



ABCs of BCPs yes, YOU can Rx in the office

Christine DiPaolo, DNP
Hot Topics in Pediatrics
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I have no disclosures

THE PILL



Enovid was the first hormonal birth control pill. G.D. Searle and Company began marketing Enovid as a contraceptive in 1960

Case : “My periods are all over the place”

- HPI: 14 year old female presents to the office with a history of irregular menses. Menarche at 13. “I never know when my period is starting, sometimes it comes frequently and other times I don’t see it for a few weeks”. States she skips a month every so often.
- It’s really interfering with playing soccer.
- PMH: acne mild improving minimally with ointments – sees a dermatologist
- PSH: never sexually active
- FH: Mom notes menarche at 12, irregular painful cycles , no difficulty conceiving. Was on OCP’s to manage.

Case – Heavy Bleeding

- Case : “It’s way too heavy and very painful”

HPI: 16 year old female presents to the office with heavy menstrual bleeding with cramping –advil doesn’t work.

Notes menarche at age 12. Has monthly menses that last 5-6 days, states she changes her pads every 2-3 hours.

PMH: History of depression

Has a boyfriend but has not been sexually active.

PSH: T&A

Mom’s hx negative GYN history.

Normal Menstrual Bleeding

- Frequency

- Most cycles are 21-45 days
 - Even in the 1st year after menarche
- By 2 years, 60-80% of cycles are 21-34 days
- Anyone with cycles >90 days should be evaluated

- Duration

- 5 days (range: 2-7)

- Flow

- <80 mL (research purposes)
- 3-6 pads/tampons per day
 - Changing fully soaked products every 1-2 hours is excessive

A

TOILETS	Score	TOWELS	TYPE	Score	TAMPONS	TYPE	Score in ml
	1ml		Day time	1ml		Regular	0.5
	3ml		Night time	1ml		Super	1.0
	5ml		Day time	2ml		Super Plus	1.0
			Night time	3ml		Regular	1.0
			Day time	3ml		Super	1.5
			Night time	6ml		Super Plus	2.0
			Day time	4ml		Regular	1.5
			Night time	10ml		Super	3.0
			Day time	5ml		Super Plus	4.0
			Night time	15ml		Regular	4.0
						Super	8.0
						Super Plus	12.0

B

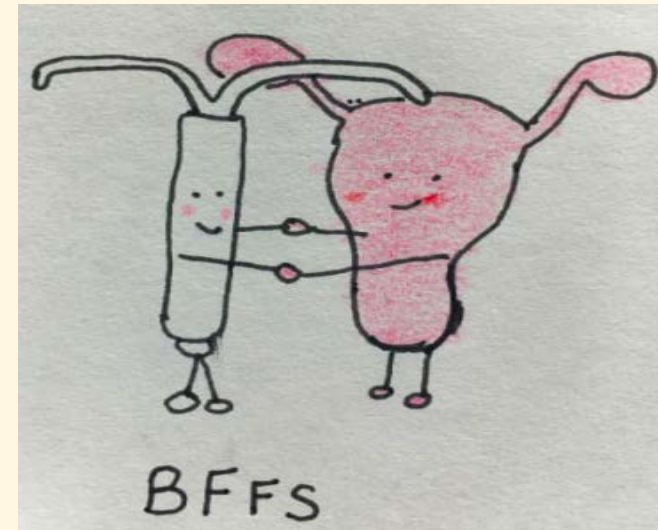
NAPKIN	TYPE	Score (mL of blood)	TAMPON	TYPE	Score (mL of blood)
	BRAND	Kotex		BRAND	Tampax
	Day time	1		Regular	0.5
	Night time	1		Super	1
	Day time	2		Super Plus	1
	Night time	3		Regular	1
	Day time	3		Super	1.5
	Night time	6		Super Plus	2
	Day time	4		Regular	1.5
	Night time	10		Super	3
	Day time	5		Super Plus	6
	Night time	15		Regular	4
				Super	8
				Super Plus	12

C

ALWAYS ULTRA NORMAL UNDERSIDE OF TOWEL	ALWAYS ULTRA LONG UNDERSIDE OF TOWEL	ALWAYS ULTRA NIGHT UNDERSIDE OF TOWEL
1 0.5ml	1 0.5ml	1 0.5ml
2 1.5ml	2 1.5ml	2 2ml
3 4ml	3 3.5ml	3 4.5ml
4 6.5ml	4 6.5ml	4 8ml
5 12.5ml	5 12.5ml	5 14ml

Reasons to use –

- Dysmenorrhea
- Ovarian cysts
- Heavy menses
- Irregular menses
- Contraception
- Menstrual suppression
- Endometriosis
- Decreases cancer risk
 - Ovarian
 - Endometrial





Heavy Menstrual Bleeding in Adolescents

Fareeda Haamid DO¹, Amy E. Sass MD, MPH², Jennifer E. Dietrich MD, MSc^{3,*}



- **Definition:** excessive menstrual blood loss that interferes with physical, emotional, social, and quality of life
 - > 7 days and/or > 6 pads per day
 - Using 1-2 pads per hour
 - Flooding or doubling up
- 40% of adolescents (20% have bleeding disorders)
 - Von Willebrand disease
 - Platelet function defects

Table 1

Differential Diagnoses of HMB in Adolescents⁴⁰

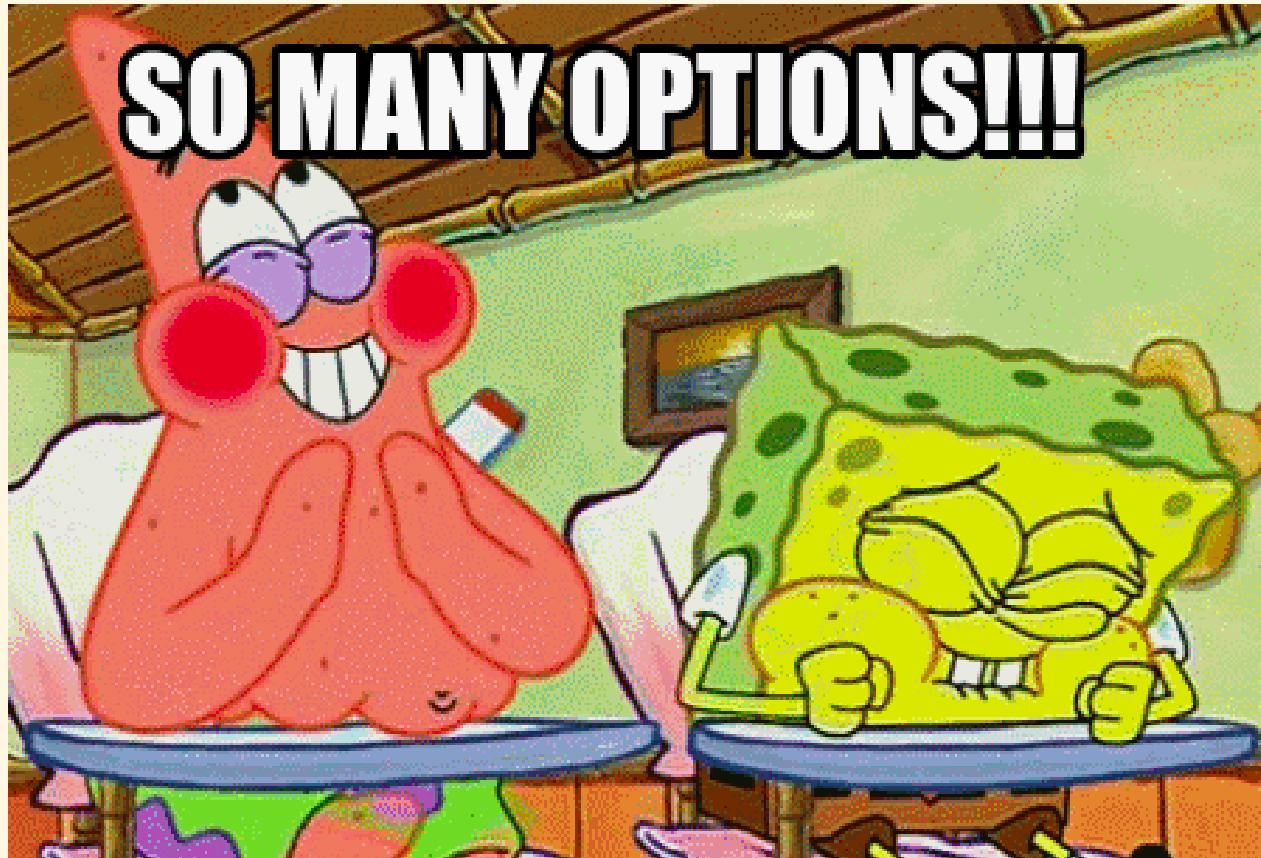
Endocrine	Bleeding Disorders	Pregnancy	Infection	Uterine	Medication	Other
Anovulatory bleeding	von Willebrand disease	Abortion	Cervicitis	Myoma	Depot medroxyprogesterone IM or SC	Trauma
PCOS	Platelet dysfunction	Ectopic pregnancy	Adenomyosis	IUD	Anticoagulants	Foreign body
Thyroid disease	Thrombocytopenia	Gestational trophoblastic disease		Polyp		Hemorrhagic ovarian cysts
Other	Clotting factor deficiency			Cancer		

HMB, heavy menstrual bleeding; IM, intramuscular; IUD, intrauterine device; PCOS, polycystic ovarian syndrome; SC, subcutaneous

Abnormal Uterine Bleeding

- Menstrual flow outside the normal frequency, duration, or volume
- Acute: episode of sufficient quantity to require urgent intervention
- Replaces older term
 - Menorrhagia
 - Dysfunctional uterine bleeding = DUB
 - Abnormal bleeding with no systemic or locally definable structural cause

Teenage Years: Let's talk contraception...



Birth control pills 101

- Works by stopping ovulation and thickens the mucus in the cervix making it harder for sperm to fertilize eggs.
- 25% of women will actually produce a follicle in the ovary and potentially be at risk for ovulation if they start their next pill pack late.
- Stress adherence

Adolescents and Sexual Behavior - YRBS National 2019

- ❖ 37% of high school students reported having sex at least once
- ❖ 12 % of those sexually active high school students reported not using any method to prevent pregnancy
- ❖ 42% reported not using a condom during last sexual intercourse.
- ❖ 21% reported using alcohol or used drugs before the last sexual intercourse.

HOW WELL DOES BIRTH CONTROL WORK?



Really, really well



The Implant

Works, hassle-free, for up to...

4 years



Hormonal IUDs

3-6 years



Non-hormonal IUD

12 years



Sterilization,
for men and women

Forever

What is your chance
of getting pregnant?



Pretty well



The Pill

For it to work best, use it...

Every. Single. Day.



The Patch

Every week



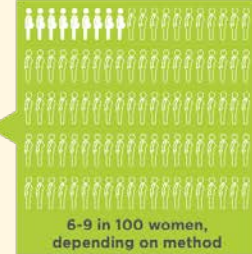
The Ring

Every month



The Shot

Every 3 months



Not as well



Withdrawal



Fertility Awareness

Use a condom with any other method for STI protection.

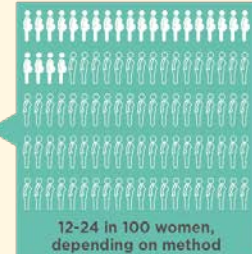


Internal Condom



Condom

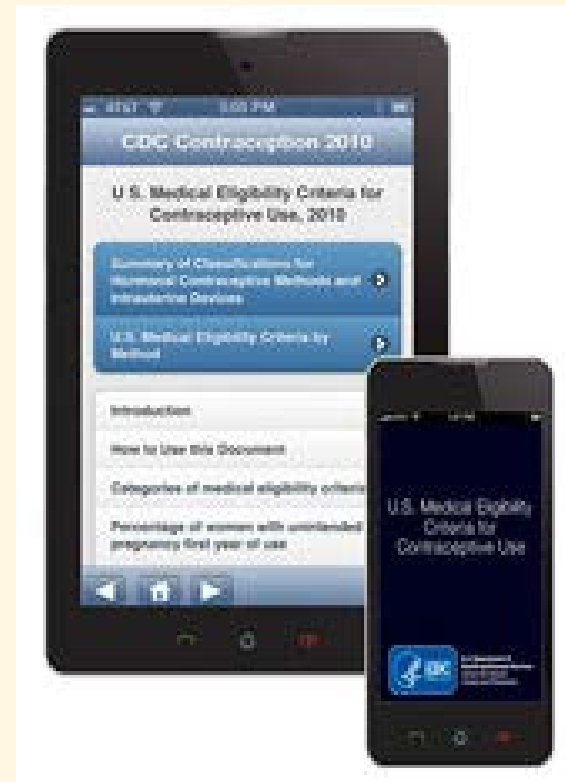
For each of these methods to work, you or your partner have to use it every single time you have sex.



FYI, without birth control,
over 90 in 100 young women
get pregnant in a year.

Evaluating Contraception Risks

- WHO has tables of personal and medical characteristics that may affect contraceptive choice
- CDC modified these in 2016:
U.S. Medical Eligibility Criteria for Contraceptive Use
 - Available on CDC website
 - Smartphone App
 - Google CDC Contraception 2016



ACOG COMMITTEE OPINION

Number 710 • August 2017

Committee on Adolescent Health Care

This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Committee on Adolescent Health Care in collaboration with committee member Karen R. Gerancher, MD.

Counseling Adolescents About Contraception

- Regardless of age or history of sexual activity, contraceptive needs, expectations and concerns should be routinely addressed
- LARCS: recommended first line contraception in adolescents
- CDC's US Medical Eligibility Criteria for Contraceptive Use 2016 – evaluating contraceptive risks
- **Individualized care:** what symptoms are being treated?

There's an App for That *US Medical Eligibility Criteria for Contraceptive Use*



CDC Contraception MEC – US Medical Eligibility Criteria

- Search by condition
- Key
- 1 – no restriction
- 2 – advantages generally outweigh risks
- 3 - Risk usually outweigh the advantages
- 4 - Unacceptable health risk (method should not be used)

Combined (E/P)	Progestosterone Only
Pros <ul style="list-style-type: none"> Predictable bleeding acne, hirsutism CONS: adherence <p>CI: hypercoagulable state, migraine aura, kidney/liver disease, HTN</p>	Pros <ul style="list-style-type: none"> No estrogen LARC methods Cons <ul style="list-style-type: none"> Unpredictable bleeding No estrogen = no improvement in acne
OCP <ul style="list-style-type: none"> Vary by estrogen dose and type of progesterone 	Progestosterone only pill (Micronor) <ul style="list-style-type: none"> *Norethindrone 0.35mg Least effective birth control Take within 3 hours
Patch <ul style="list-style-type: none"> Only one option <90kg (198lbs) 	*Depo Provera- q 12 weeks <ul style="list-style-type: none"> Bone health/weight gain Amenorrhea: 50% (1 year); 80% (5 years); 90% by 3 shots.
Ring <ul style="list-style-type: none"> Don't leave out >3 hours 	*Nexplanon (*best birth control) <ul style="list-style-type: none"> 3 years Irregular bleeding Only 20% amenorrhea at 1yr
	*IUD (Mirena/Liletta)- 5 years <ul style="list-style-type: none"> 70-90% reduction blood loss at 6 months 20-80% amenorrhea 1 year

Menstrual suppression

- Continuous E/P
- Depo Provera
- IUD (Progestosterone)
- *Norethindrone acetate (Aygestin)
 - Not contraception

LARC

- Depo Provera
- Nexplanon
- Progestosterone IUD
 - Liletta* → 6 years
 - Mirena* → 7 years
 - Kyleena
 - Skyla
- Cu IUD (Paraguard)

Combined Oral Contraceptive Pills

- **Ethinyl Estradiol** (10-50mcg) but I haven't used higher than 35mcg
 - Improves
 - Acne
 - Hirsutism
 - Breakthrough bleeding
 - Decreases androgens
 - Increase SHBG
 - Decrease Testosterone
 - Side Effects
 - Headache
 - Nausea
 - Breast tenderness
 - Blood pressure
 - VTE risk
- **Progesterone**
 - 1st generation (norethindrone)
 - Good overall pill
 - Eg: LoEstrin, Microgestin, Junel 20mcg, 30mcg
 - 2nd generation (norgestrel/levonorgestrel)
 - Best for heavy bleeding
 - More androgenic
 - Eg: Alesse/Lutera, Seasonique, *Lo Ovral, Ogestrel
 - 3rd generation (norgestimate/desogestrel)
 - Less androgenic
 - Good for acne
 - Eg: *Ortho Cyclen/Sprintec
 - 4th generation (drospironone)
 - Least androgenic
 - Higher DVT risk (? 2x)
 - Yasmin/Yaz

Other points:

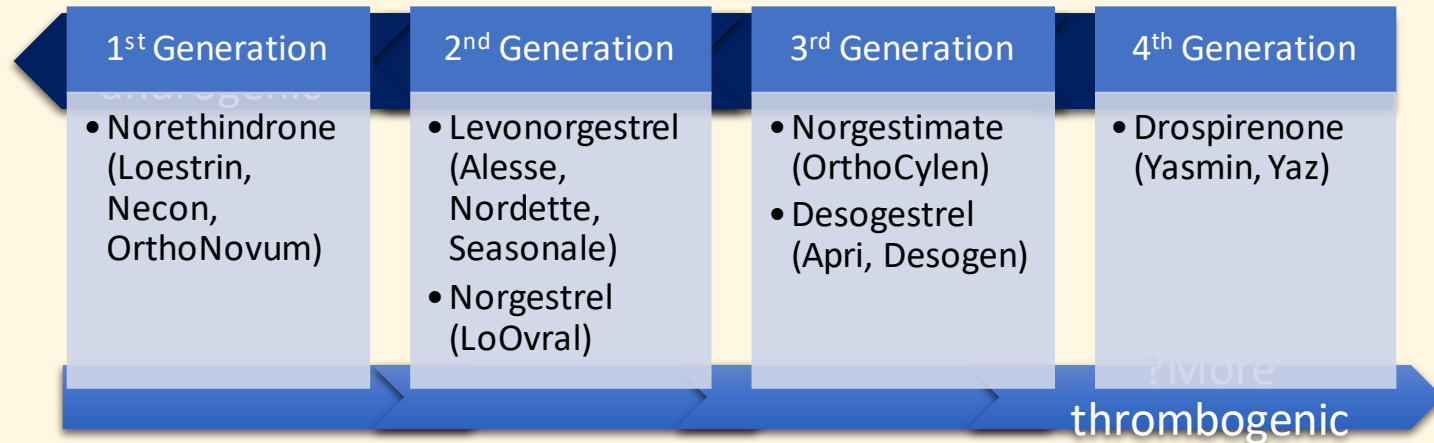
- Same day start
- Continuous option (monophasic)
- Irregular bleeding first 3 months

Our practice favorites

- Acne – Yaz – 20mcg ethinyl estradiol/ 3mg drospirenone. - approved for acne and PMDD. Yasmin has not been approved to treat PMDD or acne
- Dysmenorrhea – Junel 20mcg or 30mcg ethinyl estradiol/ 1mg norethindrone or 1.5
- Heavy Menses - Lo Ogestrel 30mcg ethinyl estradiol/ 0.3 mg norgestrel
- Overall good pill – Sprintec 35mcg ethinyl estradiol/.25mg norgestimate

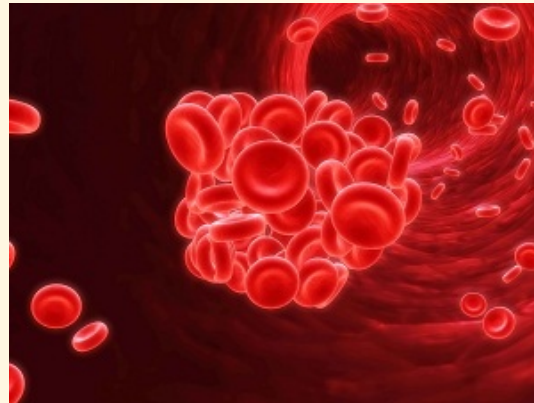
OCP Progestin Types

- Progestins in early pills derived from testosterone
 - Bind to androgen receptor with residual androgenic activity
 - Reduction in HDL
- 3rd generation pills have low affinity for androgen receptor
- 4th generation progestin (DSRP) is a spironolactone analog
 - Mild antiandrogenic and antimineralocorticoid activity



Clot risk

- All COCs have a lower risk of a venous thromboembolism than pregnancy
 - Baseline incidence VTE = $< 1/10,000$ woman-years per year
 - COCs incidence VTE = $4/10,000$ woman-years per year
 - Pregnancy associated VTE = $10-20/10,000$ woman-years per year



PILL: COMBINED ORAL CONTRACEPTION

- Estrogen and progestin- containing pill that is taken every day.
- Pregnancy rate 9/100 year
- Typical use:
 - 21 days active pill, 7 days no /inactive pill
- 24 day regimens
 - 24 days active pill, 4 days /inactive pills
 - Extended regimens and continuous use (not a fan) can get creative
- Take pill at same time every day for maximum effectiveness
- Mechanism of action
 - Thicken cervical mucous
 - Suppress ovulation
- Preferred method: “quick start”
 - Start immediately and use back up for 7 days
 - May improve continuation.

Shortened-placebo week OCPs



- Placebo week shortened to 4 days
- Can be used to:
 - Decrease breakthrough bleeding
 - Shorten length of menses
 - Decrease menstrually-related symptoms

PILL: NON –CONTRACEPTION BENEFITS

- Menstrual Benefits :
 - **Shorter, more regular periods**
 - **Lighter flow and decreased anemia**
 - **Less painful periods**
 - **Decreased number of periods per year**
 - **Treatment of endometriosis**
- **Improvement of acne**
- **Prevention of functional ovarian cysts**
- **Decreased risk of ovarian and endometrial cancers *PCOS**
- **PMS/PMDD**
- **Shorter placebo weeks improves PMS symptoms**

PILL SIDE -EFFECTS AND CONCERNS

- Discontinuation 11% in 1st month, up to 50% 1st year
- Breakthrough bleeding (are the skipping? Make sure pill lines up with day and do they know what to do if they miss?)
- Nausea take at night or with food
- Breast tenderness
- Medication interactions
 - Phenytoin (Dilantin)
 - Carbamazepine (tegrol)
 - Topiramate (topamax)
 - Oxcarbazepine (trileptal)
 - *Lamotrigine (Lamictal)
- Antibiotics – Rifampin
- Headaches – stop if worsens
- Mood changes
- High blood pressure
- Weight gain (although pretty weight neutral)
- Meds that induce cytochrome P450 may decrease effectiveness
- What pill worked for mom or friends

Medication interactions and effect on the pill

Enzyme-inducing (reducing birth control effectiveness)	Nonenzyme-inducing
Carbamazepine (Tegretol)	Benzodiazepines
Felbamate (Felbatol)	Ethosuximide (Zarontin)
Oxcarbazepine (Trileptal)	Gabapentin (Neurontin)
Phenobarbital	Lamotrigine (Lamictal)
Phenytoin (Dilantin)	Levetiracetam (Keppra)
Topiramate (Topamax). *some studies reports at higher dose – 200mg	Tiagabine (Gabitril)
	Valproic acid (Depakote)
Rifampin	Zonisamide (Zonegram)

THE PILL SHOULD NOT BE USED IN WOMEN WHO ..

- Smoker > 35 years
- Personal history of venous or arterial thrombotic event (DVT/PE-blood clot, MI –heart attack, DVA stroke)
- Complicated diabetes
- Migraine with aura
- ? 1st degree relative with clot
- Any migraine headache if >35 years
- Hypertension
- Coronary artery disease
- Active liver disease
- Breast cancer
- Complicated IBS

Contemporary Hormonal Contraception and the Risk of Breast Cancer

Lina S. Mørch, Ph.D., Charlotte W. Skovlund, M.Sc., Philip C. Hannaford, M.D., Lisa Iversen, Ph.D., Shona Fielding, Ph.D., and Øjvind Lidegaard, D.M.Sci.

- Observed 20% (13 more per 100,000 women) increased risk of breast cancer among women who currently or had recently used any hormonal contraceptive compared to those who never used
 - Increased risk with longer duration
- INCREASED risk does NOT mean HIGH risk
- Still low overall absolute risk: approximately 1 extra breast cancer case for every 7690 women using for 1 year
 - < 35 years: increased risk was only 2 per 100,000 women
- Counsel about benefits of contraception
 - Pregnancy prevention!
 - Decreased ovarian (25-80%), endometrial (20-60%), colon cancer
 - Menstrual irregularities, PCOS, endometriosis, PMS, acne, hirsutism, anemia, ovarian cysts...**and the list goes on!**

When to Start OCPs

- Sunday Start: start on 1st Sunday after next period
 - Pros: packs are labelled that way, may prevent bleeding during weekend
 - Cons: may decrease compliance, call for refills on weekend
- First Day Start: start on 1st day of next period
 - Pros: best contraceptive efficacy (no back-up needed), best for regulating cycles and decreasing menstrual symptoms
- Quick Start: start today*
 - Pros: increased compliance, quicker efficacy for acne/hirsutism
 - Cons: likely too late to prevent pregnancy this month (back-up needed for entire month), irregular bleeding over the first 1-2 packs

Tips for Taking Birth Control Pills

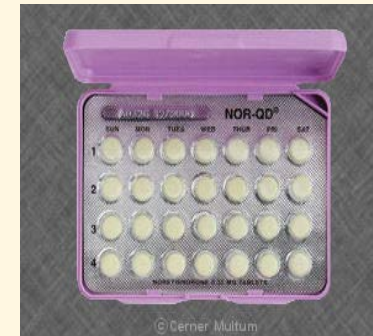
- Start your pills **today**. (No need to wait until the 1st day or 1st Sunday of your next period.)
- Take your pill at the **same time every day**. (I suggest taking it at night to avoid nausea.)
- There are 2 types of pills: *active* pills have hormones & are all 1 color (usually 21-24 pills.) & *placebo* pills do not have hormones & are all 1 color (usually 4-7 pills).
- What are the **side effects of the pills**?
 - Common: nausea, headaches, breakthrough bleeding (bleeding in between your periods)
 - Rare: 1 in 15,000 women may get a blood clot. Signs of a blood clot are severe abdominal pain, chest pain, headaches, blurry vision, & leg pain. If you have these problems, **call the office immediately**.
- When will the **side effects get better**?
 - Nausea, breakthrough bleeding, & headaches: may take 3 months or 3 packs to improve. Continue to take pills everyday & call if these symptoms are severe
- What can you do about **bleeding between periods** on the pill?
 - Missing 1 pill can cause bleeding in between your periods.
 - The bleeding may be light or heavy.
- What if you **miss a pill**?: **MISS ONE, MAKE IT UP. MISS TWO, BACK IT UP.**
 - If you **miss 1 active pill**: Take it as soon as you remember. Take the next pill at the regular time. It is OK to take 2 pills at once if needed.
 - If you **miss 2 active pills in a row**: Take 2 pills as soon as you remember & take 2 the next day. Stay on your regular schedule after this but use a back up (condoms) for 7 days after the 2 missed pills. Remember if you miss 2 active pills you may have some bleeding and you are at risk of becoming pregnant. (however, you should always use condoms for STI prevention)
 - If you **miss 1-7 placebo pills in a row**: Since the placebo pills do not have hormone in them, you do not need to take them if you forget to take them. Start the next pack of pills after 7 days after your last active pill.
 - If you have had unprotected sex & you've missed 2 pills you can take **Plan B** to **prevent pregnancy**. *Men & women* ≥18 can buy this over-the-counter or you can call the office to get a prescription called in.
- How **long will it take for the pills** to work?
 - it will take 7 days to work.
 - Acne: Be patient it may take 3months or 3packs of pills before you notice a difference in your acne.
 - Period problems: It can take 3 packs or 90 days before you notice a difference

Documentation

- No contraindications to oral contraceptive pills (OCPs) identified. Patient was provided with written and verbal information about risks (including ACHES), benefits, & proper use of OCPs.
- Follow up in three months for BP, weight and yearly after.
- Birth control pills are pretty weight neutral – girls will stop the pill because of poor adherence.

Progestin-only Pills

- Progestin-only pills (POP or “minipill”) have Norethindrone only – less effective – adherence!!! – no pill free interval
- Same hormone daily, no placebo pills
- Used when estrogen is contraindicated
- High rate of irregular bleeding: 47%
 - Almost 40% have regular monthly periods
 - 20% amenorrhea rate
- May not suppress ovulation or menstrually-associated symptoms
 - 40% ovulatory cycles
- Side effects: mood changes, acne, weight gain



Slynd – New – Yaz (drospirenone)without the estrogen. (FDA approved June 2019)

- Used when estrogen is contraindicated.
- Not covered by insurance typically
- Causing irregular bleeding
- Headaches

To be continued

THE PATCH

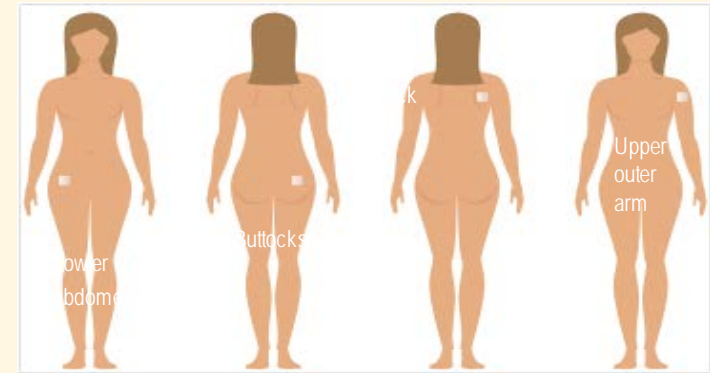


THE PATCH

- Trade Name: Xulane®
- Estrogen and progestin patch worn on upper arm, lower abdomen, buttocks or upper torso (excluding breasts)
- Change patch 1 X week for 3 weeks then patch-free for 1 week
- Pregnancy rate 9/100
- Less effective >198lbs
- Mechanism of action
 - Thicken cervical mucus
 - Suppress ovulation
- Side Effects:
 - Detachment 2%
 - Site Reaction
- Preferred method : "Quick Start"
 - Start immediately and use back up for 7 days
 - May improve continuation

Ortho Evra[®] Patches

- Similar benefits and risks to OCPs
- Can also be used extended-cycle or continuously



- Side effects
 - Adhesive irritation
 - Higher incidence of breast discomfort in the first 2 months
- Systemic estrogen absorption higher than OCPs
 - But lower peak estrogen concentrations
 - Conflicting evidence on increased VTE risk

PATCH: NON-CONTRACEPTION BENEFITS

- Shorter , more regular periods
- Lighter flow and decreased anemia
- Less painful periods
- Decreased number of periods a year
- Treatment of endometriosis
- Improvement of acne
- Prevention of functional ovarian cysts
- Decreased risk of ovarian and endometrial cancers

Is the Contraceptive Patch the Right Choice?

Advantages

- Weekly administration
- Consistent medication
- Treats dysmenorrhea, endometriosis, & AUB



Disadvantages

- ? Increased risk of VTE
- Brand name ortho evra is no longer being manufactured
- Generic falls off frequently
- Hyperpigmentation and skin irritation
- Semi private

PATCH SIDE EFFECTS AND CONCERNS

- Discontinuation: 11% in 1st month, up to 50% , 1st year
 - Some studies show higher discontinuation rates for patch , lower for ring
- Breakthrough bleeding
- Nausea
- Breast Tenderness
- Headaches
- Mood changes/decreased sex drive
- High blood pressure
- Weight gain

THE RING
(NuvaRing)



THE RING

- NuvaRing – estrogen and progestin plastic ring
- Placed in vagina - Pregnancy rate 9/100
- 21 days ring in , 7 days out and then insert a new ring
 - Extended regimens possible
 - Effective in 24 hours
- Mechanism of action
 - Thicken cervical mucus and suppresses ovulation
- Can remove for up to 3 hours in a 24 hour time period
- Preferred method “quick start”
 - Start immediately and use back up X7 days and may improve continuation

NuvaRing[®] Vaginal Ring

- Similar benefits and risks to OCPs
- Can also be used extended-cycle or continuously
 - Continuous use leads to less bleeding (1.3 vs. 3.3 days) and higher rates of amenorrhea
 - Breakthrough bleeding can be managed by removing the ring for 4 days and then replacing it



RING: NON CONTRACEPTIVE BENEFITS

- Menstrual Benefits
 - Shorter, more regular period
 - Lighter flow and decreased anemia
 - Less painful periods
 - Decreased number of periods per year.
- Treatment of endometriosis
- Improvement of acne
- Prevention of functional ovarian cysts
- Decreased risk of ovarian and endometrial cancers

Is the Ring the Best Choice?

Advantages

- ? Monthly adherence
- Can be removed for 3 hours
- Same health benefits as COC

Disadvantages

- Inconsistent results about VTE risk and the ring
- Requires a mature patient
- Partners may feel it
- Estrogen related risk

RING SIDE EFFECTS AND CONCERNS

- Discontinuation 11% in 1st month , up to 50% 1st year
- Some studies show higher discontinuation rates for patch , lower for ring.
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THE RING SHOULD NOT BE USED IN WOMEN WHO...

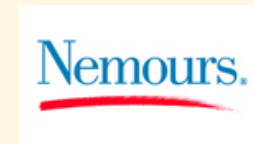
- Smoker > 35 years
- Personal history of venous or arterial thrombotic event (DVT/PE –blood clot, MI-heart attack, CVA-stroke)
- Complicated diabetes
- Migraine with aura
- Any migraine headache if >35 years
- Hypertension
- Coronary artery disease
- Active Liver Disease
- Breast Cancer



EMERGENCY

CONTRACEPTION

Don't forget about Emergency Contraception



Ella /Plan B

- Plan B is 95% effective if you take it within 24 hours and 89% effective within 72 hours. But it might be less effective if you are ovulating, or have unprotected sex after taking Plan B.
- Ella is more effective than Plan B between 3 and 5 days after unprotected sex.
- May be less effective if weigh more than 165 lbs. If you weigh more than 165 lbs., Ella is considered the more effective pill to take for emergency contraception
- Plan B is available OTC, but you do need a prescription for Ella.

Resources:

- NASPAG Clinical Recommendations
- NASPAG Patient Handouts
- ACOG Committee Opinion
- www.youngwomenshealth.org
- www.bedsider.org



Questions?

