



# Using The Best Evidence to Select the Best Contraceptive

*Michael Policar, MD, MPH*

UCSF School of Medicine

No disclosures for this lecture



**CONTRA COSTA REGIONAL MEDICAL  
CENTER  
NOON CONFERENCE SERIES**

***DISCLOSURE OF CONFLICT OF  
INTEREST***

- Speaker has nothing to disclose

- WHO **Medical Eligibility Criteria** for Contraceptive Use – 3<sup>rd</sup> edition - 2009

Medical eligibility  
criteria for  
contraceptive use

Fourth edition, 2009

A WHO FAMILY PLANNING CORNERSTONE

- [www.who.int/reproductive-health/publications/mec/](http://www.who.int/reproductive-health/publications/mec/)
- [www.reproductiveaccess.org/contraception/WHO\\_chart.htm](http://www.reproductiveaccess.org/contraception/WHO_chart.htm)

- Purpose: **who** can use contraceptive methods

# WHO Medical Eligibility Criteria

---

- **Combined hormonal contraceptives (CHC)**

---

- COC: Combined oral contraceptives
  - CIC: Combined injectable contraceptives
  - P/R: Patch and Vaginal Ring
- 

- **Progestin only contraceptives**

---

- POP: Progestin only pills
  - DMPA: Depo-MPA
  - IMPLT: Implanon contraceptive implant
- 

- **Intrauterine contraceptives**

---

- Cu-IUD: Copper T-380 IUD
- LNG-IUD: Levonorgestrel IUS



# WHO Medical Eligibility Criteria

Category	Definition	Recommendation
1	No restriction in contraceptive use	Use the method
2	Advantages generally outweigh theoretical or proven risks	More than usual follow-up needed
3	Theoretical or proven risks outweigh advantages of the method	Clinical judgment that this patient can safely use
4	The condition represents an unacceptable health risk if the method is used	Do not use the method

# WHO Medical Eligibility Criteria

- **Unique contributions**
  - Evidence based
  - Comprehensive, up-to-date
  - Only “accepted” guideline of its kind
- **Considerations for use in US**
  - WHO Criteria were written to include “lowest common denominator” health systems
  - Conservative for use in the US
  - Consider as “tools not rules”



# WHO Intent for Medical Eligibility Criteria

**“...guidance in this document is intended for interpretation at country and programme levels in a manner that reflects the diversity of situations and settings in which contraceptives are provided.”**

**WHO MEC, 4<sup>rd</sup> edition, 2009**



# US MEC: Scope

- **WHO MEC contains > 1800 recommendations**
- **No need to adapt majority of recommendations**
  - **Science is the same**
  - **Recommendations are widely used around the world, including in the US**
- **Majority of WHO recommendations used in USMEC**
  - **Exceptions: existing WHO recommendations that needed to be adapted for US context**
- **CDC reviews periodic changes to WHO guidelines**  
→ **triggers reconsideration of UC MEC**

# Differences between US MEC and WHO MEC

## Existing WHO guidance

- Breastfeeding and CHC
- Breastfeeding and progestin-only methods
- Postpartum IUCs
- Ovarian cancer and IUCs
- Fibroids and IUCs
- DVT/PE and hormonal contraception
- Valvular heart disease and IUDs

## New medical conditions

- Rheumatoid arthritis
- Endometrial hyperplasia
- Inflammatory bowel disease
- Bariatric surgery
- Solid organ transplantation
- Peripartum cardiomyopathy

# ***WHO Selected Practice Recommendations (SPR) for Contraceptive Use 2008***

- 28 contraceptive practice guidelines; Q&A format
  - <http://www.who.int/reproductive-health/publications/spr/index.htm>
- CDC had planned to adapt SPR to US, but now will develop comprehensive recommendations
  - MEC: **who** can use contraception (e.g., safety)
  - SPR: **how** to use contraceptives (e.g., efficacy)
- To be published in MMWR as companion volume to CDC STD Treatment Guidelines

# SELECTED PRACTICE RECOMMENDATIONS FOR CONTRACEPTIVE USE

2008 update

▶ Grace period for a repeat injection  
of DMPA extended to 4 weeks

The following changes were made to address situations where a woman comes late for her repeat DMPA injection.

Question 6. When can a woman have repeat progestogen-only injectables (POIs) – depot-medroxyprogesterone acetate (DMPA) or norethisterone enantate (NET-EN)?

*Late for an injection*

- The repeat injection of **DMPA** can be given up to 4 weeks late without requiring additional contraceptive protection.

Up to  
**16 weeks  
+ 0 days  
without  
back-up**





# **WHO Selected Practice Recommendations 2004**

- **Blood pressure measurement before initiation of**
  - **OCs, POPs, DMPA, and implants**
- **Not recommended as “contributing substantially to safe and effective use of a hormonal contraceptive”**
  - **Breast or genital tract examination**
  - **Cervical cancer screening**
  - **STI risk assessment, physical exam, screening tests**
  - **Hemoglobin determination**
  - **Other routine lab tests**



# **Contraceptive Efficacy “Tiers”**

**Top Tier: Most Effective  
Female/Male Sterilization, IUC, Implant**

**Middle Tier: Effective  
DMPA, Oral Contraceptive (OC), Patch, Ring**

**Bottom Tier: Less Effective  
Barriers, Spermicides, Behavioral Methods**

# Contraceptive Effectiveness and Continuation Rates

	Perfect Use	Typical Use	Continuation rate
<b>Implant (Implanon)</b>	<b>0.05</b>	<b>0.05</b>	<b>84%</b>
<b>Male sterilization</b>	<b>0.10</b>	<b>0.15</b>	<b>100%</b>
<b>IUC</b>			
LNG-IUS (Mirena)	0.2	0.2	80%
Cu-T 380 (ParaGard)	0.6	0.8	78%
<b>Female sterilization</b>	<b>0.5</b>	<b>0.5</b>	<b>100%</b>
<b>DMPA</b>	<b>0.3</b>	<b>3.0</b>	<b>56%</b>
<b>OCs, Patch, Ring</b>	<b>0.3</b>	<b>8.0</b>	<b>68%</b>

# Hysteroscopic Sterilization

- **Essure Procedure®**
  - Micro-insert is placed in proximal portion of each fallopian tube lumen...expands upon release and permanently anchored in the tube
- **Adiana Permanent Contraception®**
  - Radiofrequency burn in the proximal portion of each tube lumen, then rice-grain sized silicon matrix inserted
- Subsequent benign local tissue in-growth over a 3-month period...***scarring blocks fallopian tube***

# Sterilization Comparisons

	Hysteroscopic Sterilization	Tubal Ligation	Vasectomy
<b>Incisions</b>	<b>None</b>	<b>1-2</b>	<b>1-2</b>
<b>Typical anesthesia</b>	<b>Local or IV Sedation</b>	<b>General</b>	<b>Local</b>
<b>Peritoneal entry</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b>Resume activities</b>	<b>1-2 days</b>	<b>4.4 days</b>	<b>2 days</b>
<b>Effectiveness rate</b>	<b>E: 99.7% @ 5 yrs A: 98.4% @ 3 yrs</b>	<b>98.82% @ 4 yrs</b>	<b>98.87% @ 5 yrs</b>

**E: Essure®    A=Adiana®**

# **Hysteroscopic Sterilization: Candidates**

- **Women who prefer this approach to laparoscopy**
- **Especially, for women with ...**
  - **Obesity (BMI of  $\geq 45$ )**
  - **Abdominal mesh that prevents laparoscopy**
  - **Permanent colostomy**
  - **Multiple abdominal/pelvic surgeries (adhesions)**
  - **Use of anticoagulation medications**
  - **Medical problems that contraindicate general anesthesia**

# **Why LARC\* Methods?**

**\*Long Acting Reversible Contraception**

- **IUCs and Implants are “forgettable”**
  - **Single motivational act for insertion**
  - **Do not require episodic, daily, weekly, monthly, or every 12 week patient initiative for use**
  - **Give continuous 24/7/365 contraceptive protection**
  - **No need to take time to refill prescriptions**
  - **Long term protection...3-10 years**

# **Why LARC\* Methods?**

## **\*Long Acting Reversible Contraception**

- **Are the most effective reversible methods available**
- **Have superior continuation rates and highest patient satisfaction among methods**
- **Are an alternative to surgical sterilization**
- **Are the most cost effective and cost saving methods**

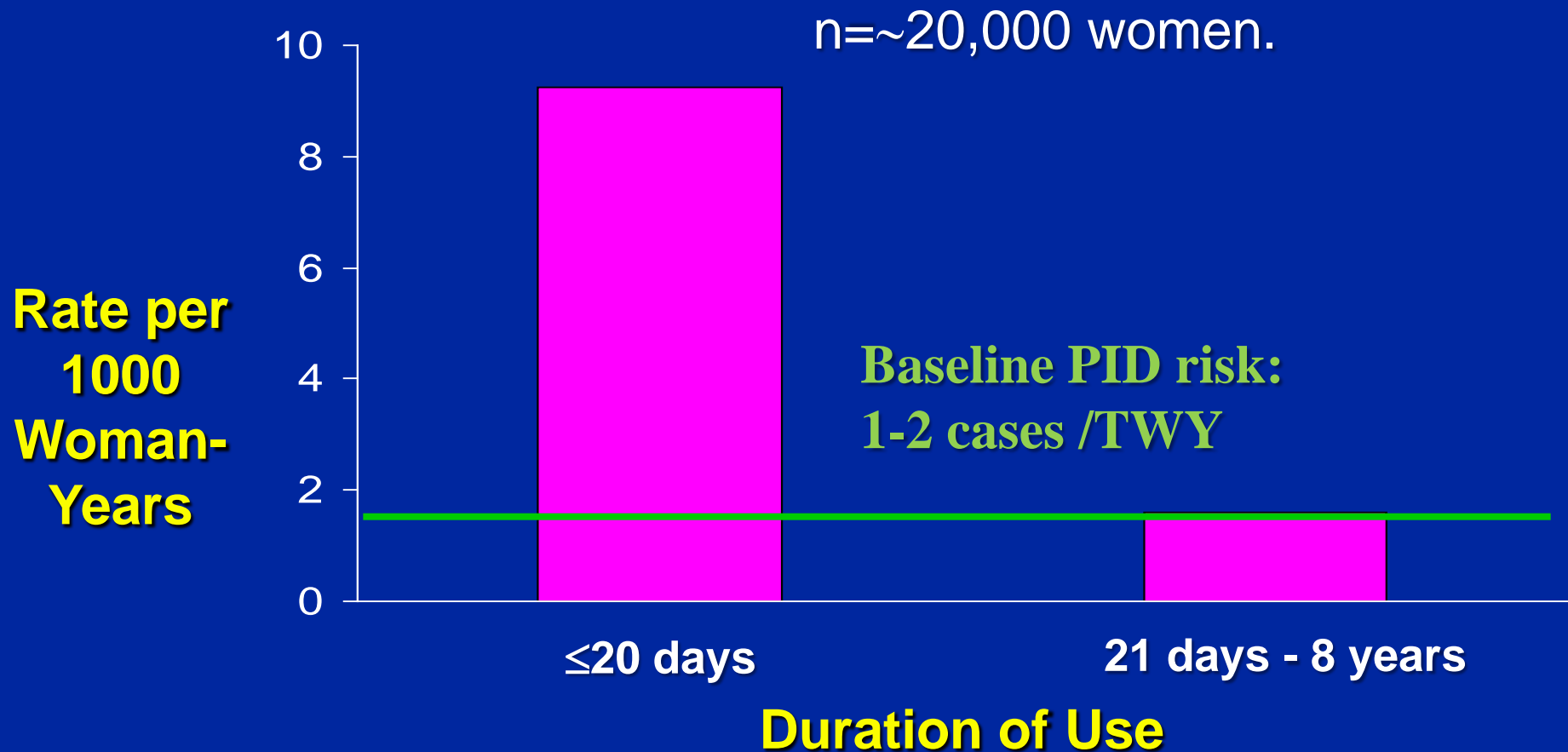
# Indications for IUC Use

- Both IUC products
  - Long term contraception in fertile women

US-MEC for IUD Use	Grade
▪ Menarche to age 20	2
▪ Age 20 and older	1
▪ Nulliparity	2
▪ Parous	1

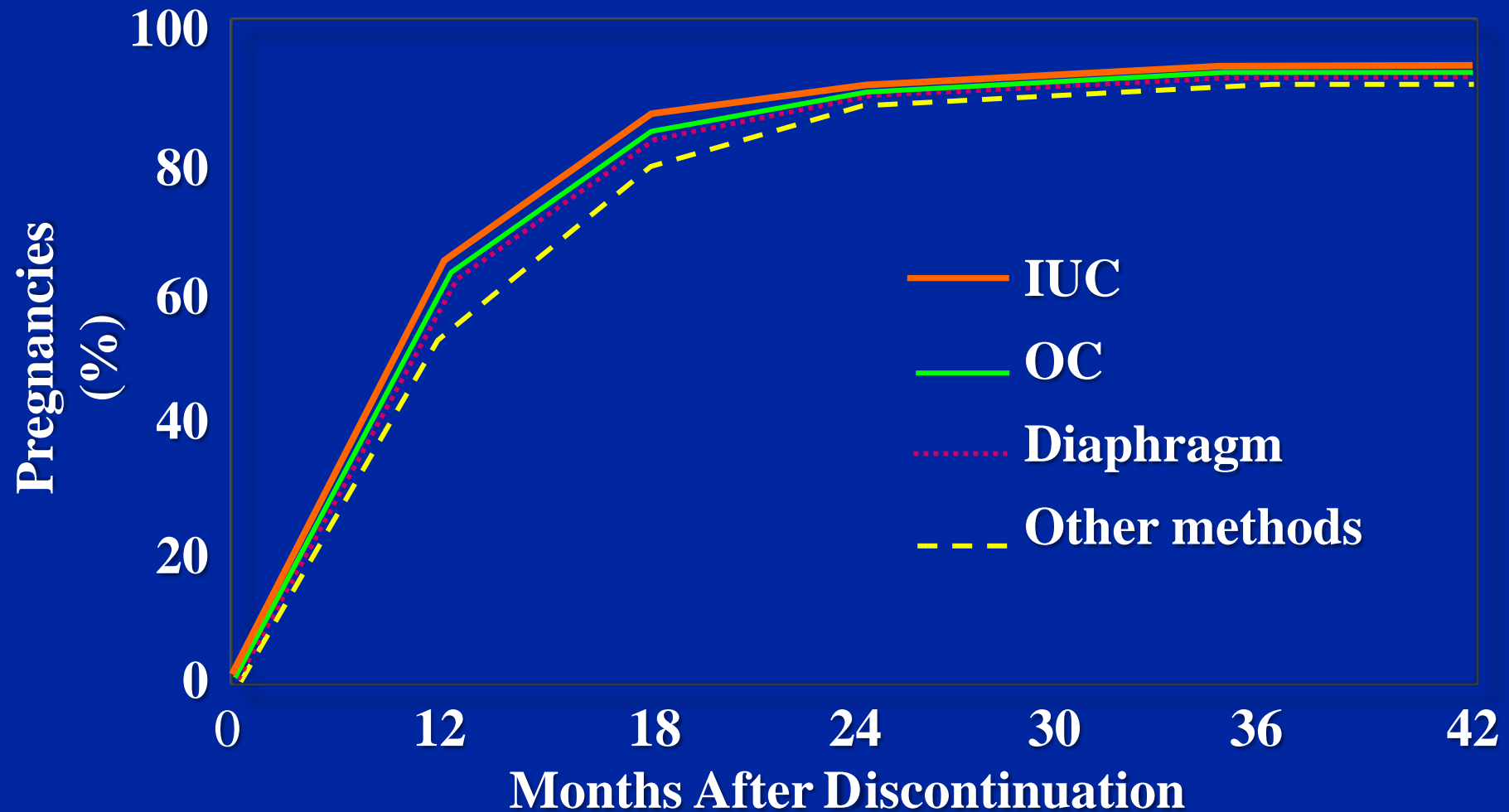


# Rate of PID by Duration of IUC Use



Adapted from Farley T, et al. *Lancet*. 1992;339:785-788.

# Fertility Rates in Parous Women After Discontinuation of Contraceptive



Vessey MP, et al. *Br Med J*. 1983.

Andersson K, et al. *Contraception*. 1992.

Belhadj H, et al. *Contraception*. 1986.

# Pre-IUC Insertion Screening

- Evidence supports *no* routine screening tests
  - Ct, GC: if high risk sexual behaviors or <26 yo and annual screening Ct not yet performed
  - Pregnancy test: only if pregnancy suspected
  - Pap smear: if due for a scheduled Pap (in her case, Pap unnecessary since < 3 years from sexual debut)
  - Hematocrit: only if anemia suspected
- Any indicated screening test can be done on the day of IUC insertion

# **IUC Pre-Insertion Guidelines**

- **Prophylactic antibiotics**
  - No value based on randomized clinical trials
- **Premedication**
  - NSAID 30-60 minutes before insertion is provided commonly, but two small studies have mixed results regarding the effect on pain score during and after insertion procedure

# Is A Follow Up Visit Necessary?

- Practices vary widely in the US
- Two studies by WHO in Africa with non-medicated IUCs conclude that follow-up visit is unnecessary
- Arguments for routine follow-up visit
  - Opportunity for further counseling, esp if high risk for discontinuation due to bleeding changes
  - Early asymptomatic expulsion may be found
  - Medico-legal “standard of practice”?
- Arguments against routine follow-up visit
  - Adverse effects (except expulsion) have symptoms



# Post-IUC Insertion Counseling

**The client should return if...**

- **The string cannot be located (use barrier method until placement is confirmed)**
- **Symptoms of pregnancy are present**
- **Symptoms of infection are present**
  - **Abdominal or pelvic pain, deep dyspareunia, fever, vaginal discharge**
- **Sudden unexplained pelvic pain occurs**
- **Excessively heavy bleeding**

# Emergency Contraceptive Products

- FDA changed the age threshold for OTC dispensing
  - Available without prescription if 17 y.o. or older
  - Prescription only for women under 17 y.o.
  - Pharmacist may require proof of age
- **Plan B<sup>®</sup> One-Step** (now Teva; previously Duramed)
  - Single dose tablet ; 1.5 mg levonorgestrel
  - Labeled for 72 hours from last intercourse
  - Plan B (2 tablet product ) is no longer available
- **Next Choice<sup>®</sup>** (generic/ Watson Pharma)
  - Same as the two tablet Plan B<sup>®</sup> product
  - Labeling: 1 tab Q12 hrs; off label: 2 tabs at once



# **Ulipristal Acetate (UPA): Ella®**

- **Selective progesterone receptor modulator**
- **Taken orally in single 30 mg dose**
- **Approved in Europe(2009) for up to 5 days**
- **Mechanism of action**
  - **Prevent ovulation, with follicles up to 18-20 mm**
  - **Inhibits implantation, but higher dose required**
- **Failure rate vs. LNG (meta-analysis 0-120 hr)**
  - **UPA 1.3% vs. LNG 2.2%**
  - **Odds Ratio = 0.55 (0.32-0.93)**



# **Ulipristal Acetate (UPA): Ella®**

**Glasier AF, Lancet 2010;375:555**

- **Comparative trial of UPA 30 mg vs LNG 1.5 mg**
  - **1,696 women used with 72 hours of intercourse**
    - **Failures: UPA 1.8% vs. LNG 2.6% (OR=0.68)**
  - **203 women used with 72-120 hrs of intercourse**
    - **Failures: UPA- none vs. LNG- 3 pregnancies**
  - **Headache: UPA=19%, LNG=19%**
- **Conclusion**
  - **UPA is “not inferior” to LNG**
  - **UPA is effective for up to 5 days after exposure**

# Body Weight and Contraception

- 4 issues about body weight with each method
  - Will the method cause excess weight gain (compared to no method)?
  - Is the failure rate higher in obese women (compared to average weight women)?
  - Are there medical risks of the method in obese women (compared to average weight women)?
  - What is the WHO-MEC category and

# Body Weight and Contraception

	<b>OC</b>	<b>Patch</b>	<b>DMPA</b>	<b>Implant</b>	<b>IUC</b>	<b>Tubal</b>
<b>Weight gain</b>	No	No	Yes*	No	No	No
<b>↑ failure rate in obese women</b>	No Δ	Yes #	No Δ	No Δ	No Δ	No Δ
<b>Medical risk in obese women</b>	↑DVT risk	No studies	None	None	Difficult insertion	Surgical complications
<b>WHO-MEC</b>	2	2	1	1	1	Not rated

**\*Mainly in obese adolescents and those who experience a  $\geq 5\%$  body weight increase within 6 months of DMPA initiation**

**# In women  $\geq 90$  kg, increase of 2-4 failures/100 couples/year**

# Case Study: Breastfeeding

- 
- A 30 y.o. female is PPD#2, ready to be discharged from hospital and desires contraception. She plans to breastfeed.
  - Which hormonal methods are safe for her to use?
-

# **Post-partum Contraception: General Considerations**

- **Goals in choice of postpartum (pp) contraception**
  - **Efficacy: limit family size, adequate birth spacing**
  - **Support successful breastfeeding**
  - **In GDMs, avoid conversion to frank diabetes**
- **Most women begin intercourse within 1-2 months**
  - **60-70% are sexually active by 6 weeks pp**
  - **4% abstinent by the end of the 12<sup>th</sup> pp week**

# Post-partum Ovulation Patterns

- Resumption of ovulation in non-lactating women
  - Ovulate in 6-7 wks (median= 45 days)
  - **None before 25 days from the delivery**
- Resumption of ovulation in lactating women
  - Intensity, frequency, duration of suckling
  - Time elapsed since delivery
  - Maternal nutritional state
  - Rate of weaning: rapid > gradual weaning
  - Introduction of supplementary feeding (ovulation usually begins 6 weeks later)

# Post-partum OC's: Maternal Risk

- Changes in maternal clotting factors persist for 4-6 weeks after term delivery
  - Increased VTE risk up to 4-6 week post-partum
- Concern that coagulation effects from each of pregnancy **and** OC's may increase risk of VTE
  - However, VTE rates have not been studied in postpartum low-dose OC users vs. controls
- Greater VTE risks not expected with progestin only methods, since no change in clotting factors



# Post-partum Long-acting Progestins

- **DMPA**
  - Mildly lactogenic; no change in milk content
- **Implant** (Implanon, Norplant studies)
  - No effect on milk volume, content, or growth
- Administration before hospital discharge
  - Advantage
    - Protected if post-partum visit is missed
  - Disadvantages
    - Unnecessary for first 4 weeks
    - Anatomic bleeding vs. drug side effect



# **Postpartum Combined Hormonal Contraceptives (CHC)**

## ***Non-breastfeeding Women***

<b>Post-partum interval</b>	<b>COCs/P/R</b>
<b>&lt; 21 days</b>	<b>3</b>
<b>≥ 21 days</b>	<b>1</b>

**WHO Medical Eligibility Criteria for Contraceptive Use, 2009**

**US Medical Eligibility Criteria for Contraceptive Use, 2010**

# Revised WHO MEC 2010

## Post-Partum CHC

<b>Non-breastfeeding</b>	<b>WHO MEC</b>
<b>a) &lt; 21 days postpartum</b>	
i) without other risk factors for VTE	<b>3</b>
ii) with other risk factors for VTE	<b>3/4*</b>
<b>b) ≥ 21 days to 42 days postpartum</b>	
i) without other risk factors for VTE	<b>2</b>
ii) with other risk factors for VTE	<b>2/3*</b>
<b>c) &gt; 42 days postpartum</b>	<b>1</b>

# US MEC 2011 Revision

## *Under Consideration*

<b>Non-breastfeeding</b>	<b>WHO MEC</b>
<b>a) &lt; 21 days postpartum</b>	<b>4</b>
<b>b) ≥ 21 days to 42 days postpartum</b>	
<b>i) without other risk factors for VTE</b>	<b>2</b>
<b>ii) with other risk factors for VTE</b>	<b>2/3*</b>
<b>c) &gt; 42 days postpartum</b>	<b>1</b>

# **WHO Medical Eligibility Criteria 2009**

## ***Post-Partum Breastfeeding***

<b>CONDITION</b>	<b>OC/P/R</b>	<b>POP</b>	<b>DMPA</b>	<b>Implant</b>
<b>&lt; 6 weeks</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>6 weeks- 6 months</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>&gt; 6 months</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>

# **US Medical Eligibility Criteria 2010**

## ***Post-partum Breastfeeding***

CONDITION	OC/P/R	POP	DMPA	Implant
<1 month postpartum	3	2	2	2
1 month to 6 months	2	1	1	1
> 6 months postpartum	1	1	1	1

# **WHO MEC 2009:**

## ***Postpartum IUC Insertion***

	LNG-IUS	Cu-IUD	Comment
< 48 hours	3	2	Evidence: There was some increase in expulsion rates with immediate insertion compared to delayed postpartum insertion and interval insertion
48 hours to 4 weeks	3	3	
> 4 weeks	1	1	
Endometritis	4	4	

# US MEC 2010

## *Postpartum IUC Insertion*

Postpartum (BF or non-BF women) including C/S	LNG-IUS	Cu-IUD
<10 min after delivery of placenta	2	1
10 min after delivery of placenta to <4 wks	2	2
≥4 wks post partum	1	1
Puerperal sepsis	4	4



# What's The Difference Between the USMEC and WHO MEC?

## Post partum, non-breast feeding women

- Reviewed new data and WHO re-grading
- US graded CHC use <4 weeks as **USMEC-4**

## Post partum, breast feeding women

- Different time frames
  - HCs: 6 weeks (WHO) → 4 weeks (US)
  - IUCs: 48 hours (WHO) → 10 minutes (US)
- Downgrade (liberalize) scores

# Case Study: History of Deep Vein Thrombosis

---

- 24 year old G<sub>1</sub>P<sub>0</sub> woman presents with a request for either the Pill or the Patch
  - History of deep vein thrombosis in her right calf at 18 years old
  - Hospitalized for 1 week: had “shots” for 5 days; then switched to “pills” for 3 months
  - Mother “had a blood clot go to her lungs” during pregnancy
  - Healthy non-smoker; stable relationship; intercourse once or twice a week
-

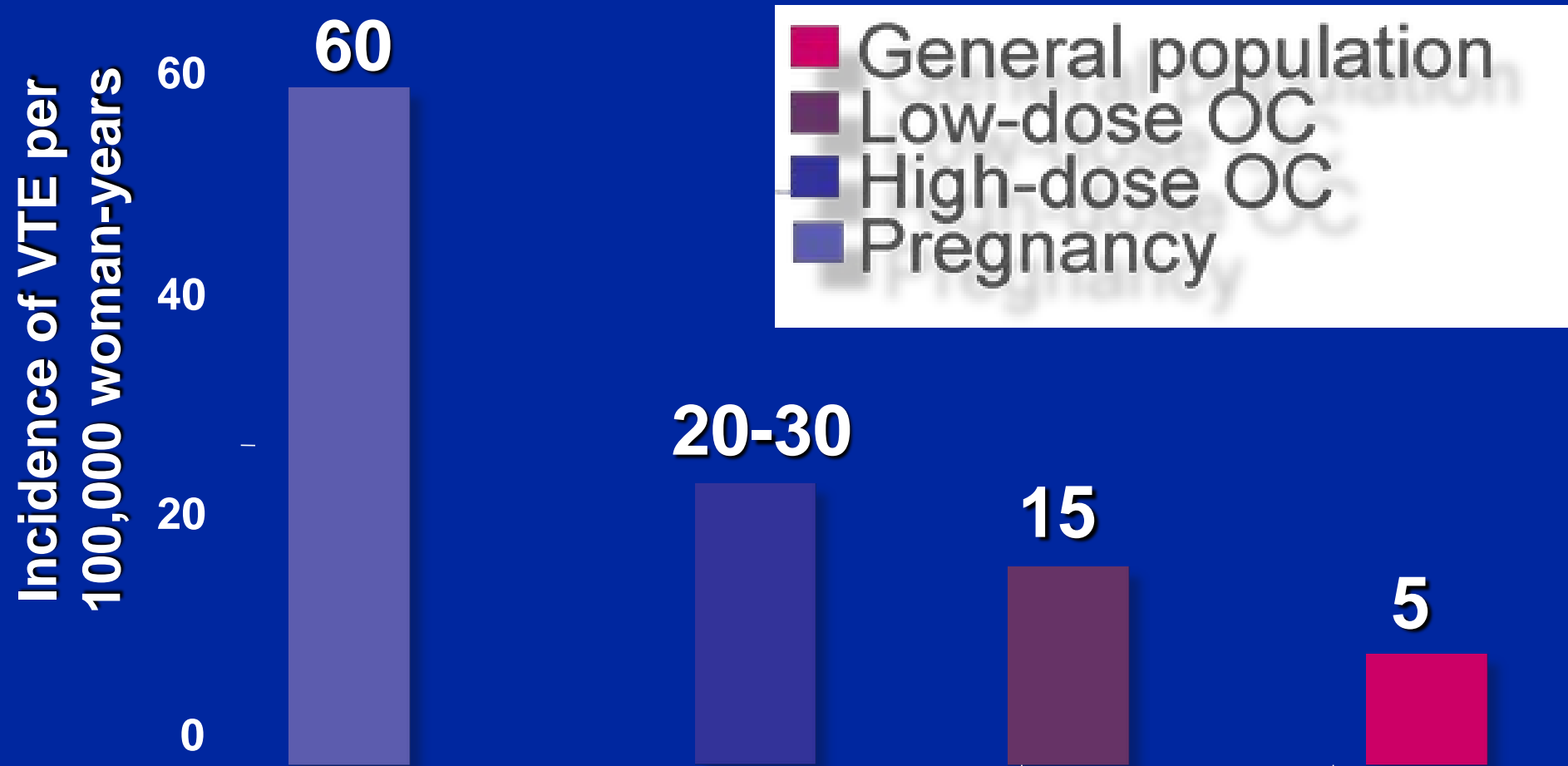
# **Risk Factors for DVT and VTE**

- **Age (especially >40 years old)**
- **Pregnancy, post-partum period (< 3-4 weeks)**
- **Obesity**
- **Immobilization with venous stasis**
- **Personal history of DVT or VTE**
- **Family history (inherited clotting disorder)**
  - **Factor V Leiden mutation (Protein C resistance)**
  - **Protein S, Protein C deficiency**

# Venous Thrombosis and CHC

- DVT rates with increasing dose of estrogen
- OC and OrthoEvra have similar DVT risk (Jick, 2006)
  - NGM OCs: 4.2/10,000 women/year
  - Patch: 5.3/10,000 women/year
  - Age-adj RR: 1.1 (95% CI: 0.7-1.8)
- DVT risk declines with increasing duration of use
- Progestin type, dose have no (or minimal) impact
- No attributable risk of fatal PTE in OC users
- Smoking, HTN, hypercholesterolemia, and diabetes not risk factors for venous disease

# Comparative Risks of VTE



Shulman, LP. *J Reprod Med*. 2003. Chang, J. In: *Surveillance Summaries*. 2003.

# USMEC: Deep Venous Thrombosis

a) History of DVT/PE, not on anticoagulant therapy	OC/P/R	POP	DMPA	Impl	LNG- IUD	Cu- IUD
i.) Higher risk for recurrent DVT/PE	4	2	2	2	2	1
ii.) Lower risk for recurrent DVT/PE (no risk factors)	3	2	2	2	2	1

# **USMEC: History of DVT/PE**

## ***Not on Anticoagulant Therapy***

- **Higher risk for recurrent DVT/PE**
  - History of estrogen-associated DVT/PE
  - Pregnancy-associated DVT/PE
  - Idiopathic DVT/PE
  - Thrombophilia; antiphospholipid syndrome
  - Active cancer (metastatic, on therapy, or < 6 months after clinical remission)
  - History of recurrent DVT/PE



# USMEC: Deep Venous Thrombosis

	OC/P/R	POP	DMPA	Impl	LNG-IUD	Cu-IUD
b) Acute DVT/PE	4	2	2	2	2	2
c) DVT/PE, established on anticoagulants $\geq 3$ mo						
i) Higher risk for recurrent DVT/PE	4	2	2	2	2	2
ii) Lower risk for recurrent DVT/PE	3	2	2	2	2	2

# **USMEC: History of DVT/PE**

## ***On Anticoagulant Therapy***

- **Higher risk for recurrent DVT/PE**
  - **Known thrombophilia, including antiphospholipid syndrome**
  - **Active cancer (metastatic, on therapy, or within 6 mos after clinical remission), excluding non-melanoma skin cancer**
  - **History of recurrent DVT/PE**
- **Lower risk for recurrent DVT/PE**
  - **No risk factors**

# USMEC: Deep Venous Thrombosis

	OC/P/R	POP	DMPA	Impl	LNG-IUD	Cu-IUD
d) Family history (first-deg relatives)	2	1	1	1	1	1
e) Major surgery						
(i) with prolonged immobilization	4	2	2	2	2	1
(ii) without prolonged immobilization	2	1	1	1	1	1
f) Minor surgery without immobilization	1	1	1	1	1	1

# Venous Thrombosis and Contraception: Management

- **Combined Hormonal Contraceptives**
  - OCs: use 20 ug dose of ethinyl estradiol (EE)
  - Patch
    - Systemic EE uptake → no liver first pass (good)
    - Higher EE exposure than OC (bad)
  - Ring: systemic uptake of EE + low EE exposure
- **Progestin only methods** and **IUCs** do not increase risk of venous thrombosis and are a safe and effective choice

# Case Study: Headaches

---

- **Ms. K is a married 22 year old G3 P0 TAB3 woman who requests OCs**
  - **Her first two pregnancies were at 17 and 19 years old and occurred while using condoms**
  - **States that she had experienced occasional "sick headaches" over the past 9 months, and mentioned that two episodes had been so severe that she had to go home from work**
-

# Headaches and Contraception

- **Tension headache** is most common type
  - Muscle tightening and pain in neck, scalp
  - Improved with sleep, analgesics, relaxation
  - No interaction with hormones
- **Common** (or simple) **migraine headaches**
  - Unilateral or bilateral temporal pain
  - Nausea, vomiting, visual spots/ flashing
  - Sonophobia (worse pain with sound)
  - Photophobia (worse pain with light)
  - No aura or focal neurologic symptoms

# Migraine Headache

- **Classic** migraine headaches
  - Aura, *before* onset of migraine headache
  - Transient hemianopsia (unilateral loss of vision)
  - Unilateral paresthesias (sensory defects)
  - Hemiparesis (weakness or paralysis)
  - Aphasia (speech defects)



# Migraine Headaches

## Pre-migraine *aura*

- Associated with increased risk of stroke
- Symptom pattern
  - Occurs 6-60 minutes *before* headache
  - Flickering zig-zag line moves toward periphery
  - Scotomata (loss of vision)

# Headaches: US MEC 2010

	OC/P/R	POP	DMPA	Impl	LNG-IUD	Cu-IUD
<b>Non-migrainous</b>	1	1	1	1	1	1

<b>Migraine</b>	I	C	I	C	I	C	
<b>Without aura</b>							
– Age <35	2	3	1	2	2	2	1
– Age ≥35	3	4	1	2	2	2	1
<b>With aura</b>							
– Any age	4	4	2	3	2	3	1

**I: Initiate**

**C: Continue**

# **Headaches and Contraception:**

## **Management**

- **Differentiate migraine from non-migraine headaches; obtain neurologist consultation if necessary**
- **If catamenial (menstrual) headaches, suggest OCs or NuvaRing in extended regimen**
- **CHC in women with common migraines**
  - **Use low estrogen effect product**
  - **Recommend frequent follow-up visits**
  - **If HA worsening frequency or severity, or new neurological symptoms, CHC must be discontinued**
- **Progestin-only methods, IUC are safe and effective**

# Diabetes Mellitus

## US MEC 2010

	OC/P /R	POP	DMPA	Impl	LNG- IUD	Cu- IUD
History of gestational diabetes	1	1	1	1	1	1
Nonvascular disease						
i. Noninsulin-dependent	2	2	2	2	2	1
ii. Insulin-dependent	2	2	2	2	2	1
Nephropathy/retinopathy/ neuropathy	3/4	2	3	2	2	1
Other vascular disease or diabetes of >20 yrs' duration	3/4	2	3	2	2	1

# Liver Disease

## US MEC 2010

		OC/ P/R	POP	DMPA	Imp- plant	LNG- IUS	Cu- IUC
<b>Cirrhosis</b>	Mild, compensated	1	1	1	1	1	1
	Severe, decomp- ensated	4	3	3	3	3	1
<b>Viral hepatitis</b>	Acute or flare	I:3/4 C:2	1	1	1	1	1
	Carrier/ Chronic	1	1	1	1	1	1

# Inflammatory Bowel Disease

## USMEC 2010

CONDITION	COC/ P/R	POP	DMPA	Imp- lants	LNG- IUD	Cu- IUD
IBD (Ulcerative colitis, Crohn's disease)	2/3	2	2	1	1	1

For women with IBD with increased risk for VTE (active or extensive disease, surgery, immobilization, steroid use, vitamin deficiencies, fluid depletion), the risks for COC/P/R use generally outweigh the benefits

# History of Bariatric Surgery

## USMEC 2010

	OC/P/R	POP	DM PA	Imp lant	Cu IUC	LN- IUC
<b>Restrictive procedures: decrease stomach storage capacity</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Malabsorptive procedures: shorten functional length of the SB</b>	<b>COCs: 3 P/R: 1</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>

**Bariatric procedures with a malabsorptive component have the potential to decrease OC effectiveness, further decreased by long-term diarrhea and/or vomiting**



# Peripartum Cardiomyopathy

## USMEC 2010

	OC/P/R	POP	DM PA	Imp lant	Cu- IUC	LN- IUC
<b>Normal or mildly impaired cardiac function</b>						
<b>&lt;6 mo</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>
<b>&gt;6 mo</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>
<b>Moderately or severely impaired cardiac function</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>

# Solid Organ Transplantation

## USMEC 2010

	OC/P/R	POP	DM PA	Impl ant	Cu- IUC	LN- IUC
<b>Complicated: graft failure, rejection, cardiac allograft, vasculopathy</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>I = 3 C = 2</b>	<b>I = 3 C = 2</b>
<b>Uncomplicated</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>

**Women with Budd-Chiari syndrome should not use COC/P/R because of the increased risk for thrombosis**