

## CONTRACEPTIVE UPDATES AND PEARLS FOR PRIMARY CARE



Michelle Zamudio, APRN-CNM  
Asst Professor  
University of Cincinnati  
College of Medicine

---

---

---

---

---

---

---

---

### Objectives .....

- ✓ Describe mechanism of action for 2 components of combination hormonal contraceptives.
- ✓ List 2 non-contraceptive benefits of hormonal contraceptives
- ✓ Describe 1 contraceptive prescribing resource for the medically complicated patient.
- ✓ Identify 2 non hormonal contraceptive options.
- ✓ Identify 2 new contraceptive therapies.

---

---

---

---

---

---

---

---

### Overview ...

- ❑ Historical perspective & fun facts
- ❑ Oral contraceptives
- ❑ Transdermal and Injectables
- ❑ LARCs Old & New
- ❑ Barriers
- ❑ Useful Apps and advice
- ❑ Male contraceptives
- ❑ In the Pipeline and On the Horizon



---

---

---

---

---

---

---

---

## They put what...where?



- ❑ Ancestors used about anything to avoid pregnancy... Including animal feces, wooden objects , stones !
- ❑ Chinese women drank lead and mercury to induce sterility! Serious consequences ...
- ❑ Savin & Pennyroyal douches ( abortifacients )
- ❑ Soranus, greek GYN, encouraged jumping backwards 7 X after sex and drink water of blacksmiths ( metal )
- ❑ 1800s: Chastity Belts advertised as protection against rape and encouraged by men to prevent masturbation and cheating.

---

---

---

---

---

---

---

---

---

---

## Devices and Desires... the history

- ❑ 3000 bc King Minos used goat's bladder to protect his wife from "serpents & scorpions"
- ❑ Sheep intestine & fish bladders, linen -condom
- ❑ 1873 - Comstock Law " immoral & illegal"
- ❑ Great Depression : Lysol douches & soaps
- ❑ Casanova - asked ladies to use lemon halves
- ❑ 1916 - Sanger opens 1<sup>st</sup> family planning clinic
- ❑ 1930: Wooden block in the vagina outlawed
- ❑ 1985 : Harvard study on soda " Share a Coke !"

---

---

---

---

---

---

---

---

---

---

The collage features several elements: a newspaper clipping on the left with the headline 'MAY FACE HAVE PLEASED MINDS...'; a surprised face emoji at the top center; a woman in a web with the text 'Hold in a web of indifference...'; a woman in a cage with the text 'But I broke through it!'; and a vintage Lysol advertisement on the right with the headline 'Stay SWEET!' and the text 'Vinegar can't do what "LYSOL" can!'.

---

---

---

---

---

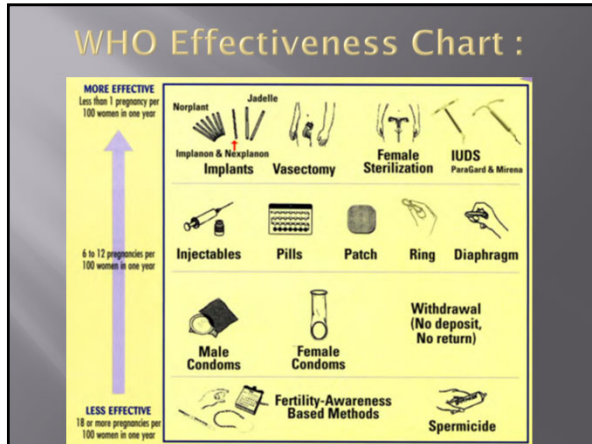
---

---

---

---

---




---

---

---

---

---

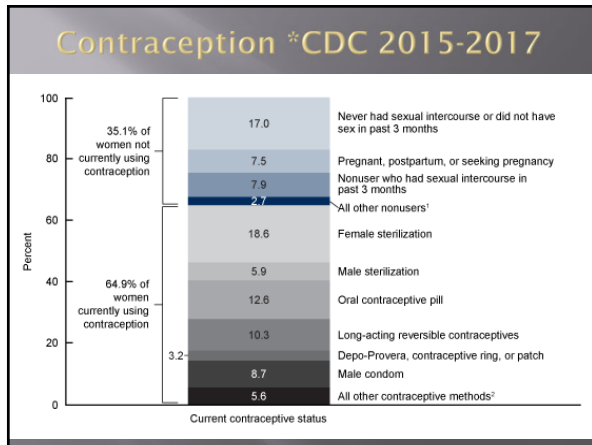
---

---

---

---

---




---

---

---

---

---

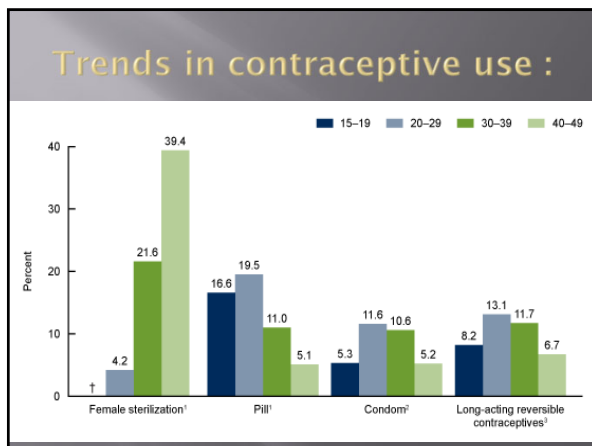
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---

### Keys to successful OC prescribing and pt use :



- ❑ Knowledge of the contraindications to OC use, both absolute and relative
- ❑ Knowledge of the causes of common side effects
- ❑ The ability to recognize potentially serious illness ASAP
- ❑ Access to accurate info re: biological activity differences among OCs

---

---

---

---

---

---

---

---

### Contraceptive counseling pearls

- ❑ Identify patients lifetime family planning goals
- ❑ Clearly identify contraindications
- ❑ Prescribe a 1 year supply
- ❑ Quick Start
- ❑ Not always a pelvic
- ❑ Avoid "hormone breaks"
- ❑ Prescribe Emergency Contraception ( EC )
- ❑ Don't hold contraception hostage to the Pap
- ❑ Don't cause " Iatrogenic " pregnancy !

---

---

---

---

---

---

---

---

### Medical Eligibility Criteria (MEC )



- ❑ Published in 2010, updated in 2016
- ❑ Evidence-based guidance for the use of contraceptive methods by women with specific medical conditions or characteristics
- ❑ Based upon WHO guidelines, adapted by CDC

Examples : obesity, hypertension, history of stroke, breast cancer, HIV

---

---

---

---

---

---

---

---

### MEC Categories :

**WHO Medical Eligibility Criteria: Categories**

1	A condition for which there is no restriction for the use of the contraceptive method
2	A condition where the advantages of using the method generally outweigh the theoretical or proven risks
3	A condition where the theoretical or proven risks usually outweigh the advantages of using the method
4	A condition which represents an unacceptable health risk if the contraceptive method is used

---

---

---

---

---

---

---


---

### Selected Practice Recommendations (SPR)

- Evidence-based guidance for initiation & use of specific contraceptive methods.

Examples :

- When can you start a method ?
- How long to use back up methods ?
- How to manage any side effects ?
- What screening to do before starting a method?
- What to do about missed pills



---

---

---

---

---

---

---

---

### Ex : “How to be reasonably be sure a woman is not pregnant “

“ A health care provider can be reasonably certain that a woman is not pregnant if she has no symptoms or signs of pregnancy and meets any one of the following criteria “ :

- Is  $\leq 7$  days after the start of normal menses
- Has not had sexual intercourse since the start of last normal menses
- Has been correctly and consistently using a reliable method of contraception
- Is  $\leq 7$  days after spontaneous or induced abortion
- Is within 4 weeks postpartum
- Is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [ $\geq 85\%$ ] of feeds are breastfeeds), amenorrheic, and  $< 6$  months postpartum

---

---

---

---


---

---

---

---

## Medical Eligibility Criteria / Selected Practice Recommendations



US MEC  
US SPR



WHO Medical Eligibility Criteria Categories



CDC Contraception 2010  
Medical Eligibility Criteria for Contraceptive Use



MEC by Condition



SPR



CDC Contraception 2010

---

---

---

---

---

---

---

---

---

---

## MEC / SPR – What’s New ?

- Cystic Fibrosis
- Multiple Sclerosis
- St John’s Wort
- Ulipristal ( Ella<sup>®</sup>)
- Dyslipidemia

- Breastfeeding
- Postpartum
- Migraines
- Antiretrovirals
- HIV - DMPA



U.S. Medical Eligibility Criteria Wheel For Contraceptive Use

---

---

---

---

---

---

---

---


---

---

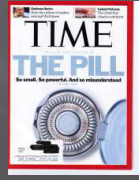
## Oral contraceptives...

“ Yes Ma’am ...this is safe and also good for your heart ! ”

- May 1960, FDA granted approval for a single COC of 150 mcg of Mestranol and high dose Progestin ( 10 mg ) Enovid.<sup>®</sup>
- Women were now in charge of their fertility, with no permissions needed from anyone aside from their doctor- IF they were married!



Happy 50<sup>th</sup>  
(un) Birthday?  
to the pill



TIME  
THE PILL

---

---

---

---

---

---

---

---

---

---

## Oral contraceptives

Over 224 brands of OCs !

- 20-35 mcg of 2 primary synthetic estrogens
- Low dose but higher activity of 12 progestins
- Progesterone only



---

---

---

---

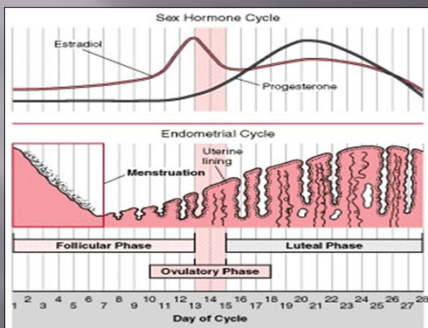
---

---

---

---

## Menstrual cycle ...collective groan!



---

---

---

---

---

---

---

---

## Combination Oral Contraceptives

- 2 primary synthetic estrogens
- Synthetic progestins : Primary mechanism for contraception
  - Testosterone or C21 derivatives
  - 4-5 generations ( Norethindrone, Norgestimate, Levonorgesterel, Desogesterol, Drospironone )

\*\* Newer progestins can use a lower does, but move toward less androgenicity BUT MORE thrombophilia !

---

---

---


---

---


---

---

---

 **Contraindications – ABSOLUTE**

- ❑ PREGNANCY !!!
- ❑ Thrombophilias
- ❑ Hx VTE/T.hlebitis
- ❑ Cerebral vascular/CAD
- ❑ Known OR suspected cancer of breast, endometrium or ANY estrogen-dependent neoplasm
- ❑ Migraine WITH aura
- ❑ Undiagnosed AUB
- ❑ Liver cancer or tumor, even if benign
- ❑ Signif. Abnl. LFTs
- ❑ Factor V Leiden
- ❑ Type II Hyperlipidemia



---

---

---


---

---

---

---

---

 **Contraindications – Relative**

- ❑ Cardiac / Renal prob.
- ❑ Diabetes/GDM/IGT
- ❑ HTN or DBP > 90
- ❑ Major depression
- ❑ Sickle cell / Hbg C
- ❑ Over 35 AND smoker
- ❑ Ulcerative Colitis
- ❑ Varicose veins
- ❑ Cholestatic jaundice of pregnancy
- ❑ Worsening of any chronic condition during pregnancy
- ❑ 1<sup>st</sup> degree FHx HD before age 50
- ❑ Drugs known to interact with COCs.

---

---

---

---

---

---

---

---

**Serious symptoms**

- ❑ Loss of vision - Retinal artery thromb
- ❑ Unilateral numbness - Thromb/Hem stroke
- ❑ Chest, arm/neck pain - MI
- ❑ Hot,red, cord/edema - VTE
- ❑ Hemoptysis - PE
- ❑ Slurred speech - Stroke
- ❑ Hepatic mass, tender - Hepatic neoplasm
- ❑ Absence of menses - PREGNANCY
- ❑ New Migraines - Vascular spasms- precedes stroke

---

---

---

---

---

---

---

---



### Non-contraceptive Benefits

- Reduce anemia
- Lessen PMS/PMDD
- Reduce endometrial ca
- Reduce ovarian ca risk
- Decrease colorectal ca
- Treat ovarian cysts
- Decrease PID / FCBS
- Treat endometriosis/ adeno
- Treat uterine fibroids
- Treat menstrual migraines
- Treat dysmenorrhea
- Improve BMD

“hormones”



---

---

---

---

---

---

---

---

### How to choose an Oral Contraceptive

- Choose Combination vs Progesterone Only pill
- Choose your estrogen dose
- Pick your progestin
- Pick your “ phases “



---

---

---

---

---

---

---

---

### COC Composition...does it matter?

- 21, 24, 28, 84 day brands
- Doses and ratios of EE and Progestins vary
- Some brands add FESO4
- Typical is 21 days active, 7 placebo
- Shorter pill-free intervals include 10 mcg days and less bleeding days. (Mircette)<sup>®</sup>
- Continuous dosing pills are 84 days, with 7 day pill-free interval
- Continuous use requires 9 weeks extra dosing - longer RX!

---

---

---

---

---

---

---

---

### Pick your estrogen dose.....

20 mcg estrogen = LoEstrin 1/20, Yaz, Mircette, Kariva  
 30 mcg estrogen = Yasmin, Desogen, LoEstrin 1.5/30, Low Ovral 28  
 35 mcg estrogen = Zovia 1/35, Sprintec, ON 7/7/7, Demulen

---

---

---

---

---

---

---

---

### Estrogen Bioactivity

- ▣ Added to COCs to help control bleeding
- ▣ Noted a significant increase in VTE - slowly decreased EE content in OCs.
- ▣ Primarily endometrial activity

- ▣ Increases T4, TBG, Total lipids/ TGR, Prolactin, FSH, Fibrinogen
- ▣ Decreases B-complex
- ▣ Decreases Insulin, PT, total chol. /HDL, T3 uptake

---

---

---

---

---

---

---

---

### Estrogen Side Effects

<u>Estrogen Excess</u>	<u>Estrogen Deficiency</u>
<ul style="list-style-type: none"> <li>▣ Mastalgia, FCBC, cervical ectropy, menorrhagia, excess flow, mucorrhea</li> <li>▣ Fibroid growth, chloasma, UTI, rhinitis</li> <li>▣ N/V</li> <li>▣ Increased breast size</li> <li>▣ VTE, dizziness, leg cramps, wt gain (cyclic)</li> <li>▣ Capillary fragility</li> </ul>	<ul style="list-style-type: none"> <li>▣ No withdrawl bleeding</li> <li>▣ Bleeding/ spotting, BTB days 1-9</li> <li>▣ Continual BTB</li> <li>▣ Hypo/oligo menor.</li> <li>▣ Atrophic vaginitis</li> <li>▣ Pelvic Relaxation</li> <li>▣ Vasomotor symptoms/nervousness</li> </ul>

---

---

---

---

---

---

---

---

### Pick your progestin . . . .

- Dose / Generation
- Androgenicity
- Risk profile

---

---

---

---

---

---

---

---

### Progesterone Bioactivity

- ☐ Stops the ovary from springing an egg !
- ☐ Thickens cervical mucus and changes the endometrium.

---

---

---

---

---

---

---

---

Medscape® www.medscape.com

### Classification of Progestins

**PROGESTERONE**

**Progestins**

- C-21 progestins**
  - Pregnanes**
    - Medroxyprogesterone acetate
    - Megestrol acetate
    - Cyproterone acetate
  - Estranes**
    - Norethindrone
    - Norethindrone acetate
    - Ethynodiol diacetate
    - Lynestrenol
    - Norethynodrel
- 19-nor testosterone**
  - Estranes**
    - Norgestrel
    - Levonorgestrel
    - Norgestimate
    - Desogestrel
    - Gestodene
  - Gonanes**
    - Drospirenone
- Spironolactone**
  - Drospirenone

---

---

---

---

---

---

---

---

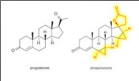
### Progestins

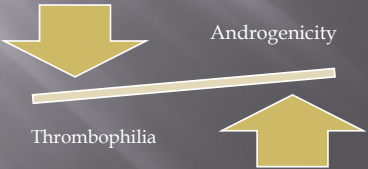
1<sup>st</sup> generation    norethindrone, ethynodiol

2<sup>nd</sup> generation    levonorgestrel, norgestrel

3<sup>rd</sup> generation    desogestrel, norgestimate

4<sup>th</sup> generation    drospirenone "unclassified"





---

---

---

---

---

---

---

---

### Progesterone Profile ...

<u>Progestin Excess</u>	<u>Progestin Deficiency</u>
<ul style="list-style-type: none"> <li>&gt; Moniliasis</li> <li>&gt; Cervicitis</li> <li>&gt; Flow length decrease</li> <li>&gt; Increased appetite</li> <li>&gt; Depression/Fatigue</li> <li>&gt; HTN, Varicose Veins</li> <li>&gt; Libido decreased</li> <li>&gt; S/S hypoglycemia</li> </ul>	<ul style="list-style-type: none"> <li>&gt; BTB days 10-21</li> <li>&gt; Delayed W/D bleeding</li> <li>&gt; Dysmenorrhea (or EE excess)</li> <li>&gt; Heavy flow and cramps (can also be EE excess)</li> <li>&gt; PMS S/S (or EE excess)</li> <li>&gt; Bloating, HA, leg cramp, N/V, mood changes, syncope, wt gain, edema</li> </ul>

---

---

---

---

---

---

---

---

### Last decision... Phases ?

- Monophasic - Fixed dose EE/progestin
  - Endometriosis, menstrual migraines, EC, vaca!
  - Yasmin<sup>®</sup>(Yaz<sup>®</sup>) Mircette<sup>®</sup>, LoEst<sup>®</sup>, Sprintec<sup>®</sup>, Desogen<sup>®</sup>
- Biphasic - Fixed dose EE, step up progestin
  - \* Necon<sup>®</sup>10/11, ON<sup>®</sup>10/11, ? Mircette<sup>®</sup>
- Triphasic - mimic "natural cycle." 3 phases.
  - \* Estrostep<sup>®</sup> (BTB), Tri "\_\_\_\_\_" (NO EC)
- Quadriphasic - "natural" hormones, HMB
  - \* Natazia<sup>®</sup> (Bayer Pharmaceuticals) NO EC

---

---

---

---

---

---

---

---

### Progesterone Only Pills

- ❑ MicroNor<sup>®</sup> / NorQD<sup>®</sup>
- ❑ CI -Breast Cancer, Liver Disease
- ❑ 91-99% efficacy
- ❑ Sensitive to timing of ingestion
- ❑ Can be started 4 weeks after SVD if Breastfeeding.
- ❑ \$4.00 generic or w/ GoodRx card. (\$30-\$35).



---

---

---

---

---

---

---

---

### Allergies to OCs ???

- ❑ Allergies may exist to fillers & preservatives
- ❑ Women have allergies to the inactive ingredients & nonsteroidal components.
- ❑ Most common reaction is to LACTOSE !



---

---

---

---

---

---

---

---

### What's new in OCs ?

- ❑ MEC / SPR combo app from CDC
- ❑ Natazia<sup>®</sup> - quadriphasic / different estrogen
- ❑ Conflicting breast ca studies
  - Danish studies : + 13 cases /100,000 women/yr
- \*\* There is likely a small ↑ Dx of BrCa in current/recent use
- ❑ Decreases endometrial and ovarian cancer rates
- ❑ Newer extended regimens - safe, effective
- ❑ Quick start



---

---

---

---

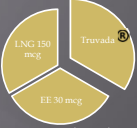
---

---

---

---

### OC Pipeline



- ❑ cMPTs – Contraceptive Multipurpose Technologies  
\*\*\* Birth Control PLUS HIV PREP !
- ❑ Began enrolling in 2018 – The Population Council
- ❑ Levonorgestrel ( 150 mcg ) + Eth. Estradiol ( 30 mcg )  
**PLUS**
- ❑ Tenofovir disoproxyl fumarate ( 300 mg ), and
- ❑ Emtricitabine ( already approved in US for PREP ! )  
“ Many years away ...”

---

---

---

---


---

---

---

---

### More OC updates : “ Slyind® ”



- ❑ Drospirenone 4 mg Progestin Only Pill
- ❑ 24/4 dosing – more forgiving, less AUB
- ❑ FDA NDA approved June 6<sup>th</sup>, 2019
- ❑ Manufacturer : Exeltis USA
- ❑ Expected release : Fall of 2019 !
- ❑ Approved WITHOUT black box warning –  
OK for smokers, BMI > 30
- ❑ CI – conditions predisposing to hyperkalemia

---

---

---

---

---

---

---

---

### Emergency Contraception

- ❑ Approved products using birth control hormones to prevent preg after intercourse
- ❑ Lowers pregnancy risk by 58-94%
- ❑ Progestin EC available without Rx
- ❑ Do not cause abortion
- ❑ Will not interrupt an established preg or prevent implantation of a fertilized egg
- ❑ Efficacy decreases with time since intercourse

---

---

---

---

---

---

---

---

### Emergency Contraception (EC)

- ❑ Inhibits LH surge and prevents or delays ovulation :
  - Uses the time between IC & fertilization
  - Unruptured follicles documented on U/S
- ❑ International Consortium : “ EC is effective only before the ovum is released from the ovary and before the sperm fertilizes the ovum.”<sup>1</sup>
- ❑ ACOG : “EC cannot prevent implantation of a fertilized egg.”<sup>2</sup>

1. <http://www.ccinfo.org>, 2. ACOG Committee Opinion 542 November 2012  
Review article : Contraception 2010; 82 404-9.

---

---

---

---

---

---

---

---

### Emergency Contraceptive Options

- ❑ Paragard<sup>®</sup> T380-A- copper IUD: within 5 days
- ❑ Products containing Levonorgestrel \* 1.5mg :
  - Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup>, Next Choice<sup>®</sup> (generic)
  - Approved for use within 72 hours, but some efficacy up to 120 hours after intercourse
  - \$40-\$50 OTC. Less with generics and \$10-\$25 on-line

 \* BMI over 30 approx doubles the risk of pregnancy !!!

---

---

---

---

---

---

---

---

### What's new in EC ? Ulipristal ( Ella<sup>®</sup>)



- ❑ Selective progesterone receptor modulator
- ❑ Single dose , 30 mg
- ❑ Higher efficacy than levonorgestrel
- ❑ More effective in overweight women
- ❑ Approved for up to 120 hours after UIC
- ❑ Side effect similar to progestin-only EC
- ❑ Prescription only : \$50-67. at pharmacy

---

---

---

---

---

---

---

---

## Ulipristal (UPA ) 30 mg Updates :

- ❑ Start or resume **HORMONAL** contraception **NO SOONER THAN 5 days** after use of UPA (**NEW!**)
- ❑ Abstain from sexual intercourse or use barriers for next 7 days after sfter starting contraception or until NMP, whichever is first
- ❑ If vomits within 3 hours – Repeat the dose
- ❑ Any non-hormonal method can be started immediately.
- ❑ Pregnancy test if no withdrawal bleed in 3 wks

---

---

---

---

---

---

---

---

---

---

### OCP Reference App

**Example page :**

Type	Oral Contraceptive
Brand Name	Yaz
Strength	0.02 mg
Formulation	Monophasic
Dose	3 mg
Cycle	28
Trade Name	Berlex/Bayer
Equivalent Pills	Generic, Yaz

---

---

---

---

---

---

---

---

---

---

### More resources ...

**Dr Richard P Dickey**      **Dr Joshua Steinberg**

---

---

---

---

---

---

---

---

---

---



### Contraceptive Ring



- “3 weeks in, 1 weeks out”
- EE / Etonogestrel
- More convenient for many women - may improve adherence
- Similar to COC
- Same **contraindications** as COCs

---

---

---

---

---

---

---

---

### What's new in Ring contraceptives? Annovera®



- ❑ FDA approval August 10<sup>th</sup>, 2018
- ❑ Combo of EE + Segesterone Acetate
- ❑ First reusable 1 year contraceptive vaginal ring
- ❑ Wear for 3 wks, wash, store in case 1wk, reinsert
- ❑ One ring = 13 cycle !
- ❑ No fridge needed - OK up to 86 \* F
- ❑ 2-4 preg / 100 women in first year of use

---

---

---

---

---

---

---

---

### Annovera®



- ❑ No estrogenic, androgenic, antimineralocortic.
- ❑ Slight affinity for glucocorticoid receptors... (38% that of dexameth) but doesn't have glucocorticoid effects.
- ❑ Boxed warning for cigarette use / serious CV events
- ❑ CI = Hep C on combo drugs w / wo dasabuvir
- ❑ \* “ Not adeq. studied in women with BMI > 29.”
- ❑ \$ 1800. - \$ 2074. per ring ( estimated , Good Rx )  
\*\*\*\*\* **Doesn't bind to SHBG !** \*\*\*\*\*
- ❑ Postmarketing surveillance : VTE, tampon use , CYP3A

---

---

---

---

---

---

---

---

### Contraceptive Rings ... pipeline !

- ❑ Nuvaring<sup>®</sup> 2001, went off-patent in 4-8-2018
- ❑ Big patent law suits & the race is on !
- ❑ Generics were promised for fall 2019
- ❑ Mithra dba Mayne Pharm : MyRing<sup>®</sup>
- ❑ Dr Reddy's Lab : generic delayed by FDA letter
- ❑ 6 ANDA FDA have been submitted ....

Wait for it but don't hold your breathe !

---

---

---

---

---

---

---

---



### Depo Provera<sup>®</sup>

- ❑ The "Almost- LARC "
- ❑ DMPA
- ❑ Highly effective
- ❑ Easy to use
- ❑ Anonymous
- ❑ Estrogen-free
- ❑ 13-15 weeks
- ❑ Amenorrhea
- ❑ Weight gain
- ❑ Vaginal dryness
- ❑ Adverse lipid effect
- ❑ Prolonged pituitary suppression : median time to preg = 9-10 months ( 18 is still nl )



DECREASE IN BMD

---

---

---

---

---

---

---

---

### What's up with Depo Provera<sup>®</sup>

- ❑ Bone Mineral Density Black Box : Nov 2004
- ❑ 80% women have estradiol < 50 pg/ml at 1 yr
- ❑ Loss increases with prolonged use, ? Reversible
- ❑ "Use longer than 2 yrs only if other birth control methods are inadequate" (manufact)
- ❑ ACOG 2008 : " Concerns re: effect of DMPA should neither prevent practitioners from prescribing DMPA nor limit its use to 2 consecutive years." ( CO # 415 )

---

---

---

---

---

---

---

---

### Depo Provera® updates

- ❑ Discuss bone density
- ❑ Recommend calcium, Vit D, weight-bearing exercise
- ❑ Do not order BMD testing in young women

**NEW** ⚠️ Discuss possible increase risk for HIV infection and recommend condoms/testing

---

---

---

---

---

---

---

---



### Nexplanon®



- ❑ One-rod subdermally administered, progestin-only hormonal contraceptive indicated for use by women to prevent pregnancy
  - ❑ 68 mg etonogestrel ( progestin-only LARC )
  - ❑ Lasts 3 years
  - ❑ Exclude pregnancy
  - ❑ Non-breastfeeding : Insert 21-28 days PP\*
  - ❑ Breastfeeding : Insert after 4<sup>th</sup> week \*
- \* Use condoms or back up method X 7 days

---

---

---

---

---

---

---

---

### Nexplanon® - Updates

- ❑ Required training updates for insertion & removal
- ❑ “ insert in an area over the triceps muscle “
- ❑ New recs re: positioning the arm to avoid the ulnar nerve
- ❑ Reinsertion at the same site.



\* Now texts and illustrations for insertion & removal

[www.NexplanonTraining.com](http://www.NexplanonTraining.com)

Merck 1-877-888-4231

---

---

---

---

---

---

---

---

### What's NEW with Nexplanon®? July 2017

- ▣ Nexplanon® for 5 years?
- ▣ •N=291
- ▣ •50% of women BMI>30
- ▣ •NO pregnancies
- ▣ •Etonogestrel levels above the threshold for ovulation suppression for women in all BMI classes




---

---

---

---

---

---

---

---

### Our Five IUDs ... Mirena®, Paragard®, Liletta®, Skyla®, Kyleena®




---

---

---

---

---

---

---

---

### Comparison of IUDs

**TABLE 1. Comparison of IUDs**

IUD	Duration of use (years)	Levonorgestrel dose (mg)	Size (mm)
Skyla	3	13.5	28 × 30
Kyleena	5	19.5	28 × 30
Liletta	3	52	32 × 32
Mirena	5	52	32 × 32
Copper	10	None	32 × 36

IUD = intrauterine device.

---

---

---

---

---

---

---

---

### Intraterine Contraceptives (IUCs)

- ❑ Mechanism of Action – spermicidal, foreign body reaction in endometrium, and metal toxicity to sperm ( T380A Copper IUD )
- ❑ LNG IUS thickens cervical mucus.
- ❑ Not abortifacient
- ❑ T380A Copper IUD can be used for up to 5 days after UPI for EC
- ❑ Failure : copper 0.5 - 0.8% vs LNG IUS 0.1-0.4%

---

---

---

---

---

---

---

---

### Intrauterine Contraceptives

- ❑ IUDS – LARCs
- ❑ Affordable / covered / Title X
- ❑ Do NOT cause infertility
- ❑ Can be used in nulliparous women
- ❑ Risks :
  - Perforation ( 1:1000 insertions ) “migration”
  - Expulsion ( 10% at year 3 )
  - Ectopic pregnancy : 1 out of 2 with LNG IUD \*\*  
1 out of 16 with T380A copper



---

---

---

---

---

---

---

---

### ACOG IUD Statement - 2017

- ❑ “ IUDs offer safe, effective, long term contraception and should be considered for *all* women.”
- ❑ “ Providers should strongly encouraged young women who are appropriate candidates to use this method.”
- ❑ “ IUDs are safe to use among adolescents.”
- ❑ “ IUDs do not increase an adolescent’s risk of infertility.”

ACOG Practice Bulletin # 1866. November 2017

---

---

---

---

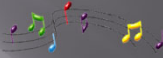
---

---

---

---

### IUD pearls ....

- ❑ Ease the insertion with nitrous, misoprostol, NSAIDS, paracervical block, local lido, allis ?
- ❑ Say "place," not insert
- ❑ Try music therapy ! 
- ❑ If no threads: GET TVS, and if no device seen GET AN XRAY !
- ❑ Skyla - encourage pts to disclose before MRI

---

---

---

---

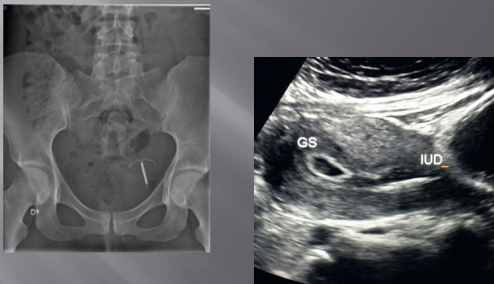
---

---

---

---

### IUD "Migration "



---

---

---

---

---

---

---

---

### LNG IUD Noncontraceptive benefits

- ❑ Lessens dysmenorrhea ( off label )
- ❑ Can use as progesterone part of HRT (off label)
- ❑ Can decrease endometrial hyperplasia/Ca<sup>1</sup>
- ❑ FDA-approved for tx of heavy menstrual bleeding ( HMB )
  - May work as well as endometrial ablation<sup>2</sup>
  - More effective than medical therapy<sup>3</sup>

<sup>1</sup> Obstet Gynecol 2014; 124:292-9. <sup>2</sup> Am J Obstet Gynecol 2017; 217(5):574  
<sup>3</sup> N Engl J Med 2013; 368: 128-37

---

---

---

---

---

---

---

---

## Natural Family Planning

- ❑ BBT 1868
- ❑ Calendar Rhythm Method 1929
- ❑ Billings Method 1953
- ❑ Creighton Method 1980
- ❑ Menstrual beads / SDM 2002
- ❑ Lactational Amenorrhea ( LAM )




---

---

---

---

---

---

---

---

## Natural Family Planning

Contraceptive Method	Failure Rate	
	Perfect Use	Typical Use
No Method	85%	85%
Periodic Abstinence		
Standard Days Method**	5%	12%
Ovulation Method	3%	22%
Symptothermal	2%	13-20%
Two-Day Method*	3%	14%

\* Including Cycle Beads  
National Center Health Statistics, Contraceptive Technology

---

---

---

---

---

---

---

---

## Natural Family Planning Method Natural Cycles® **NEW**



- ❑ FDA approved
- ❑ App on Android or iOS + BBT thermometer
- ❑ Optional : LH tests + condoms
- ❑ Screening questions + cautions on website
- ❑ “ 93 % effective “

**\$ 9.99 / month**

---

---

---

---

---

---

---

---

### Male Contraceptive Options :

- ❑ Ejaculation - 250 mil sperm vs 1-2 eggs/ mo  
? Prostaglandin effect
- ❑ Condoms, Pills, Gels, Injectables, Sterilization
- ❑ Not much funding and energy put into research
- ❑ Myths & folklore re: masculinity
- ❑ About 15 different methods in the Male Contraceptive Pipeline !

---

---

---

---

---

---

---

---

---

---

### Current male contraceptives ...



Ohio free condoms !!! : OHIV.org

---

---

---

---

---

---

---

---

---

---

### What's NEW in male contraceptives ?

**One-Shot Male Birth Control:**  
How the "Reversible Vasectomy" Works

**A** Sperm produced in the testes are transported via a duct called the vas deferens. RISUG, a synthetic polymer, is injected into the vas deferens connected to each testicle.

**B** RISUG coats the wall of the vas deferens. When sperm come into contact with the polymer they are rendered immotile (unable to swim).

**C** Reversal. Unlike vasectomy, the vas deferens is not severed and tied. RISUG can be flushed out by dissolving it with an injection of DMSO, a compound used in many medical treatments.

---

---

---

---

---

---

---

---

---

---



### Updates in male contraception...

- ❑ Nesterone + Testosterone  
8 mg NES + 62 mg T ( 1.43% )
- ❑ Nesterone : segesterone acetate (SGA)
- ❑ Currently approved for birth control and endometriosis Tx
- ❑ \*\* Oral bioavailability is 10% : may be used transdermal / implanted
- ❑ 5 ml QD to shoulder/ upper arms



\*\* Doesn't bind to SHBG !

WWW.ClinicalTrials.Gov

---

---

---

---

---

---

---

---

### NES/T Male Contraceptive Gel

- ❑ 2012 - NIH studies found 90% of men had sperm suppression to < 1 million
  - ❑ Initial studies : NES had SE of low libido / ED - so they added Testost.
  - ❑ Began enrolling 18-50 yo males, BMI < 33, N= 420 couples in 3-2018. Open label trial :
- Suppression/ Efficacy/Recovery Phases
- ❑ Est. completion date is 9-2021



---

---

---

---

---

---

---

---

### Resources

- ❑ **Apps** : MEC/SPR, OCP Ref, STD2015(CDC) i-Pill, Pillify, Period Tracker, Natural Cycles\*
- ❑ **Websites** : OHIV.ORG, Bedsider.org [www.contraceptivetechnology.org](http://www.contraceptivetechnology.org), WomensHealth.gov, www.CDC.gov/women [www.popcouncil.org](http://www.popcouncil.org), www.healthfinder.gov
- ❑ **Texts** : Managing Contraceptive Pill Patients ( Dickey ), Managing Contraception (Hatcher)



\*\*CINCINNATI MIDWIFE on FB

MJZMidwife@aol.com

---

---

---

---

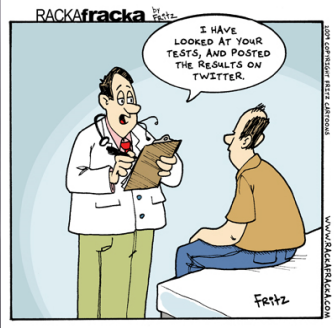
---

---

---

---

Thank you for your kind attention !



---

---

---

---

---

---

---

---