Hormonal contraception

- Hormonal contraceptives contain either a combination of estrogen and progestin or a progestin alone
- **Combined hormonal contraceptives (CHCs)**
  - **Work** primarily before fertilization to prevent conception. ***Progestins provide most of the contraceptive effect***,
    - by thickening cervical mucus to prevent sperm penetration, slowing tubal motility and delaying sperm transport, and inducing endometrial atrophy
    - Progestins block the LH surge, therefore inhibiting ovulation.
  - **Estrogens**
    - suppress FSH release from the pituitary, which may contribute to blocking the LH surge and preventing ovulation.
    - However, *the primary role of estrogen in hormonal contraceptives is to stabilize the endometrial lining and provide cycle control*

- ***Estrogens.***
  - ✓ Two synthetic estrogens found in hormonal contraceptives

available in the United States, ethinyl estradiol (EE) and Mestranol (not available in Jordan)

  - ✓ Most combined Ocs contain estrogen at doses of 20 to 50 mcg of EE,
- ***Progestins.***
  - ✓ Progestins currently used in OCs include desogestrel, drospirenone, ethynodiol diacetate, norgestimate, norethindrone, norethindrone acetate, norethynodrel, norgestrel, and levonorgestrel, the active isomer of norgestrel

Classification of progestins used in combined oral contraceptive pills

First generation
• Norethindrone acetate • Ethynodiol diacetate • Lynestrenol • Norethynodrel
Second generation
• dl-Norgestrel • Levonorgestrel
Third generation
• Desogestrel • Gestodene • Norgestimate
Unclassified
• Drospirenone • Cyproterone acetate

Non-contraceptive benefits of OCs

OCs are associated with numerous noncontraceptive benefits, including

- **relief from** menstruation-related problems (e.g., decreased menstrual cramps, decreased ovulatory pain [mittelschmerz], and decreased menstrual blood loss),
- ***improvement in menstrual regularity,***
- increased hemoglobin concentrations,
- **an improvement in acne.**
- Women who take combination OCs have a reduced risk of ovarian and endometrial cancer, which is detectable within 1 year and persists for years after discontinuation.
- **Combination OCs reduce the risk of ovarian cysts, ectopic pregnancy, pelvic inflammatory disease, and benign breast disease**.

Monophasic vs. multiphasic pills

- **Monophasic** OCs contain the same amounts of estrogen and progestin for 21 days, followed by 7 days of placebo pills.
- ***Biphasic and triphasic*** pills contain variable amounts of estrogen and progestin for 21 days, also followed by a 7-day placebo phase.
- Over the past decade, combination multiphasic formulations have further lowered the total monthly hormonal dose without clearly demonstrating any significant clinical differences
- ***Monophasic, biphasic, and triphasic OCs attempted to reduce breakthrough bleeding and other side effects***, but reviews from the Cochrane Library found no important differences in bleeding patterns based on phasic composition.

Monophasic vs. multiphasic pills

- ***The reduced progestin content*** may be desirable for women who experience progestin-related side effects caused by too much progestin or for women who have cardiovascular disease or metabolic abnormalities.
- Women with side effects related to *progestin deficiency (e.g., late-cycle bleeding*) who desire extended cycles or who have conditions *necessitating progestin dominance (e.g., benign breast disease*) may do better with a mono-phasic formulation
- One drawback associated with *triphasic COC* use is the *confusion caused by the different-colored tablets in each of the three different phases, making the missed-dose instructions more complicated.*
- *Monophasic formulations are preferred for women who will be taking pills continuously (i.e., skipping the placebo pills*

Triphasic oral contraceptive

CONTRACEPTION ORAL CONTRACEPTIVE PILLS TRIPHASIC PILL

- *Extended-cycle pills and continuous combination* regimens are new developments that may offer some benefits for patients in terms of side effects. *Extended-cycle OCs increase the number of hormone-containing pills from 21 to 84 days, followed by a 7-day placebo phase, resulting in four menstrual cycles per year.*

- OCs containing newer progestins (e.g., *desogestrel, drospirenone, gestodene, and norgestimate*) are sometimes referred to as *third generation* OCs.
- These progestins are *potent progestational agents that appear to have no estrogenic effects and are less androgenic compared with levonorgestrel on a weight basis*. Therefore, these agents are thought to have improved side-effect profiles, such as ***improving mild to moderate acne***
- Drospirenone also has *antimineralocorticoid and antialdosterone activities*, which may result in less weight gain compared to use of OCs containing levonorgestrel

Level of androgenic and estrogenic activity of progestins in oral contraceptive pills containing 35 µg of estrogen or less

Level of activity	Androgenic Brand name (s)	Estrogenic Brand name (s)
High	Norgestrel	Ethynodiol
	LoOvral	Demulen 1/35
	Levonorgestrel	
	Nordette	
	Levelen	
	Triphasil	
	Trilevlen	
Middle	Norethindrone	
	Genora 1/35	
	OrthoNovum 1/35	
	Norinyl 1/35	
	Ortho 1/11	
	TriNorinyl	
	Ortho 7/7/7	
	Modicon	
	Brevicon	
	Ovcon 35	
	Norethindrone acetate	
	Loestrin 1/20	
	Loestrin 1.5/30	
Low	Ethynodiol	All other progestins
	Demulen 1/35	
	Norgestimate	
	Ortho-Cyclen	
	Ortro-Tricyclen	
	Desogestrel	
	Desogen	
	Ortho-Cept	
	Drospirenone	

- Unfortunately, few clinical trials have compared OCs and sample sizes are small, so *the actual relevance of these differences in progestational selectivity and lower androgenic activity remains unknown*.
- For example, a review by the *Cochrane Library concluded that there was no evidence supporting a causal association between combination OCs or combination skin patches and weight gain*.

Progestin only pills

- *Progestin-only pills tend to be less effective* than combination OCs and are *associated with irregular and unpredictable menstrual bleeding*. Minipills must be taken every day of the menstrual cycle at approximately the same time to maintain contraceptive efficacy.
- *Because minipills may not block ovulation (nearly 40% of women continue to ovulate normally),* ***the risk of ectopic pregnancy is higher*** *with their use than with use of other hormonal contraceptives.*

Progestin only pills

Starting an OCP

- **In the "quick start" method** for initiating OCs, the patient takes the first pill on the day of her office visit (after a negative urine pregnancy test).
- *Women should be instructed to use a second method of contraception for at least 7 days* and informed that the *menstrual period will be delayed until completion of the active pills in the current OC pill pack*.
- The quick start method has been shown to be *more successful in getting women to start OCs and to continue using OCs through the third cycle of use*. No evidence shows increased bleeding irregularities with this method of OC initiation
- The quick start method provides contraceptive protection sooner and, therefore, would likely lower the risk of unintended pregnancy.

Starting an OCP

- In the **first-day start method**, women take the first pill on the first day of the next menstrual cycle.
- The **Sunday start method** was the most common method of initiating OCs for years. Women started OCs on the first Sunday after starting the menstrual cycle. *Sunday start methods result in "period-free" weekends* but may affect compliance if obtaining refills on weekends is difficult. *The advantage is that bleeding usually does not occur on weekends*

- The patient taking combination OCs should **expect her menses to start within 1 to 3 days after taking the last active pill.**
- *She should start another pack of pills immediately after finishing a 28- day pack (no days between) or 1 week after finishing the previous 21-day pack, even if her menses is not completed*
- Use of an additional contraceptive method is advisable if the patient misses taking a pill or experiences severe diarrhea or vomiting for several days

- Any woman who is a candidate for COCs can use them continuously (i.e. skipping the placebo tablets and taking no break between pill packs). Any product may be used continuously, however monophasic pills usually are selected.
- **Any duration of continuous pill use is acceptable, but many providers recommend taking the active pills from 3 to 4 pill packs and then stopping for 2-7 days**.
- Alternatively, providers may prescribe products that are specifically packaged for continuous use (Seasonale and generics, Seasonique, Lybrel).
- **Continuous pill use usually results in more breakthrough bleeding or spotting than usual pill use, so women should be informed about this**

When to Use a Back-Up Method of Contraception

- Some clinicians recommend that women use an alternative method of contraception (back-up) for the entire first cycle. Using a back-up method for one full cycle is recommended because many new users of COCs do not complete the first cycle of pills.
- *Most pill package inserts state that a back-up method of contraception (e.g., condoms) is not necessary if women use the Day 1 start method.*
- When using the Sunday start or Quick start methods, back-up contraception should be used for the first week (7 days) of the cycle.
- *A back-up method is also recommended when doses are missed*

Breakthrough Bleeding, Spotting, and Amenorrhea

- Bleeding during active pills days of the cycle (intermenstrual bleeding) that requires the use of a pad or tampon is designated breakthrough bleeding (BTB), whereas a lesser amount of intermenstrual bleeding that does not require protection is called spotting. Spotting and BTB are the most frequent reasons cited by women for the discontinuation of COCs.
- **Most clinicians will continue with the same formulation for at least 3 months if irregular bleeding is the only complaint because BTB or spotting usually resolves without intervention**.

Breakthrough Bleeding, Spotting, and Amenorrhea

- Early-cycle intermenstrual bleeding, which usually starts before the 14th day of the menstrual cycle (or never ceases completely after menses), may be caused by insufficient estrogen.
- Late-cycle intermenstrual bleeding, which occurs after day 14, may be caused by insufficient progestational support of the endometrium.
- ***The most common cause of BTB or spotting, especially in long-term users of COCs, is missed pills or irregular pill taking. Before making formulation adjustments, adherence should be assessed.***
- Other possible causes of BTB or spotting include **drug interactions or infection.**

- If intermenstrual bleeding continues to occur late in cycle after 3 months of consistent use, a formulation with the same estrogen dose and more progestin should be prescribed.
- If intermenstrual bleeding early in the cycle after several months of use, she should be changed to a pill with a higher ratio of estrogen to progesterone
- Some women experience **amenorrhea** while taking COC.
  - If this occurs, **pregnancy should first be ruled out**.
  - If she is not pregnant and amenorrhea is acceptable to her, then the formulation need not be changed.
  - If she prefers a monthly menstrual period, then a product **with more estrogen or less progestin or a triphasic formulation can be tried.**

Starting OCP after delivery

- In the postpartum phase, *there is concern about use of Ocs because of the mother's hyper-coagulability* and the effects on lactation.
- The WHO precautions state that, *in the first 21 days postpartum (when the risk of thrombosis is higher), estrogen-containing hormonal contraceptives should be avoided if possible*
- If *contraception is required during this period, progestin-only pills and IUDs (progesterone or copper) are acceptable choices*.

Starting OCP while breastfeeding

- Although a review by the Cochrane Library indicated that existing randomized, controlled trials were insufficient to establish an effect of CHC, if any, on milk quality and quantity, ***the WHO recommends that women who are breast-feeding avoid CHC in the first 6 weeks postpartum***
- Progestin-only pills do not adversely affect milk production, so they can be used after 6 weeks postpartum.
- *Once effective lactation has been established, particularly in women who are not exclusively breast-feeding*, estrogen-containing hormonal contraceptives can be safely used

Choice of OCP

- *Because all combined OCs are similarly effective in preventing pregnancy*, the initial choice is based on the hormonal content and dose, preferred pattern of pill use, and coexisting medical conditions
- *In women without coexisting medical conditions, an OC containing 35 mcg or less of EE and less than* 0.5 mg of norethindrone is recommended.
- Adolescents, *underweight women (<110 lb [50 kg]), women older than 35 years, and those who are perimenopausal may have fewer side effects with OCs containing 20 to 25 mcg of EE*.

Choice of OCP

- Women weighing more than 160 lb (**72.7 kg) may have higher contraceptive** failure rates with low-dose OCs and ***may benefit from pills containing 35–50 mcg of EE.***
- ***Women with regular heavy menses initially may benefit from a 50-mcg EE OC*** as well because of their higher endometrial activity.
- On the other hand, ***women with regular light menses can be started on 20-mcg EE OCs***.
- *Women with oily skin, acne, and hirsutism should be given low androgenic Ocs*.

Choice of OCP

- Conventional regimens (21 days of active pills, 7 days of placebo) provide predictable menses. *Because monophasic OCs may be easier to take, easier to identify and manage side effects, and easier to manipulate to alter the timing of the menstrual cycle, they are preferred over conventional biphasic or triphasic Ocs*
- ***Extended cycle OCs either eliminate the menstrual cycle or result in only four menstrual cycles per year***, so *they may be associated with less dysmenorrhea and menstrual migraines*.
- Commercially available extended-cycle OCs are available, or *monophasic 28 day OCs can be cycled by skipping the 7-day placebo phase for two to three cycles(sometimes referred to as bicycling and tricycling).*

Choice of OCP

- *With continued use of extended-cycle OCs for 1 year, no significant changes in blood pressure, weight, or hemoglobin compared with cyclic users have been noted*. However, long-term studies have not been performed to assess the risk of cancer, VTE, or changes in fertility.
- Continuous regimens provide a shortened pill-free interval, from the traditional 7 days to 2 to 4 days. These regimens may be beneficial for women with dysmenorrhea and menstrual migraines

World Health Organization Precautions in the Provision of Combined Hormonal Contraceptives (CHCs)

TABLE 82-3 World Health Organization Precautions in the Provision o

Category 4: Refrain from providing CHCs for women with the following diagnoses

- Thrombophlebitis or thromboembolic disorder, or a history of these conditions
- Cerebrovascular disease, coronary artery disease, peripheral vascular disease
- Valvular heart disease with thrombogenic complications (e.g., pulmonary hypertension, atrial fibrillation, history of endocarditis)
- Diabetes with vascular involvement (e.g., nephropathy, retinopathy, neuropathy, other vascular disease or diabetes >20 years' duration)
- Migraine headaches with focal aura
- Migraine headaches without aura in women ≥35 years old should discontinue CHC
- Uncontrolled hypertension (≥160 mm Hg systolic or ≥90 mm Hg diastolic)
- Major surgery with prolonged immobilization
- Thrombogenic mutations (e.g., factor V Leiden, protein C or S deficiency, antithrombin III deficiency, prothrombin deficiency)
- Breast cancer
- Acute or chronic hepatocellular disease with abnormal liver function, cirrhosis, hepatic adenomas, or hepatic carcinomas
- Age >35 years and currently smoking ≥15 cigarettes per day
- Known or suspected pregnancy
- Breast-feeding women <6 weeks postpartum

World Health Organization Precautions in the Provision of Combined Hormonal Contraceptives (CHCs)

Category 3: Conditions may be adversely impacted by CHCs, and the risks generally outweigh the benefits; providers should exercise caution if combined CHCs are used in these situations and carefully monitor for adverse effects

- Multiple risk factors for arterial cardiovascular disease
- Known hyperlipidemia
- Migraine headache without aura in women ≥35 years old
- History of hypertension (systolic 140–159 mm Hg or diastolic 90–99 mm Hg)
- History of cancer, but no evidence of current disease for 5 years
- Cirrhosis, mild and compensated
- Symptomatic gallbladder disease
- Cholestatic jaundice with prior pill use
- Age ≥35 years and currently smoking <15 cigarettes per day
- Postpartum <21 days, not breast-feeding
- Breast-feeding women 6 weeks to 6 months postpartum
- Commonly used drugs that induce liver enzymes (rifampin, phenytoin, carbamazepine, barbiturates, primidone, topiramate) and reduce efficacy of CHC

World Health Organization Precautions in the Provision of Combined Hormonal Contraceptives (CHCs)

Category 2: Some conditions may trigger potential concerns with CHCs, but benefits usually outweigh risks

- Family history of thromboembolism
- Superficial thrombophlebitis
- Uncomplicated valvular heart disease
- Diabetes without vascular disease
- Sickle cell disease
- Migraine headaches without aura in women <35 years old
- Nonmigrainous headaches at any age should discontinue CHC
- Hypertension during pregnancy, resolved postpartum
- Major surgery without prolonged immobilization
- Gallbladder disease (symptomatic and treated by cholecystectomy or asymptomatic)
- Cholestatic jaundice of pregnancy
- Undiagnosed breast mass
- Undiagnosed abnormal genital bleeding
- Cervical intraepithelial neoplasia or cervical cancer
- Obesity (body mass index ≥30 kg/m^2)
- Age <35 years and currently smoking
- Breastfeeding women ≥6 months postpartum
- Age ≥40 years
- Drugs that may induce metabolism of CHC and reduce efficacy (griseofulvin, antiretroviral therapy)

World Health Organization Precautions in the Provision of Combined Hormonal Contraceptives (CHCs)

Category 1: Do not restrict use of combined oral contraceptives for th following conditions

- Varicose veins
- History of gestational diabetes
- Nonmigrainous headaches
- Thyroid disease
- Thalassemia
- Iron deficiency anemia
- Depression
- Epilepsy
- Infectious diseases (HIV, schistosomiasis, tuberculosis, malaria)
- Minor surgery without immobilization
- Benign ovarian tumors
- Endometriosis
- Irregular or heavy vaginal bleeding, severe dysmenorrhea
- Sexually transmitted diseases
- Uterine fibroids
- Pelvic inflammatory disease
- Endometrial cancer
- Ovarian cancer
- History of pelvic surgery
- Trophoblast disease
- History of ectopic pregnancy
- Postabortion
- Postpartum women ≥21 weeks, not breast-feeding
- Menarche to 40 years of age
- Drug interactions with antibiotics other than rifampin and griseofulvin

Managing OC side effects

- Many symptoms occurring with early OC use (e.g., **nausea, bloating, breakthrough bleeding) improve spontaneously by the third cycle of use after adjusting to the altered hormone levels**. However, 59% to 81% of women who stopped OCs in one study did so because of the side effects. Therefore, patient education and early reevaluation (i.e., within 3–6 months) are necessary to identify and manage adverse effects, in an effort to improve compliance and prevent unintentional pregnancies

Side effects of Ocs

- Adverse effects may hinder compliance and therefore efficacy, so they should be discussed prior to initiating a hormonal contraceptive agent
- ***Estrogen excess can cause nausea and bloating***, and ***low-dose estrogen CHCs can cause early or midcycle breakthrough bleeding and spotting***.
- **Progestins may be associated with fatigue and changes in mood**. **Low-dose progestin CHCs may cause late-cycle breakthrough bleeding and spotting**.
- ***Androgenic activity derived from progestins may cause increased appetite and acne***

Side effects of Ocs

TABLE 82-2 Adverse Effects of Combined Hormonal Contraception and Management[a]

Adverse Effects	Management
Estrogen excess	
Nausea, breast tenderness, headaches, cyclic weight gain due to fluid retention	Decrease estrogen content in CHC Consider progestin-only methods or IUD
Dysmenorrhea, menorrhagia, uterine fibroid growth	Decrease estrogen content in CHC Consider extended-cycle or continuous regimen OC Consider progestin-only methods or IUD NSAIDs for dysmenorrhea

***a CHC regimens should be continued for at least 3 months before adjustments are made based on* adverse effects.**

Side effects of Ocs

TABLE 82-2 Adverse Effects of Combined Hormonal Contraception and Management[a]

Estrogen deficiency	
Vasomotor symptoms, nervousness, decreased libido	Increase estrogen content in CHC
Early-cycle (days 1–9) breakthrough bleeding and spotting	Increase estrogen content in CHC
Absence of withdrawal bleeding (amenorrhea)	Exclude pregnancy Increase estrogen content in CHC if menses is desired Continue current CHC if amenorrhea acceptable

***a CHC regimens should be continued for at least 3 months before adjustments are made based on* adverse effects.**

Side effects of OCs

TABLE 82-2 Adverse Effects of Combined Hormonal Contraception and Management[a]

Progestin excess	
Increased appetite, weight gain, bloating, constipation	Decrease progestin content in CHC
Acne, oily skin, hirsutism	Decrease progestin content in CHC Choose less androgenic progestin in CHC
Depression, fatigue, irritability	Decrease progestin content in CHC

***a CHC regimens should be continued for at least 3 months before adjustments are made based on* adverse effects.**

Managing OC side effects

- If the patient has symptoms related to OC use, it is necessary to determine if the symptom indicates the presence or potential development of a serious illness (Table 82–5). *Patients should be instructed to immediately discontinue CHCs if they experience warning signs, sometimes described as ACHES* (*abdominal pain, chest pain, headaches, eye problems, and severe leg pain*).

Managing OC side effects

TABLE 82-5 Serious Symptoms That May Be Associated with Combined Hormonal Contraception

Serious Symptoms	Possible Underlying Problem
Blurred vision, diplopia, flashing lights, blindness, papilledema	Stroke, hypertension, temporary vascular problem of many possible sites, retinal artery thrombosis
Numbness, weakness, tingling in extremities, slurred speech	Hemorrhagic or thrombotic stroke
Migraine headaches	Vascular spasm, stroke
Breast mass, pain, or swelling	Breast cancer
Chest pain (radiating to left arm or neck), shortness of breath, coughing up blood	Pulmonary embolism, myocardial infarction
Abdominal pain, hepatic mass or tenderness, jaundice, pruritus	Gallbladder disease, hepatic adenoma, pancreatitis, thrombosis of abdominal artery or vein
Excessive spotting, breakthrough bleeding	Endometrial, cervical, or vaginal cancer
Severe leg pain (calf, thigh), tenderness, swelling, warmth	Deep-vein thrombosis

Managing Oc drug interactions

- The lower the dose of hormone in the OC, *the greater the risk that a drug interaction will compromise its efficacy*.
- **Women should be instructed to use an alternative method of contraception** (e.g.,condoms) if there is a possibility of a drug interacting altering the efficacy of the OC.
- Although less well documented, these recommendations generally also apply to patients receiving transdermal and vaginal CHC products.

Managing Oc drug interactions

- Several reviews of the interaction between antibiotics and OCs have documented a true pharmacokinetic interaction with **rifampin in which the efficacy of OCs is impaired**.
- Pharmacokinetic studies of other antibiotics have not shown any consistent interaction, but case reports of individual patients have shown a reduction in EE levels when OCs are taken with tetracyclines and penicillin derivatives.
- ***The ACOG states that ampicillin, doxycycline, fluconazole, metronidazole, miconazole, fluoroquinolones, and tetracyclines do not decrease steroid levels in women taking Ocs.***

Managing Oc drug interactions

- The Council on Scientific Affairs at the American Medical Association recommends that women taking rifampin should be counseled about the risk of OC failure and advised to use an additional nonhormonal contraceptive agent during the course of rifampin therapy.
- The council also recommends that women be informed about the small risk of interactions with other antibiotics, and, if desired, appropriate additional nonhormonal contraceptive agents should be considered.
- In addition, **women who develop breakthrough bleeding during concomitant use of antibiotics and OCs** (and other CHCs) *should be advised to use an alternate method of contraception during the period of concomitant use.*

- Women receiving anticonvulsants for a seizure disorder require special attention with regard to hormonal contraception.
- Some anticonvulsants (mainly **phenobarbital, carbamazepine, phenytoin***) induce the metabolism of estrogen and progestin, inducing breakthrough bleeding and potentially reducing contraceptive efficacy*. In addition, some anticonvulsants (i.e., phenytoin) are known teratogens.
- **Use of condoms in conjunction with high-estrogen OCs or IUDs can be considered for these women.**
- **use of a second method of contraception for 3 months of the combined therapies and monitor bleeding patterns**. *If no intracycle bleeding occurs, the secondary method can be discontinued.*

- Anticonvulsants – World Health Organization (WHO) suggest that women taking anticonvulsants including phenytoin, carbamazepine, barbiturates,primidone, topiramate, or oxcarbazepine should not use hormonal contraception (with the exception of depo-medroxyprogesterone acetate). They add, however, that hormonal contraception is reasonable if the patient understands the risks and cannot use other methods

Discontinuing Oral Contraceptives and Return of Fertility.

- The average delay in **ovulation after discontinuing OCs is 1 to 2 weeks,** but delayed ovulation is more common in women with a history of irregular menses.
- Post-OC amenorrhea rarely lasts 6 months. Traditionally, women are counseled to ***allow two to three normal menstrual periods before becoming pregnant to permit the reestablishment of menses and ovulation***.
- However, in several large cohort and case-control studies, infants conceived in the first month after discontinuation of an OC had no greater chance of miscarriage or being born with a birth defect than those born in the general population

Ethinylestradiol and drospirenone

- Smokers: **[U.S. Boxed Warning]: The risk of cardiovascular side effects is increased in women who smoke cigarettes; risk increases with age (especially women >35 years of age) and the number of cigarettes smoked;(heavy smoker 15 or more cigarettes per day) women who use combination hormonal contraceptives should be strongly advised not to smoke. Use is contraindicated in patients >35 years of age who smoke.**

Ethinylestradiol and drospirenone

How should this drug be used?

- To avoid nausea, take oral contraceptives with food or milk. Take your oral contraceptive at the same time every day (*after evening meal or at bedtime)*
- ***If vomiting occurs within 3-4 hours of dosing, consider the dose to be missed***

Ethinylestradiol and drospirenone

How should this drug be used?

Contraception :

- Female: Oral: Dosage is 1 tablet daily for 28 consecutive days.
- Dosing may be started on *the first day of menstrual period* (Day 1 starter) or on *the first Sunday after the onset of the menstrual period* (Sunday starter).
- **With a Sunday start, an additional method of contraception should be used until after the first 7 days of consecutive administration.**
- ***Day 1 starter****:* Dose starts on first day of menstrual cycle taking 1 tablet daily.
- You may also begin on day 2-5 of the cycle, but then you must use extra protective measures (for example, a condom) for the first 7 days.
- ***Sunday starter****:* Dose begins on first Sunday after onset of menstruation; if the menstrual period starts on Sunday, take first tablet that very same day.

Ethinylestradiol and drospirenone

How should this drug be used?

Contraception

- ***switching from a different contraceptive:***
  - **Oral contraceptive**: Start on the same day that a new pack of the previous oral contraceptive would have been taken
  - **Transdermal patch**, vaginal ring, injection: Start on the day the next dose would have been due
  - **IUD or implant**: Start on the day of removal
  - ***Changing from a progestogen-only-method (progestogen-only pill, injection, implant or a progestogen-releasing intrauterine system IUS)*** : You may switch any day from the progestogen-only pill (from an implant or an IUS on the day of its removal, from an injectable when the next injection would be due) but in all of these cases **use extra protective measures (for example, a condom) for the first 7 days of taking Yasmin**.

Ethinylestradiol and drospirenone

If you forget to take Yasmin

- If you are less than 12 hours late taking a tablet, the protection against pregnancy is not reduced. Take the tablet as soon as you remember and then take the following tablets again at the usual time.
- If you are more than 12 hours late taking a tablet, the protection against pregnancy may be reduced. The greater the number of tablets you have forgotten, the greater is the risk of becoming pregnant.
- The risk of incomplete protection against pregnancy is greatest if you forget a tablet at the beginning or at the end of the strip. Therefore, you should keep to the following rules
  - **One tablet forgotten between days 1 - 7**
    - Take the forgotten tablet as soon as you remember, even if that means that you have to take two tablets at the same time.
    - ***Continue taking the tablets at the usual time and use extra precautions for the next 7 days, for example, a condom.***
    - *If you have had sex in the week before forgetting the tablet you may be pregnant*.

Ethinylestradiol and drospirenone

If you forget to take Yasmin

- **One tablet forgotten between days 8 – 14**
  - ***Take the forgotten tablet as soon as you remember, even if that means that you have to take two tablets at the same time***.
  - Continue taking the tablets at the usual time.
  - The protection against pregnancy is not reduced, and you do not need to take extra precautions.
  - ***If you forget more than one tablet use an additional barrier method such as a condom for 7 days.***

Ethinylestradiol and drospirenone

If you forget to take Yasmin

- **One tablet forgotten between days 15 - 21**

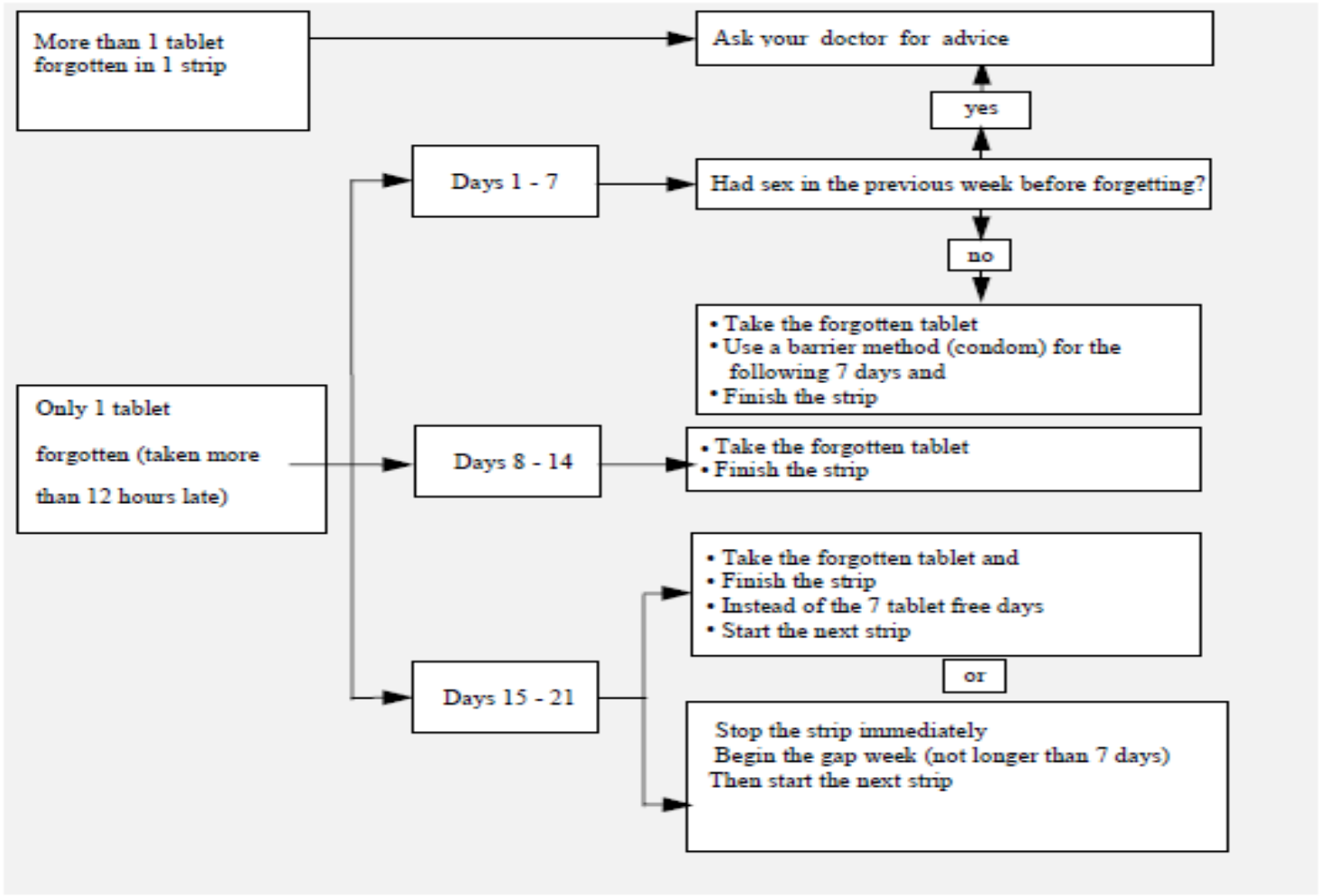
  You can choose between two possibilities:

  - 1. Take the forgotten tablet as soon as you remember, even if that means that you have to take two tablets at the same time. Continue taking the tablets at the usual time. ***Instead of having seven pill-free days start the next strip as soon as you have taken the last tablet.***
    Most likely, you will have a period at the end of the second strip – but you may also have light or menstruation-like bleeding during the second strip.
  - 2. You can also stop the tablets and go directly to the tablet-free period (record the day on which you forgot your tablet). If you want to start a new strip on the day you always start, make the tablet-free period less than 7 days.

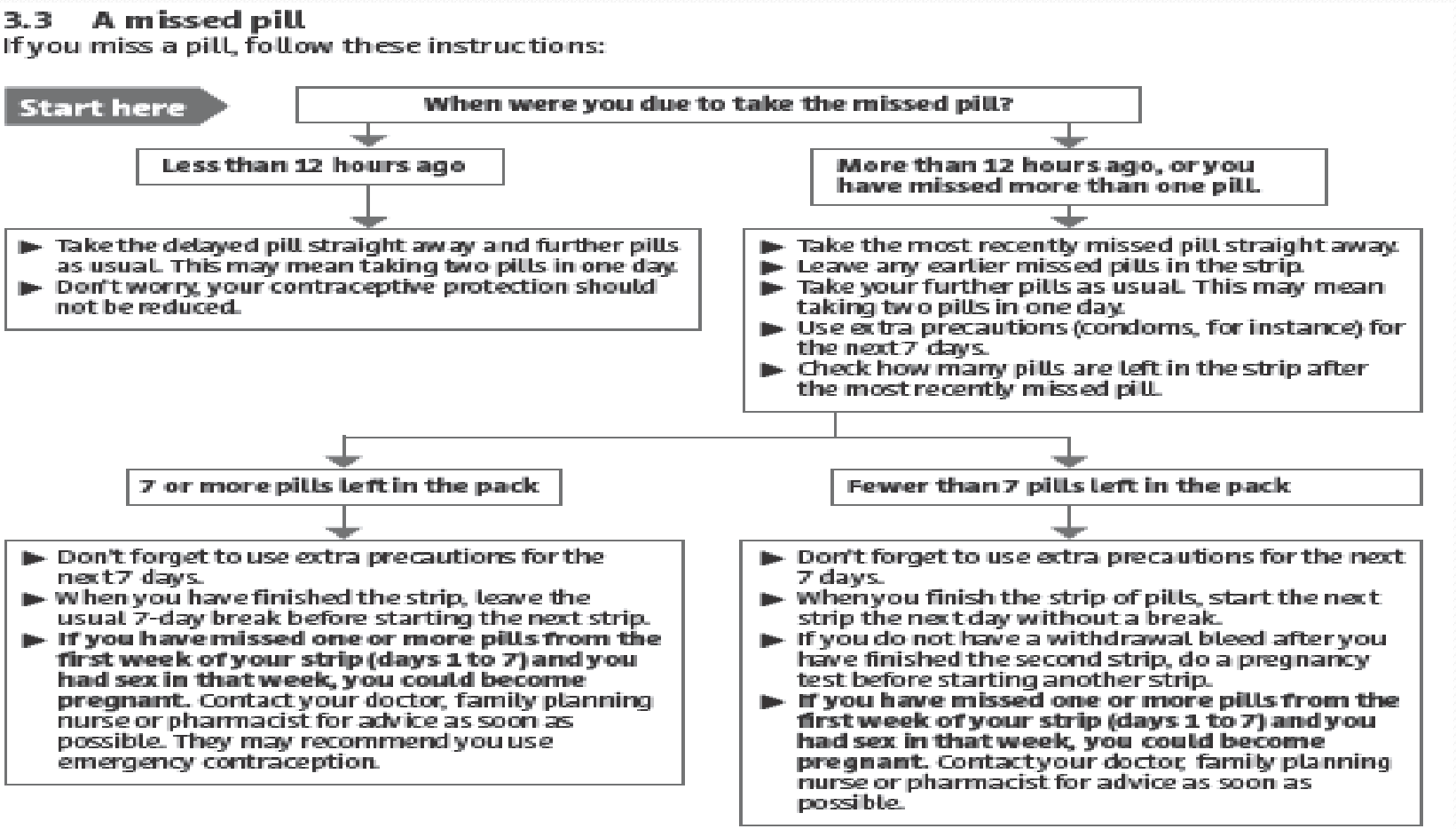
What to do in the case of vomiting or severe diarrhea

- If you vomit within 3-4 hours of taking a tablet or you have severe diarrhea, there is a risk that the active substances in the pill will not be fully taken up by your body.
- The situation is almost the same as forgetting a tablet.
- After vomiting or diarrhea, take another tablet from a reserve strip as soon as possible.
- *If possible take it within 12 hours of when you normally take your pill*. If that is not possible or 12 hours have passed, you should follow the advice given under "If you forget to take Yasmin".

Ethinylestradiol and drospirenone



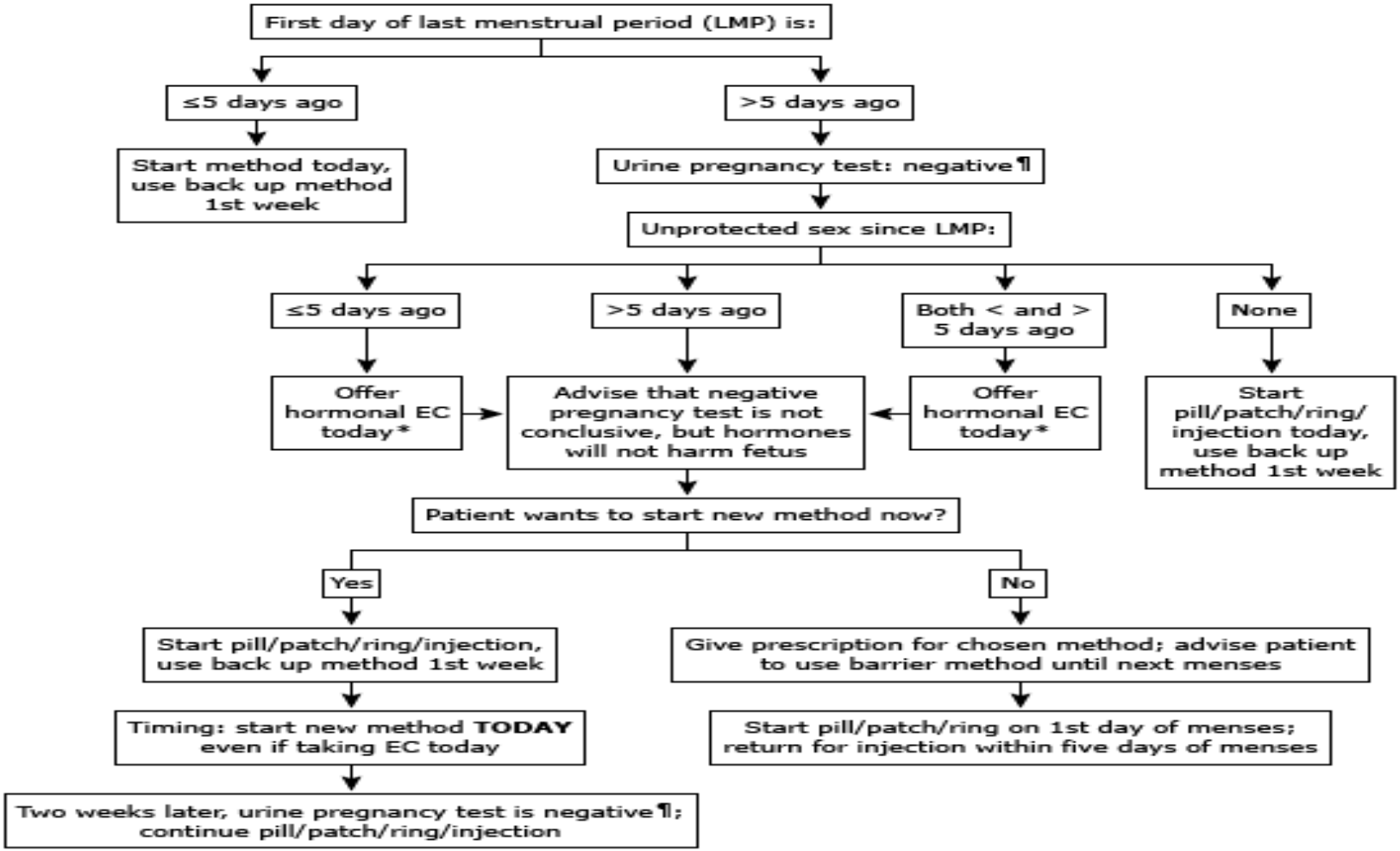
Ethinylestradiol and levonorgestrel



Drugs available in jordan:

- MICROGYNON Tab (Ethinylestradiol 0.03 mg & Levonorgestrel 0.15 mg)
- NORDETTE TABS (Ethinylestradiol 30 mcg & Levonorgestrel 150 mcg)
- NORDIOL TABS (Ethinylestradiol 50 mcg & Levonorgestrel 250 mcg)
- TRINORDIOL TABS (Ethinylestradiol 0.3+0.4+0.03 mg & Levonorgestrel 0.05+0.075+0.125 mg)

Quick start approach to initiation of new birth control method: Pill, patch, ring, injection



EC: emergency contraception.

* Because hormonal EC is not 100 percent effective, check urine pregnancy test two weeks after EC use.

¶ If pregnancy test is positive, provide options counseling.

Drospirenone and EE

نتائج البحث

الترميز	الاسم	التعبئة	التركيز	الوكيل	سعر الصيدلي	سعر الجمهور الاردني	سعر الجمهور + الضريبة	سعر المستشفى	سعر المستشفى + الضريبة	
6251617001902	Angeliq F.C Tab	28	mg, 2 1 mg	شركة مستودع الأدوية الأردني	10.83	13.65	14.2			
6251617001872	Yasmin Tab	21	0.03 mg, 3 mg	شركة مستودع الأدوية الأردني	4.22	5.32	5.53			
	Zahra Tab	21	0.03 mg, 3 mg	مستودع أدوية النور	3.25	4.09	4.25			
6251617003081	Yaz F.C Tab	28 Tab	0.020 mg, 3.000 mg	شركة مستودع الأدوية الأردني	7.4	9.32	9.69			

Levonorgestrel

معلومات الأدوية و الأسعار

نتائج البحث

الترميز	الاسم	التعبئة	التركيز	الوكيل	سعر الصيدلي	سعر الجمهور الاردني	سعر الجمهور + الضريبة	سعر المستشفى	سعر المستشفى + الضريبة	
6251617000943	Microgynon Tab	21	0.03 mg, 0.15 mg	شركة مستودع الأدوية الأردني	1.05	1.32	1.37			
6251617000967	Mirena IUS	1	52 mg	شركة مستودع الأدوية الأردني	77.05	97.09	100.97			
	NORDIOL TABS	21	50 mcg, 250 mcg	الشركة العربية للمستحضرات الطبية والزراعية	1.02	1.29	1.34			
6251617002466	Jadelle	2 implants	75 mg	شركة مستودع الأدوية الأردني	33.61	42.35	44.04			

Desogestrel

معلومات الأدوية و الأسعار

نتائج البحث

الترميز	الاسم	التعبئة	التركيز	الوكيل	سعر الصيدلي	سعر الجمهور الاردني	سعر الجمهور + الضريبة
6251615000020	Cerazette tab	1X28 s	mg 0.075	مستودع ادوية الصباغ	3.02	3.81	3.96
6251615000068	GRACIAL TABS	3X22	0.04+0.03 mg, 0.025+0.125 mg	مستودع ادوية الصباغ	11.34	14.29	14.86
6251615000075	Gracial Tabs	X 1 22	0.04+0.03 mg, 0.025+0.125 mg	مستودع ادوية الصباغ	4.02	5.07	5.27
6251615000105	MARVELON TABS	21	mg, 0.030 0.15 mg	مستودع ادوية الصباغ	2.16	2.72	2.83
	Perla 0.075 mg Tab	28	mg 0.075	شركة أدوية الحكمة	2.06	2.6	2.7

Primolut nor : norethisterone

معلومات الأدوية و الأسعار

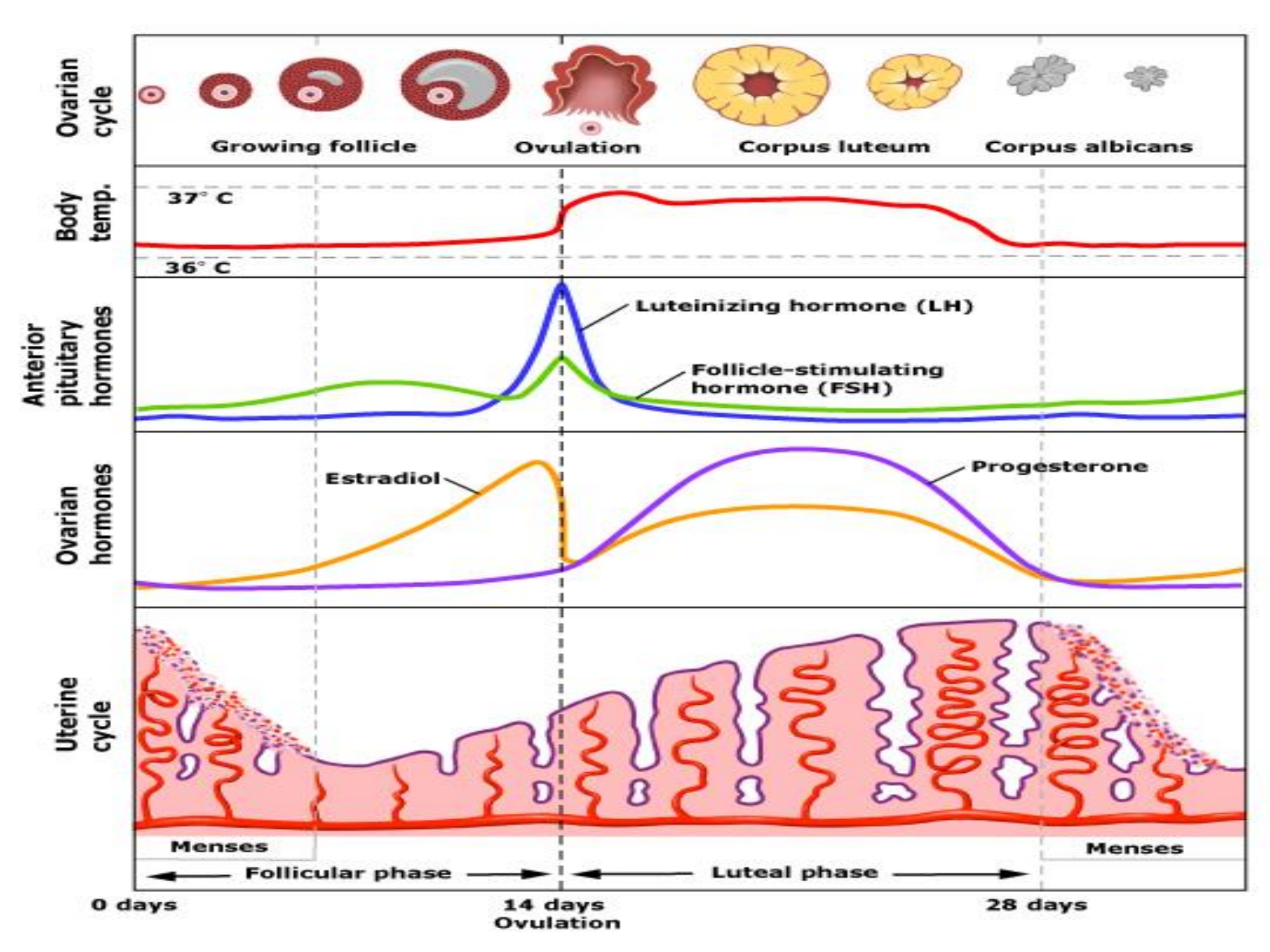
نتائج البحث

الترميز	الاسم	التعبئة	التركيز	الوكيل	سعر الصيدلي	سعر الجمهور الاردني	سعر الجمهور + الضريبة
6251617001209	PRIMOLUT DEPOT Amp	1 Amp X 1ml	250 mg	شركة مستودع الأدوية الأردني	2.04	2.57	2.67
6251617001216	PRIMOLUT NOR Tab	20	mg 5	شركة مستودع الأدوية الأردني	1.53	1.93	2.01

Each tablet contains 5 milligrams of norethisterone BP.

Primolut nor : norethisterone

- *Postponement of menstruation:* In cases of too frequent menstrual bleeding, and in special circumstances (e.g. operations, travel, sports) the postponement of menstruation is possible. The dosage is 1 tablet of Primolut N three times daily, starting 3 days before the expected onset of menstruation and continuing for not longer than 10 to 14 days. A normal period should occur 2-3 days after the patient has stopped taking tablets. This method should be restricted to users who are not at risk of pregnancy during the treatment cycle.


Ovarian cycle
Growing follicle
Ovulation
Corpus luteum
Corpus albicans
Body temp.
37° C
36° C
Anterior pituitary hormones
Luteinizing hormone (LH)
Follicle-stimulating hormone (FSH)
Ovarian hormones
Estradiol
Progesterone
Uterine cycle
Menses
Menses
Follicular phase
Luteal phase
0 days
14 days
Ovulation
28 days

Progestin only pills / cerazette

- When and how to take the tablets?
- Each strip of Cerazette contains 28 tablets – 4 weeks supply.
- Take your tablet each day at about the same time. Swallow the tablet whole, with water.
- Arrows are printed on the front of the strip, between the tablets. The days of the week are printed on the back of the strip. Each day corresponds with one tablet.
- Every time you start a new strip of Cerazette, take a tablet from the top row. Don't start with just any tablet. For example if you start on a Wednesday, you must take the tablet from the top row marked (on the back) with WED.
- Continue to take one tablet every day until the pack is empty, always following the direction indicated by the arrows. By looking at the back of your pack you can easily check if you have already taken your tablet on a particular day.
- You may have some vaginal bleeding during the use of Cerazette, but you must continue to take your tablets as normal.
- When a strip is empty, you must start with a new strip of Cerazette on the next day - without interruption and without waiting for a bleed.

Progestin only pills /cerazette

- If you are **less than 12 hours** late: Take the missed tablet as soon as you remember and take the next one at the usual time. Cerazette will still protect you from pregnancy.
- If you are **more than 12 hours** late: If you are more than 12 hours late in taking any tablet, **you may not be completely protected against pregnancy.** The more consecutive tablets you have missed, the higher the risk that you might fall pregnant.
- Take a tablet as soon as you remember and take the next one at the usual time. This may mean taking two in one day. This is not harmful. (If you have forgotten more than one tablet you don't need to take the earlier missed ones). Continue to take your tablets as usual but you must also use an extra method, such as a condom, for the **next 7 days.**
- If you are more than 12 hours late taking your tablet and have had sex it is safe to use **emergency contraception;** please consult your pharmacist or doctor.
- If you missed one or more tablets in the **very first week** of tablet-intake and had intercourse in the week before missing the tablets, you may fall pregnant. Ask your doctor for advice.