after other interventions.
Consider co-morbidities e.g. SSRIs are associated with an increase in bleeding and drug interactions before making the choice.

Fluoxetine
Citalopram
Sertraline (for patients with co-existing CHD)
Venlafaxine (Prescribe modified release versions as Vensir brand)

4.6 *Drugs used in nausea and vertigo*

Metoclopromide – not recommended for patients <20 years
Prochlorperazine
Betahistine

4.7 *Analgesics*

Limited amount of evidence that combinations containing low doses of opioid e.g. 8 mg codeine are more effective than aspirin or paracetamol alone. Soluble products not included due to high sodium content.

Paracetamol – available OTC
Co-codamol tablets 8/500 – **available OTC**
High strength
1st line - Co-codamol tablets 30/500 (Prescribe tablets as Zapain)
2nd line - Co-codamol capsules 30/500
No longer cheaper to prescribe individually

Codeine phosphate

Drugs in terminal care

Morphine – Prescribe by brand, which must stay consistent.
Preferred brand – **Zomorph (twice a day preparation)**

ZOMORPH capsules can be swallowed whole or opened and sprinkled on food.

Diamorphine
Fentanyl (packs of 5 only) - Preferred brand Matrifen
Dexamethasone
Midazolam
Cyclizine
Levomepromazine

4.7.4 *Antimigraine drugs*

Simple analgesic + anti-emetic
Several combination products are available

Reserve Triptans for patients in whom adequate doses of analgesics and anti-emetics are not effective. Monitor patients and review if patient over using as potential for medication overuse headache.

Sumatriptan 50mg
Zolmitriptan 2.5mg tabs/Orodispersible tabs

4.10 *Drugs used in substance dependence*

For Nicotine Replacement Therapy (NRT) formulary see
http://nww.pathfinder-rf.northants.nhs.uk/media/2819084/nrt-formulary.pdf

Varenicline - see patient decision aid - link

Smoking Cessation – Varenicline **NICE TA 123** Varenicline is recommended within its licensed indications as an option for smokers who have expressed a desire to quit smoking. It should only be prescribed only as part of a programme of behavioural support.

BNF CHAPTER 5 – INFECTIONS

See "Management of Infection Guidance for Primary Care" link

5.1 ***Antibacterials***

5.1.1 ***Penicillins:***
Phenoxymethylpenicillin (Pen V)
Amoxicillin
Flucloxacillin

Pivmecillinam 200mg

5.1.2 ***Cephalosporins:***
Cefalexin
See "*C. difficile* – Best practice in antimicrobial prescribing" - link

5.1.3 ***Tetracyclines:***
Oxytetracyline
Lymecycline
Doxycycline

5.1.5 ***Macrolides***
Erythromycin - may be preferable in children as clarithromycin syrup is twice the cost

Clarithromycin

Azithromycin or Doxycycline for Chlamydia treatment

5.1.8 **Trimethoprim** - 3 day course in simple UTI

5.1.11 **Metronidazole**

5.1.13 **Nitrofurantoin- prescribe as m/r capsules**

5.2 *Antifungal drugs*

Fluconazole

Itraconazole

Nystatin oral suspension *prescribed as* ***Nystan*** *brand (this is more cost effective)*

Treat fungal nail infections only after confirmed mycology .Topical preparations should be purchased rather than prescribed

Terbinafine

5.3.2 *Herpes virus infections*

Aciclovir

5.3.4 *Influenza prophylaxis*

Oseltamivir
Zanamivir

NICE technology appraisals [TA168] (February 2009)

Oseltamivir and zanamivir are recommended as possible treatments for people with flu if all of the following apply:

•the person is in an 'at-risk' group

•the person has a 'flu-like illness' and can start treatment within 48 hours (36 hours for zanamivir treatment in children) of the first sign of symptoms.

•the flu virus is known to be going around and it is likely that a flulike illness has been caused by the flu virus.

BNF CHAPTER 6- ENDOCRINE

6.1 *Drugs used in diabetes*

Insulins

Type 2 diabetes - The management of type 2 diabetes - link
Offer intermediate acting **human isophane insulin (human NPH insulin)**, taken once or twice-daily according to need, consider starting both NPH and short acting either separately or pre-mixed human insulin.
Long acting Insulin analogues, Detemir and Glargine may be ***considered*** if:

- help is needed injecting insulin and a long acting analogue would reduce injections from twice to once daily
- lifestyle is restricted by recurrent symptomatic hypoglycaemic episodes
- would otherwise need twice daily NPH insulin in combination with oral blood glucose lowering drugs.

Intermediate acting human isophane insulin

Insulin detemir

Insulin glargine - Abasaglar and Lantus are not interchangeable so prescribe by brand. Abasaglar is recommended for new initiations

Antidiabetic Drugs

Metformin is the **First Line** choice in type 2 diabetes unless it is contraindicated or not tolerated. **Type 2 Diabetes in adults: management, NICE guidelines NG28 (Dec 2015) link**

Metformin

Metformin MR

Metformin MR should only be used where patients are unable to tolerate the standard release tablets, despite gradual dose-titration. The standard release formulation should always be used first-line.

Sulphonylurea (SU) plus metformin is a dual therapy option in patients with type 2 diabetes with inadequate blood glucose control. It can be ***considered*** for triple therapy with metformin plus a DPP-4i or pioglitazone or SGLT-2i. **Type 2 Diabetes in adults: management, NICE guidelines NG28 (Dec 2015) link**

Gliclazide

Pioglitazone plus metformin is a dual therapy option in patients with type 2 diabetes with inadequate blood glucose control. It can be *considered* for triple therapy with metformin plus a SU or SGLT-2i. **Type 2 Diabetes in adults: management, NICE guidelines NG28 (Dec 2015) link**

Pioglitazone is contra-indicated in patients with cardiac failure or history of cardiac failure, hepatic impairment, diabetic ketoacidosis, history of bladder cancer, un-investigated macroscopic haematuria. Caution elderly.

Pioglitazone

Gliptins plus metformin is a dual therapy option in patients with type 2 diabetes with inadequate blood glucose control. They can be *considered* for triple therapy with metformin plus a SU. **Type 2 Diabetes in adults: management, NICE guidelines NG28 (Dec 2015) link**

Alogliptin*
Linagliptin (if eGFR is below 60ml/min, consider linagliptin as it is excreted by the biliary system and no dose adjustment is required)
Saxagliptin*
Sitaglitin
Vildegliptin

*** The FDA, April 2016 has added warnings about heart failure risk to labels of medicines containing saxagliptin and alogliptin as a safety review they conducted found that they may increase the risk in patients with heart/kidney disease.**
http://www.fda.gov/downloads/Drugs/DrugSafety/UCM493965.pdf

Canagliflozin (**NICE TA 315 link)** can be considered for treating Type 2 diabetes

- dual therapy regimen in combination with metformin if a sulfonylurea is contraindicated or not tolerated or the person is at significant risk of hypoglycaemia or its consequences.
- triple therapy regimen in combination with:
  - metformin and a sulfonylurea or
  - metformin and a thiazolidinedione.

Dapagliflozin (NICE TA 288 link) can be considered treating type 2 diabetes,

- in a dual therapy regimen in combination with metformin only if it is used as described for (DPP−4i)
- in combination with insulin with or without other antidiabetic drugs.
- It is **NOT** recommended in a triple therapy regimen in combination with metformin and a sulfonylurea.

Empagliflozin (**NICE TA 336 link)** is recommended as an option for treating type 2 diabetes in

- dual therapy regimen in combination with metformin, only if a sulfonylurea is contraindicated or not tolerated, or the person is at significant risk of hypoglycaemia or its consequences.
- triple therapy regimen is recommended with:
  - metformin and a sulfonylurea or
  - metformin and a thiazolidinedione.
- in combination with insulin with or without other antidiabetic drugs

Canagliflozin
Dapagliflozin
Empagloflozin

Glucagon-like-peptide-1 analogue can be ***considered*** in combination with metformin and a SU or if triple therapy is not effective, not tolerated, or contra-indicated, for adults with BMI of 35 or higher **and** medical problems associated with obesity or a BMI lower than 35 in whom insulin isn't suitable. **Type 2 Diabetes in adults: management, NICE guidelines NG28 (Dec 2015) link To be initiated by secondary care or the Diabetes MDT.**

Exenatide (Byetta (Twice a Day) and Bydureon (Once a Week) preparations)
Liraglutide
Lixisenatide

See - Northamptonshire Shared Care Protocol for Glucagon-Like Peptide – 1 analogue therapy - link

Blood Glucose Testing strips and lancets

Ensure patient education re appropriateness (or otherwise) of testing. Only one type of strip should be prescribed for each patient. Quantities should be appropriate to the frequency of testing. Test strips are not recommended to be put on repeat for patients not on insulin.

CareSens N blood glucose testing strips
CareSens lancets

Insulin Pen Needles

Insupen
Omnican
GlucoRx

Needle length should be no longer than necessary; 8mm needle should be the routine maximum length for adults. For children and adolescents, a 4mm or 6mm needle is recommended, depending on the degree of sub-cutaneous fat

6.4 *Sex hormones*

HRT

HRT increases the risk of venous thromboembolism, of stroke and, after some years of use, endometrial cancer (reduced by a progestogen) and of breast cancer. The CSM advises that the minimum effective dose should be used for the shortest duration, for the relief of menopausal symptoms. Treatment should be reviewed at least annually and for osteoporosis alternative treatments considered (BNF section 6.6). HRT does not reduce the incidence of coronary heart disease and it should not be prescribed for this purpose.

HRT may be used in women with early natural or surgical menopause (before age 45 years), since they are at high risk of osteoporosis. For early menopause, HRT can be given until the approximate age of natural menopause (i.e. until age 50 years). Alternatives to HRT should be considered if osteoporosis is the main concern.
In healthy women without symptoms, the risk of using HRT outweighs the potential benefit of preventing osteoporosis.

Women without uterus
Elleste Solo 1mg, 2mg
Evorel patches 25,50,75,100

Women with uterus
Cyclical therapy
- **Elleste Duet** 1mg, 2mg

Continuous combined therapy
- **Kliofem**
- **Kliovance**

6.6 *Drugs affecting bone metabolism*

Alendronic acid (sodium alendronate)

Prescribe as **Alendronate** 70mg once a week for the treatment of post-menopausal osteoporosis.
Prescribe as **Alendronate** 10mg once a day for osteoporosis treatment in men and prevention of corticosteroid induced osteoporosis.

Risedronate

BNF CHAPTER 7 - OBSTETRICS & GYNAECOLOGY

7.3 *Contraceptives*

COCs

Combined oral contraceptive content	**Available products. Preferred formulary choices in bold**	**Notes**
Ethinylestradiol 30mcg levonorgestrel 150mcg	**Levest** **Rigevidon** Ovranette Microgynon 30 Microgynon 30 ED	*Progestogen dominant pill*
Ethinylestradiol 35mcg norethisterone 500mcg	**Brevinor**	*Oestrogen dominant pill*
Ethinylestradiol 20mcg norethisterone acetate 1mg	**Loestrin 20**	*Consider if side effects with higher doses of oestrogen. Older women*
Ethinylestradiol 30mcg desogestrel 150mcg	**Lestramyl** **Cimizt 30/150** Gedarel 30/150 Marvelon	*Consider in mild acne* *Note: MHRA advice on risk of VTE*
Ethinylestradiol 30mcg gestodene 75mcg	**Aidulan** **Millinette 30/75** **Sofiperla** Katya 30/75 Femodene	*Improved cycle control* *Note: MHRA advice on risk of VTE*
Ethinylestradiol 30mcg Levonorgestrel 50mcg Ethinylestradiol 40mcg Levonorgestrel 75mcg Ethinylestradiol 30mcg Levonorgestrel 125mcg	**TriRegol** Logynon	*Tri-phasic preparation* *Improved cycle control but requires better compliance*
Ethinylestradiol 35 mcg norgestimate 250mcg	**Cilique** Lizinna Cilest	*More cost effective choice than Cilest*
Co-cyprindiol 2000/35 (cyproterone acetate 2mg, ethinylestradiol 35mcg)	**Co-cyprindiol 2000/35** Clairette Dianette	*Severe acne, moderately severe hirsuitism.* *Prescribe generically* ***Co-cyprindiol*** *should not be prescribed for the sole purpose of contraception. Prescriptions should be endorsed with the female symbol* ♀

The risk of VTE in association with drospirenone-containing pills, including Yasmin, is higher than that for levonorgestrel-containing 'second generation' pills and may be similar to the risk for 'third-generation' pills that contain desogestrel or gestodene. See full MHRA warning - link

If Yasmin is still needed, please prescribe as Dretine or Yacella brand (ΞYasmin; Ethinylestradiol 30mcg, Drospirenone 3mg)

The MHRA in Feb 2014 (http://www.mhra.gov.uk/Safetyinformation/DrugSafetyUpdate/CON377645) confirmed the small VTE risk of COCs and recommended that prescribers consider risk factors and remain vigilant for signs and symptoms. A prescribing checklist is available in the annex of the CAS letter sent to prescribers https://www.cas.dh.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=102106

POPs

Desogestrel 75mcg is the preferred progestogen-only pill for women who weigh over 70kg (NHS CKS)

Micronor (≡ Noriday: norethisterone 350mcg)
Norgeston (levonorgestrel 30mcg)
Desogestrel 75mcg (≡Cerazette:)

Desogestrel has a 12-hour missed pill window and may be useful where poor compliance is likely. However, it is only recommended for use in women who cannot tolerate oestrogen-containing contraceptives or in whom these preparations are contraindicated.

Emergency Contraception

Emerres 1.5mg (Levonorgestrel 1500mcg) – for requests within 12 hours and no later than 72 hours

Available OTC as **Levonelle One Step** from all pharmacies, for over-16sAvailable from many pharmacies under PGD, including for under 16s

Ulipristal acetate 30mg – for requests 72 to 120 hours after unprotected sexual intercourse

Available OTC as **ellaOne** from all pharmacies

7.4.1 *Drugs for urinary retention*

Doxazosin tablets (not m/r)

Tamsulosin 400mcg CAPSULES

7.4.2 *Drugs for urinary frequency, enuresis, and incontinence*

See NPAG "Urinary incontinence in woman: Implementation of NICE CG171." - **link**

First line

- oxybutynin (immediate release),
- tolterodine (immediate release)
- Neditol XL (tolterodine XL) – once daily preparation
- If patient cannot swallow tablets - oxybutynin patch 3.9mg/hr 2xweekly

NICE advises that the drug with the lowest acquisition cost should be chosen e.g. oxybutynin, tolterodine then Neditol XL.

Treatment should be reviewed 4 weeks after the start of each new OAB drug treatment.

Consider offering referral to secondary care if trials of 2-3 of these anticholinergic drugs are not successful.

7.4.5 *Drugs for erectile dysfunction*

Sildenafil (Prescribe GENERICALLY) – "SLS" criteria no longer apply to generic sildenafil.

Tadalafil, Vardenafil and Avanafil are double red for new prescribing. Prescribing for existing patients may continue until such time as a review may be appropriate. Prescriptions should be endorsed "SLS" in order to be passed for payment. DH guidance on prescribing for erectile dysfunction recommends that quantities supplied should usually be one tablet per week (although discretion may be used) The Northamptonshire Commissioning Delivery Executive has recommended for new initiations prescribing should be limited to 4 doses per month.

BNF CHAPTER 9 – NUTRITION AND BLOOD

9.1.1.1 ***Oral Iron***

Ferrous Fumarate 305mg capsules
Ferrous Fumarate 210mg
Ferrous Sulphate 200mg

Sodium Feredetate (Sytron) – if liquid preparation is essential.

9.6.4 ***Vitamin D***

Only prescribe for treatment of vitamin D deficiency and subsequent maintenance.
Patients with "insufficiency" of vitamin D and those at risk of deficiency as per CMO letter Feb 2012* should purchase OTC or obtain via www.healthystart.nhs.uk if eligible.

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_132508.pdf

See NPAG Vitamin D guidelines on Pathfinder
http://nww.pathfinder-rf.northants.nhs.uk/nene/therapeutics/guidelines-health-promotion/

InVitaD3 25,000 IU/ml oral solution 1ml ampoule
Fultium D3 800 IU capsule
Fultium D3 3,200 IU capsule
Desunin 800 IU tablet
Aciferol D3 10,000 IU tablet (Fontus Health)
Aciferol D3 3,000 IU/ml solution (Fontus Health)
Pro D3 Liquid Drops 100 IU/drop [2,000 IU/ml] pack of 20ml

Vitamin D With calcium

Calci D chewable tablets (once daily dose)
Evacal D3 chewable tabletsAccrete D3 film-coated tablets (swallowed whole or halved)
Adcal D3 caplets if struggling with above options
Adcal D3 dissolvable only if swallowing problems or PEG

BNF CHAPTER 10 – MUSCULOSKELETAL

10.1 *Non-steroidal anti-inflammatory drugs*

NPAG does not recommend the use of Coxibs. In high GI risk patients where simple analgesics provide inadequate relief then prescribe a traditional NSAID with omeprazole 20mg daily.

Ibuprofen – Available OTC
Naproxen

Naproxen - Avoid M/R preparations and E/C versions as they are considerably more expensive without additional benefits.

Diclofenac

Diclofenac - There are now concerns about the cardiovascular safety which appear to have a similar risk to coxibs - **link**

10.3 *Drugs for the relief of soft-tissue inflammation*

Topical NSAIDS may be effective for short term use (<2 weeks) but there is insufficient evidence to recommend their long term use. (Cinical Evidence 2006)

Fenbid Gel (£1.50 for 100g C+D Aug 2014)
(Ibuprofen 5% gel but should prescribe as Fenbid 100g)

BNF CHAPTER 11 - EYE

11.3 *Anti-infective eye preparations*

Consider delayed script as 50:50 chance it is a viral infection rather than bacterial.

Chloramphenicol 0.5% eye drops or ointment- available OTC for acute bacterial conjunctivitis in adults and children over 2 years.

Fusidic Acid

11.4 *Corticosteroids and other anti-inflammatory preparations (Corticosteroids on specialist recommendation)*

Sodium cromoglicate 2% eye drops 13.5 ml – smaller packs available OTC.
Azelastine eye drops for allergic conjunctivitis or
Antazoline eye drops (also contains sympathomimetic Xylometazoline and available as Otrivine Antistin).

11.6 *Treatment of glaucoma*

On specialist recommendation
http://nww.pathfinder-rf.northants.nhs.uk/media/3416903/glaucoma_prescribing_guidelines_dec2015.pdf

11.8 *Miscellaneous ophthalmic preparation*

See Northamptonshire's Ocular Lubricant Guidance 2016
http://nww.pathfinder-rf.northants.nhs.uk/media/3438792/ophthalmic-lubricant-formulary-2016-npag-v3.pdf

Hypromellose 0.3% eye drops
Carbomer 980 eye drops 10g
Xailin night time gel
Vita-POS preservative free® ointment
(Lasts 6 months from opening)

Acetylcysteine eye drops (Ilube)

BNF CHAPTER 12 – EAR, NOSE AND OROPHARYNX

12.1 *Drugs acting on the ear*

Acute otitis externa
First use aural toilet (if available) and analgesia

If aural toilet not available
Acetic Acid 2% ear spray (Earcalm)
Dexamethasone/Neomycin spray (Otomize)

Removal of ear wax;
Sodium bicarbonate ear drops – available OTC

12.2 *Drugs acting on the nose*

Beclometasone aquesous nasal spray 200 dose (NB 180 dose is OTC only)
Budesonide nasal spray (Rhinocort Aqua)
Fluticasone furoate (Avamys)- second line
Ipratropium nasal spray (Rhinatec)

Hayfever - See Tablet Press Extra - link

Sodium chloride 0.9% nasal drops

Naseptin cream

12.3 *Drugs acting on the orpharynx*

Benzydamine oral rinse (Difflam) – available OTC

Miconazole oral gel (Daktarin) – available OTC
Nystan suspension **Prescribed by BRAND**

Chlorhexidine Mouthwash 0.2% - available OTC

ACBS: patients suffering from dry mouth as a result of radiotherapy, or sicca syndrome.

Artificial saliva: Saliveze
Oral spray - Biotene
Oralbalance gel

BNF CHAPTER 13 - SKIN

There is NO advantage in prescribing these products by generic name. Choice is largely based on patient preference. 'Zero' products from Thornton and Ross provide cost effective equivalents to many commonly used emollients and soap substitutes and will be suitable for initial prescribing in most cases.
All available OTC

13.2 *Emollient and barrier preparations*

Atopic eczema in children
NICE CG 57 (December 2007)
Use emollients frequently and continuously (at least 3-4 times a day). The greasier the preparation, the better the emollient effect, but very greasy ointments may not be acceptable to some patients. Emollient use should exceed steroid use by 10:1 in terms of quantities for most patients

The use of bath emollients has been questioned, as there are no published RCTs and no consensus of clinical opinion that such therapy is effective. Topical emollients applied directly to the skin have much better evidence in the management of patients with atopic eczema. DTB Vol 45 No 10 October 2007

There is some evidence that Aqueous cream when used as a moisturiser may worsen symptoms of eczema due to its high sodium lauryl sulphate content. For this reason it should not be prescribed as an emollient but is suitable to use as a soap substitute - **link.**

Emollients

'Zero' products are similar to other branded products but are less costly. These should be first choice. Patients already established on more expensive products may be willing to try the equivalent 'Zero' product.

Creams
Zerobase (similar to Diprobase)
Zerocream (similar to E45 Cream)

Rich Cream
Zeroguent (similar to Unguentum M)

Gel
Zerodouble (similar to Doublebase)

Ointment
Zeroderm (similar to Epaderm or Hydromol)

Other Emolients

Liquid and white soft paraffin ointment 50%:50%
Diprobase
Doublebase Oilatum
Balneum Cream
Balneum Plus Cream
Emulsifying ointment

Soap Substitutes

ZeroAQS (similar to Aqueous cream but does not contain Sodium Lauryl Sulphate)
Aqueous cream
Emulsifying ointment

13.4 *Topical corticosteroids*

Hydrocortisone - Prices vary considerably between the pack sizes. Prescribe as multiples of 30g, not 50g, for 1%. Hydrocortisone 2.5% is much more expensive than 1% and is now double red. Consider Clobetasone if hydrocortisone 1% is not effective.

Hydrocortisone cream/ointment (1% cream available OTC)
(mild steroid)
Hydrocortisone 0.5% cream/ointment

Betamethasone (Betnovate preparations)
(Betnovate RD 0.25% preparations are classed as moderately potent, Betnovate 0.1% preparations are classed as potent steroids)
Clobetasone butyrate 0.05% (Eumovate) (available OTC)
(moderately potent)
Clobetasol propionate 0.05% (Dermovate)
(very potent)
Daktacort cream/oint.
Canesten HC

13.5 *Preparations for eczema and psoriasis (specialist led)*

Calcipotriol (Dovonex)
Dithranol preps
Coal Tar preps
Salicylic acid preparations

Tacrolimus and pimecrolimus for atopic eczema
NICE TA 82 (Aug 2004)
Only used when atopic eczema is not controlled by maximal topical corticosteroid treatment. Specialist initiation or GP with special interest and experience - **link**

13.6 *Acne and Rosacea*

See Northamptonshire Acne Guidelines and Rosacea Guidance - link

Mild Acne
Adapalene 0.1% (Differin)
Benzoyl peroxide (PanOxyl)
Topical Clindamycin 1% (Dalacin T)

Moderate Acne
Adapalene + benzoyl peroxide (Epiduo)

13.7 *Preparations for warts and callouses- available OTC*

These preparations are now double red and should be purchased OTC
Salactac gel
Salactol paint
Occlusal

13.9 *Shampoos and some other scalp preparations*

Cocois (Ung Cocois Co)
Ketoconazole shampoo
Alphosyl 2 in 1

13.10 *Anti-infective skin preparations*

Fusidic acid – short term use only to prevent resistance.
Metronidazole
Silver sulphadiazine

Antifungal preparations

Clotrimazole (Canesten) - available OTC
Miconazole (Daktarin) – available OTC

Parasiticidal preparations (available OTC)

On current evidence it seems reasonable to regard dimeticone as a first-line alternative to malathion or permethrin.
DTB Vol 45 No 7 July 2007

Dimeticone
Malathion
Permethrin

13.11 *Disinfectants and cleansers*

Potassium permanganate
Sodium chloride 0.9%