Prescribing Guidelines for Prescription Contraceptives

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Prescribing Guidelines for Hormonal Contraceptives

The prescribing guidelines for prescription contraceptives were developed by Partners For Kids in collaboration with experts at Nationwide Children's Hospital. These are designed to guide the selection of prescription contraceptives for adolescent women when considering clinical guidelines, evidence, and cost. It is important for clinicians to use shared decision making with patients to align contraceptive choice with their preferences and priorities.

In addition to information found within this guideline, please also see the Nationwide Children's Hospital resource "Help Your Teen Patients Choose the Right Contraception". This resource is available by searching "Clinical Tools" at NationwideChildrens.org.

Selecting a Prescription Contraceptive

Many types of prescription contraceptives are available for patients. While oral contraceptives are the most popular form of contraception, the American Academy of Pediatrics (AAP), the American College of Obstetrics and Gynecology (ACOG), and several other medical groups support Long-Acting Reversible Contraceptives (LARCs) as a first-line contraceptive choice for those who choose not to be abstinent. Clinicians should also consider additional indications, such as dysmenorrhea, heavy menstrual bleeding, and acne. In the event the clinician's office does not provide the chosen method, referral information should be readily available, and a patient should be started on a "bridge" (i.e., short-term method) while awaiting her referral visit. Condom use, as well, is recommended for sexually active adolescent and young adults.

Figure 1: Order of contraceptive efficacy

Long-Acting Reversible Contraceptives (LARCs) (Implant and Intrauterine Devices)

LARC methods are recommended due to their high level of efficacy (more than 99% effective), safety, tolerability, and extended duration of action (ranges between 3 to 10 years). Non-contraceptive benefits include treatment for dysmenorrhea and heavy menstrual bleeding. The table below describes the differences in LARC methods.

Table 1: Long-Acting Reversible Contraceptive Methods

Long-Acting Reversible Contraceptives						
	Nexplanon®	**Kyleena™**	**Liletta®**	**Mirena ®**	**Skyla®**	**ParaGard®**
LARC Type	Hormonal Implant (Upper Arm)	Hormonal Intrauterine Device				Copper Intrauterine Device
Shape and Size	4 cm semi-rigid plastic rod	Flexible, plastic, T-shape; 28 mm horizontally and 30 mm vertically	Flexible, plastic, T-shape; 32 mm both horizontally and vertically		Flexible, plastic, T-shape; 28 mm horizontally and 30 mm vertically	T-shaped, copper wire; 32 mm horizontally and 36 mm vertically
Hormone Concentration	68 mg etonogestrel	19.5 mg levonorgestrel	52 mg levonorgestrel		13.5 mg levonorgestrel	None
Hormone Release Rate	Initially releases 60 to 70 mcg per day. Decreases to ~25 to 30 mcg per day at the end of the third year.	Initially releases 17.5 mcg per day. Mean release rate over 5 years is ~9 mcg per day.	Initially releases 20 mcg per day. Mean release rate over 5 years is ~14.7 mcg per day.	Initially releases 20 mcg per day. Decreases to ~10 mcg/day after 5 years.	Initially releases ~14 mcg per day. Mean release rate over 3 years is ~6 mcg per day.	None
Duration	3 years	5 years	6 years	5 years	3 years	10 years
% Efficacy	> 99%					
Potential Adverse Effects Related to Bleeding	May experience unpredictable bleeding patterns.*	May cause oligomenorrhea or amennorhea. Levonorgestrel containing IUDs are preferable for women with history of heavy menstrual bleeding. May also cause prolonged or unscheduled bleeding.				May cause heavy menstrual bleeding and dysmenorrhea. Avoid in women with history of heavy bleeding.
Back-up Contraception After Initial Placement	• Insertion ≤ 5 days of menstruation onset: back-up contraception not needed • Insertion > 5 days of menstruation onset: use back-up contraception or abstinence for 7 days post-insertion	• Insertion ≤ 7 days of menstruation onset: back-up contraception not needed • Insertion > 7 days of menstruation onset: use back-up contraception or abstinence for 7 days post-insertion				Back-up contraception is not needed with proper insertion. May also be inserted as an emergency contraceptive up to 5 days after unprotected intercourse.
Cost	$$$	$$$$	$$	$$$$	$$	$$$

**To manage breakthrough bleeding, see "Breakthrough Bleeding on the Etonorgestrel Implant Nexplanon" at www.nationwidechildrens.org/for-medical-professionals/tools-for-your-practice/clinical-tools*

Injectable Medroxyprogesterone Acetate (Depo-Provera®)

The medroxyprogesterone acetate injection is a highly effective contraceptive option (94% effective); it may be a good choice for patients with potential adherence concerns related to oral contraceptive pills who are not candidates for or do not prefer LARCs. It is available as a 150 mg intramuscular dose and 104 mg subcutaneous dose; the subcutaneous product is brand name only, thus availability, cost and coverage for the subcutaneous product can be an issue. When contraception will be continued, subsequent injections should be given every 11 to 13 weeks. Injections can be administered up to 2 weeks late, but pregnancy must be ruled out and backup contraception is required for 7 days if repeat dose is > 15 weeks from the last injection. While both products are administered every 3 months, they are not interchangeable. Patients can switch from the IM to SubQ formulation by administering the next dose within the prescribed dosing period for the IM injection. Non-contraceptive benefits include treatment for dysmenorrhea and heavy menstrual bleeding. Side effects specific to medroxyprogesterone acetate injection include irregular bleeding, weight gain, acne, headaches, hirsutism, delay in return of ovulation, and reduction in bone mineral density.

Oral Contraceptives

For patients who are not candidates for and do not prefer LARCs or medroxyprogesterone injections, you may consider combination oral contraceptive pills (COCs), which are 91% effective with typical use. Assess for contraindications to estrogen-containing hormonal contraceptives (e.g., thromboembolic disorder, migraines with aura, severe hypertension) and pregnancy status. Most estrogen-containing COCs have ethinyl estradiol (EE) in varying strengths with low-dose considered as < 20 mcg EE. There are four generations of progestins with varying levels of activity described in Table 3. Strength and type of hormones may need adjustment depending on patient factors including conditions and side effects listed in Tables 3A and 4 below. Non-contraceptive benefits include treatment for dysmenorrhea, heavy menstrual bleeding, polycystic ovary syndrome, premenstrual tension syndrome, and acne.

The recommended starting COC is a low-dose, monophasic option (i.e., ethinyl estradiol ≤ 35 mcg plus levonorgestrel 0.15 mg or norgestimate 0.25 mg) for a good balance of safety and efficacy (see Table 2). Multiphasic agents have no clinical advantage over monophasic agents and can be confusing to patients due to differing tablet strengths and colors.

Table 2: Recommendations for COC starting strengths and products

Interval	Recommended Starting Strengths	Product Names
21 active tablets; 7 inert tablets	Ethinyl Estradiol 30 mcg / Levonorgestrel 0.15 mg	Levora®
		Lillow®
		Marlissa®
		Portia-28®
		Levonorgestrel/EE
	Ethinyl Estradiol 35 mcg / Norgestimate 0.25 mg	MonoNessa®
		OrthoCyclen®
		Previfem®
		Sprintec®
		Norgestimate/EE

Table 3: Progestin types and levels of activity

Generation	Name	Estrogenic Activity	Androgenic Activity	Anti-Estrogenic Activity	Anti-Androgenic Activity
First	Norethindrone	sl	+	+	-
	Norethindrone acetate	sl	+	+	-
	Ethynodiol diacetate	sl	+	+	-
Second	Levonorgestrel	-	+	+	-
	Norgestrel	-	+	+	-
Third	Norgestimate	sl	-	-	-
	Desogestrel	-	-	-	-
Fourth	Drospirenone	-	-	-	+

Key: + = active; - = inactive; sl = slightly active

Table 3A: Hormone effects

Hormone	Too Much	Too Little
Estrogen	• Nausea • Breast tenderness • Headache • Bloating • Increased blood pressure • Melasma (gray-brown patches on face)	• Spotting • Breakthrough bleeding early/mid-cycle
Progestin	• Breast tenderness • Headache • Fatigue • Mood changs	• Breakthrough bleeding late cycle
Androgen	• Weight gain • Acne • Hirsutism • Increased LDL • Decreased HDL	

Table 4: Recommendations for COC hormone or strength change based upon patient factors

Patient Factor	Recommendation	Products	Brand Name
Acne	Switch to higher estrogen dose or progestin with less androgenic activity. [A higher estrogen content is also recommended]	Desogestrel 0.15 mg/EE 30 mcg	Desogen®
		Drospirenone 3 mg/EE 20 mcg	Yaz®
		Drospirenone 3 mg/EE 30 mcg	Yasmin®
		Norgestimate 0.25 mg/EE 35 mcg	Ortho-Cyclen®
Bloating	Switch progestin to drospirenone which has weak potassium-sparing diuretic effets.	Drospirenone 3 mg/EE 20 mcg	Yaz®
		Drospirenone 3 mg/EE 30 mcg	Yasmin®
Breast tenderness	Switch to lower estrogen dose or progestin with less progestin activity.	Drospirenone 3 mg/EE 20 mcg	Yaz®
		Drospirenone 3 mg/EE 30 mcg	Yasmin®
		Levonorgestrel 0.1 mg/EE 20 mcg	Aviane™
		Norethindrone acetate 1 mg/EE 20 mcg/75mg ferrous fumarate	Loestrin® Fe 1/20
Breakthrough bleeding (early or mid-cycle) after the first three months of therapy	Switch to higher estrogen dose.	Desogestrel 0.15 mg/EE 30 mcg	Desogen®
		Drospirenone 3 mg/EE 30 mcg	Yasmin®
		Ethynodiol diacetate 1 mg/EE 35 mcg	Zovia® 1/35E
		Ethynodiol diacetate 1 mg/EE 50 mcg	Zovia® 1/50E
		Norethindrone acetate 1.5 mg/EE 30 mcg/75mg ferrous fumarate	Loestrin® Fe 1.5/30
		Norethindrone 0.4 mg/EE 35 mcg	Ovcon® 35
		Norethindrone 0.5 mg/EE 35 mcg	Nortrel® 0.5/35
		Norethindrone 1 mg/EE 35 mcg	Norinyl® 1+35
		Norethindrone 1 mg/Mestranol 50 mcg	Norinyl® 1+50
		Norgestrel 0.3 mg/EE 30 mcg	Low-Ogestrel®
		Norgestrel 0.5 mg/EE 50 mcg	Ogestrel® 0.5/50

Table 4 cont.: Recommendations for COC hormone or strength change based upon patient factors

Patient Factor	Recommendation	Products	Brand Name
Breakthrough bleeding (late cycle) after the first three months of therapy	Switch to higher dose progestin or progestin with higher progestin activity.	Desogestrel 0.15 mg/ EE 30 mcg	Desogen®
		Levonorgestrel 0.1 mg/ EE 20 mcg	Aviane™
		Levonorgestrel 0.15 mg/EE 30 mcg	Levora® 0.15/30
Headache	Switch to lower estrogen dose or progestin with less progestin activity.	Drospirenone 3 mg/EE 20 mcg	Yaz®
		Drospirenone 3 mg/EE 30 mcg	Yasmin®
		Levonorgestrel 0.1 mg/EE 20 mcg	Aviane™
		Norethindrone acetate 1 mg/ EE 20 mcg/75 mg ferrous fumarate	Loestrin® Fe 1/20
Migraines	If migraines develop or worsen, switch to progestin-only contraceptive.	Norethindrone 0.35 mg	Ortho Micronor®
Nausea	Switch to lower estrogen dose.	Levonorgestrel 0.1 mg/EE 20 mcg	Aviane™
		Norethindrone acetate 1 mg/ EE 20 mcg/75 mg ferrous fumarate	Loestrin® Fe 1/20
Polycystic Ovary Syndrome (PCOS)	Use a progestin with lower androgenicity	Norethindrone acetate 1 mg/EE 20 mcg	Loestrin® 1/20
Weight Gain	Switch to lower estrogen dose or progestin with less androgenic activity.	Drospirenone 3 mg/EE 20 mcg	Yaz®
		Drospirenone 3 mg/EE 30 mcg	Yasmin®
		Levonorgestrel 0.1 mg/EE 20 mcg	Aviane™
		Norethindrone acetate 1 mg/ EE 20 mcg/75 mg ferrous fumarate	Loestrin® Fe 1/20

**EE stands for Ethinyl Estradiol*

Extended cycle or continuous cycle regimens may be considered for patients who prefer an extended cycle or with the following:

- Menstruation-related problems (anemia, menorrhagia, bloating, dysmenorrhea, endometriosis, menstrual headache)
- Premenstrual dysphoric disorder
- Hyperandrogenism

Progestin-only regimens may be considered for patients with the following:

- Migraines with aura if < 35 years old, non-smoker, normal blood pressure
- Breastfeeding
- Use caution in patients with a history of non-adherence since varying administration time by more than three hours can decrease efficacy

Missed Dosing Guidelines for Combination Oral Contraceptives (COCs)

When a dose is missed or vomited, many women need guidance on what to do in regards to emergency contraception. COCs need seven days of consistent use to prevent ovulation. Table 5 provides guidance on what steps to take when doses are missed.

Table 5: Recommendations for missed COC doses

Missed COC Pills	When to Take Missed Doses	Back-up Contraception	Emergency Contraception
One pill	As soon as remembered	No	May consider if other doses missed in past month
Two pills in a row	One as soon as remembered. Throw out the remaining missed pills	Yes, for 7 days	Should consider if during the first week
Two pills in a row during last week	Same as two pills PLUS Skip placebo pills and start new pack OR use backup contraception	Yes, until 7 active pills taken IF new pack is not started right away	May consider

Patch or Ring

The hormone contraceptive skin patch and vaginal ring have similar efficacy as oral contraceptives (91% effective) and require less frequent dosing, but are more expensive agents. Users of the patch are exposed to a higher concentration of ethinyl estradiol compared to low dose COCs*, which may increase the risk for serious venous thromboembolic events. Users of the vaginal ring have lower exposure to ethinyl estrogen (15 mcg EE per day)**. The patch or ring may be considered for patients who are concerned about remembering to take a daily pill, and those who are not candidates for a LARC or injectable medroxyprogesterone acetate.

**The patch also releases 150 mcg of norelgestromin daily*
***The ring also releases 120 mcg or etonogestrel daily*

Table 6: Recommendations for delayed application or detachment of patch

Delayed Application OR Patch Detachment*	When to Apply or Reapply	Patch Change Day	Back-up Contraception	Emergency Contraception
< 48 hours since patch should have been applied or reattached	Apply a new patch as soon as possible (if < 24 hours since original patch was applied, try reapplying same patch or replace with new patch)	Keep the same patch change day	No additional contraceptive protection is needed	Usually not needed but can be considered if delayed application or detachment occurred early in current cycle or in last week of previous cycle
≥ 48 hours since patch should have been applied or reattached	• Apply a new patch as soon as possible • If delayed application or detachment occurred in third patch week, omit hormone-free week by finishing the third week of patch use (keep same patch change day) and start a new patch immediately	Keep the same patch change day	Use back-up contraception (e.g., condoms) or avoid sexual intercourse until a patch has been worn for 7 consecutive days	• Should be considered if delayed application or detachment occurred within first week of patch use and unprotected sexual intercourse occurred in the previous 5 days • May also be considered at other times as appropriate

**If patient is unsure when patch detachment occurred, default to recommendations for ≥ 48 hours since a patch should have been applied or reattached*

Table 7: Recommendations for delayed insertion or reinsertion of vaginal ring

Delayed Insertion OR Reinsertion*	When to Insert or Reinsert	Ring Change Day	Back-up Contraception	Emergency Contraception
< 48 hours since ring should have been inserted or reinserted	Insert ring as soon as possible	Keep ring in until scheduled ring removal day	No additional contraceptive protection is needed	Usually not needed but can be considered if delayed insertion or reinsertion occurred early in current cycle or in last week of previous cycle
≥ 48 hours since ring should have been inserted or reinserted	• Insert ring as soon as possible • If ring removal occurred in third week of ring use, omit hormone-free week by finishing the third week of ring use and start a new ring immediately	Keep ring in until scheduled ring removal day	Use back-up contraception (e.g., condoms) or avoid sexual intercourse until a ring has been worn for 7 consecutive days	• Should be considered if delayed insertion or reinsertion occurred within first week of ring use and unprotected sexual intercourse occurred in the previous 5 days • May also be considered at other times as appropriate

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Referrals and Consultations

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