# Women's Care for the Internist: Focus on Today's Contraceptive Options

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# Objectives

1. Describe the various options for contraception management for women including their benefits and common side effects
2. Contrast between selection of combined methods and progestin only hormonal methods
3. Understand how to use the CDC medical eligibility criteria to guide contraceptive selection for patients

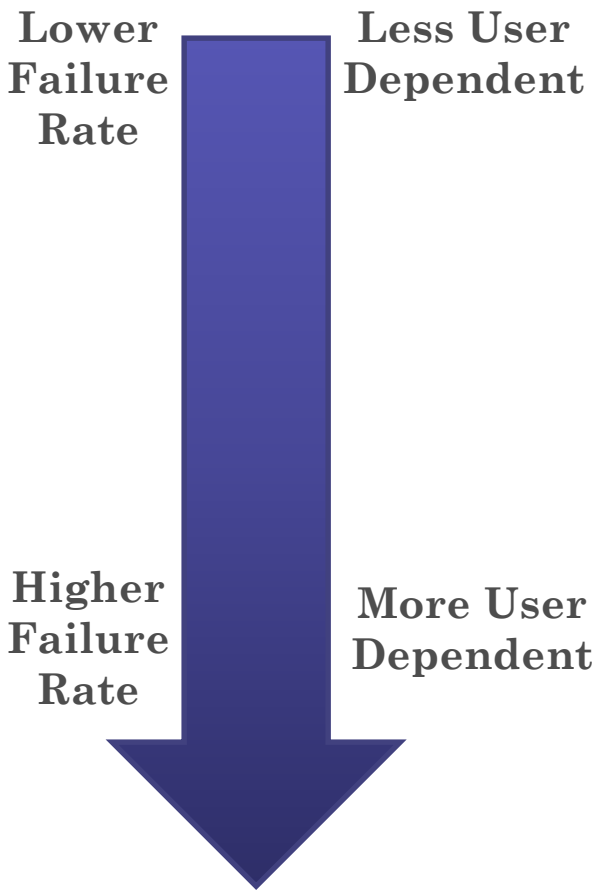
# Contraception Options

# Current Contraceptive Options

| Most effective | Very effective | Moderately effective | Effective |
|---|---|---|---|
| Prevents pregnancy >99% of the time | Prevents pregnancy ~91-99% of the time | Prevents pregnancy ~81-90% of the time | Prevents pregnancy up to 80% of the time |
| Male/Female Sterilization<br>IUD/IUS<br>Implants | Pills<br>Injectables<br>Patch<br>Ring | Male/Female Condom<br>Sponge<br>Diaphragm | Fertility awareness<br>Cervical cap<br>Spermicide |

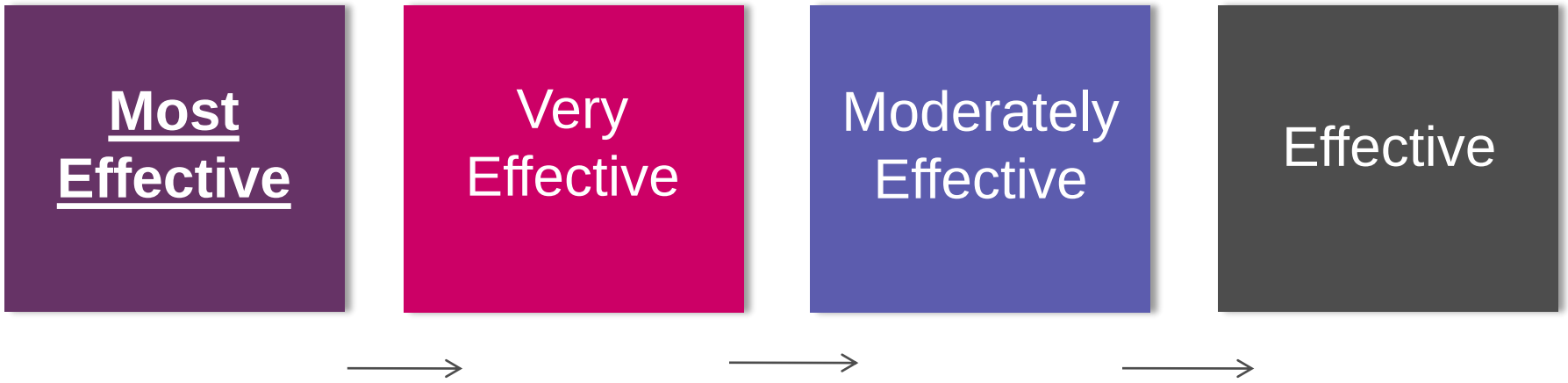
# FAILURE RATES W/IN 1ST YEAR TYPICAL USE

| Contraceptive Method | Percentage of Women Experiencing an Unintended Pregnancy |
|---|---|
| Levonorgestrel intrauterine system | 0.1% |
| Female sterilization | 0.5% |
| Copper-T IUD | 0.8% |
| Injection | 3% |
| Oral contraceptive | 8% |
| Vaginal ring | 8% |
| Patch | 8% |
| Condom | 15% |
| Diaphragm | 16% |
| Fertility awareness | 25% |
| Spermicide | 29% |
| No method | 85% |




Trussell J. In: *Contraceptive Technology*. 18th rev ed. 2004:773-845.

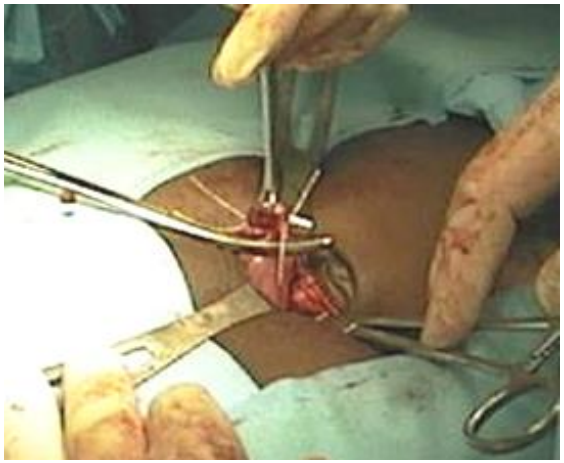
# Current Contraceptive Options

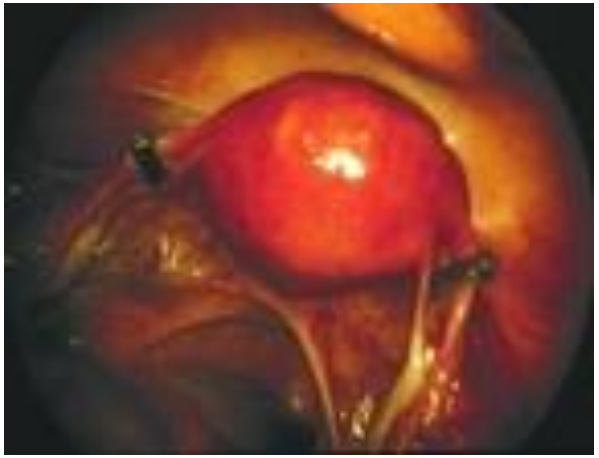


Most effective

# Female Sterilization

- Traditional Routes:
  - Abdominal (postpartum)
  - Laparoscopic (interval)
- Cumulative 10-year failure rates:
  - 0.8% - 2.5%
  - High likelihood of ectopic with failure
- Sterilization Regret
  - Younger than 30: 20%
  - Greater than 30: 6%






Peterson H. U.S. Collaborative Review of Sterilization. 1996.
Hillis SD. Obstet Gynecol. 1999.
Pollack AE. Contraceptive Technology. 2004.
Ogburn T. Obstet Gynecol Clin North Am. 2007. et al.

Most effective

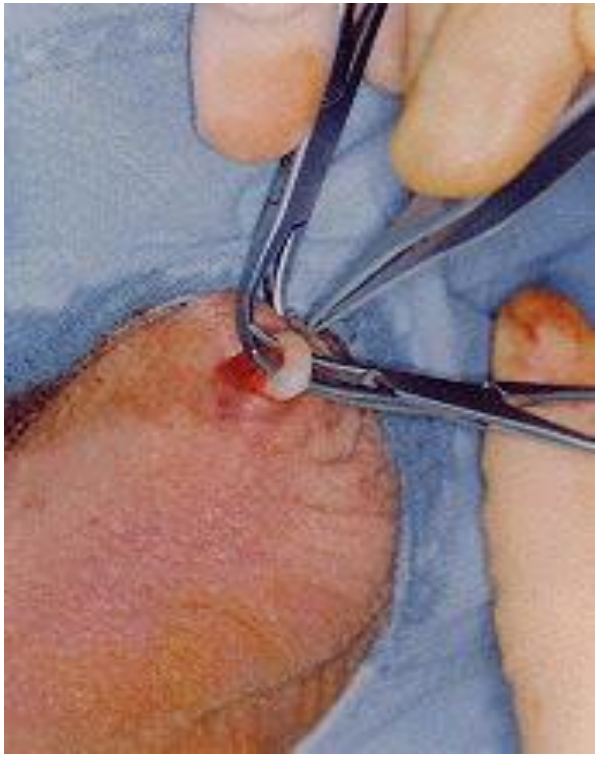
# Female Sterilization

- Transcervical Sterilization (Essure®)
  - Micro-inserts placed into proximal fallopian tubes
  - Requires back-up contraception
  - Confirmatory HSG performed 3 months later
  - Concerns
    - Several patient reports of pain
    - Misplaced devices
    - Inadequate f/up and unintended pregnancies
    - FDA Black box warning

Peterson H. U.S. Collaborative Review of Sterilization. 1996. Hillis SD. Obstet Gynecol. 1999. Pollack AE. Contraceptive Technology. 2004. Ogburn T. Obstet Gynecol Clin North Am. 2007. et al.

Most effective

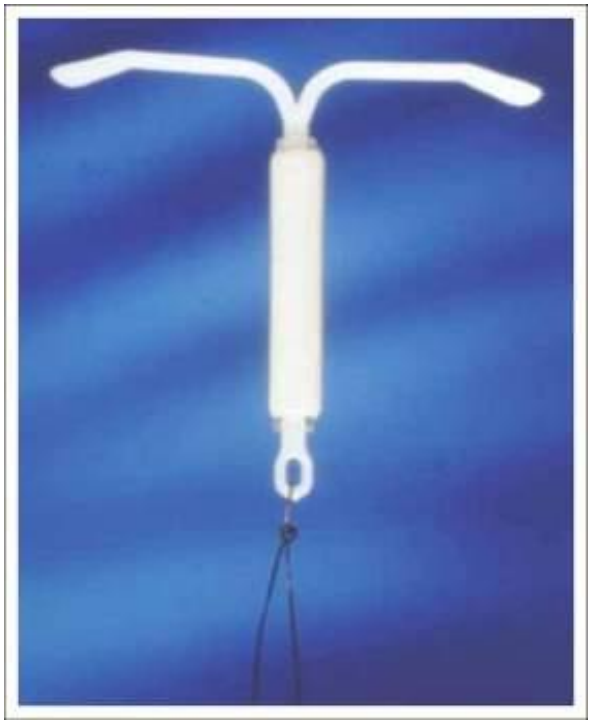
# Male Sterilization



- Worldwide 13% of married/in-union women rely on vasectomy
- Scalpel\ No-scalpel technique
  - Interrupts the vas deferens
  - Outpatient procedure
  - <1% failure
  - Confirmatory sperm counts
- Sexual function unaffected

Most effective

# Levonorgestrel Intrauterine System (LNG IUS)



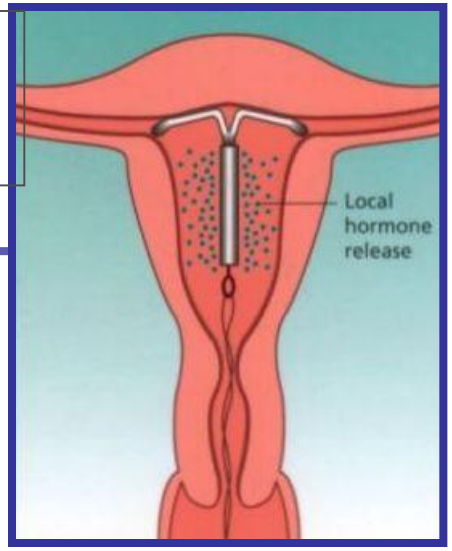
- Brand name: Mirena
- Generic name: Liletta

= 20 mcg levonorgestrel/day

- Approved for 5 years' use
- Failure Rates:
  - 1-yr perfect use= 0.1%
  - 1-yr typical use= 0.1%
  - Cumulative (5-yr)= 0.7%

Mirena Prescribing Information. 2000; Trussel J. Contraceptive Technology. 2007; Hidalgo M. Contraception. 2002.

# Mechanism of action: Levonorgestrel IUD




Hypothalamus

GnRH

Inhibits Ovulation

+/-

Pituitary

FSH, LH

Ovary

E2, P

Ovulation

Atrophic endometrium

Decreases tubal motility

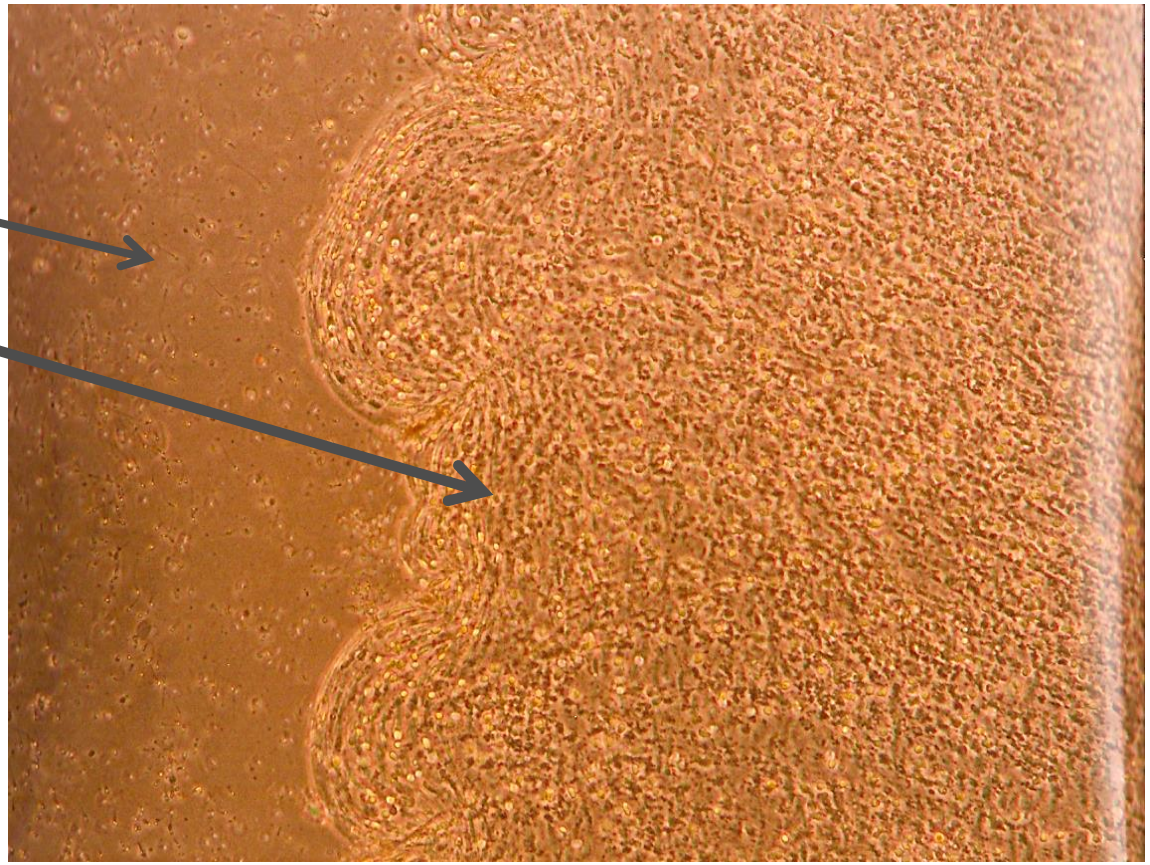
Uterus

Thickens cervical mucus

Cervix

# Does the levonorgestrel containing IUD prevent fertilization?

Sperm blocked by cervical mucus



# LNG IUD Considerations

- Menstrual changes
  - Irregular bleeding/ Daily spotting (first 6 months)
  - Hypomenorrhea at one year: 50%
  - Amenorrhea at one year: 20%
  - Bacterial Vaginosis more likely with irregular bleeding
- Pelvic pain
  - Can happen, especially in nulliparous women
  - Usually resolves with time
  - Consider partial expulsion/ intraabdominal IUD
- Acne
  - Minority of patients secondary to LNG effect, resolves with time

Based on data from Vessey MP, et al. *Br Med J*. 1983

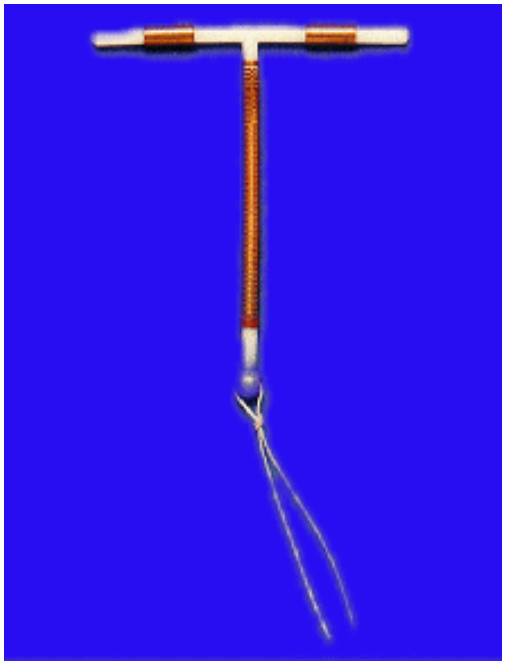
# Noncontraceptive indications

- Heavy menstrual bleeding (on-label)
- Dysmennorhea
- Endometriosis
- Adenomyosis
- Endometrial hyperplasia/cancer

Most effective

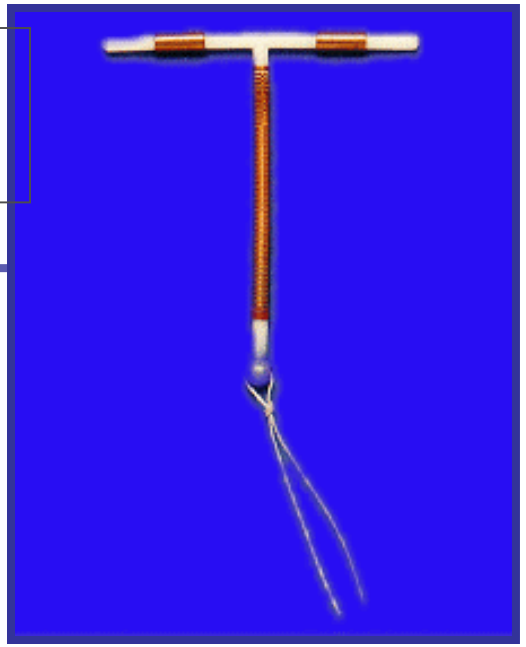
# Copper-T IUD

- Brand name: Paragard®
- Polyethylene device w/380 $mm^3$ copper
- Approved for 10 years' use
- Failure rates
  - 1-yr perfect= 0.6%
  - 1-yr typical= 0.8%
- Continuation at 1 year= 80% use



Thonneau, PF. Am J Obstet Gynecol. 2008; Forrtney JA. J Reprod Med.1999; Trussel J. Contraceptive Technology. 2007.

# Mechanism of action: Copper IUD



Hypothalamus

GnRH

Pituitary

FSH,
LH

Ovary

E2, P

Ovulation

Creates an inflammatory reaction

Copper acts as a spermicide;

Uterus

Cervix

Most effective

# Copper IUD Considerations

- Menstrual Changes
  - Average blood loss may increase by 50%
  - Dysmennorhea (20%)
    - Removal rates of 11.9% in first year
  - Treat with scheduled NSAIDs starting 2 days prior to onset of menses

Thonneau, PF. Am J Obstet Gynecol. 2008; Forrtney JA. J Reprod Med.1999; Trussel J. Contraceptive Technology. 2007.

Most effective

# Implant

- Brand name: Nexplanon (Formerly Implanon) ®
- Single rod contains etonogestrel
- Effective for 3 years
- Failure Rates
  - 1-yr perfect use= 0%
  - 1-yr typical use failure rate= 0.05%

- Obese women excluded in initial studies
  - Further investigations demonstrate serum concentrations remain high enough to inhibit ovulation in overweight and obese women

Implanon insert: Diaz S., Contraception, 2002; Trussel J, Contraceptive Technology, 2007 ; Croxatto HB, Contraception, 1998; Diaz S, Contraception, 2002; Funk S, Contraception, 2005. Implanon Prescribing Information. et al.

# Mechanism of action: Progestin-only implant

Hypothalamus

GnRH

Pituitary

FSH,
LH

Ovary

E2, P

Ovulation

Inhibits ovulation

Atrophic endometrium

Decreases tubal mobility

Uterus

Thickens cervical mucus

Cervix

# Implant Counseling Consideration: Bleeding patterns

- Not related to other progestin method experiences
- 4,431 evaluable reference periods

| Bleeding pattern | Percent of cycles |
|---|---|
| Amenorrhea | 21% |
| Infrequent bleeding | 33% |
| Frequent bleeding | 6% |
| Prolonged bleeding | 17% |

Impossible to predict!!!

*Darney. ENG implant clinical experience. Fertil Steril 2009.*

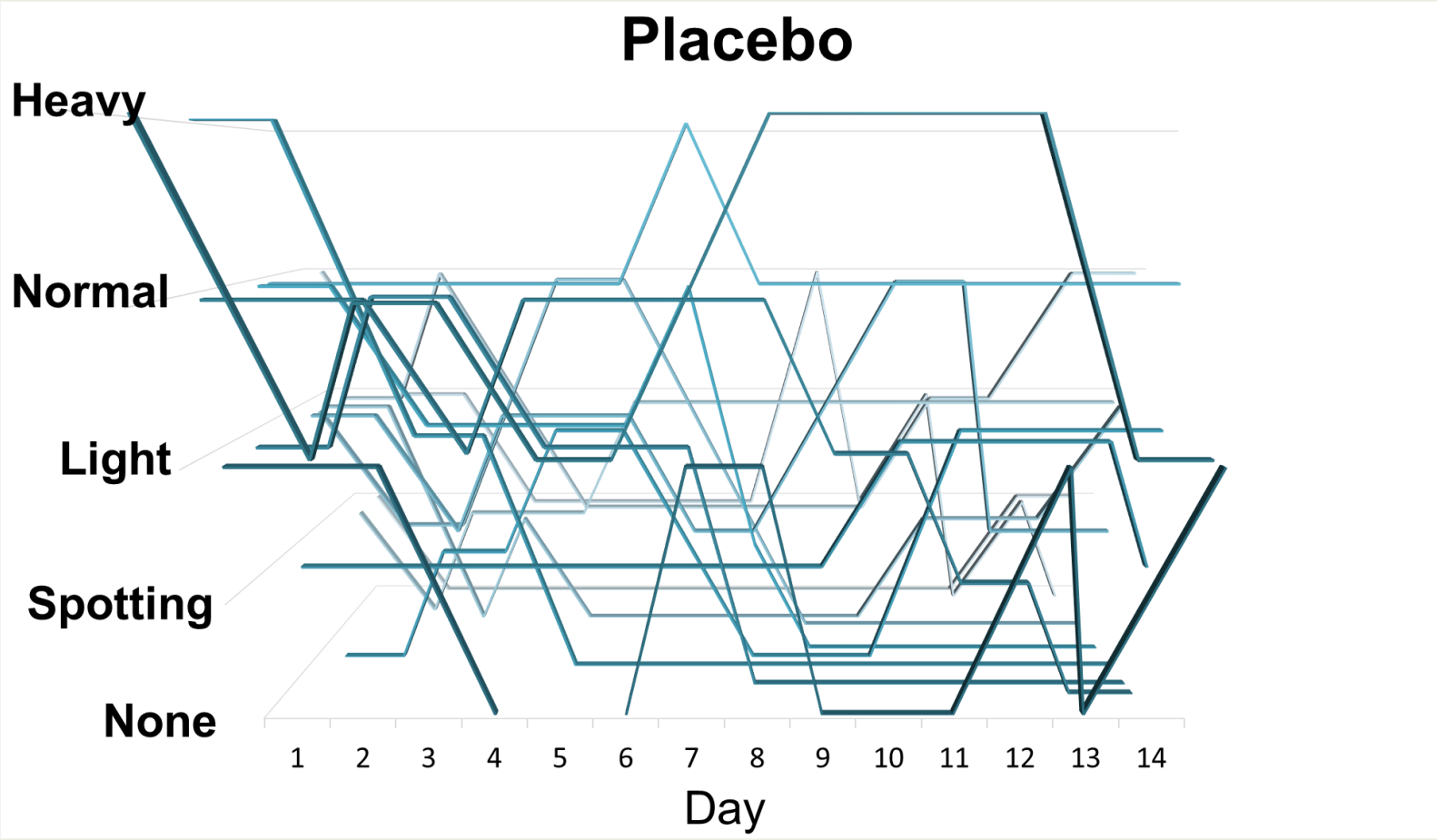
# Implant continuation

- Continuation at 1 year= 88%
- Continuation at 2 years= 82% (53-90%)

- Most common reason for removal= “bothersome bleeding”
  - 11.3% in clinical trials
  - Typically prolonged, frequent episodes
  - “Tipping point” for removal

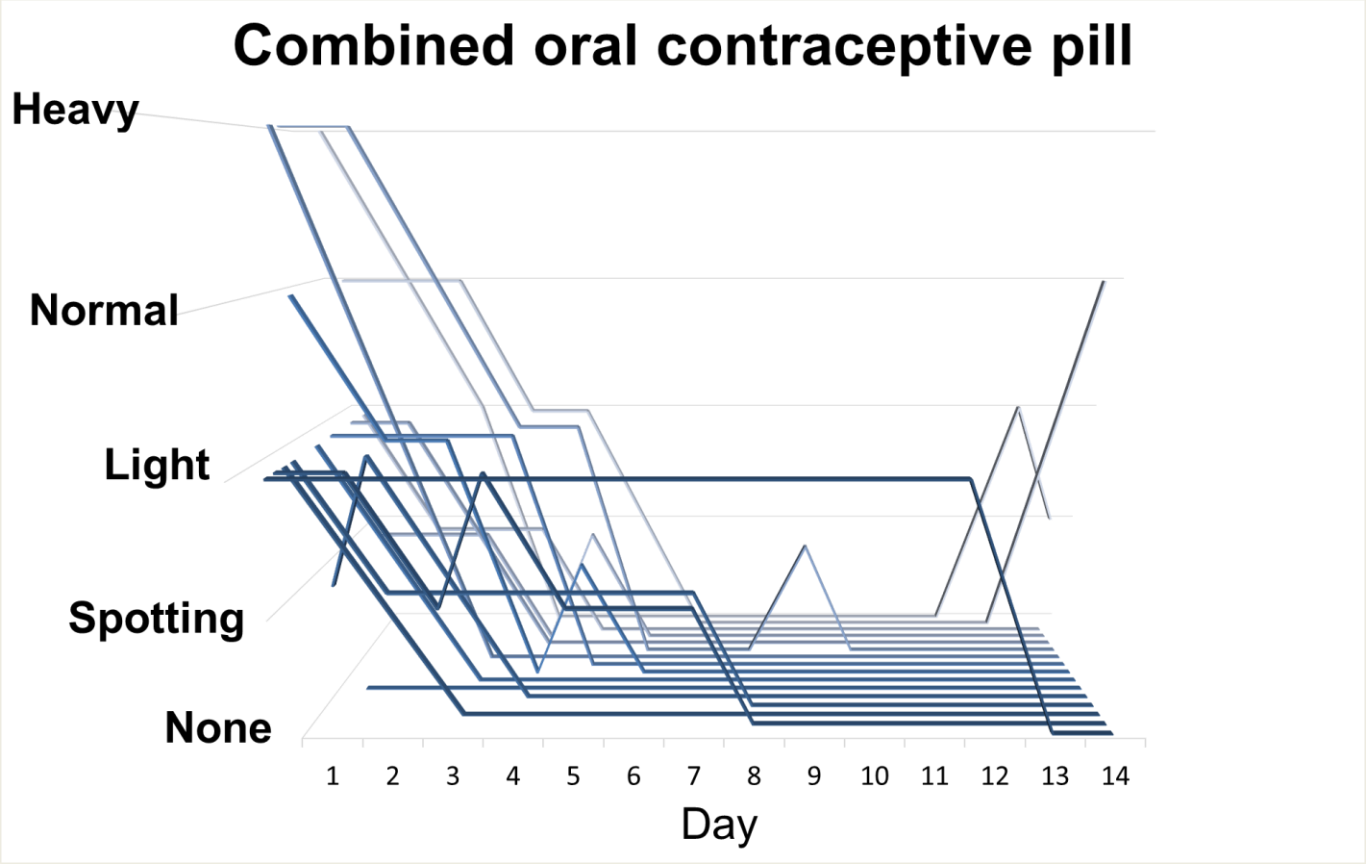
Mansour D, et al. *Eur J Contracept Reprod Health Care*, 2008.
Hoggart L, et al. *Contraception* 2013.

# Bleeding pattern on placebo



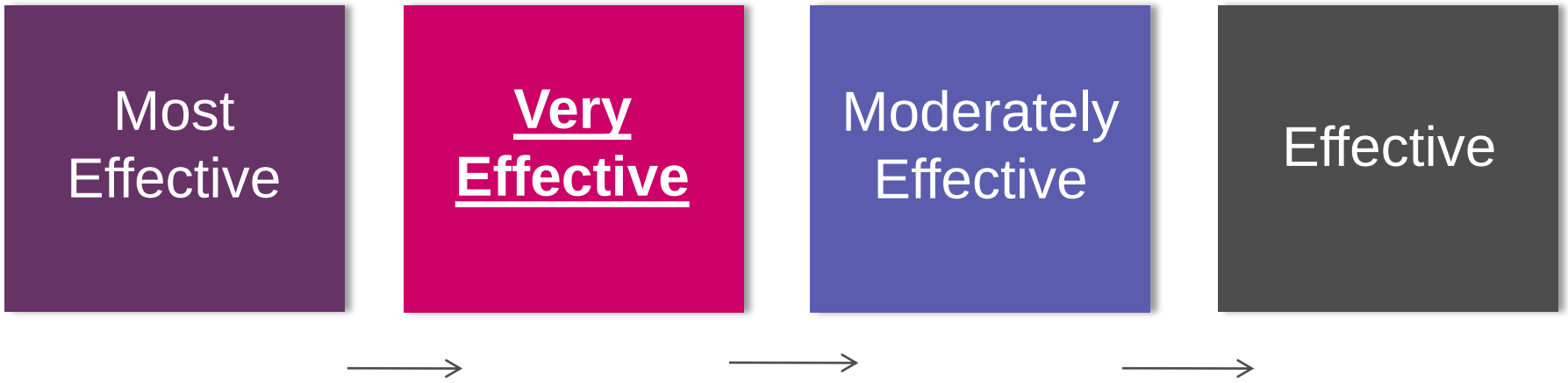

*Guiahi M. Short-Term Treatment of Bothersome Bleeding…Obstet Gynecol 2015.*

# Bleeding pattern on OCP




*Guiahi M. Short-Term Treatment of Bothersome Bleeding…Obstet Gynecol 2015.*

# Current Contraceptive Options



Very effective

# Injectable

- Depot Medroxyprogesterone Acetate
- Brand name: Depo-Provera®
- Intramuscular or subcutaneous injection every 3 months
- Failure Rates:
  - 1-yr perfect use= 0.3%
  - 1-yr typical use= 3%
- Continuation rate at 1 year= 24-45%[1]

Trussel J. Contraceptive Technology. 2007. Cromer BA. Am J Obstet Gynecol. 2005. Trussel J. Contraception. 2004.; Westhoff C. Contraception. 2003. et al.


# Mechanism of action: Depo Provera Injection

Hypothalamus

GnRH

Pituitary

Inhibits Ovulation

FSH, LH

Ovary

E2, P

Ovulation

Atrophic Endometrium

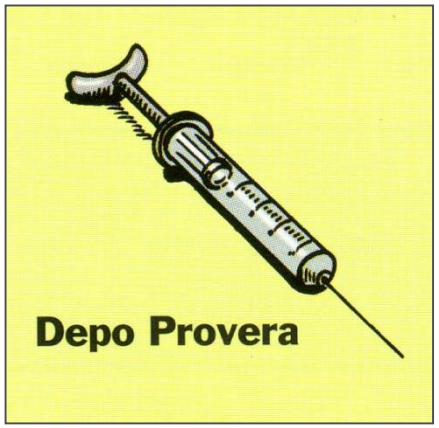
Uterus

Thickens cervical mucus

Cervix

# DMPA Considerations

- Menstrual Changes
  - Irregular bleeding is common initially
  - Amenorrhea is normal:
    - 50% at 1 year, 80% at 5 years
- Upon discontinuation:
  - Menses may not return for months
  - Return to fertility may be delayed by 10-18 months
- Weight gain
  - On average 5.4 pounds in first year
  - 20% of users susceptible

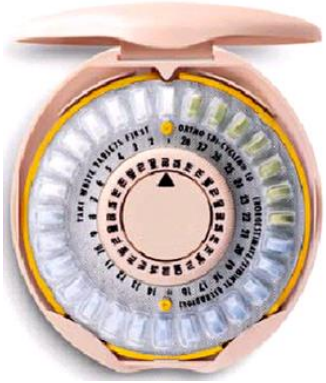



Trussel J. Contraceptive Technology. 2007. Cromer BA. Am J Obstet Gynecol. 2005. Trussel J. Contraception. 2004.; Westhoff C. Contraception. 2003. et al.

**Very effective**

# Combined Hormonal Contraceptives

1. Oral Contraceptive Pills (daily)
2. Transdermal Patch (weekly)
3. Transvaginal Ring (monthly)
   - 1-yr perfect use failure rate= 0.3%
   - 1-yr typical use failure rate= 8.0%



Trussel J. Contraceptive Technology. 2007Rosenberg MJ. Reprod Med. 1995: Potter L. Fam Plann Perspect. 1996; Mosher WD. AdvanceData. 2004. Hardman JG. McGraw-Hill. 1996.: Goldzieher JW. Fertil Steril. 1971.: Moghissi KS. Fertil Steril. 1971.

# Mechanism of action: Combined hormonal Contraception (pill, patch, ring)

Hypothalamus

GnRH

Pituitary

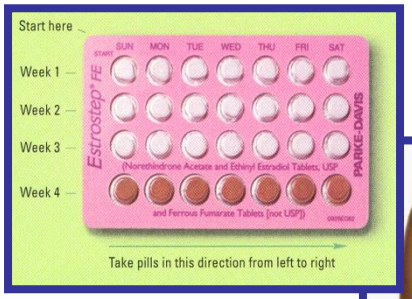
FSH,
LH

Ovary

E2, P

Ovulation

Inhibits
Ovulation




Uterus

Decreased
Tubal Motility

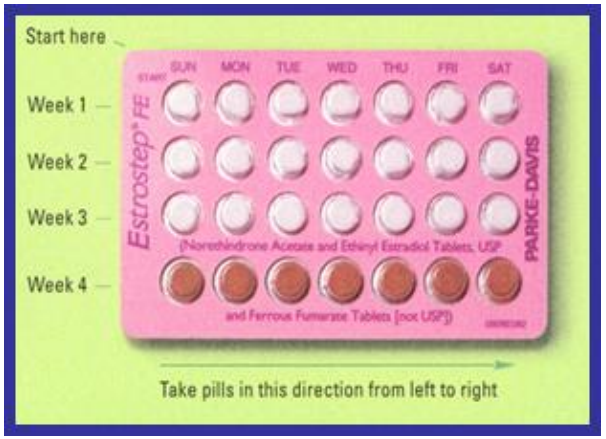
Thickens Mucus

Cervix

# OCP Side effects

**Very effective**

- KNOWN:
  - Nausea (PM dosing)
  - Breast tenderness (time)
- UNKNOWN:
  - Libido
  - Weight gain



Very effective

# Transdermal Patch

- Brand name: OrthoEvra®
- Weekly
- Worn on trunk, arm, buttock
- Low risk of thromboembolism
- Complaints:
  - skin irritation of adhesive
  - hypo/hyperpigmentation

Abrams LS. Fertil Steril. 2002: Ortho Evra Prescribing Information. Archer DF, et al. *Fertil Steril.* 2002.; Zacur HA, et al. *Fertil Steril*. 2002.; Zieman M, et al. *Fertil Steril.* 2002.; Archer DF, et al. *Contraception*. 2004.; Audet MC, et al. *JAMA*. 2001.

Very effective

# Vaginal Ring

- Brand name: NuvaRing®
- Insert intravaginally (monthly)
- Intercourse: leave in, or take out for no longer than 3 hours
- Complaints:
  - Vaginal discharge
  - Sensation during intercourse
- Lowest hormonal profile

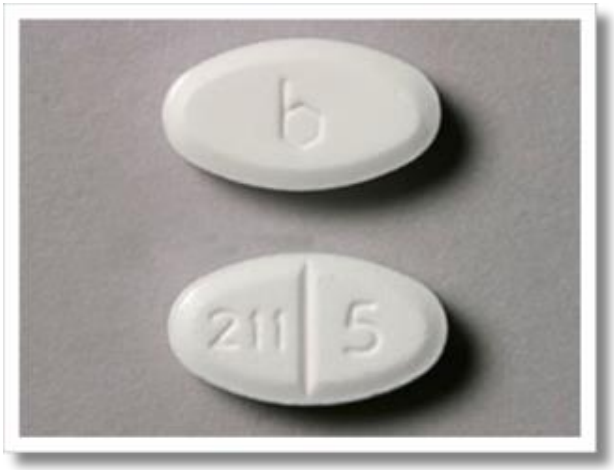
NuvaRing Prescribing Information. Organon. 2001: Timmer CJ. Clin Pharmacokinet. 2000. Herndon EJ. Am Fam Physician. 2004: Dieben TO. Obstet Gynecol. 2002: Linn ES. Int J Fertil. 2003. et al.

# Beneficial effects of estrogen

- Contraceptive benefit
  - Helps stabilize uterine lining- less breakthrough bleeding
  - Added suppression of FSH- less follicle development
- Noncontraceptive benefits
  - Reduces SHBG→ less male effects (i.e. acne)
  - Reduces ovarian cancer, endometrial, colon cancer risks

Very effective

# Progestin-Only Oral Contraceptives

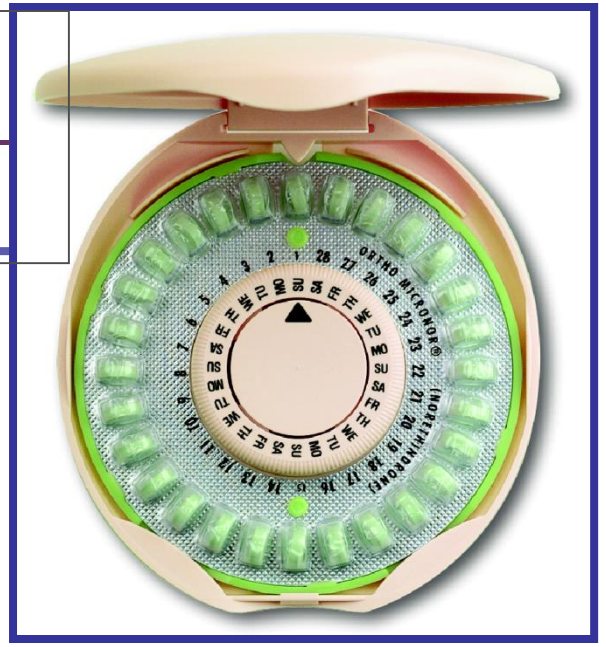



- Called the “mini-pill”
- Two formulations: norethindrone & norgestrel
- Option for lactating women
- No placebo pills

- Less forgiving
  - 3 hr delay→ requires back-up x 48 hrs, consider EC
  - Miss one pill → use EC and back-up x 1 week

Apgar BS. AFP. 2000; WHO MEC. 2004. Contraception Report. 1999. Apgar BS. AFP. 2000. et al.

# Mechanism of action: Progestin-only Pills



Hypothalamus

GnRH

+/-

Pituitary

Inhibits Ovulation

FSH, LH

Ovary

E2, P

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Atrophic Endometrium

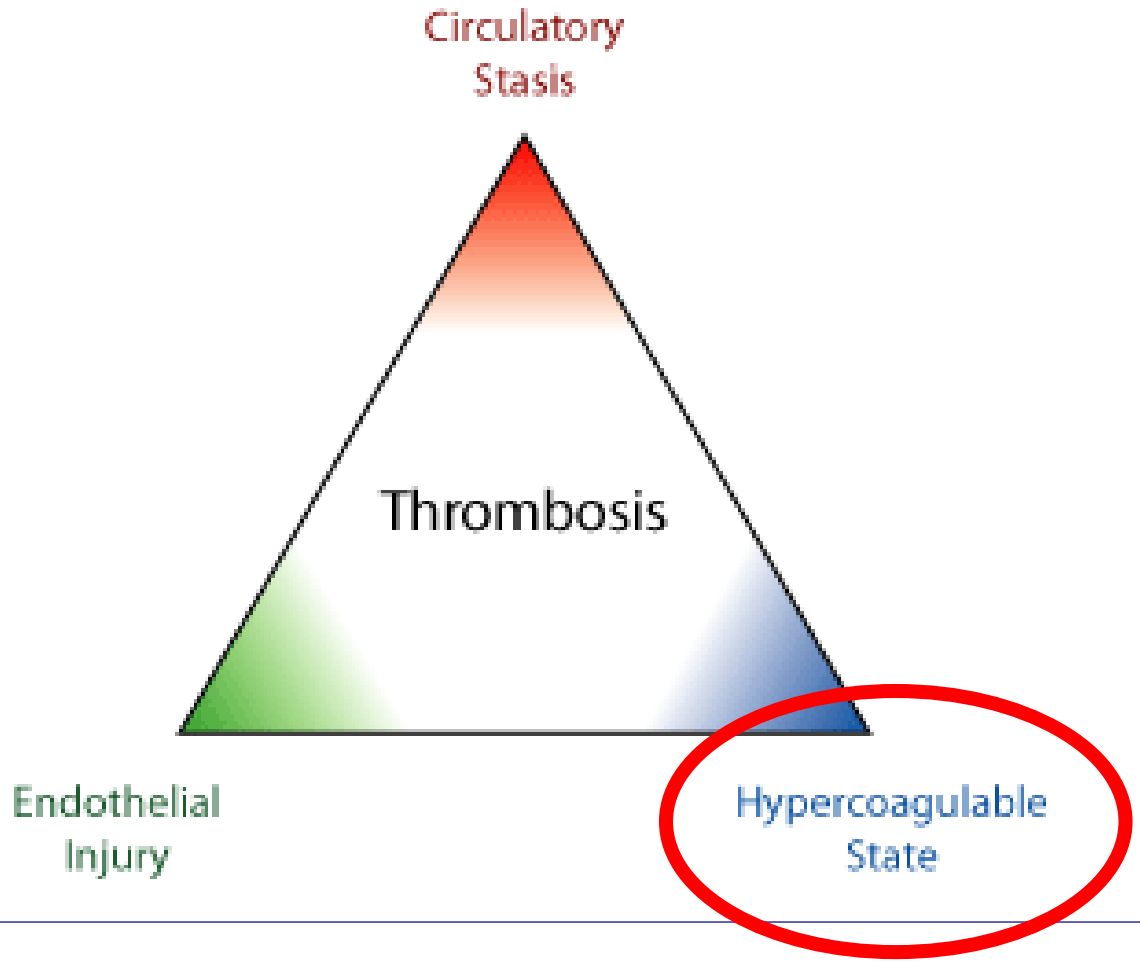
Uterus

Thickens cervical mucus

Cervix

# Estrogen vs. Progestin

# Thromboembolism



# Physiologic risks of estrogen

- Estrogen increases clotting factors II, VII, X, XII, factor VIII and fibrinogen.
- Shift towards thrombus formation and prevention of clot dissolution.
- Leads to greater risk of venous and arterial clot formation (more venous).
- Higher estrogen more production of clotting factors

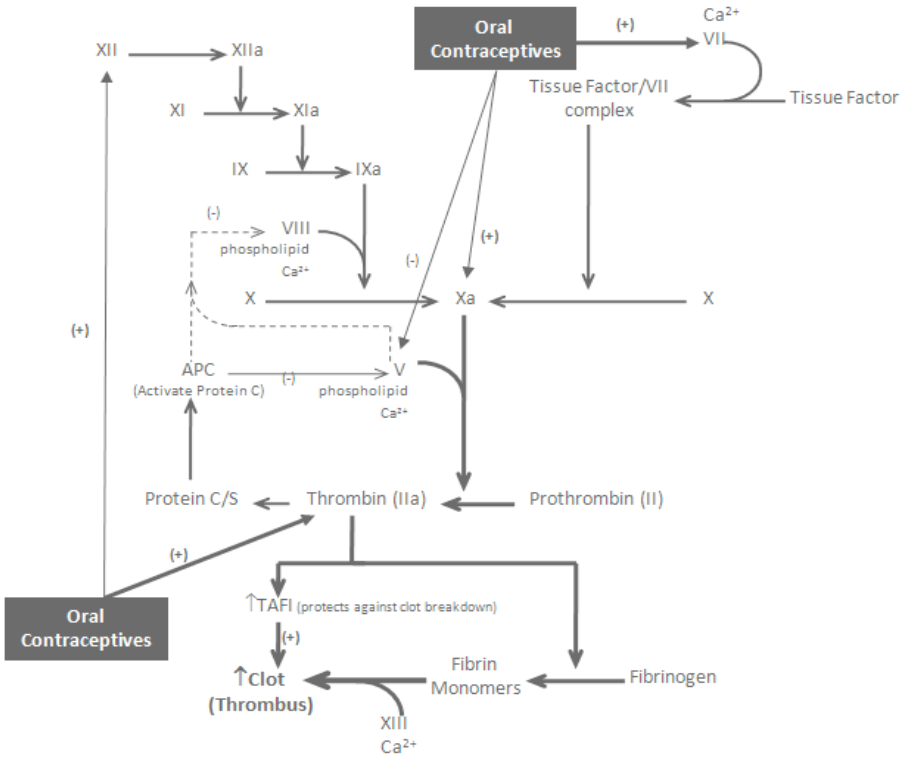
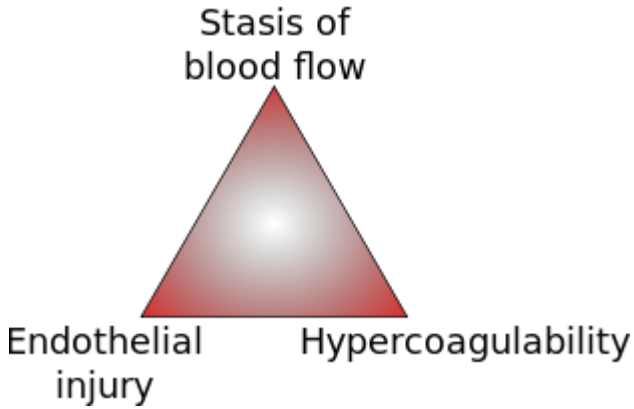



Figure 1. Coagulation cascade of a patient taking estrogen containing oral contraceptives.

# Selection of candidates for CHC

- Risk of venous thrombosis
- Risk of arterial thrombosis
- Other risk factors:
  - Major surgery with prolonged immobilization
- Organ specific
  - Active liver/gallbladder problems
- Hormone specific (breast cancer)



# Risks in perspective

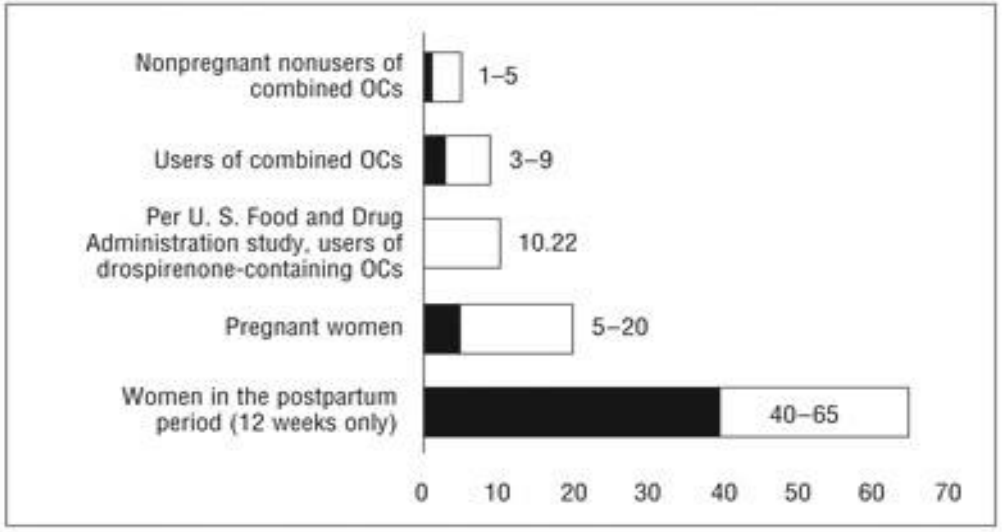
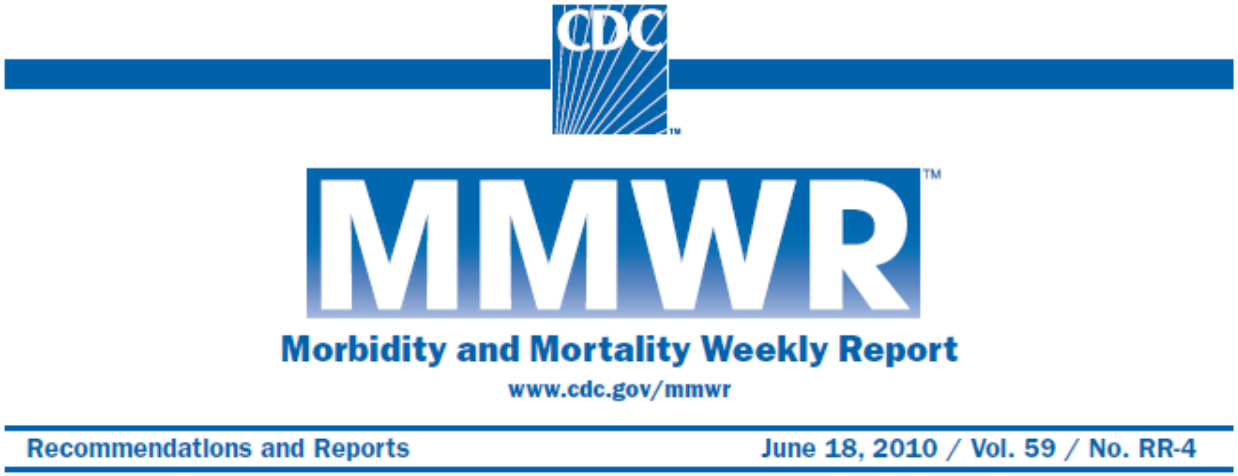



**Fig. 1.** Likelihood of developing a blood clot (number of women with a blood clot per 10,000 women-years). Abbreviation: OC indicates oral contraceptives. Adapted from Food and Drug Administration. FDA drug safety communication: updated information about the risk of blood clots in women taking birth control pills containing drospirenone. Silver Spring (MD): FDA; 2012. Available at: http://www.fda.gov/Drugs/DrugSafety/ucm299305. Retrieved July 5, 2012. Additional information from Food and Drug Administration. Combined hormonal contraceptives (CHCs) and the risk of cardiovascular disease endpoints. Silver Spring (MD): FDA; 2011. Available at: http://www.fda.gov/downloads/Drugs/DrugSafety/UCM277384.pdf. Retrieved July 5, 2012.

# Which Contraceptive Methods are Safe for my Patient?

# US Medical Eligibility Criteria for Contraceptive Use



# US MEC: Categories

| | |
|---|---|
| 1 | No restriction for the use of the contraceptive method for a woman with that medical condition |
| 2 | Advantages of using the method generally outweigh the theoretical or proven risks |
| 3 | Theoretical or proven risks of the method usually outweigh the advantages – or that there are no other methods that are available or acceptable to the women with that medical condition |
| 4 | Unacceptable health risk if the contraceptive method is used by a woman with that medical condition |

http://www.cdc.gov/mmwr/pdf/rr/rr5904.pdf

# Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use, 2010

| Key: | |
|---|---|
| 1 | No restriction (method can be used) |
| 2 | Advantages generally outweigh theoretical or proven risks |
| 3 | Theoretical or proven risks usually outweigh the advantages |
| 4 | Unacceptable health risk (method not to be used) |

This summary sheet only contains a subset of the recommendations from the US MEC. For complete guidance, see: www.cdc.gov/reproductivehealth/usmec

Most contraceptive methods do not protect against sexually transmitted infections (STIs). Consistent and correct use of the male latex condom reduces the risk of STIs and HIV.

| Condition | Sub-condition | Combined pill, patch, ring | | Progestin-only pill | | Injection | | Implant | | LNG–IUD | | Copper IUD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | C | I | C | I | C | I | C | I | C | I | C |
| Age | | Menarche to <40: 1<br>≥40: 2 | | Menarche to <18: 1<br>18–45: 1<br>>45: 1 | | Menarche to <18: 2<br>18–45: 1<br>>45: 2 | | Menarche to <18: 1<br>18–45: 1<br>>45: 1 | | Menarche to <20: 2<br>≥20: 1 | | Menarche to <20: 2<br>≥20: 1 | |
| Anatomic abnormalities | a) Distorted uterine cavity | | | | | | | | | 4 | | 4 | |
| | b) Other abnormalities | | | | | | | | | 2 | | 2 | |
| Anemias | a) Thalassemia | 1 | | 1 | | 1 | | 1 | | 1 | | 2 | |
| | b) Sickle cell disease‡ | 2 | | 1 | | 1 | | 1 | | 1 | | 2 | |
| | c) Iron-deficiency anemia | 1 | | 1 | | 1 | | 1 | | 1 | | 2 | |
| Benign ovarian tumors | (including cysts) | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| Breast disease | a) Undiagnosed mass | 2* | | 2* | | 2* | | 2* | | 2 | | 1 | |
| | b) Benign breast disease | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | c) Family history of cancer | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | d) Breast cancer‡ | | | | | | | | | | | | |
| | i) current | 4 | | 4 | | 4 | | 4 | | 4 | | 1 | |
| | ii) past and no evidence of current disease for 5 years | 3 | | 3 | | 3 | | 3 | | 3 | | 1 | |
| Breastfeeding | a) < 1 month postpartum | 3* | | 2* | | 2* | | 2* | | | | | |
| | b) 1 month or more postpartum | 2* | | 1* | | 1* | | 1* | | | | | |
| Cervical cancer | Awaiting treatment | 2 | | 1 | | 2 | | 2 | | 4 | 2 | 4 | 2 |
| Cervical ectropion | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| Cervical intraepithelial neoplasia (CIN) | | 2 | | 1 | | 2 | | 2 | | 2 | | 1 | |
| Cirrhosis | a) Mild (compensated) | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | b) Severe‡ (decompensated) | 4 | | 3 | | 3 | | 3 | | 3 | | 1 | |
| Deep venous thrombosis (DVT) /Pulmonary embolism (PE) | a) History of DVT/PE, not on anticoagulant therapy | | | | | | | | | | | | |
| | i) higher risk for recurrent DVT/PE | 4 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | ii) lower risk for recurrent DVT/PE | 3 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | b) Acute DVT/PE | 4 | | 2 | | 2 | | 2 | | 2 | | 2 | |
| | c) DVT/PE and established on anticoagulant therapy for at least 3 months | | | | | | | | | | | | |
| | 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 | |
| | d) Family history (first-degree 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 | |
| Depressive disorders | | 1* | | 1* | | 1* | | 1* | | 1* | | 1* | |
| Diabetes mellitus (DM) | a) History of gestational DM only | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| DM (cont.) | b) Non-vascular disease: | | | | | | | | | | | | |
| | (i) non-insulin dependent | 2 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | (ii) insulin dependent‡ | 2 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | c) Nephropathy/ retinopathy/ neuropathy‡ | 3/4* | | 2 | | 3 | | 2 | | 2 | | 1 | |
| | d) Other vascular disease or diabetes of >20 years' duration‡ | 3/4* | | 2 | | 3 | | 2 | | 2 | | 1 | |
| Endometrial cancer‡ | | 1 | | 1 | | 1 | | 1 | | 4 | 2 | 4 | 2 |
| Endometrial hyperplasia | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| Endometriosis | | 1 | | 1 | | 1 | | 1 | | 1 | | 2 | |
| Epilepsy‡§ | see drug interactions | 1* | | 1* | | 1* | | 1* | | 1 | | 1 | |
| Gall bladder disease | a) Symptomatic | | | | | | | | | | | | |
| | (i) treated by cholecystectomy | 2 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | (ii) medically treated | 3 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | (iii) current | 3 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| | b) Asymptomatic | 2 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| Gestational trophoblastic disease | a) Decreasing or undetectable ß-hCG levels | 1 | | 1 | | 1 | | 1 | | 3 | | 3 | |
| | b) Persistently elevated ß-hCG levels or malignant disease‡ | 1 | | 1 | | 1 | | 1 | | 4 | | 4 | |
| Headaches | a) Non-migrainous | 1* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | |
| | b) Migraine: | | | | | | | | | | | | |
| | (i) without aura, age <35 | 2* | 3* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | |
| | (ii) without aura, age ≥35 | 3* | 4* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | |
| | (iii) with aura, any age | 4* | 4* | 2* | 3* | 2* | 3* | 2* | 3* | 2* | 3* | 1* | |
| History of bariatric surgery‡ | a) Restrictive procedures | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | b) Malabsorptive procedures | CODc: 3<br>FPE: 1 | | 3 | | 1 | | 1 | | 1 | | 1 | |
| History of cholestasis | a) Pregnancy-related | 2 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | b) Past COC-related | 3 | | 2 | | 2 | | 2 | | 2 | | 1 | |
| History of high blood pressure during pregnancy | | 2 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| History of pelvic surgery | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| HIV | High risk or HIV infected‡ | 1 | | 1 | | 1 | | 1 | | 2 | 2 | 2 | 2 |
| | AIDS (see drug interactions) ‡§ | 1* | | 1* | | 1* | | 1* | | 3 | 2* | 3 | 2* |
| | Clinically well on ARV therapy§ | If on treatment see drug interactions | | | | | | | | 2 | 2 | 2 | 2 |
| Hyperlipidemias | | 2/3* | | 2* | | 2* | | 2* | | 2* | | 1* | |
| Hypertension | a) Adequately controlled hypertension | 3* | | 1* | | 2* | | 1* | | 1 | | 1 | |
| | b) Elevated blood pressure levels (properly taken measurements) | | | | | | | | | | | | |
| | (i) systolic 140-159 or diastolic 90-99 | 3 | | 1 | | 2 | | 1 | | 1 | | 1 | |

# Warnings for CHC

| **CDC MEC Medical Condition** | **CHC** |
|---|---|
| Heavy smoker > 35 | 4 |
| <4-6 weeks postpartum | 3 |
| Uncontrolled HTN | 4 |
| H/o DVT or PE | 3-4 |
| Migraine with aura | 4 |
| Diabetes with vascular disease | 3-4 |
| Severe Cirrhosis | 4 |
| Hx Bariatric Sx- malabsorptive | 3 |
| Mod/ Severe Peripartum Cardiomyopathy | 4 |
| Inflammatory bowel disease | 2-3 |

# Safety with progestin-only methods

| CDC MEC Medical Condition | CHC | Progestin -only |
|---|---|---|
| Heavy smoker > 35 | 4 | 1 |
| <4-6 weeks postpartum | 3 | 2 |
| Uncontrolled HTN | 4 | 2-3 |
| H/o DVT or PE | 3-4 | 2 |
| Migraine with aura | 4 | 2-3 |
| Diabetes with vascular disease | 3-4 | 2-3 |
| Severe Cirrhosis | 4 | 3 |
| Hx Bariatric Sx- malabsorptive | 3 | 1 3 |
| Mod/ Severe Peripartum Cardiomyopathy | 4 | 2 |
| Inflammatory bowel disease | 2-3 | 1-2 |

# Common pitfalls (for the internist)

- Consider the additive effects of multiple concerns
  - Multiple risk factors (older age, smoking, diabetes, HTN) → CDC MEC 3/4 for CHC and 3 for DMPA
- No contraception= unplanned pregnancy= greater risks than contraception
- Assume most patients are having sex
  - Not only give contraception, check pregnancy test even if on contraception

# Cases

# Case Presentation 1


- Which hormonal methods are safe for her to use?
  - A. Combined hormonal methods only
  - B. Progestin-only methods only
  - C. Any hormonal method

# Breastfeeding

| Condition | Sub-condition | Combined pill, patch, ring | | Progestin-only pill | | Injection | | Implant | | LNG-IUD | | Copper-IUD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | C | I | C | I | C | I | C | I | C | I | C |
| Breastfeeding | a) < 1 month postpartum | 3* | | 2* | | 2* | | 2* | | | | | |
| | b) 1 month or more postpartum | 2* | | 1* | | 1* | | 1* | | | | | |

# Case Presentation 1


- Which hormonal methods are safe for her to use?
  - A. Combined hormonal methods only
  - B. Progestin-only methods only
  - C. Any hormonal method

# Case Presentation 2

- 25-year-old
- Has Crohn's disease
- Desires long-term reversible contraception
- Thinking about levonorgestrel-releasing IUD

- Is this method safe for her?
  - A. Yes
  - B. No

Safe even if nulliparous

# Inflammatory Bowel Disease

| Condition | Sub-condition | Combined pill, patch, ring | | Progestin-only pill | | Injection | | Implant | | LNG--IUD | | Copper-IUD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | C | I | C | I | C | I | C | I | C | I | C |
| Inflammatory bowel disease | (Ulcerative colitis, Crohn's disease) | 2/3* | | 2 | | 2 | | 1 | | 1 | | 1 | |

# Case Presentation 2

- 25-year-old
- Has Crohn's disease
- Desires long-term reversible contraception
- Thinking about levonorgestrel-releasing IUD

- Is this method safe for her?
  - A. Yes (Category 1)
  - B. No

# Case Presentation 3

- 30-year-old
- History of bariatric surgery 6 months ago
- Was using COCs before surgery & wants to restart

- What do you need to know before deciding whether to recommend this method?
  A. How much weight has she lost?
  B. What type of surgery did she have?
  C. What pill formulation did she use previously?

# Bariatric surgery

- Most effective weight loss treatment for morbid obesity
- From 1998 to 2005, incidence increased 800%
- Women account for 83% of procedures among reproductive age (ages 18-45)

# Types of Bariatric surgery

- Restrictive procedures:
  - Decrease storage capacity of stomach
  - Ex: vertical banded gastroplasty, laparoscopic adjustable gastric band, laparoscopic sleeve gastrectomy
- Malabsorptive procedures:
  - Decrease absorption of nutrients and calories by shortening functional length of small intestine
  - Ex: Roux-en-Y gastric bypass (most common in US), biliopancreatic diversion

# Bariatric Surgery

- Consensus: Pregnancy should be avoided for 12-24 months after surgery

Paulen, ME et al. *Contraception* 82 (2010) 86-94.

# History of Bariatric Surgery

| Condition | Sub-condition | Combined pill, patch, ring | | Progestin-only pill | | Injection | | Implant | | LNG--IUD | | Copper-IUD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | C | I | C | I | C | I | C | I | C | I | C |
| History of bariatric surgery† | a) Restrictive procedures | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | b) Malabsorptive procedures | COCs: 3<br>P/R: 1 | | 3 | | 1 | | 1 | | 1 | | 1 | |

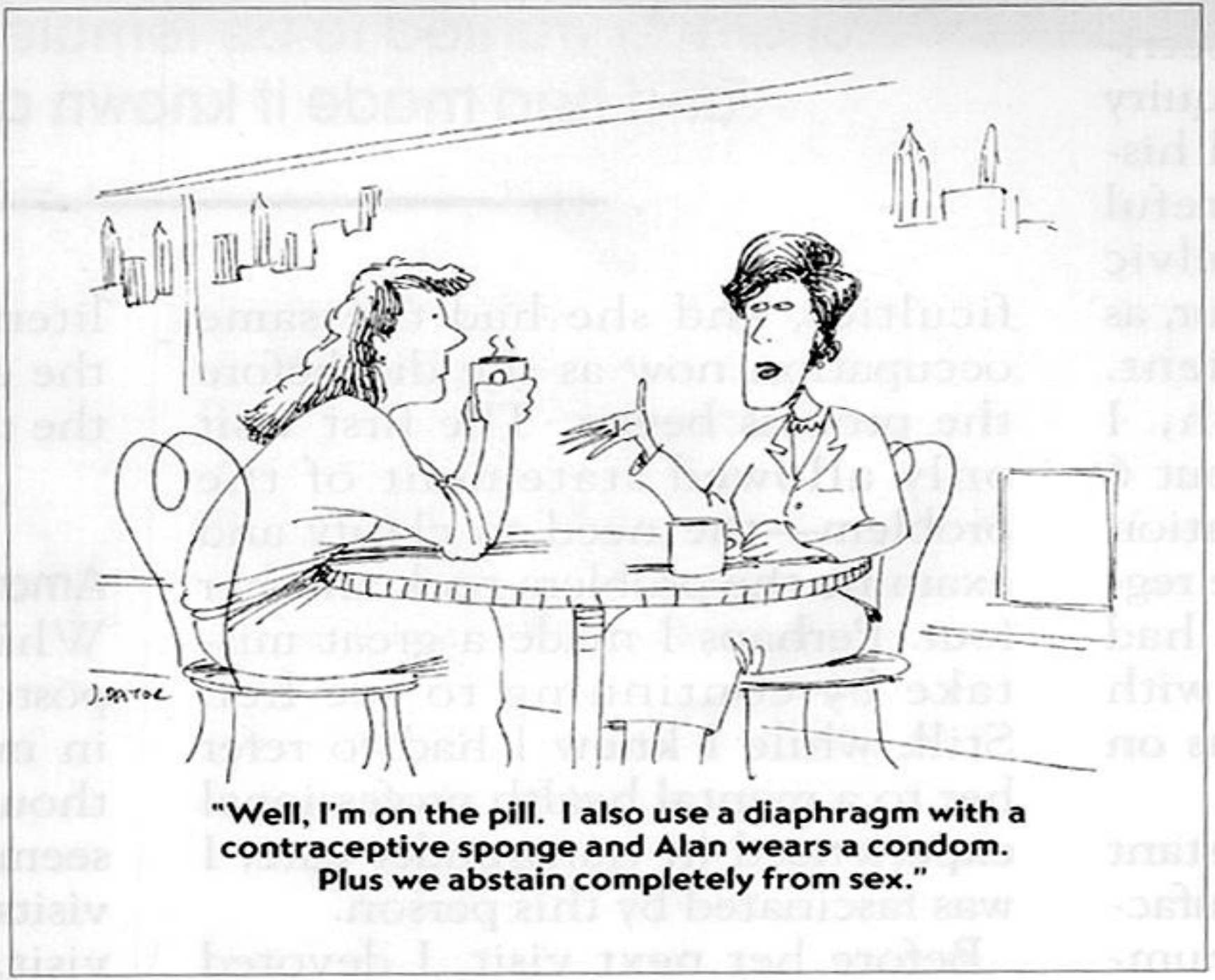
# Case Presentation 3

- 30-year-old
- History of bariatric surgery 6 months ago
- Was using COCs before surgery & wants to restart

- What do you need to know before deciding whether to recommend this method?
  - A. How much weight has she lost?
  - B. What type of surgery did she have?
  - C. What pill formulation did she use previously?

# Conclusions

- Physicians must be aware that women with medical co-morbidities face increased risks:
  - Combined hormonal contraception
  - Unintended pregnancy
- CDC MEC can guide safe prescription.
- Most long-acting reversible contraceptive methods are safe and effective options.



"Well, I'm on the pill. I also use a diaphragm with a contraceptive sponge and Alan wears a condom. Plus we abstain completely from sex."