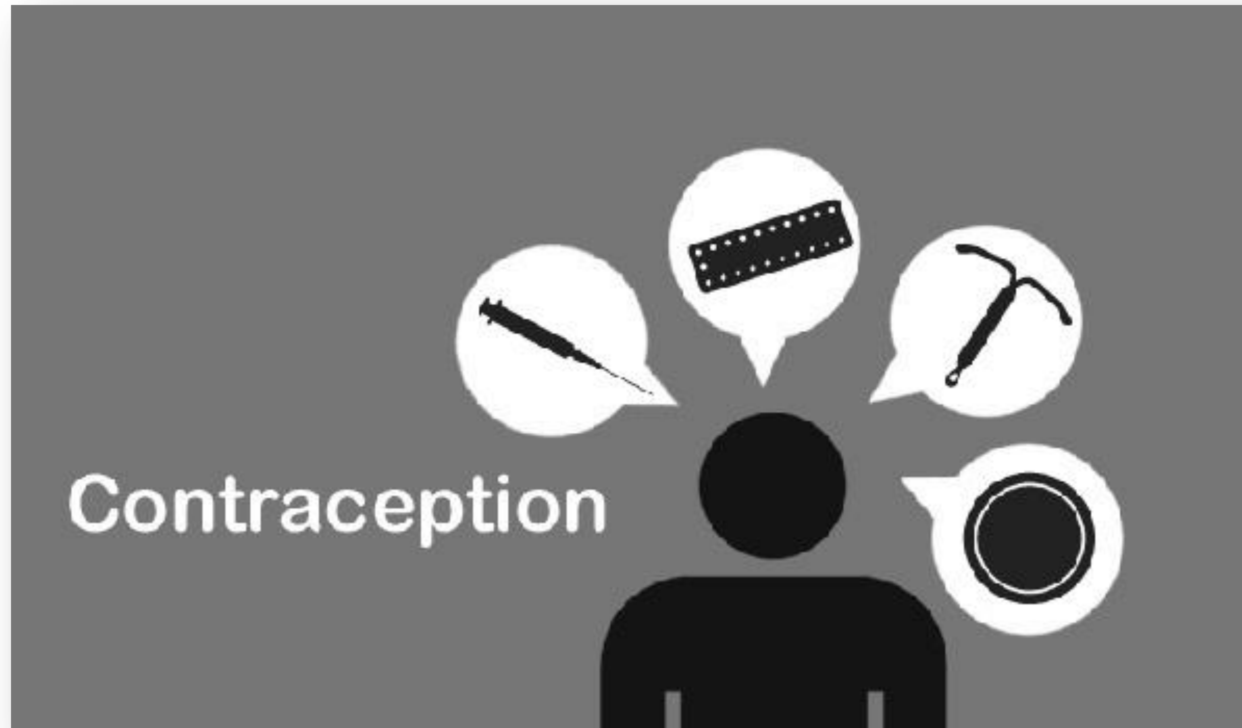
Hormonal contraception:

NHS Tayside Formulary, pharmacological content and other characteristics



Advice from the Tayside Sexual & Reproductive Health Service (TSRHS) (Last update: 04/2018)

Combined hormonal contraception (CHC): pharmacological content

(NHS Tayside Formulary contraceptives are in green, "first choice" COC is in dark green with white font, current most cost-effective brands are in bold font, a non-formulary brand is in red, a COC not licensed for contraception is in yellow)

Oestrogen	Progestogen: First generation	Second generation	Third generation			Fourth generation	17 OH[4]
Ethinylestradiol (EE)	Norethisterone (NE)	Levonorgestrel (LNG)	Gestodene (GSD)	Norgestimate[1] (NGM)/ Norelgestromin[2] (NGMN)	Desogestrel (DSG)/ Etonorgestrel[3] (ENG)	Drospirenone (DRSP)/ Dienogest (DNG)/ Nomegestrol (NOM)	Cyproterone acetate (CPA)
15 mcg					NuvaRing® (120 mcg ENG/24h)		
20 mcg	Loestrin 20® (NE 1mg)		Femodette® (GSD 75 mcg) ~ Millinette 20/75® ~ Sunya®		Mercilon® (DSG 150 mcg) **~ Gedarel 20/150®** **~ Munalea 20/150®** **~ Bimizza®**	Eloine® (3 mg) (DRSP 3 mg) ~ Daylette®	
30 mcg	Loestrin 30® (NE 1.5 mg)	Microgynon 30® Microgynon 30® ED[5] (LNG 150 mcg) **~ Levest®** ~ Rigevidon® ~ Ovranette® Logynon® Logynon® ED[5] (LNG 50/75/125 mcg) *(triphasic)*	Femodene® / Femodene® ED[5] (GSD 75 mcg) ~ Millinette 30/75® ~ Katya®		Marvelon® (DSG 150 mcg) **~ Gedarel 30/150®** **~ Munalea 30/150®**	Yasmin® (DRSP 3 mg) ~ Lucette® ~ Yacella®	
35 mcg	Bevinor® (NE 0.5 mg) ~Ovysmen® Norimin® (NE1 mg) BiNovum® *(biphasic)* (NE 0.5mg/1mg) Synphase® *(triphasic)* (NE 0.5/1/0.5 mcg) TriNovum® *(triphasic)* (NE 0.5/0.75/1 mg)		Triadene® (GSD 50/70/100 mcg, EE 30/40/30 mcg) *(triphasic)*	Cilest® (250 mcg NGM) ~ Cilique® ~ Lizinna® Evra® (patch) (33.9 mcg EE/ 203 mcg NGMN/24h)			Dianette®[6] (CPA 2mg) **~ Co-cyprindiol**

Combined hormonal contraception (CHC): pharmacological content (cont.)

(NHS Tayside Formulary: non-formulary brands are in red)

Oestrogen	Progestogen						
	First generation	Second generation	Third generation			Fourth generation	17 OHP[4]
	Norethisterone (NE)	Levonorgestrel (LNG)	Gestodene (GSD)	Norgestimate[1] (NGM)/ Norelgestromin[2] (NGMN)	Desogestrel (DSG)/ Etonorgestrel[3] (ENG)	Drospirenone (DRSP)/ Dienogest (DNG)/ Nomegestrol (NOM)	Cyproterone acetate (CPA)
Mestranol							
50 mcg	Norinyl-1® (NE 1 mg)						
Estradiol Valerate (EV)							
1-3 mg						Qlaira® (DNG 0- 3 mg, EV 0-3 mg) (26d/2d) *(quadriphasic)*	
Estradiol Hemihydrate (EH)							
2.5 mg						Zoely® (NOM 2.5 mg/ EH 1.5 mg) (24d/4d) *(monophasic)*	

[1] Norgestimate: metabolized mostly to levonorgestrel and its metabolites

[2] Norelgestromin: metabolite of Norgestimate

[3] Etonogestrel: active metabolite of the inactive prodrug desogestrel

[4] 17 OHP: 17 hydroxyprogesterone

[5] ED: every day (28-day) preparation that can be considered for women with compliance issues

[6] Cyproterone acetate products are not licensed for oral contraception but for hormone treatment of acne

Check BNF and MIMS for other brands and the availability of non-proprietary tablets.

Venous Thromboembolism risk (VTE) with combined hormonal contraception (CHC)

Situation	VTE risk per 10,000 healthy women per year
Non contraceptive user, not pregnant	2
Pregnant women	29
Postpartum period	300- 400
CHC containing norethisterone, levonorgestrel or norgestimate (mainly first and second generation progestogens)	5-7
CHC containing etonorgestrel (ring) or norelgestromin (patch)	6-12
CHC containing gestodene, desogestrel, drospirenone or cyproterone acetate (mainly third generation progestogens)	9-12

Newer synthetic estrogens and progestogens (“forth generation progestogens”) such as estradiol valerate/dienogest (Qlaira®) and estradiol hemihydrate/nomegestrol acetate (Zoely®) are being incorporated into combined oral contraception (COC) products. Long-term safety data for these new formulations are not yet available. Therefore, the risks and benefits of use must be assumed to be as for other combine hormonal contraception (CHC).

Reference: FSRH- Venous Thromboembolism (VTE) and Hormonal Contraception 2014

Progestogen-only contraception: pharmacological content (excluding emergency contraception)

(NHS Tayside Formulary contraceptives are in green, "first choice" IUS and contraceptive injection are in in dark green with white font, the current most cost-effective POP is in bold font)

	Progestogen				
Via	First generation	Second generation		Third generation	17 OHP[3]
	Etynodiol diacetate (ED)	Norethisterone (NE)[1]	Levonorgestrel (LNG)	Desogestrel (DSG)/ Etonorgestrel[2] (ENG)	Medroxyprogesterone acetate (MDPA)
Oral	Femulen® (500 mcg) (*withdrawn*)	Micronor® (NE 350 mcg) ~ Noriday®	Norgeston® (LNG 30 mcg)	**DSG 75 mcg (generic brand)** ~ Cerazette® ~ Cerelle®	
Intrauterine			Mirena® IUS (52 mcg) 5 year licence Levosert® IUS (52 mcg) currently 4 year licence Kyleena® IUS (19.5 mcg) 5 year licence Jaydess® IUS (13.5 mcg) 3 year licence		
Subdermal				Nexplanon®[3] (68 mg Etonogestrel[2], 70- 25 mcg/d)	
Intramuscular					DepoProvera® (DMPA 150 mg) (every 13 weeks)
Subcutaneous					SayanaPress® (DMPA 104 mg) (every 13 weeks)

[1] Norethisterone: metabolite of etynodiol diacetate

[2] Etonogestrel: active metabolite of the inactive prodrug desogestrel

[3] 17 OHP: 17 hydroxyprogesterone

Non-contraceptive benefits of hormonal contraceptive methods

Method	Ovulation suppression*	Menstrual suppression or reduction	Menstrual predictability	Estrogenic Benefits** & risks
CHC- cyclical use	+	+	++	+
CHC- continuous use (off license)	++	++	++	++
DepoProvera® or SayanaPress®	++	++	-	- -
IUS (Mirena®)	- or +/-	++	-	-
IUS (Jaydess®) and (Kyleena®)	-	+	-	-
POP (second generation: NE, LNG)	+/-	+/-	-	-
POP (third generation: DSG)	++	+	-	-
SDI (Nexplanon®)	++	+/-	-	-

Scale:
– – : negative effect
– : no effect
+/- : variable effect
+ : good effect
++ : very good effect

CHC: combined hormonal contraception (combined pill, patch or vaginal ring)
DSG: desogestrel
IUS: intrauterine system (hormone “coil”)
NE: norethisterone
LNG: levonorgestrel
POP: progestogen-only pill
SDI: subdermal contraceptive implant

* Ovulation suppression: benefits for women with PMS, endometriosis, recurrent ovarian cysts, menstrual migraine, epilepsy influenced by hormones, ovulation pain
** Estrogen: benefits women with hirsutism, acne, hormone- related (reproductive) depression and premature ovarian insufficiency

Possible side effects of hormonal contraceptive methods: classification according to hormone class

Side effect	Estrogenic	Progestogenic
Acne +/- seborrhoea	-	+
Anxiety	-	+
Bloating	+	+
Breast swelling	+	-
Breast tenderness	+	+/-
Decreased sex drive	+	+/- (assoc. with depression)
Depression	-	+
Growth of uterine fibroids	+	-
Headaches	+	+
Hirsutism	-	+
Irregular bleeding	+/-	+
Mood swings	+/-	+
Nausea/vomiting	+	-
Raised BP	+	-
Weight gain	+/- (water retention: cyclical gain)	+/- (increased appetite: sustained gain- mainly DMPA)

Possible side effects on combined hormonal contraception (CHC): advice and treatment options

Clinical problem	Suggestions
Acne/ hirsutism	Take history and exclude pathology. Consider checking FAI levels. Give lifestyle, skin care and diet advice. Treat condition(s). Encourage perseverance for 3/12. Change progestogen to less androgenic third generation progestogen. Omit pill-free interval (unlicensed). Increase estrogen content* unless higher VTE risk. Change to an EE/cyproterone acetate COC (Dianette®/ Co-Cyprindiol®) (licensed only for acne treatment). Change to non-hormonal method.
Bloating	Take history, give lifestyle and diet advice. Exclude GI and ovarian pathology. Encourage perseverance for 3/12. Change progestogen. Change to progestogen-only or non-hormonal method. Reduce estrogen content** if due to water retention.
Breast tenderness (bilateral)	Exclude pathology. Improve bra support. Encourage perseverance for 3/12. Add evening primrose oil. Reduce estrogen content**. Change to progestogen-only or non-hormonal method.
Headache	General advice: take a history and exclude other pathology. Check BP. Give lifestyle advice and suggest more suitable analgesia. Complicated migraine: stop CHC immediately and start progestogen-only or non-hormonal method. Classical migraine: encourage perseverance for 3/12. Omit pill-free interval (unlicensed). Reduce estrogen content**. Start progestogen-only or non-hormonal method. Other headaches: encourage perseverance for 3/12. Omit pill-free interval (unlicensed). Reduce estrogen content*. Change to progestogen-only or non-hormonal method.
Heavy withdrawal bleeding in pill-free interval	Take history, screen for STIs. Exclude pregnancy. Do pelvic exam +/- arrange pelvic USS. Consider FBC, TFT and haemophilia screen. Add mefenamic +/- tranexamic acid. Encourage perseverance for 3/12. Omit pill-free interval (unlicensed). Change progestogen. Change to estradiol/dienogest COC (Qlaira®) (not recommended by the SMC). Change to a progestogen-only (especially recommended: Mirena® IUS) or non-hormonal method.
Loss of sex drive	Encourage perseverance for 3/12. Take medical and psychosexual history, explore relationship issues including GBV. Consider referral to Sexual Problems Clinic. Change progestogen to a more androgenic second generation progestogen (norethisterone/ levonorgestrel). Reduce estrogen content** or change to combined transdermal contraception (which has less effect on SHBG). Change to a progestogen-only or non-hormonal method.
Mood changes (depression, anxiety +/- irritability)	Take a history (previous sensitivity to progestogens?, history of PMS or postnatal depression?). Exclude suicidal ideation. Explore and treat other causes or signpost to other agencies (advice about benefitsetc.). Encourage perseverance for 3/12. Omit pill-free interval (unlicensed). Change progestogen (consider use of drospirenone). Do not use biphasic or triphasic COCs. Might try progestogen-only method (but avoid DepoProvera®/SayanaPress®) with close monitoring of mood or non-hormonal method. Consider PMS treatment according to RCOG guideline (if applicable).
Nausea	Take a history and exclude other causes. Do a pregnancy test. Encourage perseverance for 3/12. Take tablet at night. Take tablet with food. Reduce estrogen content**. Change to a progestogen-only or non-hormonal method.
Unscheduled bleeding	Check history (before and after starting CHC), compliance and drug interactions (including OTC drugs like St John's Wort). Exclude pregnancy. Screen for STIs. Check compliance with cervical screening program. Inspect cervix. Add Mefenamic acid. Encourage perseverance for 3/12. Change progestogen. Increase estrogen content* or change to vaginal ring (more expensive option). Change to Mirena® IUS, DepoProvera®/SayanaPress® or non-hormonal method. See FSRH CEU Guideline "Unscheduled bleeding on hormonal contraception" for more info.
Water retention	Take history, exclude other pathology, give lifestyle and diet advice. Encourage perseverance for 3/12. If evidence of water retention: reduce estrogen content** or change to EE/drospirenone COC (Yasmin®/ Lucette®/ Daylette®) with anti-mineralcorticoid activity (not recommended by the SMC). Change to a progestogen-only or non-hormonal method.
Weight gain	Take history, give lifestyle and diet advice. Conisder checking TFT. Encourage perseverance for 3/12. If proven weight gain: change to an IUS or non-hormonal method. Might try different progestogen or progestogen-only method. Avoid DepoProvera® and SayanaPress®.

*Increase estrogen content: change to 35 mcg EE combined oral contraceptive pill like Cilest®/Cilique® (non-formulary) or to the combined transdermal patch (Evra®) which leads to approximately 34 mcg/24 hours systemic EE levels.

**Reduce estrogen content: change to a 20 mcg EE combined oral contraceptive pill or to the combined vaginal ring (NuvaRing®) which leads to approximately 15 mcg/24 hours systemic EE levels (but has a much higher cost).

Suggestions modified from: FSRH guidance and Mansour D, Searle S, Smith D at al: Rational Prescribing of Oral Contraceptives. CH-OCS-0005-01/2016.

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