Progestin-only pill (POP)

Desogestrel 75 µg (DSG)

Drospirenone 4 mg (DRSP)

An advanced slide kit complementing the WHO training tool is available from: www.fptraining.org

Update January 2020

POP: Contents

- General characteristics
- Mechanism of action
- Contraceptive efficacy
- Health benefits, migraine
- Adverse events, bleeding
- Emergency contraception
- Breastfeeding
- Summary

TOPIC : POP

General characteristics

Desogestrel 75 µg	**Drospirenone 4 mg**

Hormone dose compared with combined hormonal contraceptive (CHC):

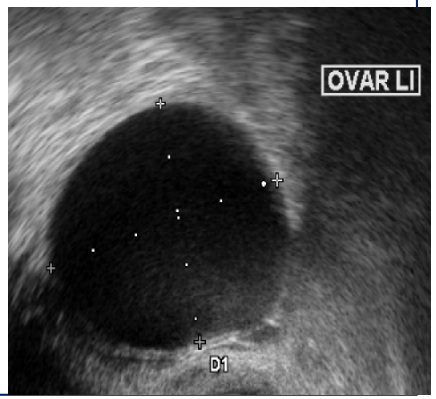
CHC: EE 30(20)µg/desogestrel 150 µg POP: EE --- /desogestrel 75 µg	CHC: EE 30(20)µg/drospirenone 3 mg POP: EE --- /drospirenone 4 mg

- Very-low-dose daily pills
- Inhibit ovulation
- Highly efficient

Ref 1-3

Suppression of ovarian function is less strong in comparison with CHC

- Ovulation is inhibited
- The low dose allows, however, more follicular development
- Women have higher oestradiol concentration in comparison with DMPA users
- Occasionally follicles will develop and not rupture, resulting in ovarian cysts



Ref 1

Ovarian cysts in POP users

- Mainly occur in users of low-dose progestin-only contraception (POC): POP, implant, levonorgestrel-releasing intrauterine system (LNG-IUS)
- Frequently not symptomatic, and harmless
- However, persistent unruptured follicles can produce high levels of estrogen
  - Breast tenderness
  - Breakthrough bleeding

Ref 1

Further important differences: POPs vs COCs

POP	COC
Estrogen-free, Progestin-only (the progestin dose of DSG -but not DRSP- is lower than that in combined oral contraceptives [COCs])	Estradiol + progestin Ethinylestradiol (EE) + progestin
Daily use (DSG) Pill-free interval (DRSP 24+4)	Pill-free interval
Bleeding is unpredictable for DSG	Bleeding is predictable
VTE risk is not increased Can be used in women with risk factors such as thrombophilia	VTE risk is increased 5-12/10.000 women /year in healthy young women
Less restrictive screening for use may facilitate wider distribution by non-clinicians, or over-the-counter provision	Exclusion of cardiovascular risk factors and counselling is mandatory

Ref 1

Efficacy

Method	% of women experiencing an unintended pregnancy within first year of use	
	Typical use	Perfect use
No method	85	85
Condom male	18	2
Combined pill	9	0.3
POP (DSG-DRSP)	9	0.7
DMPA	6	0.2
Implanon	0.05	0.05
IUD Copper T380Ag*	0.3	0.3
LNG-IUS 5 years*	0.2	0.2
Female sterilisation	0.5	0.5
Male sterilisation	0.15	0.1

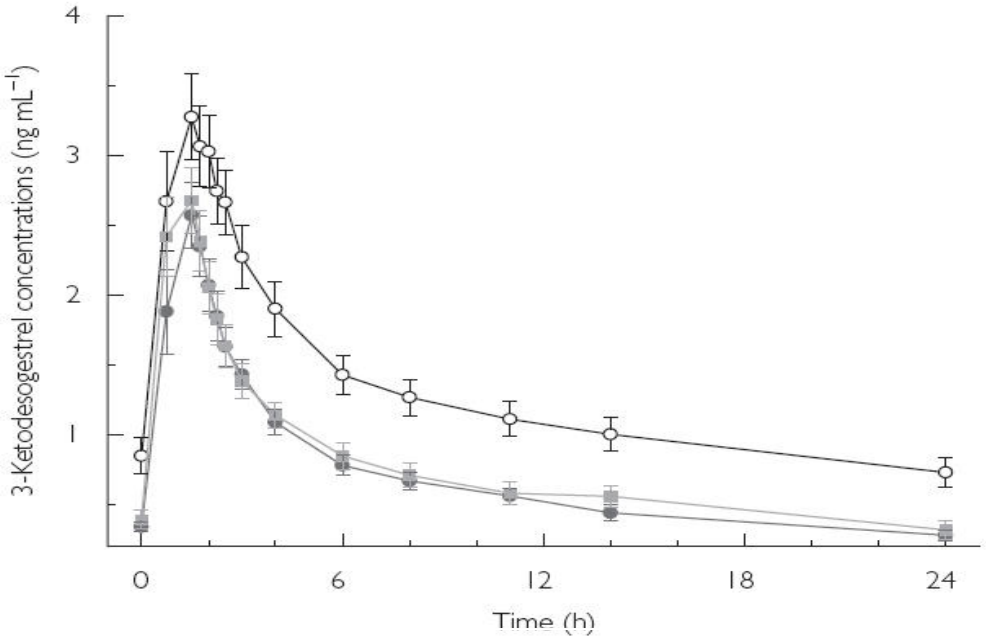
*Source I.Sivin, Contraception 1990; Vol.42NO 4.; adapted from Trussell Contraception 2011;

TOPIC : POP

POPs are efficient but the dose is very low
So: Caution with concomitant use of enzyme-inducing drugs such as St John's wort

Recommendation:
Use back-up method

Grey points/squares,
cycles with St John's wort



3-ketodesogestrel levels are significantly lower in users of a CHC containing EE 20 µg / desogestrel 150 µg during concomitant treatment with St John's wort. This resulted in this study in more intracyclic bleeding episodes. **Users of the much lower dosed POP will be more vulnerable to increased metabolism and loss of efficacy.**

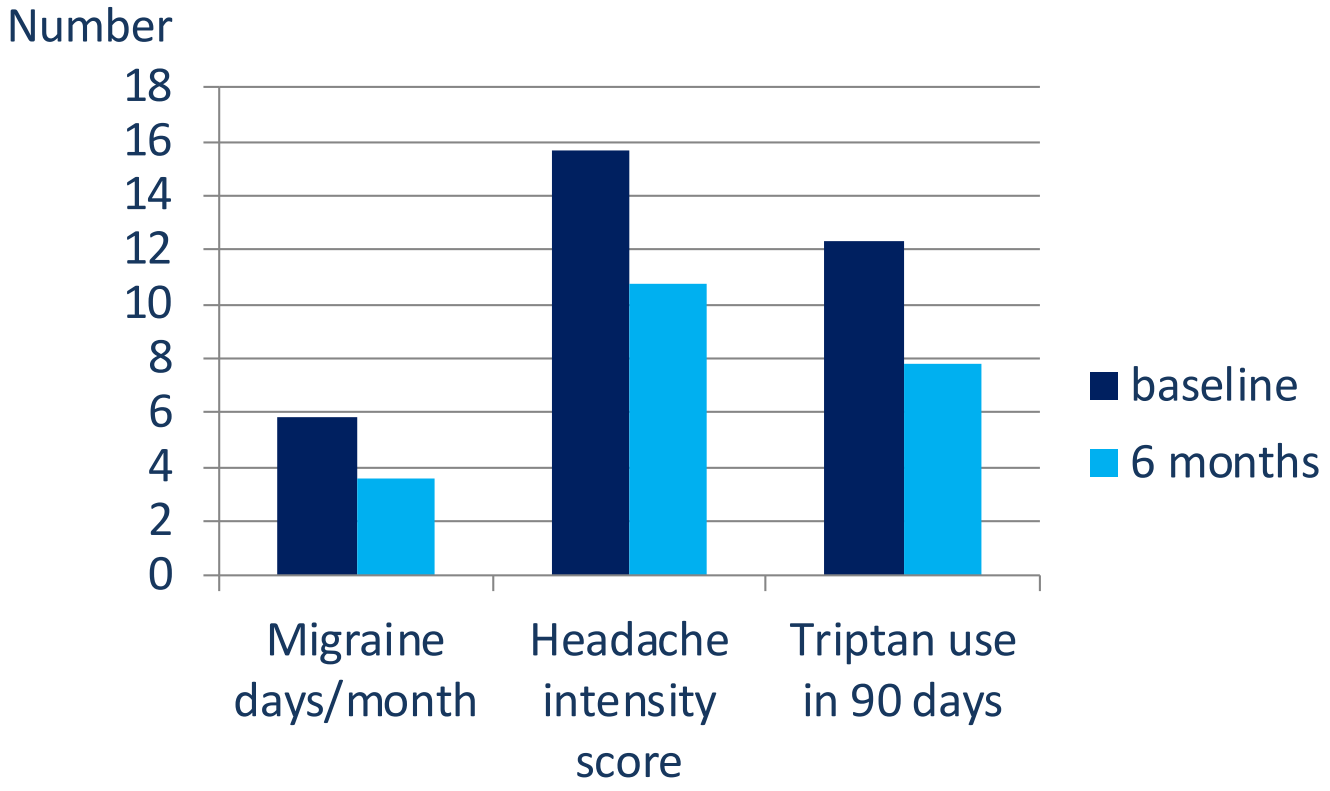
Ref 1,2

Health benefits

- Very low impact on plasma lipids, carbohydrate metabolism and haemostasis
- No increase in risk of VTE or arterial thrombotic event (ATE)
- Positive impact on dysmenorrhoea
- Positive impact on migraine with and without aura (DSG)
- No negative impact on lactation (DSG)

No data on DRSP yet

Health benefits: migraine



Positive impact of desogestrel 75 µg on migraine frequency and use of acute medication over 180 days

Ref 1-5

Adverse events

Desogestrel

- Irregular bleeding /amenorrhoea
- Acne 3%
- Breast pain 4%
- Headache 7.5%
- Vaginitis 3.8%
- Dysmenorrhoea 1%
- Nausea 3.3%

Drospirenone

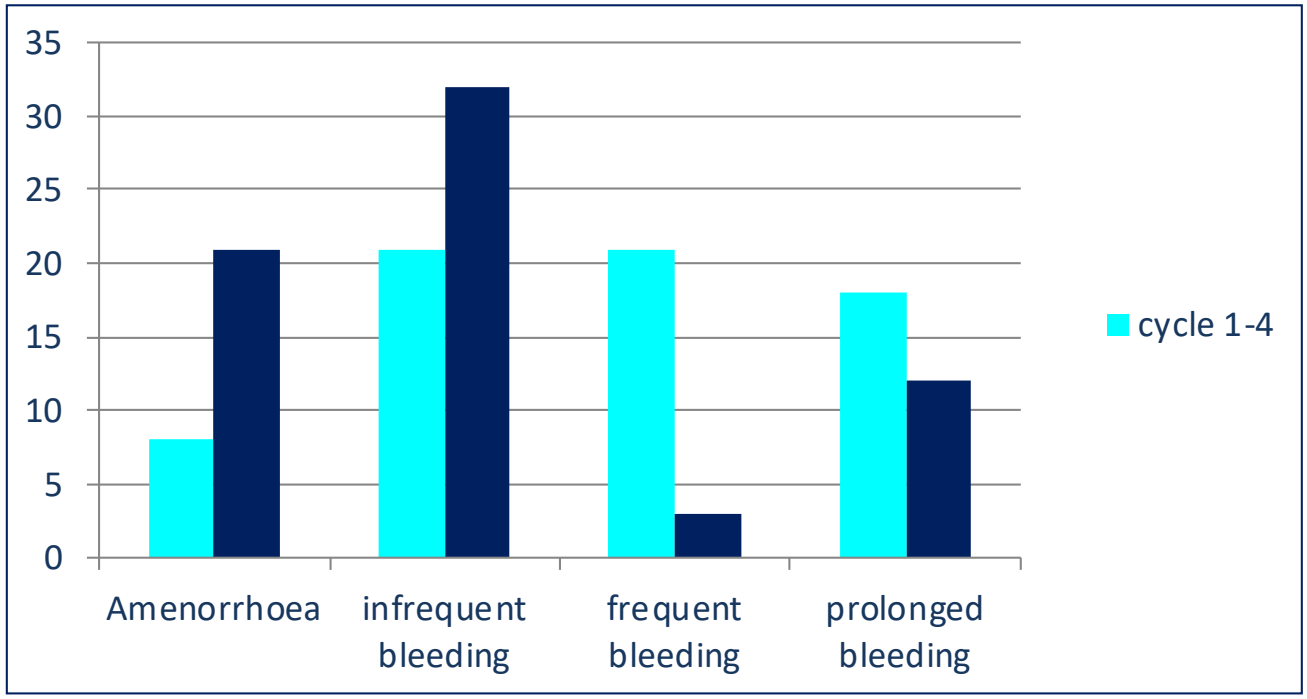
- Irregular bleeding /metrorrhagia 4.8%
- Acne 6.3%
- Cystitis 2.9%
- Headache 4.5%

22.5% discontinued desogestrel, because of irregular bleeding

Ref 1,2

Bleeding pattern with desogestrel 75µg

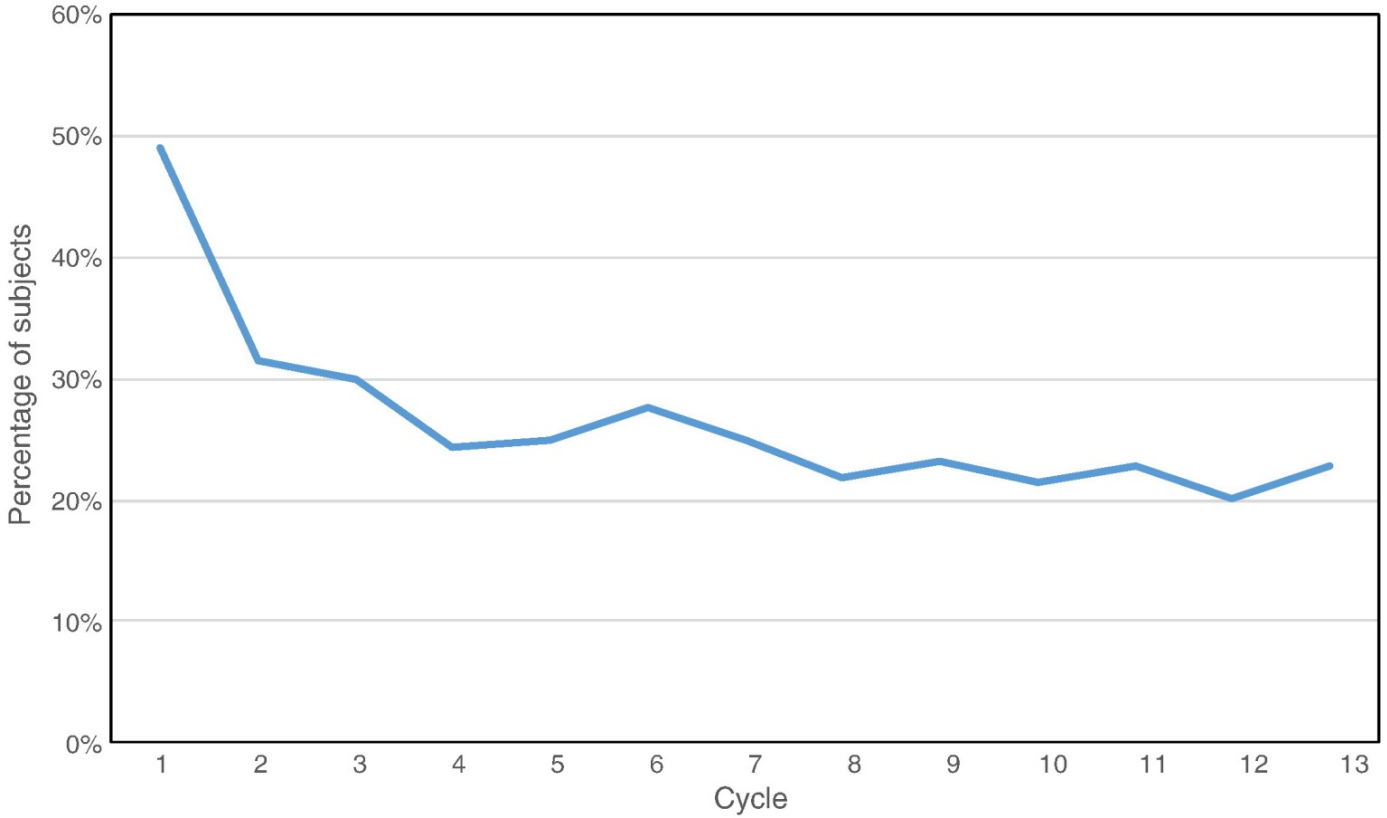
- The rates of prolonged and frequent bleeding decrease with duration of use (15% after 1 year)
- Amenorrhoea after 1 year occurs in around 21% of users



Ref 1

Bleeding pattern with drospirenone 4 mg

Percentage of participants with unscheduled bleeding decreased from 49.1% in Cycle 1 to 27.8% in Cycle 6 and to 22.8% in Cycle 13



Ref 1,2

Desogestrel 75 µg POP: Breastfeeding

Medical condition	Desogestrel 75 µg POP	Contraceptive counselling
Postpartum: • **Not breastfeeding**	POP may be started immediately postpartum	No additional method is necessary
• **Breastfeeding** a. <21 days postpartum	Category 2 (WHO, CDC, 2015)	No additional method is necessary
b. ≥21 days -6 months postpartum	Category 1 (WHO, CDC, 2015)	No additional method is necessary
c. >6 months	Category 1 (WHO, CDC, 2015)	Use additional method in first 7 days

POPs can be started any time during breastfeeding and do not have a negative impact on the baby. There are no data on DRSP available yet.

Ref 1

POP and Emergency Contraception

- Desogestrel reduces the ability of ulipristal acetate (UPA) to delay ovulation; no data are available for DRSP
- Quick starters should start 5 days after UPA intake

Emergency Contraception in current Desogestrel users:

- **UPA**: From day of UPA use: take a POP break for 5 days and restart on day 6; use back-up contraception from day of UPA intake for 12 days (same rule for use of UPA and CHC)
- **LNG**: Continue use of POP and use back-up contraception for 5 days; might be slightly less efficient in certain situations than UPA
- **Copper IUD**: A very efficient and the method of choice in high-risk situations

Ref 1

Summary POP

- Safe and highly effective
- Low-doses: avoid medication which increase metabolism
- Easy to use
- Can be used by women with cardiovascular risk factors
- Bleeding irregularity may be a concern for some women and needs appropriate counselling
- The POP can be provided in both clinical and non-clinical settings