

Progestogens

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There are two main groups of progestogens; Progesterone and its derivatives (dydrogesterone and medroxyprogesterone) and Testosterone analogues (norethisterone and norgestrel). The newer progestogens (desogestrel, norgestimate and gestodene) are all derivatives of norgestrel. Levonorgestrel is the active isomer of norgestrel and has twice its potency. Progesterone and its derivatives are less androgenic than testosterone derivatives.

Uses of progestogens

- Endometriosis.
- Menorrhagia.
- Contraception.
- Premenstrual symptoms.
- Severe dysmenorrhea.
- Luteal support.
- Hormone replacement therapy (HRT).
- Some neoplasia e.g. endometrial and breast carcinoma.

Contraindications

- History of liver tumors.
- Severe liver impairment.
- Severe arterial disease especially the testosterone analogues.
- Undiagnosed vaginal bleeding.
- History of pruritus or jaundice during pregnancy.

Cautions

Although they are generally safer than estrogen, progestogens should be used with caution in the conditions that may worsen with fluid retention e.g. epilepsy, hypertension, migraine, asthma, cardiac or renal dysfunction and in those susceptible to thromboembolism. Progesterone also should be avoided in patients with depression.

Side effects

- Menstrual disturbances.
- Premenstrual like symptoms (include

bloating, fluid retention, nausea, headache, dizziness, insomnia, drowsiness, depression and breast discomfort).

- Jaundice and anaphylactoid reactions have been reported.
- Skin reactions including urticaria, pruritus, rash and acne.

Drug interactions

- **Antibacterials:** rifamycins accelerate metabolism of both combined and progestogen-only oral contraceptives when broad-spectrum antibacterials such as ampicillin and tetracycline given with combined oral contraceptives possibility of reduced contraceptive effect (risk is probably small).
- **Antiepileptics:** such as carbamazepine, axcarbazepine, phenobarbital, phenytoin, primidone and topiramate) accelerate metabolism causing reduced effect of both combined and progestogen-only contraceptives.
- **Antifungals** as griseofulvin accelerates metabolism causing reduced contraceptive effect. There are anecdotal reports of contraceptive failure with fluconazole, itraconazole, ketoconazole and possibly others; and occasional reports of breakthrough bleeding with terbinafine
- **Antihypertensives** combined oral contraceptives antagonize hypotensive effect
- **Oral tretinoin** may reduce contraceptive efficacy of low-dose progestogens.

Progesterone

Preparations and doses:

- **Uterogestan:** 100 mg micronised progesterone capsules (30 capsule, 27 LE). *Dose:* 2-6 capsules/day, usually one capsule in the morning and two before sleep.
- **Cyclogest:** 200 and 400 mg progesterone suppositories. (15 supp 200 mg, 80 LE and 15 supp 400 mg, 100 LE). *Dose:* vaginal or rectal 200-800 mg daily.

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- **Gestone:** 100 mg progesterone IM injection. (10 amp. 2ml, 130 LE).
Dose: for luteal phase support: once daily and for early pregnancy corpus luteum support: twice weekly to once daily.
- **Prontogest:** 100 mg progesterone IM injection. (10 amp, 82.50 LE).
Dose: As above.

Dydrogesterone

Indications

See notes above.

Contraindications

See notes above.

Cautions

See notes above.

Side effects

See notes above.

Preparations

- **Duphastone:** 10 mg dydrogesterone tablets. (20 tablets, 30 LE).

Dose

- **Endometriosis:** 10 mg 2-3 times daily from day 5-26 of cycle or continuously.
- **Recurrent miscarriage:** 10 mg twice daily from day 14-28 of cycle until conception then continued till 20 wks of pregnancy.
- **Menorrhagia:** 20 mg/day from day 5-26 of cycle.
- **Metrorrhagia:** 20 mg/day from day 14-26 of each cycle.
- **Dysmenorrhea:** 10 mg twice daily from day 5 to 26 of the cycle.
- **Premenstrual symptoms:** 10 mg twice daily from day 12 to 26 of cycle and increased if necessary.

Medroxyprogesterone acetate

Indications

See notes above.

Contraindications

See notes above.

Cautions

See notes above.

Side effects

See notes above.

Preparations

- **Provera:** 5 mg medroxyprogesterone acetate tablets. (24 tablets, 20 LE)
- **Depo-Provera:** as medroxyprogesterone acetate depot 150 mg IM injections. (1 vial, 7 LE)
- **Onco-provera:** 1000 mg MPA IM injection (1 vial, 34 LE)
- **Farlutal depo:** 1000 mg MPA IM injection. (1 vial, 36 LE)
- **Farlutal tablets :**100 mg MPA tabs (100 tabs, 450 LE)

Dose

- **Endometriosis:** 10 mg 3 times daily for 90 consecutive days beginning on day 1 of the cycle.
- **DUB:** 2.5-10 mg daily for 5-10 days beginning from day 16 to 21 of cycle repeated for 2-3 cycles.
- **Endometrial and prostatic carcinoma:** Initially 500 mg IM twice weekly for 3 months then 500 mg once weekly.
- **Breast carcinoma:** Initially 0.5-1 gm daily IM for 4 weeks then maintenance 0.5 gm twice weekly.

Norethisterone

Indications

See notes above.

Contraindications

See notes above.

Cautions

See notes above.

Side effects

See notes above.

Preparations

- **Primolut nor:** 5 mg norethisterone tablets. (20 tabs, 4.35 LE)
- **Steronate nor:** 5 mg norethisterone tabs. (20 tabs, 7 LE)
- **Cidolut nor:** 5 mg norethisterone tabs. (20 tabs, 5 LE)

Dose

- **Endometriosis:** 5 mg 2-3 times daily for 4-6 months.
- **DUB:** 5 mg 3 times daily for 10 days to arrest the bleeding. To prevent further bleeding give 5 mg twice daily from day 5-24 for 3-4 cycles.

- **Dysmenorrhea:** 5 mg three times from day 5-24 for 3-4 cycles.
- **Premenstrual symptoms:** 5 mg 2-3 times daily from day 19-26 for several cycles.
- **To postpone menstruation:** 5 mg three times daily starting 3 days from anticipated onset.

Progestogens and contraception

- Combined pills. (see later).
- Progesterone only pills.
- Injectable contraceptives.
- IUCD containing progesterone. (see later).
- Subcutaneous implants. (see later).

Table 1. Progesterone-only pills preparations and prices.

<i>Name</i>	<i>Tabs</i>	<i>Price</i>	<i>Composition</i>
<i>Microlut</i>	35 tabs	7.6 LE	Levonorgestrel 0.03 mg
<i>Micronor</i>	28 tabs	13 LE	Norethisterone 0.35 mg.
<i>Exluton</i>	28 tab	6.7 LE	Lynoeestrenol 0.5 mg.

Table 2. Injectable contraceptives preparations and prices.

<i>Name</i>	<i>Dose</i>	<i>Price</i>	<i>Composition</i>
<i>Depo-provera</i>	150mg/3 months	8.5 LE	Medroxyprogesterone acetate 150 mg.
<i>Noristerate</i>	200 mg /2 months	10 LE	Norethisterone 200 mg.
<i>Mesigyna</i>	monthly	4.65 LE	Norethisterone 50 mg + estradiol valerate 5 mg.

Table 3. Combined pills preparations and prices.

<i>Name</i>	<i>Pack</i>	<i>Price</i>	<i>Composition</i>
<i>Cilest</i>	21 tabs.	15 LE	Norgestimate 0.25mg+ethinyl estradiol 0.035 mg.
<i>Gynera</i>	21 tabs	15.30 LE	Gestodene 0.075mg +ethinyl estradiol 0.03 mg.
<i>Marvelon</i>	21 tabs	12 LE	Desogastrel 0.15mg+ ethinyl estradiol 0.03 mg.
<i>Minulet</i>	21 pills	15 LE	Gestodene 0.075 mg+ ethinyl estradiol 0.03 mg.
<i>Triocept</i>	21 pills	2.25 LE	Levonorgestrel 0.05+ ethinyl estradiol 0.03 mg(6 brown tabs)+ levonorgestrel 0.075+ ethinylestradiol 0.04 mg(5 white tabs)+ Levonorgestrel 0.125+ethinyl estradiol 0.03 mg(10 yellow tabs) .
<i>Trinordiol</i>	21 pills	7.45 LE	Levonorgestrel 0.05+ ethinyl estradiol 0.03 mg(6 brown tabs)+ levonorgestrel 0.075+ ethinylestradiol 0.04 mg(5 white tabs)+ Levonorgestrel 0.125+ethinyl estradiol 0.03 mg(10 yellow tabs) .
<i>Triovlar</i>	21 tabs	1.2 LE	Levonorgestrel 0.05+ ethinyl estradiol 0.03 mg(6 brown tabs)+ levonorgestrel 0.075+ ethinylestradiol 0.04 mg(5 white tabs)+ Levonorgestrel 0.125+ethinyl estradiol 0.03 mg(10 yellow tabs) .
<i>Microcept</i>	21 tabs	1 LE	Levonorgestrel 0.15mg + ethinyl estradiol 0.03 mg.

Further Reading

British National Formulary. The Royal Pharmaceutical Society of Great Britain, London. 2005.