Advising Patients About Non-Oral Contraceptives

Learning Objectives

1) Recognize non-oral options for contraception and understand the mechanism of action for each;
2) Identify side effects, dangers of use, and possible drug-drug interactions for the currently available non-oral contraceptive methods and devices;
3) Understand the leading cause of drug-drug interactions and medical errors for those using non-oral contraceptive medications and devices; and
4) Review counseling recommendations regarding patient interviews and the importance of medical history and current medication use, including non-oral contraceptive medications and devices, to improve adherence and outcomes.

1. Which of the following is the primary mechanism of action of combination hormonal contraceptives (CHCs):
   A. Creating an unfavorable cervical mucous
   B. Manipulating the endometrial lining to make implantation difficult
   C. Inhibiting ovulation***
   D. Causing fallopian tube spasm

   Correct Answer: C
   These contraceptives contain both an estrogen and a progestin and their mechanism of action is similar to oral contraceptives. Effectively suppressing gonadotrophins, CHCs inhibit ovulation as a primary contraceptive mechanism. In addition, creating an unfavorable cervical mucous and endometrium makes it difficult for sperm to enter the uterus and reduces the likelihood of implantation.

2. Which one of the following are more common with use of the vaginal ring as compared with oral contraceptives:
   A. Nausea
   B. Acne
   C. Vaginitis***
   D. Irritability

   Correct Answer: C
   The most common adverse reactions with the use of the vaginal ring are bleeding pattern alterations, vulvovaginitis, abdominal/pelvic pain, acne/seborrhea, ovarian cyst, and headache.32

3. Which one of the following has the highest risk for a venous thromboembolism:
   A. A woman using a CHC for 1 year
   B. A woman who had a baby 3 weeks ago***
   C. A woman that is 32 weeks pregnant
   D. A woman who had a levonorgestrel IUD inserted 1 year ago

   Correct Answer: B
   The use of the patch has diminished in recent years as the result of concerns about estrogen hormone levels and risk of venous thromboembolism (VTE).
4. Which of the following best describes the pharmacokinetic (PK) profile of the contraceptive transdermal patch compared with a combined oral contraceptive (COC):
   A. Lower steady state concentration of estradiol in the patch
   B. Lower peak concentration of estradiol in the patch***
   C. Lower area under the curve (AUC) levels in the patch
   D. Lower estrogen receptor binding affinity in the patch

Correct Answer: B
The PK profile for the patch is different from the PK profile for a COC containing ethinyl estradiol (EE) because it has a higher steady state concentration and a lower peak concentration.

5. Which one of the following medications is least likely to interact with a non-oral combined hormonal contraceptive:
   A. Phenytoin
   B. Amoxicillin***
   C. Lamotrigine
   D. Levothyroxine

Correct Answer: B
The U.S. Medical Eligibility Criteria for Contraceptive Use deems the use of broad spectrum antibiotics, antiparasitics, and antifungals as safe to use with CHC.

6. Of the following, which patient would be the best candidate for the contraceptive implant:
   A. Woman, 32 years of age with active breast cancer
   B. Patient with advanced cirrhosis
   C. 24 year old with BMI of 32***
   D. Migraineur, 18 years of age, with aura

Correct Answer: C
Relative contraindications for implant use include severe liver disease (including cancer, cirrhosis, hepatocellular adenoma), migraine headaches with aura, history of ischemic heart disease, or stroke, unexplained vaginal bleeding, and patients with an antiphospholipid antibody (ANA) level positive for lupus.

7. All of the following have been used to treat bleeding irregularities with progestin non-oral contraceptives, EXCEPT:
   A. Naproxen
   B. Oral estradiol
   C. Ibuprofen
   D. Vitamin E***

Correct Answer: D
In general, non-steroidal anti-inflammatory drugs (NSAIDs) may be effective treatments for bleeding irregularities associated with copper intrauterine device (Cu-IUD) use. In addition, antifibrinolytic agents (such as oral tranexamic acid) and antidiuretics (such as vasopressin) have also been studied as possible treatments in a small number of patients, but their safety has not been well documented.
8. Which of the following statements regarding intrauterine device (IUD) use is TRUE:
A. When inserting an IUD, prophylactic antibiotics are usually recommended
B. A woman with a distorted endometrial cavity can safely use an IUD
C. Adolescent women are ideal candidates for IUDs***
D. IUDs are not a cost-effective form of birth control

Correct Answer: C
Contraindications to the use of the IUDs include a distorted uterine cavity, current pelvic infection or pregnancy-related uterine infection, unexplained vaginal bleeding, endometrial or cervical cancer, and current breast cancer. IUD use is widely recommended and adolescent women are good candidates for use.

9. In addition to contraception, the levonorgestrel IUD can be useful to treat which of the following conditions:
A. Obesity
B. Urinary tract infections
C. Chlamydia
D. Menorrhagia***

Correct Answer: D
The levonorgestrel IUD is also U.S. Food and Drug Administration (FDA)-approved for the treatment of menorrhagia and can be offered as a therapeutic option for a woman with heavy menses, even if she is not interested in contraception (i.e., after tubal sterilization).

10. Which non-oral hormonal contraceptive can a patient use without placement by a health care provider?
A. Vaginal ring***
B. Etonogestrel insert
C. Levonorgestrel-IUD
D. None of the above

Correct Answer: A
The ring is inserted into the vagina by the patient and removed after 3 weeks (21 days), with a new ring inserted 1 week (7 days) later. Withdrawal bleeding usually occurs during the ring-free week.