

Contraception

Topic- based Uworld Questions

Block 1, 2, 7, 8



A 32-year-old woman, gravida 5 para 4, comes to the office for follow-up of breast biopsy that confirmed high-grade malignant features. Nine weeks ago, the patient was incidentally found to have a breast mass during a pregnancy visit. The pregnancy ended in a miscarriage. She is coping with the new diagnosis and otherwise has been feeling well with no vaginal bleeding or abdominal pain. Family history is significant for ovarian cancer in her mother, who died at age 50. Genetic testing reveals a mutation in the *BRCA2* gene. The patient is scheduled to begin chemotherapy and is advised to avoid pregnancy. She took oral contraceptives during adolescence with no side effects. Breast examination shows a well-healing biopsy scar. Which of the following is the best contraceptive option for this patient?

- A. Combined oral contraceptives
- B. Condoms
- C. Contraceptive patch
- D. Copper intrauterine device
- E. Progesterone intrauterine device
- F. Vaginal ring

Submit

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- A. Combined oral contraceptives (10%)
- B. Condoms (7%)
- C. Contraceptive patch (0%)
- D. Copper intrauterine device (63%)
- E. Progesterone intrauterine device (17%)
- F. Vaginal ring (0%)

Omitted

Correct answer

D



63%

Answered correctly



01 sec

Time Spent



05/06/2020

Last Updated

Explanation

Absolute contraindications

**Absolute contraindications
to combined hormonal contraceptives**

- Migraine with aura
- ≥ 15 cigarettes/day PLUS age ≥ 35
- Hypertension $\geq 160/100$ mm Hg
- Heart disease
- Diabetes mellitus with end-organ damage
- History of thromboembolic disease
- Antiphospholipid-antibody syndrome
- History of stroke
- Breast cancer
- Cirrhosis & liver cancer
- Major surgery with prolonged immobilization
- Use < 3 weeks postpartum

Pregnancy is contraindicated during **breast cancer treatment** due to teratogenic agents such as chemotherapy and radiation. Hormone-containing methods of contraception are avoided in patients with breast cancer, as estrogen and progesterone may have a proliferative effect on breast tissue. This is particularly concerning with hormonal receptor-positive breast cancer, and **BRCA2** carriers tend to have **estrogen receptor-positive** breast cancer.

A **copper intrauterine device (IUD)** is a safe, long-term, **hormone-free** method of **contraception**. It is **99% effective** and prevents pregnancy by creating a chronic cytotoxic inflammatory response. A copper IUD can be placed for a maximum of 10 years.

(Choices A, C, and F) Combined oral contraceptives contain both estrogen and progesterone. Combined oral contraceptives decrease the risk for ovarian cancer in the general population as well as **BRCA** mutation carriers. However, due to their hormonal content, they are contraindicated in patients with current breast cancer. The patch and ring are other delivery modes of estrogen-progesterone contraceptives and should also be avoided.

- Major surgery with prolonged immobilization
- Use <3 weeks postpartum

Pregnancy is contraindicated during breast cancer treatment due to teratogenic agents such as chemotherapy and radiation. Hormone-containing methods of contraception are avoided in patients with breast cancer, as estrogen and progesterone may have a proliferative effect on breast tissue. This is particularly concerning with hormonal receptor-positive breast cancer, and **BRCA2** carriers tend to have **estrogen receptor-positive** breast cancer.

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(Choices A, C, and F) Combined oral contraceptives contain both estrogen and progesterone. Combined oral contraceptives decrease the risk for ovarian cancer in the general population as well as **BRCA** mutation carriers. However, due to their hormonal content, they are contraindicated in patients with current breast cancer. The patch and ring are other delivery modes of estrogen-progesterone contraceptives and should also be avoided.

(Choice B) Typical condom use is only 80% effective in preventing pregnancy, and this patient requires more reliable contraception, such as an IUD.

(Choice E) The **progesterone IUD** is a highly effective contraceptive and can be placed for 5 years. It is also contraindicated in the setting of current breast cancer due to potential systemic absorption of progesterone.

Educational objective:

All hormone-containing contraception is absolutely contraindicated in patients with breast cancer. A copper intrauterine device is a safe, effective, hormone-free, long-term method of contraception.

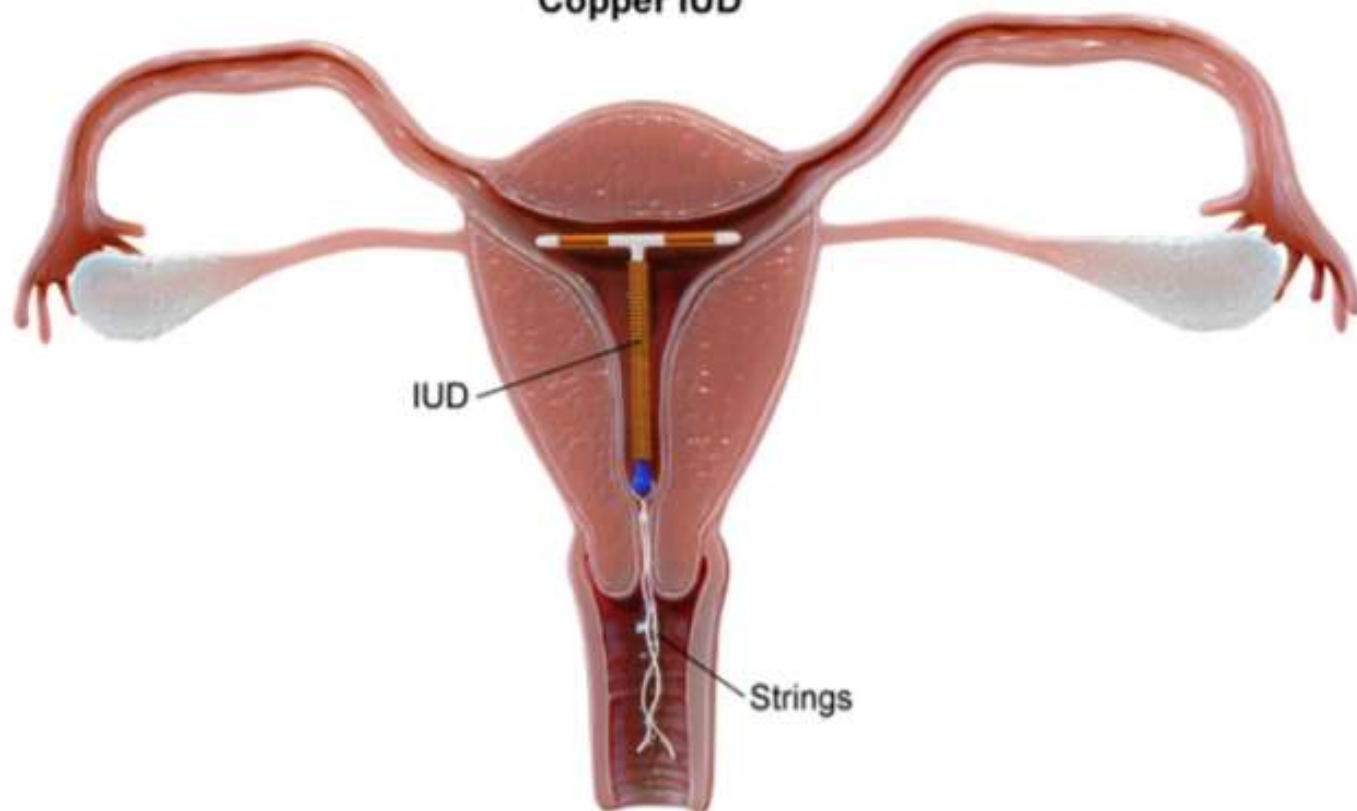
References

- [U.S. Selected Practice Recommendations for Contraceptive Use, 2013; Adapted from the World Health Organization selected practice recommendations for contraceptive use, 2nd edition.](#)

- Major surgery with prolonged immobilization

Exhibit Display

Copper IUD



Causes endometrial inflammation
(toxic to sperm & ova)

IUD = intrauterine device.

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- Major surgery with prolonged immobilization

Exhibit Display

Levonorgestrel IUD



Thickens cervical mucus (blocks sperm entry)
Thins uterine lining (decreases menstrual bleeding)

IUD = intrauterine device.
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An 18-year-old nulligravid woman comes to the office for emergency contraception. The condom broke during sexual intercourse the previous night, and she does not want to become pregnant. The patient and her longtime boyfriend have always used condoms, and their evaluations for sexually transmitted infections have been negative. Her last menstrual period was 2 weeks ago. She takes no medications and does not use tobacco, alcohol, or illicit drugs. Blood pressure is 122/80 mm Hg and pulse is 86/min. BMI is 27 kg/m². Physical examination is normal and a pregnancy test is negative. Which of the following is the most effective emergency contraceptive method for this patient?

- A. Combined ethinyl estradiol plus levonorgestrel pills
- B. Copper-containing intrauterine device
- C. Levonorgestrel pills
- D. Medroxyprogesterone injection
- E. Ulipristal pill

Submit

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- A. Combined ethinyl estradiol plus levonorgestrel pills (3%)
- B. Copper-containing intrauterine device (58%)
- C. Levonorgestrel pills (18%)
- D. Medroxyprogesterone injection (1%)
- E. Ulipristal pill (17%)

Omitted

Correct answer

B



58%

Answered correctly



05 secs

Time Spent



01/28/2020

Last Updated

Explanation

Emergency contraception

Method	Timing after intercourse	Efficacy	Contraindications
			<ul style="list-style-type: none"> Acute pelvic infection



Emergency contraception

Method	Timing after intercourse	Efficacy	Contraindications
Copper-containing intrauterine device	0-120 hr	≥99%	<ul style="list-style-type: none"> Acute pelvic infection Severe uterine cavity distortion Wilson disease Complicated organ transplant failure
Ulipristal	0-120 hr	98%-99%	<ul style="list-style-type: none"> None
Levonorgestrel	0-72 hr	59%-94%	<ul style="list-style-type: none"> None
Oral contraceptives*	0-72 hr	47%-89%	<ul style="list-style-type: none"> None

*Combined estrogen/progestin oral contraceptives containing levonorgestrel or norgestrel.

Patients with recent unprotected sexual intercourse or contraception failure (eg, broken condom) are at risk for unintended pregnancy and may be candidates for emergency contraception.

The **copper-containing intrauterine device (IUD)** is the **most effective (≥99%) emergency contraception method** available. Its insertion within 120 hours (5 days) after unprotected intercourse prevents pregnancy by impairing fertilization (by inducing intrauterine inflammation that is cytotoxic to sperm and ova) and preventing implantation. Age and parity are not contraindications to IUD insertion; therefore, the copper-containing IUD is an appropriate and most effective option for this nulligravid adolescent.

In addition, the copper-containing IUD can be left in place to provide continued contraception for up to 10 years but may be removed sooner (ie, whenever the patient desires pregnancy), with immediate return of fertility.

(Choice A) Combination oral contraceptives (eg, ethinyl estradiol plus levonorgestrel pills) are commonly used for precoital contraception but can also be used for emergency contraception by taking multiple pills simultaneously to achieve the progestin level required to delay ovulation. However, this method is less effective (47%-89%) and the pills contain estrogen, which typically causes intolerable side effects (eg, severe

candidates for emergency contraception.

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(Choice A) Combination oral contraceptives (eg, ethinyl estradiol plus levonorgestrel pills) are commonly used for precoital contraception but can also be used for emergency contraception by taking multiple pills simultaneously to achieve the progestin level required to delay ovulation. However, this method is less effective (47%-89%) and the pills contain estrogen, which typically causes intolerable side effects (eg, severe nausea).

(Choices C and E) Levonorgestrel and ulipristal pills are emergency contraception methods that prevent pregnancy primarily by delaying ovulation. Although these medications are more accessible (eg, IUD requires a provider trained in its insertion), they are slightly less effective at pregnancy prevention than the copper-containing IUD and do not offer the benefit of continued contraception.

(Choice D) Medroxyprogesterone is a progestin-only contraceptive injection. It inhibits hypothalamic secretion of gonadotropin-releasing hormone (GnRH), which decreases FSH and LH thereby inhibiting ovarian follicle development. This patient already likely has a mature ovarian follicle (based on her last menstrual period); therefore, medroxyprogesterone will not work as emergency contraception.

Educational objective:

Emergency contraception can be used to prevent pregnancy within 3-5 days of unprotected intercourse and typically works by delaying ovulation or impairing implantation. The copper-containing intrauterine device is the most effective emergency contraception method and may be offered to nulliparous women and adolescents. Emergency contraceptive pills (eg, combination oral contraceptives, levonorgestrel, ulipristal) are less effective.

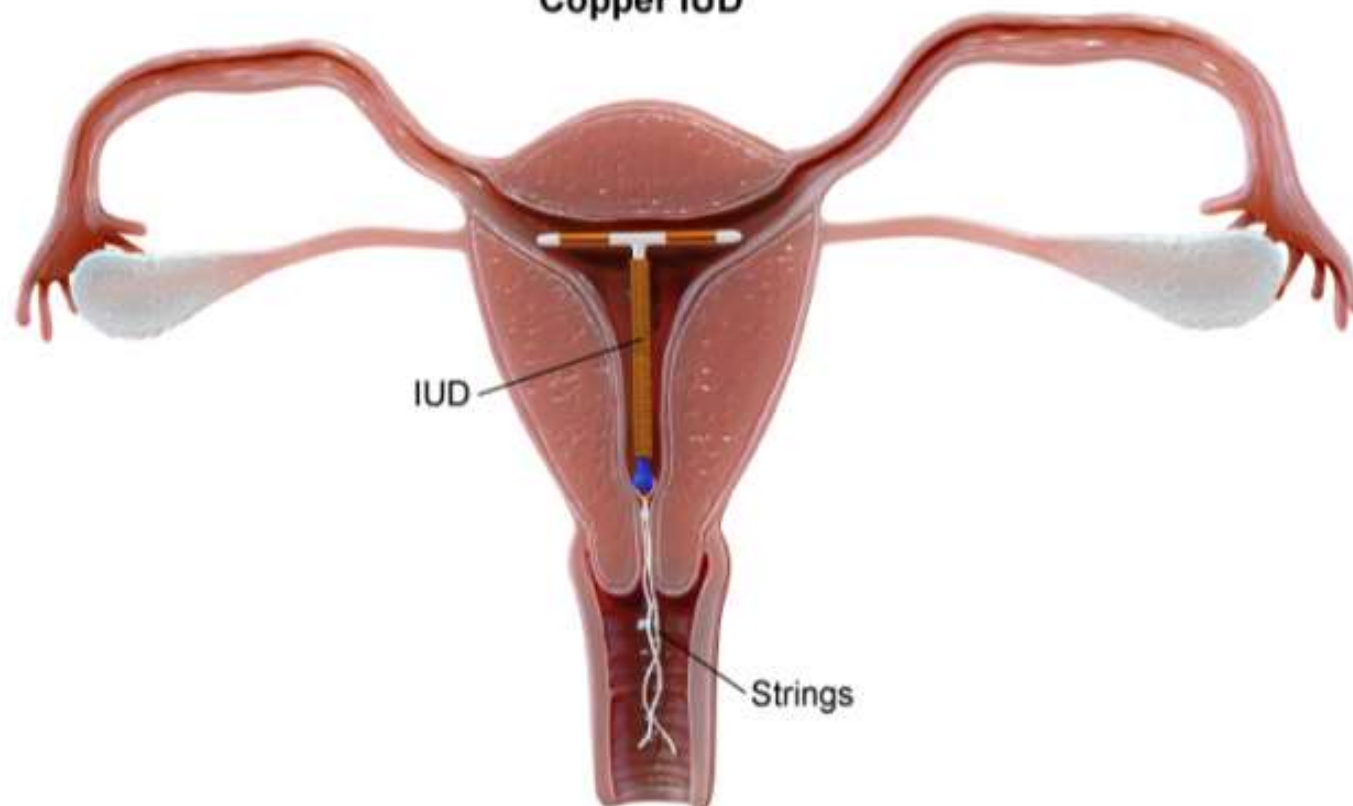
References

- [Interventions for emergency contraception.](#)

*Combined estrogen/progestin oral contraceptives, containing levonorgestrel or norgestrel

Exhibit Display

Copper IUD



Causes endometrial inflammation
(toxic to sperm & ova)

IUD = intrauterine device.

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A 32-year-old woman, gravida 4 para 4, comes to the office for a routine checkup 6 weeks after an uncomplicated vaginal delivery of a healthy boy. The patient has no concerns and would like to discuss contraception options. She heard from a friend that some options can make losing weight challenging. Prior to this pregnancy, the patient had a history of increasingly heavy menses and was found to be mildly anemic. Iron was prescribed, but she often forgot to take it; she often forgot her prenatal vitamins too. The patient is breastfeeding exclusively. Pelvic examination shows a small, mobile uterus with no abnormalities. Breast examination shows no masses, tenderness, or nipple injury. Which of the following is the preferred method of contraception for this patient?

- A. Combined estrogen-progestin oral contraceptives
- B. Copper intrauterine device
- C. Levonorgestrel-containing intrauterine device
- D. Medroxyprogesterone injection
- E. No contraception needed while breastfeeding

Submit

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- A. Combined estrogen-progestin oral contraceptives (3%)
- B. Copper intrauterine device (24%)
- C. Levonorgestrel-containing intrauterine device (57%)
- D. Medroxyprogesterone injection (6%)
- E. No contraception needed while breastfeeding (7%)

Omitted

Correct answer
C

57%

Answered correctly



01 sec

Time Spent



04/18/2020

Last Updated

Explanation

Levonorgestrel IUD


Levonorgestrel IUD



Thickens cervical mucus (blocks sperm entry)
Thins uterine lining (decreases menstrual bleeding)

IUD = intrauterine device,
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The **levonorgestrel-containing intrauterine device (IUD)** is a **long-acting, reversible contraceptive** that prevents pregnancy by releasing levonorgestrel (a progestin), which creates a physical barrier by **thickening cervical mucus** and **impairing implantation** through decidualization of the endometrium. It has an efficacy of >99% and is approved for use in the United States for up to 5 years. A common side effect is **amenorrhea**, which can be used to improve anemia and abnormal uterine bleeding. A small percentage of women experience systemic side

The **levonorgestrel-containing intrauterine device (IUD)** is a **long-acting, reversible contraceptive** that prevents pregnancy by releasing levonorgestrel (a progestin), which creates a physical barrier by **thickening cervical mucus** and **impairing implantation** through decidualization of the endometrium. It has an efficacy of >99% and is approved for use in the United States for up to 5 years. A common side effect is **amenorrhea**, which can be used to improve anemia and abnormal uterine bleeding. A small percentage of women experience systemic side effects (eg, mood changes, breast tenderness, headaches). Weight gain is not a side effect.

(Choice A) Combined oral contraceptives can be used for contraception in patients >6 weeks postpartum while breastfeeding. They are an effective contraceptive method that can improve hypermenorrhea but should be reserved for patients who reliably take daily medications.

(Choice B) The copper IUD, another long-acting, reversible contraceptive option, is approved in the United States for up to 10 years. The copper IUD can cause heavy menstrual bleeding and should not be placed in women with hypermenorrhea or anemia as it may exacerbate these conditions.

(Choice D) Medroxyprogesterone is an option for long-term contraception, with patients receiving injections every 3 months. Because weight gain is a common side effect, medroxyprogesterone is not optimal for this patient, who is concerned about difficulties with postpartum weight loss.

(Choice E) Lactation can cause anovulation and therefore some degree of contraception as high prolactin levels inhibit the release of gonadotropin-releasing hormone from the hypothalamus. Lactation, however, is not considered a reliable form of birth control because ovulation can resume while a mother is still breastfeeding.

Educational objective:

The levonorgestrel intrauterine device (IUD) provides highly efficacious, long-acting, reversible contraception that works by thickening cervical mucus and impairing implantation. Progestin-containing IUDs have the added benefit of amenorrhea and minimal systemic side effects.

References

- [Levonorgestrel intrauterine system \(Mirena\): an emerging tool for conservative treatment of abnormal uterine bleeding.](#)

A 31-year-old woman, gravida 3 aborta 3, comes to the office for an annual examination and discussion of contraceptive options. Seven months ago, she experienced her third spontaneous miscarriage and underwent a recurrent miscarriage workup. Results were consistent with antiphospholipid antibody syndrome, and the patient was informed that she is at increased risk for another miscarriage. Due to these risks, the patient and her husband have elected to adopt. She takes no medications and does not use tobacco, alcohol, or illicit drugs. Her blood pressure is 115/60 mm Hg and pulse is 88/min. BMI is 22 kg/m². Physical examination is normal. Which of the following is the best contraceptive option for this patient?

- A. Combined hormonal patch
- B. Combined oral contraceptive pills
- C. Condom with spermicide
- D. Copper intrauterine device
- E. Medroxyprogesterone injection

Submit

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- A. Combined hormonal patch (0%)
- B. Combined oral contraceptive pills (3%)
- C. Condom with spermicide (1%)
- D. Copper intrauterine device (89%)
- E. Medroxyprogesterone injection (5%)

Omitted
Correct answer
D

89%
Answered correctly

02 secs
Time Spent

03/08/2020
Last Updated

Explanation

**Absolute contraindications to
combined hormonal contraceptives**

Absolute contraindications to combined hormonal contraceptives

- Active breast cancer
- Migraines with aura
- Uncontrolled hypertension
- Active hepatitis, severe cirrhosis, liver cancer
- Age ≥ 35 & ≥ 15 cigarettes/day
- Ischemic heart disease, stroke
- < 3 weeks postpartum
- Prolonged immobilization
- Thrombophilia (eg, factor V Leiden, antiphospholipid antibody syndrome)
- Venous thromboembolism

Thromboembolic events occur due to a combination of hypercoagulability, endothelial injury, and venous stasis (eg, Virchow triad) with patients typically having more than one risk factor for their development. Women with a pre-existing risk factor for thromboembolism are at increased risk for clot development during pregnancy and with exogenous **estrogen** exposure due to its **hypercoagulable** properties.

Antiphospholipid antibody syndrome (APS) is an autoimmune disorder characterized by vascular thrombosis and pregnancy complications (eg, recurrent miscarriage, preeclampsia, fetal growth restriction). APS is an absolute contraindication to combined (estrogen/progestin) hormonal contraceptives due to the increased risk of **arterial and venous thrombosis (Choices A and B)**. Patients who desire pregnancy prevention should be offered **hormone-free** options: the **copper intrauterine device** or permanent sterilization (eg, tubal ligation).

(Choice C) Condoms with spermicide are a safe, hormone-free option but have the lowest efficacy rate of all contraceptive options. Patients should be placed on the most efficacious contraceptive possible.

(Choice E) Depo medroxyprogesterone acetate is a systemic progestin-only contraceptive. Progestin-only contraceptives have less risk for



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(Choice C) Condoms with spermicide are a safe, hormone-free option but have the lowest efficacy rate of all contraceptive options. Patients should be placed on the most efficacious contraceptive possible.

(Choice E) Depo medroxyprogesterone acetate is a systemic progestin-only contraceptive. Progestin-only contraceptives have less risk for thromboembolism compared to combined hormonal options, but systemic forms are still not recommended in high-risk patients.

Educational objective:

Absolute contraindications to combination hormonal contraceptives include a history of antiphospholipid antibody syndrome or thromboembolism. Patients with these conditions should be placed on hormone-free contraceptives (eg, copper intrauterine device).

References

- [Association of venous thromboembolism with hormonal contraception and thrombophilic genotypes.](#)
- [Antiphospholipid antibodies and the placenta: a systematic review of their in vitro effects and modulation by treatment.](#)

Obstetrics & Gynecology
Subject

Female Reproductive System & Breast
System

Contraception
Topic

A 27-year-old woman comes to the office for advice regarding contraception. The patient has been using condoms consistently but now wants something more reliable. She has regular monthly menses, typically with 6 days of bleeding that requires wearing both a pad and a tampon simultaneously to prevent blood from getting on her clothing. Last year, the patient's mother was diagnosed with a pulmonary embolus and found to be a heterozygous factor V Leiden carrier. At that time, the patient also underwent screening and was also found to be a heterozygous factor V Leiden carrier. She has no personal history of venous thromboembolism and no other medical conditions. The patient does not use tobacco, alcohol, or illicit drugs. Blood pressure is 120/76 mm Hg and pulse is 70/min. BMI is 20 kg/m². Physical examination is normal. Laboratory results are as follows:

Complete blood count

Hemoglobin	10 g/dL
Hematocrit	30%
Platelets	280,000/mm ³
Leukocytes	4,100/mm ³

Which of the following is the most appropriate contraceptive option for this patient?

- A. Copper-containing intrauterine device
- B. Diaphragm and spermicide
- C. Estrogen-progestin oral contraceptives
- D. Estrogen-progestin vaginal ring
- E. Progestin-releasing intrauterine device

something more reliable. She has regular monthly menses, typically with 6 days of bleeding that requires wearing both a pad and a tampon simultaneously to prevent blood from getting on her clothing. Last year, the patient's mother was diagnosed with a pulmonary embolus and found to be a heterozygous factor V Leiden carrier. At that time, the patient also underwent screening and was also found to be a heterozygous factor V Leiden carrier. She has no personal history of venous thromboembolism and no other medical conditions. The patient does not use tobacco, alcohol, or illicit drugs. Blood pressure is 120/76 mm Hg and pulse is 70/min. BMI is 20 kg/m². Physical examination is normal. Laboratory results are as follows:

Complete blood count

Hemoglobin	10 g/dL
Hematocrit	30%
Platelets	280,000/mm ³
Leukocytes	4,100/mm ³

Which of the following is the most appropriate contraceptive option for this patient?

- A. Copper-containing intrauterine device (21%)
- B. Diaphragm and spermicide (4%)
- C. Estrogen-progestin oral contraceptives (3%)
- D. Estrogen-progestin vaginal ring (0%)
- E. Progestin-releasing intrauterine device (69%)

Omitted

Correct answer



69%

Answered correctly



02 secs

Time Spent



02/10/2020

Last Updated

Combined hormonal contraception contraindications

Absolute	Relative
<ul style="list-style-type: none"> • Migraines with aura • Severe hypertension • Ischemic heart disease, stroke • Age ≥ 35 & smoking ≥ 15 cigarettes/day • < 3 weeks postpartum • Thromboembolism • Thrombophilia (eg, factor V Leiden, APLS) • Active breast cancer • Active or severe liver disease 	<ul style="list-style-type: none"> • Mild or medication-controlled hypertension • Age ≥ 35 & smoking < 15 cigarettes/day • Certain medications (eg, lamotrigine, rifampin) • Inherited thrombophilia carrier (& family member with thrombophilia plus thromboembolism)

APLS = antiphospholipid-antibody syndrome.

Contraceptive counseling should be patient-centered and take into consideration patient-specific factors (eg, medical history), the risk/benefit profiles of various contraception methods, and the patient's future fertility desires. In this patient, the most appropriate contraceptive option is the **progestin-releasing intrauterine device (IUD)** because it takes into consideration this patient's:

- **increased risk of thromboembolism** because she is a heterozygous **factor V Leiden carrier** who has a **family member** with inherited thrombophilia and prior thromboembolism. Estrogen-containing contraceptives are avoided in patients at increased risk of thromboembolism due to estrogen-induced hypercoagulability (**Choices C and D**). In contrast, the **progestin-releasing IUD** does not affect thromboembolic risk.
- **heavy menstrual bleeding associated with anemia**, which will not improve or may potentially worsen with the use of certain contraception methods such as the **copper-containing IUD (Choice A)**. The progestin-releasing IUD causes endometrial atrophy, which treats heavy vaginal bleeding and anemia.
- **desire for future fertility**, which is possible with IUD removal at any time the patient desires pregnancy.



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- **increased risk of thromboembolism** because she is a heterozygous **factor V Leiden carrier** who has a **family member** with inherited thrombophilia and prior thromboembolism. Estrogen-containing contraceptives are avoided in patients at increased risk of thromboembolism due to estrogen-induced hypercoagulability (**Choices C and D**). In contrast, the **progestin-releasing IUD** does not affect thromboembolic risk.
- **heavy menstrual bleeding associated with anemia**, which will not improve or may potentially worsen with the use of certain contraception methods such as the **copper-containing IUD (Choice A)**. The progestin-releasing IUD causes endometrial atrophy, which treats heavy vaginal bleeding and anemia.
- **desire for future fertility**, which is possible with IUD removal at any time the patient desires pregnancy.

In addition, the progestin-releasing IUD is one of the most effective methods of pregnancy prevention, with an efficacy of >99% and duration of use up to 5 years.

(Choice B) A diaphragm with spermicide is a nonhormonal barrier method that does not affect thromboembolic risk. However, it has poor contraceptive efficacy, making it an inferior option for this patient seeking reliable contraception.

Educational objective:

Estrogen-containing contraception methods are contraindicated in patients at increased risk for thromboembolism. Progestin-only contraceptives (eg, levonorgestrel-releasing intrauterine device) and the copper-containing intrauterine device may be offered to these patients.

References

- [US medical eligibility criteria for contraceptive use, 2016.](#)
- [Association of venous thromboembolism with hormonal contraception and thrombophilic genotypes.](#)
- [ACOG practice bulletin no. 206: use of hormonal contraception in women with coexisting medical conditions.](#)

A 14-year-old girl is brought to the office by her parents to discuss her menstrual periods. The patient was born at 25 weeks gestation and spent 4 months in the neonatal intensive care unit. She has cerebral palsy and her mobility is limited due to spasticity. She has no intellectual disability. The patient started menstruating 1 year ago and has monthly bleeding for 8 days with passage of clots. Her parents often need to change the patient's pads every hour during menses. She has mild intermittent asthma and migraines with aura. On examination, the patient is wheelchair-bound and has multiple contractures in the bilateral lower extremities that cause minimal active and passive range of motion. The abdomen is soft, nontender, and has no palpable masses. Pelvic examination is deferred. Which of the following is the best treatment option for this patient?

- A. Combination oral contraceptives
- B. Copper-containing intrauterine device
- C. Endometrial ablation
- D. GnRH agonist therapy
- E. Progestin-releasing subdermal implant

Submit



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- A. Combination oral contraceptives (22%)
- B. Copper-containing intrauterine device (6%)
- C. Endometrial ablation (4%)
- D. GnRH agonist therapy (6%)
- E. Progestin-releasing subdermal implant (60%)

Omitted

Correct answer
E60%
Answered correctly03 secs
Time Spent02/09/2020
Last Updated

Explanation

Subdermal progestin implant

Subdermal progestin implant





The pubertal transition (eg, body image, sexuality) can be complicated by physical and intellectual disabilities in the adolescent population.

Adolescents with disabilities may become dependent on caregivers for **menstrual hygiene**, limiting their independence and creating embarrassment, especially when there is **heavy menstrual bleeding** (eg, frequent pad changes) or severe dysmenorrhea.

Menstrual management with **hormonal contraception** (eg, combination oral contraceptives) can be used to minimize menstrual bleeding volume and/or frequency, thereby improving the patient's quality of life and treating possible associated complications (eg, anemia). However, estrogen-containing contraception is contraindicated in patients with migraine with aura due to the increased risk of stroke (**Choice A**).

The **progestin-releasing subdermal implant** is a long-acting (ie, up to 3 years), reversible contraceptive that reduces menstrual bleeding in 50% of patients and causes amenorrhea in 20% of patients. Because it can be easily placed in the upper arm, it is an ideal contraceptive option for adolescents, particularly those who have difficulty with pelvic examinations, such as this patient with lower extremity contractures.

(Choice B) The copper-containing intrauterine device (IUD) is a highly effective form of nonhormonal contraception, but it is not recommended in patients with heavy menses because it can increase bleeding. In addition, an IUD may be difficult to insert in this patient with lower extremity contractures.

(Choice C) Endometrial ablation cauterizes the endometrial lining, causing endometrial scarring and possible amenorrhea to treat heavy menstrual bleeding. However, it is not appropriate for patients who wish to preserve fertility (eg, adolescents) due to the increased risk of future obstetric complications (eg, placenta accreta).

(Choice D) GnRH agonist therapy (eg, leuprolide) treats heavy, regular menses by acting on the pituitary to decrease pulsatile FSH and LH release, thereby producing a hypoestrogenic state and amenorrhea. However, it is not recommended for long-term use because of adverse effects (eg, decreased bone density) and is particularly avoided in patients at higher risk of bone density abnormalities (eg, adolescents, patients in wheelchairs).

Educational objective:

Hormonal contraception, such as the progestin-releasing subdermal implant, can be used for menstrual hygiene (eg, to decrease menstrual bleeding) in adolescents with disabilities.

References

A 39-year-old woman, gravida 4 para 4, comes to the office for emergency contraception. The patient stopped breastfeeding a month ago and has not restarted her oral contraceptives because her husband is scheduled for a vasectomy in a few weeks. She had unprotected intercourse last night and is concerned she might get pregnant. The patient has no chronic medical conditions and takes no medications. She does not use tobacco, alcohol, or illicit drugs. Her last menstrual period was 9 days ago. Vital signs and physical examination are normal. Urine pregnancy test is negative. Which of the following is the best emergency contraceptive option for this patient?

- A. Combination oral contraceptives
- B. None because pregnancy is unlikely
- C. Progestin-releasing subdermal implant
- D. Single dose of ulipristal acetate
- E. Transdermal estrogen-progestin patch

Submit

A 39-year-old woman, gravida 4 para 4, comes to the office for emergency contraception. The patient stopped breastfeeding a month ago and has not restarted her oral contraceptives because her husband is scheduled for a vasectomy in a few weeks. She had unprotected intercourse last night and is concerned she might get pregnant. The patient has no chronic medical conditions and takes no medications. She does not use tobacco, alcohol, or illicit drugs. Her last menstrual period was 9 days ago. Vital signs and physical examination are normal. Urine pregnancy test is negative. Which of the following is the best emergency contraceptive option for this patient?

- A. Combination oral contraceptives (7%)
- B. None because pregnancy is unlikely (8%)
- C. Progestin-releasing subdermal implant (6%)
- D. Single dose of ulipristal acetate (76%)
- E. Transdermal estrogen-progestin patch (0%)

Omitted

Correct answer

D



76%

Answered correctly



01 sec

Time Spent



01/26/2020

Last Updated

Explanation

Emergency contraception

Method	Timing after intercourse	Efficacy	Contraindications
			<ul style="list-style-type: none"> Acute pelvic infection

Emergency contraception			
Method	Timing after intercourse	Efficacy	Contraindications
Copper-containing intrauterine device	0-120 hr	≥99%	<ul style="list-style-type: none">Acute pelvic infectionSevere uterine cavity distortionWilson diseaseComplicated organ transplant failure
Ulipristal	0-120 hr	98%-99%	<ul style="list-style-type: none">None
Levonorgestrel	0-72 hr	59%-94%	<ul style="list-style-type: none">None
Oral contraceptives*	0-72 hr	47%-89%	<ul style="list-style-type: none">None

*Combined estrogen/progestin oral contraceptives containing levonorgestrel or norgestrel.

Patients who have had recent unprotected intercourse may be candidates for postcoital or **emergency contraception (EC)** for **pregnancy prevention**. Pregnancy status determines eligibility for EC use:

- Patients with a positive pregnancy test are not candidates for EC because implantation has already occurred.
- In contrast, patients with a negative pregnancy test are still at risk for unintended pregnancy and are candidates for EC (**Choice B**).

A highly effective (ie, 98%-99%) EC option is the **ulipristal** pill, a progesterin receptor blocker that prevents pregnancy by **delaying ovulation** and **impairing implantation**. Ulipristal can be taken up to 120 hours after unprotected intercourse; however, it should be administered as soon as possible because its effectiveness decreases with time. Other effective EC options include the copper-containing intrauterine device and oral levonorgestrel (ie, Plan B).

(Choice A) Combination oral contraceptives, commonly used for precoital contraception, may also be used for EC by taking multiple pills simultaneously to achieve the progesterin level required to delay ovulation. However, the high estrogen content typically causes intolerable side effects (eg, severe nausea), and this method is less effective (ie, 47%-89%) than ulipristal.

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(Choices C and E) A progestin-releasing subdermal implant is a long-acting, reversible contraceptive used for precoital contraception. Because it provides sustained release of low-dose progestin, it cannot achieve the acute increase in progestin levels required to delay ovulation for EC. Similarly, the transdermal estrogen-progestin patch is a slow-releasing combined hormonal contraceptive used only for precoital contraception.

Educational objective:

Ulipristal is a highly effective emergency contraception option that prevents pregnancy by delaying ovulation and impairing implantation. It can be taken up to 120 hours after unprotected intercourse.

References

- [Emergency contraception review: evidence-based recommendations for clinicians.](#)
- [Interventions for emergency contraception.](#)
- [Practice bulletin no. 152: emergency contraception.](#)

A 34-year-old woman comes to the office to discuss the progestin-releasing intrauterine device. The patient previously used condoms for contraception but is interested in starting a more reliable method. Her menses occur every 8 to 12 weeks, with heavy vaginal bleeding and passage of clots, and she has intermittent light spotting in between. The patient's last menstrual period was 1 week ago. She has no chronic medical conditions and takes no daily medications. The patient was treated for *Trichomonas* vaginitis at age 16. Her maternal grandmother had metastatic breast cancer in her 70s. Blood pressure is 118/64 mm Hg and pulse is 80/min. BMI is 44 kg/m². Pelvic examination shows a nulliparous cervix with scant physiologic discharge and a small, nontender uterus. Urine pregnancy test is negative. Which of the following is this patient's contraindication to a progestin-releasing intrauterine device?

- A. Age
- B. Family history
- C. Menstrual bleeding pattern
- D. Nulliparity
- E. Prior sexually transmitted infection

Submit

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- A. Age (2%)
- B. Family history (12%)
- C. Menstrual bleeding pattern (62%)
- D. Nulliparity (6%)
- E. Prior sexually transmitted infection (15%)

Omitted

Correct answer
C62%
Answered correctly02 secs
Time Spent03/19/2020
Last Updated

Explanation

Contraindications to IUD placement

Contraindications to IUD placement	
Copper IUD & progestin IUD	<ul style="list-style-type: none"> • Pregnancy • Endometrial or cervical cancer • Unexplained vaginal bleeding • Gestational trophoblastic disease • Distorted endometrial cavity • Acute pelvic infection (eg, PID, cervicitis)
Progestin IUD	<ul style="list-style-type: none"> • Active liver disease • Active breast cancer
Copper IUD	<ul style="list-style-type: none"> • Wilson disease

IUD = intrauterine device; PID = pelvic inflammatory disease.

Long-acting, reversible contraceptives such as an intrauterine device (IUD) are highly effective for pregnancy prevention, easy to use, and rapidly reversible. IUDs may be used in patients of all ages and parity (**Choices A and D**). However, one **contraindication to IUD insertion** (both copper-containing and progestin-releasing) is **unexplained, abnormal vaginal bleeding**, such as this patient's irregular menstrual bleeding pattern. Abnormal bleeding is often a symptom of an **underlying condition** that requires further evaluation before IUD insertion, such as:

- Infection (eg, cervicitis, pelvic inflammatory disease)
- Endometrial polyp, which often causes intermenstrual bleeding
- **Endometrial hyperplasia or cancer**, particularly in patients with multiple risk factors for unopposed estrogen exposure (eg, obesity, chronic anovulation [as evidenced by this patient's irregular menses])

IUD placement in patients with unexplained, abnormal vaginal bleeding can mask symptoms and delay diagnosis. Therefore, these patients **require further evaluation** prior to IUD insertion, which typically includes sexually transmitted infection testing, endometrial biopsy, and pelvic

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IUD placement in patients with unexplained, abnormal vaginal bleeding can mask symptoms and delay diagnosis. Therefore, these patients **require further evaluation** prior to IUD insertion, which typically includes sexually transmitted infection testing, endometrial biopsy, and pelvic ultrasound.

(Choice B) Progestin-releasing IUDs are contraindicated in patients with active breast cancer because breast cancers are often progesterone-sensitive. However, a family history of breast cancer, particularly in a second-degree relative, is not a contraindication.

(Choice E) IUD insertion and removal is contraindicated during an active pelvic infection, which typically presents with pelvic pain, uterine tenderness, and abnormal vaginal discharge (not seen in this patient). A prior sexually transmitted infection, such as this patient's remote history of *Trichomonas* vaginitis, is not a contraindication.

Educational objective:

Unexplained, abnormal vaginal bleeding is a contraindication to intrauterine device insertion because it may indicate an underlying condition (eg, endometrial cancer). Patients with unexplained vaginal bleeding require further evaluation (eg, endometrial biopsy).

References

- [U.S. medical eligibility criteria for contraceptive use, 2016](#)
- [ACOG practice bulletin no. 206: use of hormonal contraception in women with coexisting medical conditions.](#)
- [U.S. selected practice recommendations for contraceptive use, 2016.](#)



A 19-year-old nulligravid woman comes to the office for a routine checkup. She is concerned about having gained 4.5 kg (10 lb) over the last year and believes it is related to her oral contraceptive pills. The patient takes low-dose ethinyl estradiol/norethindrone daily. Prior to starting the pills, she had regular, heavy periods lasting 4-5 days. The patient missed school every month due to severe cramping on the first day of her period. Her pain symptoms resolved after 3 months on the pills. She takes no other medications. Coitarche was at age 18 and she has had 2 partners since then. The patient and her current partner use condoms inconsistently. Vital signs are normal. Her BMI is 27 kg/m². Physical examination is unremarkable. Which of the following is the most appropriate advice for this patient?

- A. Discontinue oral contraceptive pills (OCPs) and start nonsteroidal anti-inflammatory drugs
- B. Reassure that the weight gain is not related to combined OCPs
- C. Recommend switching from combined OCPs to a copper intrauterine device
- D. Recommend switching from combined OCPs to medroxyprogesterone injections
- E. Recommend switching from combined OCPs to progesterone-only pills

Submit



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- A. Discontinue oral contraceptive pills (OCPs) and start nonsteroidal anti-inflammatory drugs (2%)
- B. Reassure that the weight gain is not related to combined OCPs (54%)
- C. Recommend switching from combined OCPs to a copper intrauterine device (23%)
- D. Recommend switching from combined OCPs to medroxyprogesterone injections (7%)
- E. Recommend switching from combined OCPs to progesterone-only pills (12%)

Omitted
Correct answer B

54% Answered correctly

01 sec Time Spent

01/29/2020 Last Updated

Explanation

Side effects & risks of combination oral contraceptives

- Breakthrough bleeding

Side effects & risks of combination oral contraceptives

- Breakthrough bleeding
- Breast tenderness, nausea, bloating
- Amenorrhea
- Hypertension
- Venous thromboembolic disease
- Decreased risk of ovarian & endometrial cancer
- Increased risk of cervical cancer
- Liver disorders (eg, hepatic adenoma)
- Increased triglycerides (due to estrogen component)

This patient describes symptoms of **primary dysmenorrhea**, defined as recurrent lower abdominal pain associated with menstruation. **First-line treatment** in sexually active patients is combination estrogen-progestin **oral contraceptive pills (OCPs)**. OCPs decrease pain symptoms by thinning the endometrial lining, reducing prostaglandin release, and decreasing uterine contractions.

Early side effects of OCPs include nausea, bloating, and breast tenderness, which usually improve with continued use. **Breakthrough bleeding** is the most common side effect and is usually associated with lower estrogen doses. Adverse effects include **hypertension**, increased risk of cervical cancer, and **venous thromboembolism**. Although weight gain as a side effect is a common perception, several studies have shown no significant weight gain, particularly with low-dose formulations. As a result, this patient can be reassured that weight gain is not associated with continued OCP use.

(Choice A) Nonsteroidal anti-inflammatory drugs are the first-line treatment in primary dysmenorrhea in non-sexually active patients. Stopping contraception in this patient increases her risk of unintended pregnancy.

(Choice C) Switching the patient to the copper intrauterine device (IUD) will decrease systemic side effects. However, a copper IUD is not recommended for patients with dysmenorrhea as its inflammatory reaction in the uterus may increase pain symptoms.

(Choice D) Medroxyprogesterone is not a good option for this patient as it may increase body fat, decrease lean muscle mass, and cause weight



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(Choice D) Medroxyprogesterone is not a good option for this patient as it may increase body fat, decrease lean muscle mass, and cause weight gain. Medroxyprogesterone is not recommended for adolescents or young women due to risk of significant loss of bone mineral density and should be used in this age group only if no other options are acceptable.

(Choice E) Side effects of combination OCPs are due largely to the estrogen component. Progesterone-only pills have relatively fewer side effects but are less effective for dysmenorrhea treatment and contraception as they do not inhibit ovulation.

Educational objective:

Combination oral contraceptive pills are the first-line therapy for primary dysmenorrhea in sexually active patients. Side effects include breakthrough bleeding, hypertension, and increased risk of venous thromboembolism. Weight gain is usually not an adverse effect.

References

- [Weight and body composition changes during oral contraceptive use in obese and normal weight women.](#)
- [The long-term influence of combined oral contraceptives on body weight.](#)