• Continuing Education •

TECH talk CE

THE NATIONAL CONTINUING EDUCATION PROGRAM FOR PHARMACY TECHNICIANS 1 CE Unit FREE

ANSWER ONLINE FOR INSTANT RESULTS AT WWW.ECORTEX.CA NOVEMBER/DECEMBER 2022

APPROVED FOR 1 CE Unit

Approved for 1 CE units by the Canadian Council on Continuing Education in Pharmacy. File no. 1329-2022-3528-I-T. Please consult this course online at eCortex.ca for expiry dates.

Answer this CE online for instant results and accreditation. Visit eCortex.ca

CE JUST FOR TECHNICIANS

Tech Talk CE is the only national continuing education program for Canadian pharmacy technicians.

As the role of the technician expands, use Tech Talk CE as a regular part of your learning portfolio. Note that a passing grade of 70% is required to earn the CE credit.

Tech Talk CE is generously sponsored by Teva. Download back issues at www.CanadianHealthcareNetwork.ca. The author has no competing interests to declare.

INSTRUCTIONS

1. After carefully reading this lesson, go to eCortex.ca to complete the questions.
2. Answer the test online at eCortex.ca. To pass, a grade of at least 70% (10 out of 14) is required.
3. Complete the required feedback for this lesson online at eCortex.ca.

CE FACULTY

CE Coordinator:
Rosalind Stefanac

Clinical Editor:
Lu-Ann Murdoch, BScPhm

Author:
Ema Ferreira, B.Pharm., M.Sc., Pharm.D., FCSHP, FOPQ

pharmacy PRACTICE + BUSINESS

eCortex.ca

Hormonal contraception:

What's new and where does the pharmacy technician fit in?

by Ema Ferreira, B.Pharm., M.Sc., Pharm.D., FCSHP, FOPQ

Learning objectives

Upon successful completion of this lesson, pharmacy technicians should be able to:

1. Be familiar with the hormonal contraception methods on the market and the recent changes in available products
2. Obtain the appropriate information to assist the pharmacist to prescribe hormonal contraception (in jurisdictions where permitted)
3. Identify individuals who may require counselling to help to manage adverse reactions associated with hormonal contraception
4. Describe what actions pharmacy technicians can take to assist in the management of patients requiring a contraceptive method

Introduction

Contraceptive failure following misuse is an important and modifiable factor contributing to unintended pregnancy.[1,2] Unintended pregnancy rates remain high despite the availability of several contraceptive methods.[3] Any sexually active individual who is able to become pregnant and wants to prevent pregnancy should have access to a safe and effective contraceptive.[1] Most patients have

An educational service for Canadian pharmacy technicians, brought to you by Teva www.tevacanada.com

a wide selection of safe contraceptive methods to consider.[4]

Pharmacists and pharmacy technicians are uniquely placed to promote contraception education, improve access to contraceptive methods and facilitate their safe and effective use.

The basics about hormonal contraceptives

Hormonal contraception blocks ovulation and/or modifies the ability of the egg to be fertilized. Contraceptives are divided into hormonal and nonhormonal (barrier) methods. Hormonal contraceptives can be categorized into combined hormonal contraceptives (CHCs, which contain estrogen and progestin) and progestin-only contraceptives. CHCs include the pills (tablets), the vaginal ring and the transdermal patch; the progestin-only contraceptives include oral tablets, intramuscular injection, the implant and levonorgestrel intrauterine systems (LNG-IUSs). Additionally, hormonal contraceptives can be separated into two groups: 1) short-acting reversible contraceptives (SARCs) including pills, patch, vaginal ring, and intramuscular injection, and 2) long-acting reversible contraceptives (LARCs) (LNG-IUS and progestin implant).

This lesson describes recent developments in the field of hormonal contraception and focuses on the role of the pharmacy technician in assisting the pharmacist as a contraceptive prescriber (in jurisdictions where permitted) and decision-maker. It does not include information on emergency contraception.

1. WHAT'S NEW IN HORMONAL CONTRACEPTION?

Some pharmacists can now prescribe hormonal contraception

In Canada, hormonal contraception can be obtained through a prescription by a physician, nurse, or midwife, and, more recently, by a pharmacist. In addition to renewing and extending prescriptions, pharmacists in some Canadian provinces can now prescribe hormonal contraception.[5] Recently, the role of the pharmacist has evolved from a distributor of hormonal contraception to a decision maker regarding contraception.

Many hormonal contraceptives have been discontinued and new regimens are being used

Hormonal contraception options available in Canada have undergone changes in recent years. Table 1 presents the hormonal contraceptives presently on the Canadian market, excluding the implant and LNG-IUSs. Combined oral contraceptives (COCs) now contain smaller doses of estrogen; COCs containing 50 µg of estrogen have been discontinued and newer products containing 10 µg are now available. This results in a lower incidence of adverse events related to the estrogen component (e.g., blood clots, headaches). Moreover, COCs with a shorter hormone-free interval are now available on the market. Traditionally, COCs were taken cyclically with a 21/7 regimen (21 days of active hormones and a 7-day hormone-free interval). More recently a wider range of regimens are available: e.g. 24/4, 24/2/2 (2 days of low-dose ethinyl estradiol and 2 days hormone-free) and 84/7.[6] When a COC has a different regimen than 21/7, it is indicated in Table 1.

All CHCs (COCs, vaginal ring and contraceptive patch) can be used for extended periods of time or on a continuous basis. These regimens should be offered to women to suit their contraceptive needs or for personal or medical reasons.[6] Extended or continuous regimens are associated with fewer "menstrual" symptoms during the hormone-free interval (e.g., menstrual cramps, headaches) than cyclic schemes. Should unexpected irregular bleeding occur in patients using CHCs on an extended or continuous basis, this may be related to a chlamydial infection or irregular pill taking.[6]

The only progestin-only pill on the market until recently has to be taken on a continuous basis without a hormone-free period.[7] Recently a newer progestin-only pill was marketed which has a 24/4 dosing schedule (24 active hormone pills and 4 placebo pills), similar to some COCs. A progesterone-only medroxyprogesterone intramuscular injection is available in Canada, with a recommended dose of 150 mg every 12 to 13 weeks.[7] CHCs and the progestin-only pill have a 0.3% failure rate with perfect use, 9% with regular use during first year of use.[6]

A new estrogen is approved

In Canada, prior to 2021, all marketed COCs contained ethinyl estradiol. In 2021, a new COC containing estetrol (E4) 15 mg and drospirenone 3 mg with a 24/4 regimen was approved and is now available. Estetrol is a natural estrogen produced by the human fetal liver and is only found during pregnancy. The reported efficacy is like other CHCs and is not affected by body-mass index. The overall incidence of unscheduled bleeding is 15 to 20% per cycle. Adverse effects are reported in a small fraction of individuals and include metrorrhagia (irregular bleeding or spotting), heavy bleeding, headaches, breast tenderness, weight gain, decrease in libido, mood changes and, nausea.[8]

Long-acting reversible hormonal contraceptives are recommended for most women

LARCs including LNG-IUSs and the progestin implant, have been approved in recent years and are recommended for a wide range of women. LARCs are more effective than SARCs since these products are less influenced by how the method is used, thereby removing adherence issues as a variable in contraceptive use.[1,2]

Newer scientific literature supports the use of LARCs in most women including adolescents.[4,9] In populations where LARCs are widely used, the incidence of pregnancy in youth has declined significantly.[4]

The two hormonal IUSs available in Canada contain levonorgestrel (LNG) (Table 2). They prevent pregnancy by thickening the cervical mucus, slowing sperm/egg tubal motility, and thinning the endometrial lining.[1] LNG-IUSs have a failure rate of 0.1%–0.2% % during first year of use.[1,2]

LNG-IUSs have several non-contraceptive benefits. The 52-mg LNG-IUS has been shown to reduce endometriosis-related pain and dysmenorrhea, and to reduce menstrual blood flow.[2,10] The 19.5-mg IUS is designed to facilitate insertion in women who have not delivered a baby and as well as adolescents.[2] While irregular bleeding and spotting are common in the first weeks to months after the insertion of a LNG-IUS, these symptoms decrease over time.[10] Absence of menstrual bleeding occurs in up to 44% of women after six months with the 52 mg LNG-IUS.[10]

A progestin implant is now available in Canada

A progestin-containing subdermal implant was approved in 2020 and offers a new hormonal modality for women who desire a long-acting contraceptive or for those in whom a progestin-only contraceptive is most suitable. The subdermal implant contains the progestin etonogestrel, and is mar-

TABLE 1 - Short-acting hormonal contraceptives on the Canadian market

Examples of brands[a]	Ethinyl estradiol (EE) strength (µg/tablet)	Progestin	Progestin strength (µg/tablet)
Monophasic combined oral contraceptives (COCs)			
Lolo (24/4) 24 days of EE + NA, 2 days of EE 10 µg and 2 days of placebo tabs	10	Norethindrone acetate (NA)	1000
Alesse, Alysena, Aviane	20	Levonorgestrel	100
Yaz, Mya (24/4)		Drospirenone	3000
Yaz Plus (24/4)		Drospirenone	3000
Min-Ovral, Ovima, Portia	30	Levonorgestrel	150
Apri, Freya, Marvelon, Mirvala		Desogestrel	150
Seasonale, Indayo (84/7)		Levonorgestrel	150
Seasonique (84/7) 84 active days + 7 days of EE 10 µg)		Levonorgestrel	150
Yasmin, Zamine		Drospirenone	3000
Brevicon 1/35, Select 1/35	35	Norethindrone	1000
Brevicon 0.5/35		Norethindrone	500
Nextstellis	15 mg (estetrol)	Drospirenone	3000
Multiphasic COCs			
Linessa	25	Desogestrel	100 (7 days), 125 (7 days), 150 (7 days)
Tricira-Lo	25	Norgestimate	180 (7 days), 215 (7 days), 250 (7 days)
Synphasic	35	Norethindrone	500 (7 days), 1000 (9 days), 500 (5 days)
Tri-Jordanya	35	Norgestimate	180 (7 days), 215 (7 days), 250 (7 days)
Triquilar	30 (6 days), 40 (5 days), 30 (10 days)	Levonorgestrel	50 (6 days), 75 (5 days), 125 (10 days)
Other COCs (not officially indicated as a contraceptive)			
Diane-35, Cleo-35, Cyestra-35, Taro-cyproterone/ethinyl estradiol, Teva-cyproterone/ ethinyl estradiol	35 µg /tablet	Cyproterone	2000 µg /tablet
Transdermic contraceptive patch (combined)			
Evra	600 µg /patch	Norelgestromin	6000 µg /patch
Contraceptive vaginal ring (combined)			
Nuvaring, Haloette	2600 µg /ring	Etonogestrel	11400 µg /ring
Progestin-only pill			
Movisse, Jencycla	None	Norethindrone	350 µg /tablet
Slynd	None	Drospirenone	4 mg/tablet
Progestin intramuscular injection			
Depo-Provera - Intramuscular injection	None	Medroxyprogesterone acetate	150 mg/mL

a. Brand names are used as examples and are based on the information available at the time of publication.

TABLE 2 - Long-acting reversible contraceptives available in Canada

Brand name	Formulation	Progestin	Concentration	Duration of efficacy (manufacturer)
Kyleena	Intrauterine system	Levonorgestrel	19.5 mg/IUS	5 years
Mirena	Intrauterine system	Levonorgestrel	52 mg/IUS	5 years
Nexplanon	Subdermal implant	Etonogestrel	68 mg/implant	3 years

IUS–intrauterine system

keted as effective for up to three years. However, studies have shown that the efficacy of the implant extends up to four to five years.[1,11] The implant is inserted subdermally in the inner part of the arm between the biceps and the triceps. Insertion complications, including pain, mild bleeding, and bruising, are rare (1%).[10] The implant works primarily by suppressing ovulation. Similar to the LNG-IUS, the implant acts on the cervical mucus and the endometrial lining.[1,2] The subdermal implant is more effective than other methods, with a pregnancy rate of 0.05% during first year of use.[1] The implant (and IUSs) can be inserted at any time during the menstrual cycle, after pregnancy has been ruled out.[2]

Change in bleeding patterns are reported with the subdermal implant including no bleeding, infrequent, frequent, and prolonged vaginal bleeding. Discontinuation of the method is most frequently due to these bleeding disturbances.[2,10,11] Women should be made aware of the possibility of irregular bleeding and counselled accordingly.[10] If a patient has a favourable bleeding pattern in the first three months after insertion, it is likely that this pattern will remain the same with ongoing implant use.[11] If an individual experiences bleeding disturbances, there is a 50% chance that the bleeding irregularities will improve with continued use.

Other adverse effects reported with the progestin implant include headaches, weight gain (1.9 kg over 2 years), acne, breast tenderness, mood changes and abdominal pain.[10] One unique adverse effect is transient ovarian cyst formation, which was observed in 26.7% of women using the implant at one year.[2,10] Unlike depot medroxyprogesterone acetate injection, the subdermal implant does not seem to affect bone density.[3]

The major contraindication to using the implant is current breast cancer.[7] Other conditions that need a thorough evaluation before implant use are a history of breast cancer, liver cirrhosis or cancer, and undiagnosed vaginal bleeding.[7]

Immediate post-partum insertion of the implant is safe for the mother and the breastfed infant.[2] The efficacy of the implant does not seem to be affected by body weight; it is very effective in obese women without other factors that can reduce efficacy (eg. drug interactions).[7] The implant may be effective to treat dysmenorrhea.[3]

A new oral progestin is now available in Canada

A new hormonal contraceptive containing drospirenone 4 mg in each of the active pill, is marketed as an oral progestin-only contraceptive. It is the second oral progestin-only contraceptive to be marketed in Canada, following norethindrone 0.35 mg. It is being described as "more forgiving" of missed doses than norethindrone. If a patient is more than 3 hours late taking a norethindrone progestin-only pill, the individual will need to take the missed pill as soon as the missed dose is remembered and use a backup method for the next 48 hours. With the drospirenone-only oral contraceptive, if one active tablet is missed, ovulation suppression is maintained. In this situation, the patient should take the missed tablet as soon as possible, continue with the daily regimen and backup contraception is not required.

In summary the pharmacist can now prescribe contraception and newer methods are now available. The pharmacy technician can now refer an individual that desires contraception to the pharmacist. By knowing that newer methods are available, the pharmacy technician can inform those individuals that have not responded well to a method and inform them that newer methods are available. These advances in contraception put the pharmacy technician at the forefront of contraception education, improvement of access and the safe and effective use of contraceptives.

2. THE ROLE OF THE PHARMACIST AS A HORMONAL CONTRACEPTION PRESCRIBER

The pharmacist's role has evolved, and the pharmacy technician can be of great assistance with this new responsibility. In some jurisdictions, the pharmacist's role includes patient assessment to prescribe a hormonal contraceptive. Even if hormonal contraceptive prescribing by pharmacists is not yet permitted in your jurisdiction, pharmacists still need to verify the appropriateness of prescribed contraceptives, counsel patients on proper use and provide appropriate follow-up to monitor for the efficacy and safety of hormonal contraceptives. Pharmacy technicians can assist the pharmacist, as described below.

a) Assess and choose an appropriate contraceptive

Before prescribing a hormonal contraceptive to a patient, a thorough evaluation is required.

Table 3 lists the suggested information to obtain before prescribing hormonal contraception. The pharmacy technician is uniquely placed to assist the pharmacist in obtaining the appropriate information.

No pelvic exam, sexually transmitted infection screening or Pap smear is required before prescribing or starting a hormonal contraceptive. A good medical history and a blood pressure measurement are all that is required in most cases.[4,6] As estrogen can increase blood pressure, a blood pressure measurement is essential to rule out hypertension, which is associated with an increased risk of ischemic stroke or myocardial infarction.[6] A blood pressure above 140 mmHg (systolic) or 90 mmHg (diastolic) should be evaluated by a physician or a nurse practitioner before an estrogen-containing contraceptive is prescribed.[6,12] A baseline weight might be useful to have prior to starting CHC to assess any subsequent weight-related changes A baseline weight will also enable an evaluation of whether the contraceptive patch is an appropriate choice, since it might be less effective in individuals weighing 90 kg or more.[4,6]

Shared decision making between the patient and pharmacist is recommended when choosing a contraceptive. Pharmacists are the medication experts, and the patient is the expert on their own life.[1] The pharmacist should ensure that the patient has all the information that they need to make an

TABLE 3 - Suggested information to collect to help the pharmacist prescribe or deliver hormonal contraception

Information	Reason	Questions to ask or how to get info
Age	Check the legal age to get health professional service without parental consent (e.g., in Quebec, the age is 14) Patients 35 or older who smoke or have migraines are not good candidates for CHC	Ask or verify with health card
Weight/height	Baseline information to monitor weight gain Contraceptive patch not recommended if body weight is 90 kg or more	Patient can be weighed at the pharmacy if necessary
Allergies/intolerances	To verify if allergy or intolerance to any hormonal contraceptive	Direct question
Smoking status	Smoking in patients older than age 35 years is a contraindication to CHC	Direct question
Blood pressure	A blood pressure measurement is the only essential data to obtain before prescribing a CHC, since high blood pressure is associated with an increased risk of myocardial infarction or stroke in patients taking CHC[6]	Measure blood pressure before the consultation with the pharmacist
Pregnancy (or desire of)/ breastfeeding	To verify if short-acting or long-acting CHC is more suitable If pregnancy can be ruled out, hormonal contraception can be started immediately (quick start) If breastfeeding, determine the most suitable contraceptive To counsel on appropriate folic acid intake if pregnancy planned in the near future	Direct question. Pregnancy test if there is any doubt
Other medications (prescription, OTC, natural health products [NHP])	To assess for interactions (e.g., antiepileptics, rifampin, St. John's Wort)	Pharmacy drug profile Direct question for OTCs and NHP
Medical conditions	To identify potential contraindications To refer for medical evaluation	Direct question
Lifestyle (work/school schedule, family obligations)	To choose a contraceptive that suits lifestyle	Direct question

CHC–combined hormonal contraception

informed decision about contraception.[1]

Pharmacists must know when to refer a patient to a physician, a nurse practitioner, or another appropriate health professional. Women with several medical conditions, those with one or more contraindications to hormonal contraception and those that desire a LARC should be medically evaluated.[1] The contraindications related to estrogen include the post-partum period, cardiovascular diseases (vascular disease, severe hypertension, cardiomyopathies, thromboembolic events), migraine, smoking in those over age 35 years, diabetes with complications, thrombophilia, lupus, certain cancers (e.g., breast, liver), liver disease and others.[6]

The potential for drug interactions should be always evaluated before a hormonal contraceptive is started. Antiepileptics (e.g., phenytoin, carbamazepine, oxcarbazepine, topiramate, phenobarbital), antiretrovirals, rifampin, and St. John's Wort are among the medications that can affect the efficacy of CHCs. CHCs can also affect the plasma concentrations of several medications including lamotrigine and antiretrovirals.[6]

The art of prescribing a contraceptive involves properly addressing and managing side effects rather than trying to target the perfect hormonal contraceptive at the onset.[4]

In most jurisdictions where pharmacists can prescribe hormonal contraception, only SARCs can initially be prescribed since the duration of treatment legally allowed is usually short (6 months with a possibility of one renewal). Therefore, pharmacists can usually prescribe COCs, a progestin-only pill, the vaginal ring, the contraceptive patch, and depot medroxyprogesterone intramuscular injection. These restrictions might change in the future.

If there are no contraindications, a good starting point is to prescribe a CHC that contains 30–35 µg of ethinyl estradiol (EE). Lower estrogen-containing hormonal contraceptives (20 µg or less of EE) are sometimes preferred for perimenopausal women or those with adverse effects related to the estrogen content. However, lower estrogen doses can be associated with more breakthrough bleeding or amenorrhea, which can discourage adherence especially in adolescents.[3] The place of estetrol/drospirenone COC in clinical practice is not yet well defined.

In the absence of contraindications, non-oral CHC (vaginal ring or contraceptive patch) should be considered for every patient unable to comply with daily intake of a COC. In addition, these methods are suitable for individuals unable to swallow tablets or those with gastrointestinal absorption disorders (e.g., inflammatory bowel disease).[6] The vaginal ring is more discrete than the patch.[6]

The progestin-only methods (progestin-only pill, intramuscular injection) are suitable for women with contraindications to estrogen-containing contraceptives.[7] For women who are breastfeeding, initiation of progestin-only methods immediately in the post-partum period is acceptable.[1] Moreover, the intramuscular injection of medroxyprogesterone is appropriate for women who prefer a discrete method that is not taken daily.[7]

The desire for pregnancy should be discussed with the patient. SARC contraceptives might be more appropriate if a pregnancy planned soon (e.g., less than a year); otherwise, LARCs might be more suitable. The return to fertility is relatively quickly after discontinuation of CHCs, progestin-only pills, IUSs and the implant. With the intramuscular progestin injection, fertility can

take an average of 10 months to return.[1]

The pharmacy technician can assist the pharmacist in the initial assessment of an individual that requires a contraceptive. By collecting all the pertinent information described in table 3 including the measurement of blood pressure, the pharmacy technician will ensure that the pharmacist has all the data to choose an appropriate method of contraception.

b) Counsel on appropriate use, non-contraceptive benefits, missed doses

Women should receive clear instructions how to use the contraceptive method and to never increase the hormone-free interval to

TABLE 4 - Management of adverse effects related to hormonal contraception

Adverse effect	Rationale and Suggested solutions
Acne	In general, hormonal contraceptives have favourable effect on acne Over-the counter acne treatment or switching to another hormonal contraceptive might help
Amenorrhea (absence of bleeding)	Reassure patient, not usually dangerous. Some patients may consider this a beneficial effect. Observed in 2%–3% of cycles of CHC users and it increases with time.[12] Most often observed with low-dose estrogen COC (20 µg or less) and with shorter hormone-free interval.[6] Very common with progestin-only contraceptives.[7] A pregnancy test might be suggested Adding an estrogen for a short period or switching CHC might be recommended.[6]
Chloasma/melasma (skin darkening)	Estrogen can induce skin pigmentation.[14] Women with darker skin are more susceptible.[14] Hyperpigmentation might be *permanent*.[6] Recommend adequate solar protection (e.g. sunscreen).[6] Switching CHC does not solve the problem. A progestin-only contraceptive might be a solution. Refer to a dermatologist if necessary.
Breast tenderness	Usually subsides after a few months of COCs without treatment.[6] Could be linked to estrogen dose.[6] Could be more frequent with contraceptive patch.[13] Recommend OTC analgesics if necessary A CHC with less estrogen or a progestin-only contraceptive might be a solution. If galactorrhea (milk production) occurs, serum prolactin levels should be tested.[6]
Irregular/unscheduled bleeding – spotting - breakthrough bleeding	More frequent during first three cycles and improves with time. Not usually a sign of lack of contraceptive efficacy.[6] More frequent with COCs containing 20 µg or less of estrogen and progestin-only contraceptives.[6,7,13,15] Could be less frequent with vaginal ring or contraceptive patch.[6] Can be associated with poor adherence, pregnancy, smoking, Chlamydia infection, drug interactions, uterine and cervical pathologies.[6] Ask about: proper use (adherence, missed doses, etc), pregnancy symptoms, diarrhea or vomiting, pain during intercourse and bleeding after coitus, other medications (including natural health products), smoking, unprotected sex. Reassure, reinforce adherence, smoking cessation, and double protection (adding a condom) if STI risk identified. Refer for STI screening or Pap test if appropriate (e.g., STI risk or pain during intercourse). Adding an estrogen or using a CHC with a higher dose of estrogen, shortening the hormone-free interval, changing CHC or using an NSAID are possible solutions depending on the potential cause.
Migraines and headaches	Migraine might be associated with an increased risk of stroke.[6] Might be related to estrogen component.[6] If sudden new migraine occurs or migraine with neurologic or ophthalmological symptoms: hormonal contraceptive should be stopped and medical referral is recommended.[6,13] In other cases, recommend appropriate treatments for headache. If headache is present during hormone-free week, prolonged or continuous CHC is an alternative.[13] A CHC with less estrogen (if not contraindicated) or a progestin-only contraceptive can be appropriate solutions.[6]
Nausea and vomiting	Possible during first months of use and usually subsides with time.6 Might be related to estrogen component.[6] Could be more frequent with the contraceptive patch.[6] Recommend taking COC with food or at bedtime.[6] Recommend pregnancy test, especially if patient has been taking the contraceptive for a long time without previous nausea and vomiting.[6] Medical referral might be required. Reduce the estrogen dose in the CHC.[6]
Weight gain	The association between the use of COCs and weight gain is not proven.[6] Weight gain has been reported with depot medroxyprogesterone acetate and the progestin implant.[6,7] Record weight before starting a contraceptive. Reassure women; recommend healthy diet and regular exercise. Refer to physician if significant weight gain. Switch to another contraceptive if appropriate.

>> CONTINUED ON PAGE 7

Decreased libido	Controversial. Other causes should be ruled-out.[13] Switching to a CHC with a different progestin might help. Consider increasing estrogen dose.[13]
Vaginal dryness	Caused by decrease in circulating estrogen levels.[6] Suggest vaginal lubricants. Switch to a CHC with more estrogen, vaginal ring, contraceptive patch, or to a COC containing only a progestin.[6]
Mood changes	Controversial. Improvement in depressive symptoms can be observed with COCs.[6] Switching CHC might help.[6] Medical referral if necessary
Heavy blood flow	Can be caused by a lack of progesterone or excessive estrogen.[6] NSAID (e.g., Ibuprofen), use another CHC, or taking CHC continuously (without a hormone-free period) might help.[6]
Leucorrhea (vaginal discharge)	Increase in vaginal secretion is observed with the vaginal ring.[6] Reassure. Question women about pruritus, vulvar burning, strong vaginal odour, pelvic pain, pain during intercourse (to rule-out a possible STI) Refer for STI screening if necessary Treat yeast infection with appropriate OTC treatment Switch to a CHC other than vaginal ring
Skin reaction	Local reaction to the patch adhesive.[6] Review patch application (site, dry skin, etc.) and recommend a site rotation. Oil-based shower gels may leave residue resulting in non-adherence to skin Clean skin with alcohol wipe before application of patch to remove oils/creams/lotions residues. Switch to a CHC other than the patch

CHC–combined hormonal contraceptive; COC–combined oral contraceptives; EE–ethinyl estradiol; NSAID–nonsteroidal anti-inflammatory drug; STI–sexually transmitted infection

more than seven days when using a CHC. Women should be made aware of common and severe adverse events, as well as non-contraceptive benefits of each method of hormonal contraception (e.g., alleviation of dysmenorrhea, reduction in anemia, cycle control, decrease in ovarian and endometrial cancers).[1] Additionally, they should be told what to do if one or more contraceptive doses are missed and when and whom to consult if a severe adverse event occurs.[6] Regardless of the hormonal contraceptive used, condoms should be also be used to reduce the risk of sexually transmitted infections.[2]

Hormonal contraception can be started at any time during a menstrual cycle.[4] If pregnancy can be ruled out, a patient can start the contraceptive method immediately even if it is in the middle of their menstrual cycle.[6] Since ovulation is effectively inhibited with seven consecutive days of CHC, an additional contraceptive barrier is recommended for the first seven days if the combined hormonal contraceptive is not started on the first day of the menstrual cycle.[6]

If the progestin intramuscular injection is administered within the first five days of the menstrual cycle, its contraceptive effect takes effect within 24 hours, and a back-up contraceptive is not needed. If not started within the first five days and pregnancy can be ruled out, an additional contraceptive barrier is recommended for the first seven days.[7]

When starting a progestin-only pill within the first five days of the menstrual cycle, no additional contraceptive is needed; otherwise, an additional contraceptive barrier is required for 48 hours to allow for the cervical mucus to thicken.[7]

c) Follow up, manage adverse effects, and promote adherence

Follow-up

For a new contraceptive user, it is appropriate to schedule a first follow-up after one month to promote adherence and to inquire about adverse effects and address them.[3] The pharmacy technician can ensure that the first follow-up is scheduled. Thereafter, yearly follow-up is sufficient unless the individual experiences adverse effects.

It is good practice to address the following points whenever appropriate with everyone coming to the pharmacy for a contraceptive prescription renewal. The pharmacy technician can assist the pharmacist in this process by asking the following questions and updating the patient's data on file:

- Are you satisfied with your contraceptive method?
- Do you have any questions relative to the contraceptive method?
- Do you forget to take any doses of your contraceptive method (if applicable)?
- Have you experienced any adverse events with your contraceptive method?
- Are there any changes in your condition?
  - New medical condition?
  - New medication?
- Update weight
- Measure blood pressure

Moreover, by asking these questions and some follow up questions, the pharmacy technician can identify individuals that require additional counselling and education on the contraceptive method.

Management of adverse effects

Adverse events with hormonal contraception are the main reason for treatment discontinuation.[13] Most adverse effects will subside by the second or the third month of contraceptive use.[4] Education is key and it is important to prepare the patient for what to expect. This will avoid switching contraceptive methods too quickly unless the adverse effect increases rather than decreases in frequency over time (e.g., increase in frequency of headache).[4] The pharmacy technician can question the patient to identify possible adverse events that can be managed by the pharmacist. Table 4 describes the most common adverse events with CHCs and provides tips for management of adverse effects related to hormonal contraception.

CONCLUSION

In recent years, pharmacists have become

more involved in the care of patients utilizing hormonal contraception. The pharmacist's role has evolved from a dispenser of medication to a prescriber and decision maker. Pharmacy technicians can help the pharmacist manage these new responsibilities by promoting education, facilitating access and safe and effective use of contraception. Moreover, by collecting pertinent information, the choice of a contraceptive method by the patient will better adapted. Finally, the pharmacy technician can also indentify individuals that might require additional counseling by the pharmacist and contraceptive education.

BOX 1 - Abbreviations used in this lesson

CHC	Combined hormonal contraceptive
COC	Combined oral contraceptive
EE	Ethinyl estradiol
LARC	long-acting reversible contraceptives
LNG-IUS	Levonorgestrel intrauterine device
NSAID	Nonsteroidal anti-inflammatory drug
OTC	Over-the-counter
SARC	short-acting reversible contraceptives
STI	Sexually transmitted infection

REFERENCES

1. Woodhams EJ, Gilliam M. Contraception. Ann Intern Med. 2019;170(3):Itc18-itc32.
2. Bahamondes L, Fernandes A, Monteiro I, Bahamondes MV. Long-acting reversible contraceptive (LARCs) methods. Best Pract Res Clin Obstet Gynaecol. 2020;66:28-40.
3. Tracy EE. Contraception: Menarche to Menopause. Obstet Gynecol Clin North Am. 2017;44(2):143-58.
4. Di Meglio G, Crowther C, Simms J. Contraceptive care for Canadian youth. Paediatr Child Health. 2018;23(4):271-7.
5. Soon JA, Whelan AM, Yuksel N, Rafie S. Enhancing access to contraception through pharmacist prescribing across Canada. Can Pharm J (Ott). 2021;154(6):356-62.
6. Black A, Guilbert E, Costescu D, et al. No. 329-Canadian Contraception Consensus Part 4 of 4 Chapter 9: Combined Hormonal Contraception. J Obstet Gynaecol Can. 2017;39(4):229-68.e5.
7. Black A, Guilbert E, Costescu D, et al. Canadian Contraception Consensus (Part 3 of 4): Chapter 8 - Progestin-Only Contraception. J Obstet Gynaecol Can. 2016;38(3):279-300.
8. Searchlight Pharma Inc. Product monograph: Nexplanon. Montreal, QC, 2021.
9. Jatlaoui TC, Riley HEM, Curtis KM. The safety of intrauterine devices among young women: a systematic review. Contraception. 2017;95(1):17-39.
10. Black A, Guilbert E, Costescu D, et al. Canadian Contraception Consensus (Part 3 of 4): Chapter 7--Intrauterine Contraception. J Obstet Gynaecol Can. 2016;38(2):182-222.
11. Zigler RE, McNicholas C. Unscheduled vaginal bleeding with progestin-only contraceptive use. Am J Obstet Gynecol. 2017;216(5):443-50.
12. Guilbert E, Wagner M, Bérubé J, Dubé P. Protocole québécois de contraception: Gouvernement du Québec; 2018. Available from: https://inspq.qc.ca/sites/default/files/publications/2409_protocole-contraception_quebec_fnl.pdf.
13. Grossman Barr N. Managing adverse effects of hormonal contraceptives. Am Fam Physician. 2010;82(12):1499-506.
14. Handel AC, Lima PB, Tonolli VM, Miot LDB, Miot HA. Risk factors for facial melasma in women: a case–control study. British Journal of Dermatology. 2014;171(3):588-94.
15. Gallo MF, Nanda K, Grimes DA, Lopez LM, Schulz KF. 20 microg versus >20 microg estrogen combined oral contraceptives for contraception. Cochrane Database Syst Rev. 2011(1):CD003989.

QUESTIONS

Please select the best answer for each question and answer online at eCortex.ca for instant results.

1. Which of the following statements is true?
a) In Canada, all hormonal contraceptives are an association of an estrogen and a progestin component
b) Hormonal contraception blocks ovulation and/or modifies the ability of the egg to be fertilized.
c) Progestin-only contraceptive pills can be taken cyclically (21 to 24 days of active pills per month) or on a daily basis (without an hormone-free period).
d) The vaginal contraceptive ring is a long-acting reversible contraceptive
e) Tricyclic combined oral contraceptives usually contain different concentrations of estrogen every week

2. Which of the following characteristics does not apply to the progestin implant?
a) It is administered subdermally
b) It is approved to be inserted every three years
c) Its administration bypasses hepatic first-pass metabolism
d) The return of fertility is 6 to 9 months after the removal of the implant
e) It is more effective than combined oral contraceptives

3. Levonorgestrel intrauterine systems are indicated for all the following women, except:
a) Women with contraindications to estrogen-containing contraceptives
b) Adolescents
c) Women suffering from menorrhagia
d) Women with endometriosis-related pain
e) Women seeking short-term contraception and STI protection

4. Which statement applies to combined oral contraceptives (COC)?
a) They are more efficacious that the contraceptive patch
b) COC usually worsen acne in most women
c) COCs can cause amenorrhea or heavy vaginal bleeding
d) The failure rate with COCs can be as much as 15%
e) Migraines are common with COCs and are never worrisome

5. Which of the following is essential to obtain before prescribing a hormonal contraceptive?
a) Negative results on sexually transmitted infection screening
b) Normal pelvic exam
c) Blood pressure measurement
d) Weight
e) Normal Pap test

6. What suggestion is appropriate to give to a woman that experiences nausea while taking her oral combined contraceptive that she started a few weeks ago?
a) Take the pill on an empty stomach
b) Changing the COC for a contraceptive patch might help
c) Since she is on a COC, taking a pregnancy test is not appropriate
d) Take the COC with food or at bedtime
e) A contraceptive containing only a progestin might increase her nausea

7. Which statement is false?
a) Breakthrough bleeding is more frequent with the contraceptive patch than with COCs
b) Nausea is less frequent with the vaginal ring that with COCs
c) Localized skin darkening can occur with all CHCs
d) Increased vaginal discharge can be associated with the use of the vaginal ring
e) Depressive symptoms can be improved with COCs in some persons

8. Which of the following recommendations is false about vaginal spotting with hormonal contraceptives?
a) It is more frequent during the first months of use
b) Can be associated with poor adherence to the contraceptive method
c) Can be due to drug interactions
d) Can be associated with a sexual transmitted infection
e) Is less common with progestin-only contraceptives

9. Breast tenderness can be observed with hormonal contraceptive. Which statement is true?
a) Usually worsen after a few cycles
b) Is clearly linked to the type of progestin used
c) Could be less frequent with contraceptive patch
d) Can be treated with over-the-counter analgesics
e) Is often associated with galactorrhea

10. Mary is 28 years old; she consults the pharmacist to get a prescription for a hormonal contraceptive. You have access to her pharmacy file and her drug profile. What additional information is pertinent to obtain before the pharmacist consultation?
a) Weight
b) Smoking status
c) Contraceptive history
d) Pregnancy desire
e) All the above

11. One month later, Mary returns to the pharmacy to renew her hormonal contraceptive. Which information is the most important to obtain at this point?
a) Adverse events since starting the contraceptive method
b) Weight
c) Blood pressure
d) Desire of pregnancy
e) Number of sexual partners

12. Judy is 19 years old. She comes to the pharmacy counter to purchase ibuprofen for her menstrual cramps. As a pharmacy technician, you consult her file and notice that her contraceptive pill that she has started one month ago should be renewed in the next days. You ask Judy if she wants to renew it. She tells you that she does not know because of all the irregular bleeding that she has been experiencing. She does not think that it suits her. What should you do?
a) You tell her that all women experience it with a COC in the first months and that she should not worry
b) You collect some pertinent information including compliance to the method, new sexual partner, new drugs including natural health products, smoking status and refer her to the pharmacist
c) You tell her that the method probably does not suit her and refer her to the pharmacist
d) You tell her that the ibuprofen will reduce her irregular bleeding
e) You tell her that it is important to change to another contraceptive method since bleeding might indicate a lack of efficacy

13. Which action is not appropriate to manage a headache in a woman taking a COC?
a) Stop the COC, if the headache is sudden or with neurologic or ophthalmological symptoms
b) Recommend an OTC analgesic if headache is mild or moderate without any other signs
c) If headache is present during hormone-free week, prolonged or continuous CHC is an option
d) Choose a CHC with more estrogen (if not contraindicated)
e) Choose a progestin-only contraceptive

14. According to clinical studies, which hormonal contraceptive is the most effective?
a) Levonorgestrel intrauterine system
b) Depot medroxyprogesterone acetate IM
c) Combined oral contraceptive
d) Progestin implant
e) Contraceptive vaginal ring

TECH talk CE

Presented by pharmacy PRACTICE + BUSINESS

Sponsored by teva

Hormonal contraception: What's new and where does the pharmacy technician fit in?

1 CE Unit • NOVEMBER/DECEMBER 2022
To find this lesson, enter the CCCEP number 1329-2022-3528-I-T

Please consult this course online at eCortex.ca for specific expiry dates.

***REFERENCE ONLY: PLEASE SUBMIT YOUR ANSWERS ONLINE**

1. a b c d e	**4.** a b c d e	**7.** a b c d e	**10.** a b c d e	**13.** a b c d e
2. a b c d e	**5.** a b c d e	**8.** a b c d e	**11.** a b c d e	**14.** a b c d e
3. a b c d e	**6.** a b c d e	**9.** a b c d e	**12.** a b c d e	

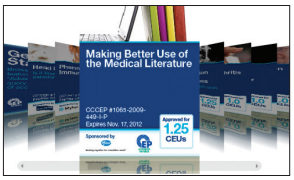
Accredited by the Canadian Council on Continuing Education in Pharmacy

FOR IMMEDIATE RESULTS, ANSWER ONLINE AT eCortex.ca

> Sign in and click on **eCortex.ca**
OR click on **Education** and then **ECortex**.

> To find this lesson, enter the CCCEP number (**1329-2022-3528-I-T**) in the **Quick Search ECortex**, and hit **Go**.

Canadian HealthcareNetwork.ca



For information about CE marking, please email canadianhealthcarenetwork@halldata.com.
All other inquiries about Tech Talk CE should be directed to Vicki Wood at 437-889-0615, ext. 1254 or vwood@ensembleiq.com.