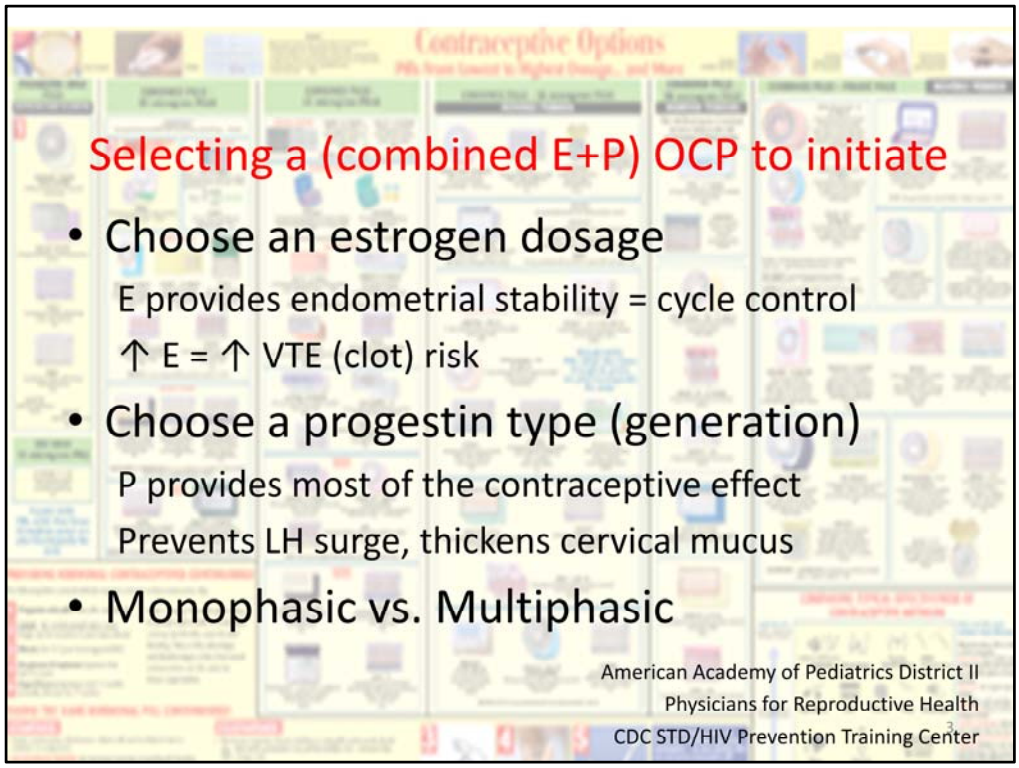
The following slides are intended to familiarize nurses and clinicians with oral contraceptive pills (OCPs) used in the NM Family Planning Program (FPP). The FPP does not intend for this information to supersede the Family Planning Protocol particularly on the requirement for Public Health Nurses in the Public Health Offices to consult a clinician as stated in the Protocol when in doubt or if it is necessary to switch the client's OCP type.

Presentation Objective

Provides

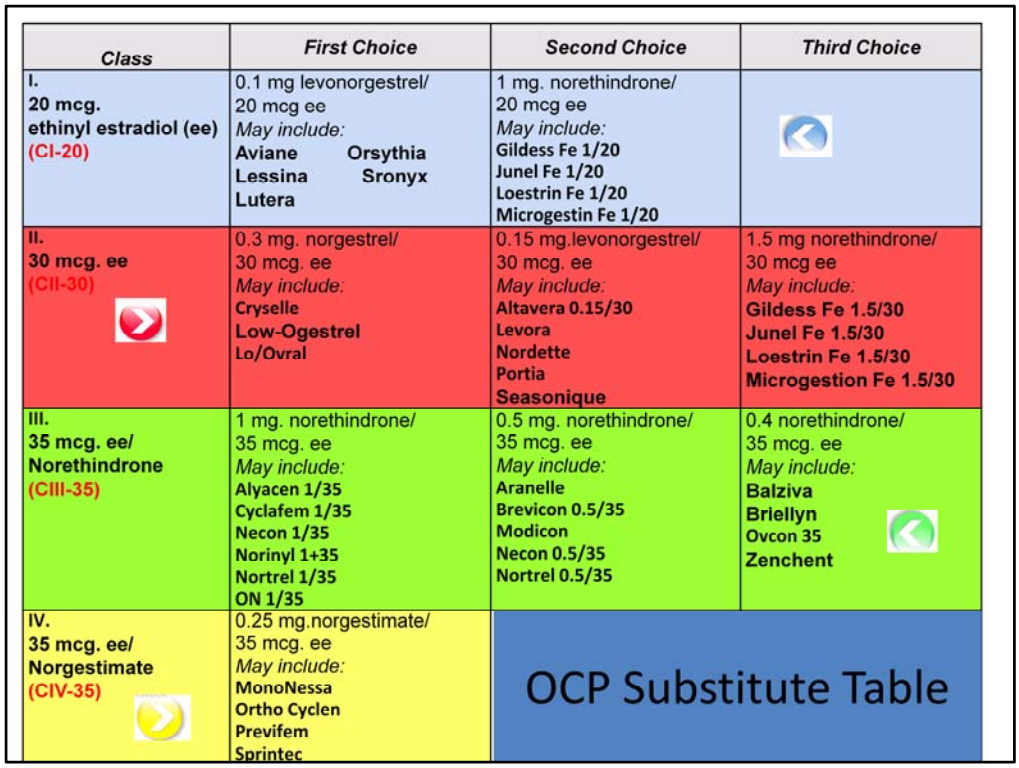
- The basic principles of how to choose oral contraceptive pills (OCPs).



Combined oral contraceptives (COCs) contain two hormones; estrogen and progestin. In general, any combined OCP is good for most women who are eligible to take estrogen according to the CDC U.S. Medical Eligibility Criteria (MEC). Once again, refer to the US MEC chart to find out if OCP is a suitable choice for clients with specific health conditions.

To learn a little bit about what each hormone does, the FPP is providing the following summary:
Estrogen: provides endometrial stability = menstrual cycle control.
A higher estrogen dose increases the venous thromboembolism (VTE) or clot risk but OCP clot risk is still less harmful than the clot risk related to pregnancy and giving birth.
Progestin: provides most of the contraceptive effect by
-Preventing luteinizing hormone (LH) surge /ovulation
-Thickening the cervical mucus to prevent sperm entry.

Two major OCP formations are available.
Monophasic: There is only one dose of estrogen and progestin in each active pill in the packet; and
Multiphasic: There are varying doses of hormones, particularly progestin in the active pills.



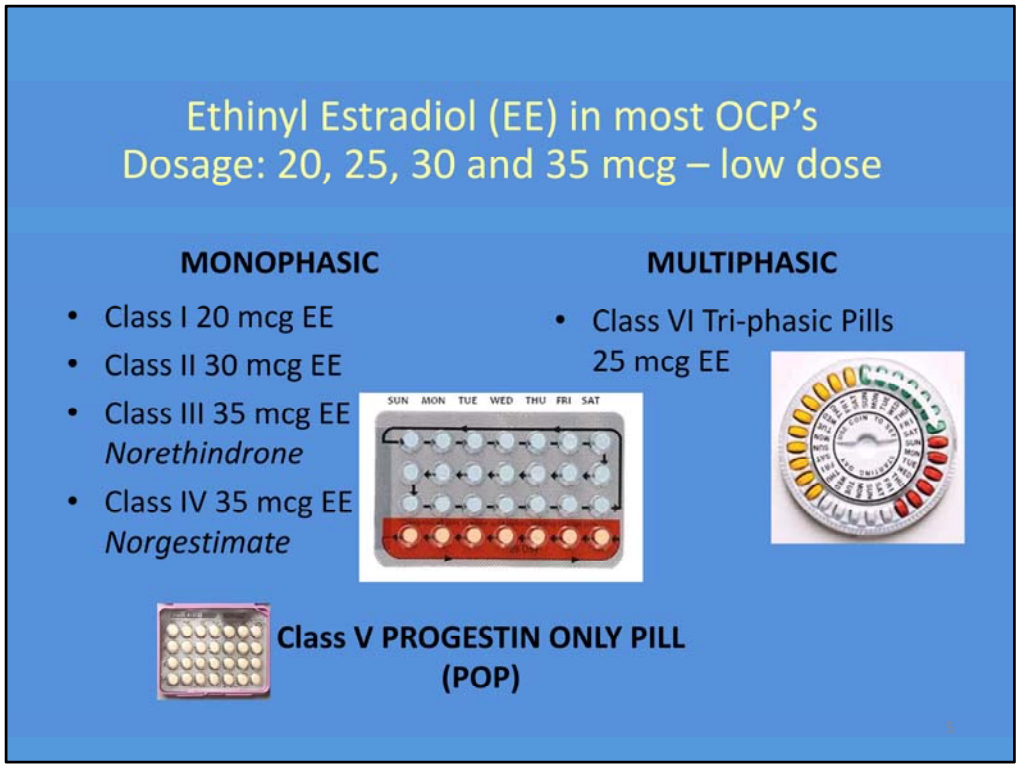
Class	First Choice	Second Choice	Third Choice
I. **20 mcg. ethinyl estradiol (ee)** (CI-20)	0.1 mg levonorgestrel/ 20 mcg ee *May include:* **Aviane Orsythia** **Lessina Sronyx** **Lutera**	1 mg. norethindrone/ 20 mcg ee *May include:* **Gildess Fe 1/20** **Junel Fe 1/20** **Loestrin Fe 1/20** **Microgestin Fe 1/20**	
II. **30 mcg. ee** (CII-30)	0.3 mg. norgestrel/ 30 mcg. ee *May include:* **Cryselle** **Low-Ogestrel** **Lo/Ovral**	0.15 mg.levonorgestrel/ 30 mcg. ee *May include:* **Altavera 0.15/30** **Levora** **Nordette** **Portia** **Seasonique**	1.5 mg norethindrone/ 30 mcg ee *May include:* **Gildess Fe 1.5/30** **Junel Fe 1.5/30** **Loestrin Fe 1.5/30** **Microgestion Fe 1.5/30**
III. **35 mcg. ee/ Norethindrone** (CIII-35)	1 mg. norethindrone/ 35 mcg. ee *May include:* **Alyacen 1/35** **Cyclafem 1/35** **Necon 1/35** **Norinyl 1+35** **Nortrel 1/35** **ON 1/35**	0.5 mg. norethindrone/ 35 mcg. ee *May include:* **Aranelle** **Brevicon 0.5/35** **Modicon** **Necon 0.5/35** **Nortrel 0.5/35**	0.4 norethindrone/ 35 mcg. ee *May include:* **Balziva** **Briellyn** **Ovcon 35** **Zenchent**
IV. **35 mcg. ee/ Norgestimate** (CIV-35)	0.25 mg.norgestimate/ 35 mcg. ee *May include:* **MonoNessa** **Ortho Cyclen** **Previfem** **Sprintec**	OCP Substitute Table	

Section 3 of the FPP Protocol contains the OCP Substitute Table, which groups OCPs into 6 classes according to the estrogen dosage, the type of progestin and the formulations. The slide shown here only captures 4 classes, Classes I, II, III and IV. The other 2 classes: Class V is progestin-only pills (POP) and Class VI is triphasic OCPs.

The First, Second and Third Choice columns grouped OCPs with the same estrogen dose and the same progestin type together.

When placing a Title X FPP pharmacy order, it may be helpful to refer to this table because the FPP will assure that Pharmacy warehouse carries at least one kind of pill in each class at all times.

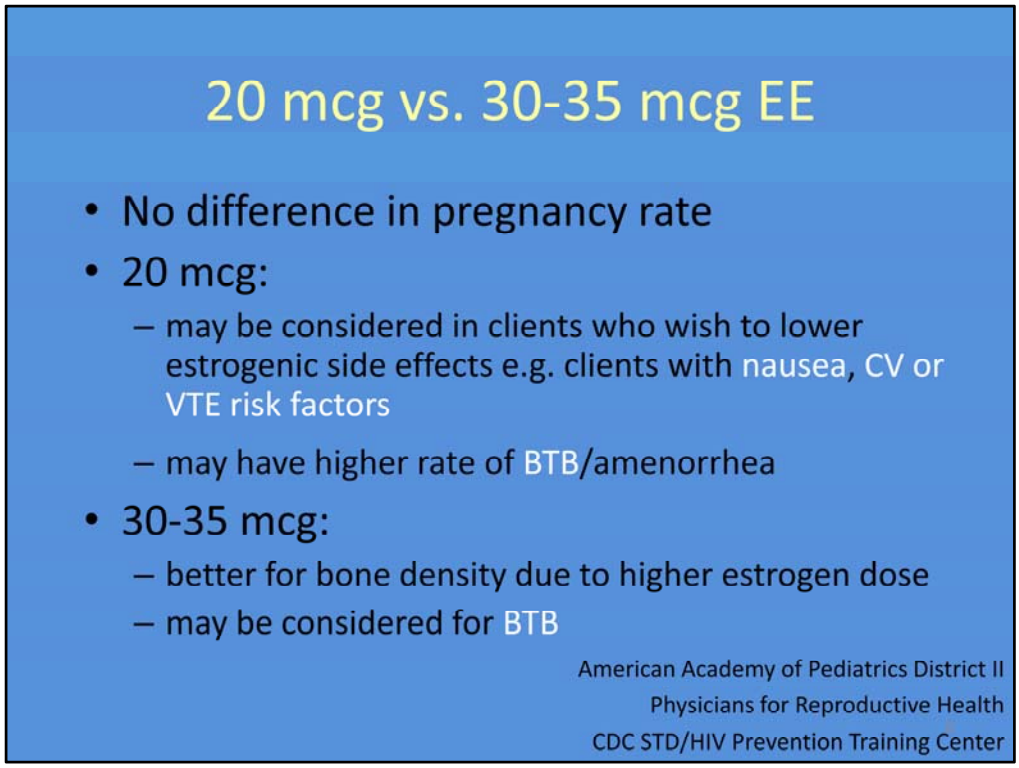
In addition, having the OCP poster shown in the background of the previous slide is useful in educating clients that there are many kinds of pill with identical hormone contents.



Speaking a little bit more about estrogen and its dosage in the OCPs. The woman's ovaries produce estradiol. Most COCs in the U.S. contain a synthetic estrogen, ethinyl estradiol (EE). All of the FPP pills contain low dose estrogen: 20, 25, 30 and 35 mcg. They are equally effective and very safe. Notice that Classes III and IV OCPs both contain 35 mcg EE but they have a different progestin type.

The monphasics generally come with two pill colors; 21 active pills of the same color and the 7 placebo pills with a different color.
The triphasic pills have 4 sets of colors. Each of the 3 active pill sets contains 7 pills. Each set has a different color, which is not the same as the seven placebo pills.

Class V progestin only pills (POP) contains 28 active pills; all in the same color. There are no placebo pills. It is very important that all the pills in POPs are taken around the same time every day.



In preventing pregnancy, there is no difference in the efficacy among various COCs.
But in certain clinical situations, there may be an advantage in choosing a specific estrogen dosage, such as:

-If a woman has nausea with a OCP containing >20mcg of estrogen, switching to a OCP with a lower estrogen dose or taking it with food or at bedtime can help.
-If a woman has break through bleeding (BTB)/spotting or amenorrhea, switching to a higher estrogen OCP might help.
-If a woman develops breast tenderness/enlargement or darkening of facial skin, switching to a lower estrogen OCP might help.

-If a woman has multiple cardiovascular/VTE risk factors such as >35 yr. old, obese, smoker, diabetes mellitus, hypertension, a lower estrogen pill might be more suitable.

Monophasic vs. Multiphasic Formulations

- Monophasic – same estrogen and progestin dose for all active pills
- Multiphasic – usually triphasic increasing progestin dose weeks 1-3

Mimics luteal phase

Less total progestin per cycle

Theory: minimize (progestin) side effects e.g. bloating, depressive symptoms, fatigue, constipation

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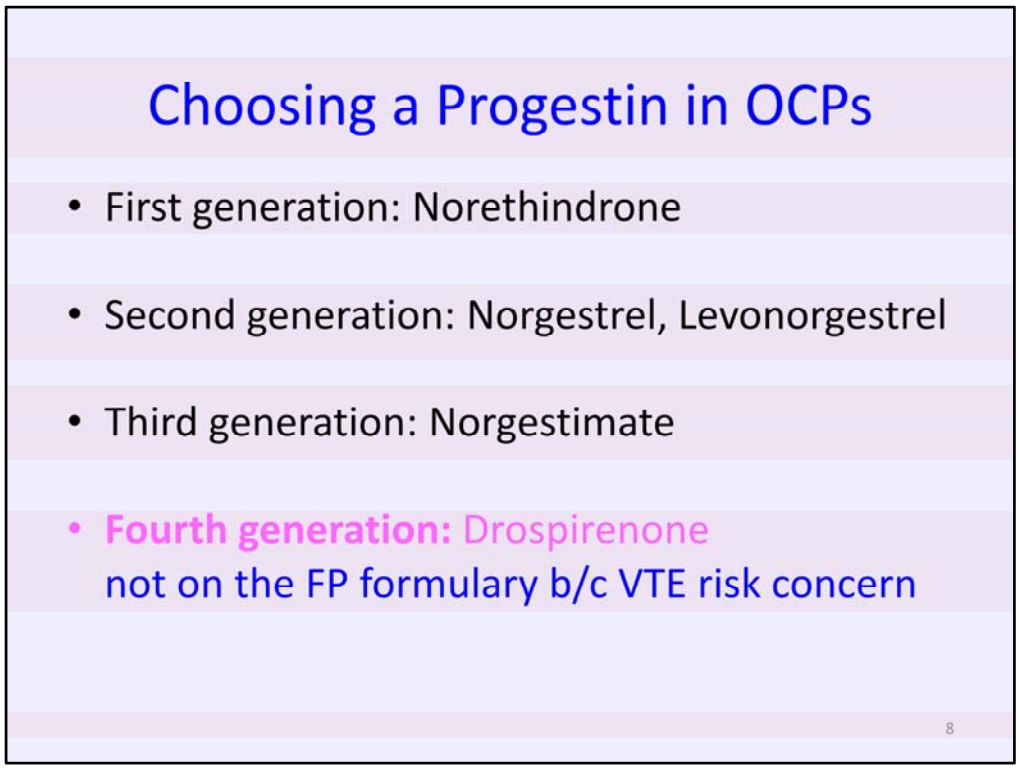
In terms of formulations, the multiphasic pills were designed to mimic luteal phase of a women's cycle. They contain less total progestin per cycle and in theory, could minimize progestin side effects such as bloating, depressive symptoms, fatigue and constipation.



Now let's talk about progestins. There are 4 major generations of progestins in the U.S. OCPs. The fourth generation, Drospirenone was found in a 2008 FDA-funded study that it *may* increase risk of VTE. The FPP does not have OCPs containing Drospirenone, 4th generation progestin.

The next slide will provide an overview of the differences between the 3 progestin generations:
Norethindone (1st generation), Norgestrel and Levonorgestrel (2nd generation), and Norgestimate (3rd generation).

Dosing of progestins can't be compared mg to mg from one type to another.

	Progesto-genic Potency	Androgenic Side Effects	
		↑	↓
Norethindrone (1st generation) CIII: Norinyl 1/35, Nortrel POP: Micronor, Nor-QD	+	Negligible androgenic S/E 	
Norgestrel Levonorgestrel (2nd generation) CII: Cryselle, Levora, Portia	+++	-Lipids adverse effects -Acne -Oily skin -Facial hair -↑Libido	Class I
Norgestimate (3rd generation) CIV: Orthocyclen, Previfem CVI: Ortho TriCyclen Lo	++ -Less moody -Less bloating		-Treat cystic acne -Prevent hirsutism

Table adapted from Contraceptive Technology , 20th Edition, Chapter 11

When looking at progestins in OCPs, there are two clinical aspects to consider :
-its potency as progestin
-the androgenic side effects.

1st generation progestins are not very potent and have negligible androgenic side effects. Pills that contain 1st generation progestin/Norethindrone are Class III OCPs e.g. Norinyl 1/35, Nortrel and POP (Class V) e.g. Micronor.

2nd generation progestins were designed to be significantly more potent than the 1st generation and have longer half life. They are also used in Mirena. They are associated with more androgenic effects such as ↑ Low-density lipoprotein or LDL cholesterol, acne, oily skin, facial hair and increased libido. OCPs that contain 2nd generation progestin/Norgestrel or Levonorgestrel are Class I and Class II OCPs.

3rd generation progestins are just as potent but designed to reduce androgenic side effects allowing a fuller expression of the pill's estrogen effect. This has some clinical benefits such as use to treat cystic acne, prevent hirsutism. OCPs that contain 3rd generation progestin/Norgestimate are Class IV OCPs e.g. Orthocyclen and Class VI phasic pills e.g. Ortho Tri-Cyclen Lo.

Extended-Cycle OCPs

Seasonique

- Is considered a Class II OCP that is continuous, with no placebo intervals.
- 84/7
  - 84 pills containing 30 mcg EE and 2nd generation progestin-levonorgestrel.
  - 7 pills containing 10 mcg EE in an attempt to reduce *unscheduled* bleeding/spotting sometimes associated with a hormone-free interval .
- With Seasonique, the period cycle is expected every 3 months and to last approximately 4 days.

The FPP has one extended-cycle OCPs in the formulary, Seasonique. It is considered a Class II OCP that is continuous with no placebo pills.

There are 84 pills containing:
-30 mcg EE and levonorgestrel progestin, and
-7 pills containing only 10 mcg EE with no progestin. The addition of 10 mcg EE is an attempt to reduce unscheduled bleeding/spotting that is sometimes associated with a hormone-free interval seen in the discontinued produce, Seasonale.

With Seasonique, the period is expected to occur every approximately 3 months and expected to last approximately 4 days (as opposed to 7 days with Seasonale).