BNF CHAPTER 6:
ENDOCRINE SYSTEM

BNF 6.1.1 INSULINS

First Choice	Typical Dose	Alternatives	Typical Dose
Neutral Protamine Hagedorn (NPH) insulin or Premixed biphasic insulin	Titrate dose to patients needs	Insulin analogue	Titrate dose to patients needs

- NICE guidance states that Type 2 diabetics should be initiated on NPH insulin and switched to analogue only if required outcome is not achieved.
- NICE guidance states that Type 1 diabetics choice of insulins should be guided by the patients lifestyle, compliance and ability, usually NPH or premixed biphasic, switched to analogue if patient prone to hypoglycaemia at night.
- Currently the least expensive insulin is the Insuman range (available as Insuman Rapid, Insuman comb 15, 25 and 50 and Insuman Basal). These products use the Clikstar and Solostar pens

BNF 6.1.2 ORAL ANTIDIABETIC DRUGS

6.1.2.1 Sulphonylureas

First Choice	Typical Dose	Comments
Gliclazide	Initiate 80mg daily and titrate dose up as required	• Doses of 160mg and below can be give as single daily dose • Only use SR, after trying ordinary release, if patient needs once daily dosage and dose is above 160mg ordinary release.

- Sulphonylureas may be used if Metformin is contraindicated or not tolerated in patients who are not overweight
- Rapid acting secretagogues should be used for patients with erratic lifestyles to minimize risk of hypoglycemia[1]

6.1.2.2 Biguanides

First Choice	Typical Dose	Comments
Metformin	Initiate at low dose and titrate up if necessary	• Only use SR, after trying ordinary release, if patient needs once daily dosage • Max SR dose 2g, if dose higher than this required use ordinary release tablets

- Metformin should be used as a 1st line agent particularly in overweight patients.

6.1.2.3 Other antidiabetic Drugs
Thiaozolidinediones

First Choice	Typical Dose	Comments
Pioglitazone	titrate dose up as required	• Dose of concomitant sulphonylurea or insulin may need to be reduced • Monitor for signs of heart failure of liver problems

- Pioglitazone should only be used as monotherapy for overweight patients for whom metformin is inappropriate or those intolerant to metformin and sulphonylurea.
- Pioglitazone may be preferable to sulphonylurea if patient has marked insulin insensitivity or significant risk of hypoglycaemia[1]
- Pioglitazone should only be continued if HbA1c is reduced by at least 0.5% within 6 months of starting treatment[1].
- Pioglitazone should be avoided in patients at risk of osteoporosis or being investigated for bladder cancer

DPP4 Inhibitors

First Choice	Typical Dose	Comments
Sitagliptin	100mg daily	• Dose of concomitant sulphonylurea may need to be reduced

- DPP4 inhibitors may be preferable if further weight gain would cause significant problems[1]
- DPP4 inhibitors should only be continued if HbA1c is reduced by at least 0.5% within 6 months of starting treatment[1].
- DPP4 inhibitors may be preferable to suphonylurea where there is significant risk of hypoglycaemia[1]

GLP1 Agonists

	Typical Dose	Alternatives	Typical Dose	Comments
Exenatide	5-10mcg twice daily within 1 hour before a meal. Or 2mg once each week	Liraglutide	0.6mg once daily increasing to 1.2mg after at least 1 week as necessary	• Dose of concomitant sulphonylurea may need to be reduced

- GLP1 agonists may be preferable if BMI ≥ 35kg/m² in people of European descent (adjust BMI for other ethnic groups) and there are problems associated with high weight. Or BMI ‹ 35kg/m² and insulin is unacceptable because of occupational implications or weight loss would benefit other co morbidities[1].
- GLP1 agonists should only be continued if HbA1c is reduced by at least 1% within 6 months of starting treatment[1].

[1] - NICE clinical guideline 87

BNF 6.2 THYROID AND ANTITHYROID DRUGS

	First Choice	Alternatives
Hypothyroidism	Levothyroxine	—
Hyperthyroidism	Carbimazole	—

- Propranolol 40mg BD can be useful for initial relief of thyrotoxic symptoms or as an adjunct to antithyroid drugs in preparation for thyroidectomy.

BNF 6.3 CORTICOSTEROIDS

First Choice	Alternatives
Prednisolone plain tablets	Dexamethasone

BNF 6.4 HORMONE REPLACEMENT THERAPY

- HRT treatment should be given at the lowest dose and for the shortest possible time. Treatments should be reviewed annually (consult BNF for HRT Risk table)
- HRT should be reserved for patients where the benefit menopausal symptom control outweighs the risk.
- HRT is no longer recommended purely for the prophylaxis of osteoporosis

UNOPPOSED OESTROGEN

Formulation	Product	Components
Local Oestrogens	Estring Vaginal Ring Vagifem Vaginal Tab Ortho-Gynest Cream Ortho-Gynest Pessary	Oestradiol 7.5mcg/24hours Oestradiol 25 mcg Oestriol 0.01% Oestriol 0.5mg
Tablet	Elleste Solo 1mg Elleste Solo 2mg	Oestradiol 1mg Oestradiol 2mg
Patch	Evorel 25mcg Evorel 50mcg Evorel 75mcg Evorel 100mcg	Oestradiol 25mcg per 24hours Oestradiol 50mcg per 24hours Oestradiol 75mcg per 24hours Oestradiol 100mcg per 24hours

- Appropriate for hysterectomised women.
- Elleste Solo should be prescribed by brand name to avoid more expensive versions of oestradiol being dispensed.

SEQUENTIAL COMBINED THERAPY

Formulation	1st Choice	Components	Alternatives	Components
Tablet	Elleste Duet 1mg Elleste Duet 2mg	Oestradiol 1mg/ Oestradiol 1mg & Norethisterone 1mg Oestradiol 2mg/ Oestradiol 2mg & Norethisterone 1mg	Femoston 1/10 Femoston 2/10 Femoston 2/20	Oestradiol 1mg/ Oestradiol 1mg & Dydrogesterone 10mg Oestradiol 2mg/ Oestradiol 2mg & Dydrogesterone 10mg Oestradiol 2mg/ Oestradiol 2mg & Dydrogesterone 20mg
Patch	Evorel Sequi 50mcg	Oestradiol 50mcg per 24 hours/Oestradiol 50mcg per 24 hours & Norethisterone 170mcg per 24 hours		
Patch & Tablet	Evorel-Pak	Oestradiol Patch 50mcg per 24hrs/ Norethisterone 1mg tabs	Femapak 40	Oestradiol Patch 40mcg per 24hrs/ Dydrogesterone 10mg tabs

- Use in women with intact uterus who are perimenopausal.

CONTINUOUS COMBINED THERAPY

Formulation	First Choice	Components (& cost for 28 days)	Second Choice
Tablet	Kliovance	Oestradiol 1mg & Norethisterone 0.5mg (£5.15)	Elleste Duet Conti Femoston Conti
Patch	Evorel Conti	Oestradiol 50 microgram & Norethisterone 170mcg/24hrs (£12.90)	-

- Use in post-menopausal women with intact uterus.

BNF 6.6.2 BISPHOSPHONATES

First Choice	Typical Dose	Alternative	Typical Dose
Alendronic acid	70mg once a week	Risedronate sodium	35mg once a week

- Consider co-prescribing calcium and Vitamin D for all patients receiving risedronate or alendronic acid prescriptions.

First Choice	Typical Dose	Alternative	Typical Dose
Calcium Carbonate 1500mg, Vitamin D3 400iu chewable tablets (Adcal – D3)	One twice daily	Calcium Phosphate 3.1g, Vitamin D3 800iu sachets (Calfovit D3)	1 sachet dissolved in water each day

- Both of these calcium/vitamin D3 products can be written generically