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Contraception

Yolanda Evans MD MPH
Associate Professor of Pediatrics
Division of Adolescent Medicine
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Disclosures

- No financial relationships to disclose
- I have no commercial, financial, research ties to any companies that manufacture contraception
- I will use brand names of medications and devices in this presentation

Objectives

- Know the key concerns when counseling on contraception in adolescents
- Understand the contraceptive options available to teens in the US
- Know risks and benefits associated with each contraceptive option

Overview

- Things to consider
- Shorter term methods
- Longer term methods
- A few extras
- Case discussion

Pediatricians are important!

AAP Guidelines from 2017

DEDICATED TO THE HEALTH OF ALL CHILDREN™

Sexual and Reproductive Health Care Services in the Pediatric Setting

Arik V. Marcell, MD, MPH,[a,b] Gale R. Burstein, MD, MPH,[c] COMMITTEE ON ADOLESCENCE

Pediatricians are an important source of health care for adolescents and young adults and can play a significant role in addressing their patients'

abstract

Things to Consider

- Why are you having the conversation about birth control?
  - Menstrual regulation
  - Contraception
  - Dysmenorrhea
  - Menorrhagia
- Are there any contraindications?
  - History of blood clot?
  - Liver disease?
  - Migraine headache with aura
  - Hypercoagulable state (RA?, lupus?)

Things to Consider Continued…

- Does the patient want parents to know?
- Can the patient access the birth control without adult help?
- If sexually active, is the teen in a safe relationship?
- Do they need STI screening?
  - Chlamydia screening recommended yearly for all sexually active teen girls

Teen reproductive health behaviors

Fewer teens in the US are having sex

- ‘Ever had sexual intercourse’

- 54% 1991
- 47% 2003
- 47% 2011
- 41% 2015
- 39.5% 2017

- Only 29% reported currently being sexually active (sex in the past 3 months)

https://www.cdc.gov/nchs/products/databriefs/db209.htm#fig4

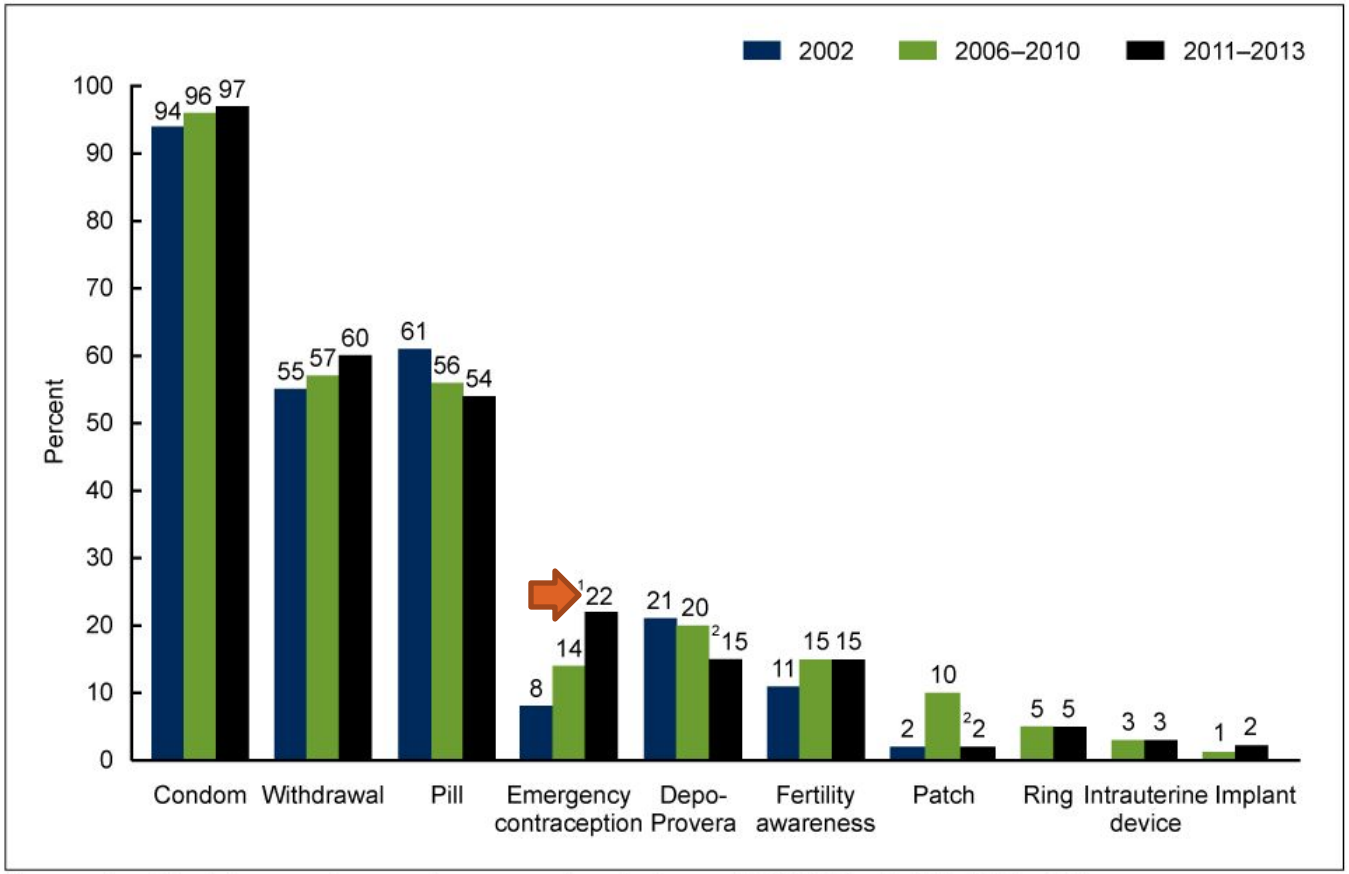
How many high schoolers used condoms at last sexual intercourse?

1. 20%
2. 45%
3. 54%

https://www.cdc.gov/healthyyouth/data/yrbs/pdf/trends/2017_sexual_trend_yrbs.pdf

Changes in contraceptive use at 1st sex

Figure 4. Methods of contraception ever used among females aged 15–19 who had ever had sexual intercourse: United States, 2002, 2006–2010, and 2011–2013



[1]The percentage of female teenagers who ever used emergency contraception increased in 2006–2010 and in 2011–2013 ($p < 0.05$).
[2]Difference in percentage of female teenagers who ever used Depo-Provera or the patch was significantly lower in 2011–2013 than in 2006–2010 ($p < 0.05$).
NOTES: Neither the contraceptive ring nor the implant were available in 2002. The number of teenagers who had ever used the IUD in 2002 was too small to be statistically reliable.
SOURCE: CDC/NCHS, National Survey of Family Growth, 2002, 2006–2010, and 2011–2013.

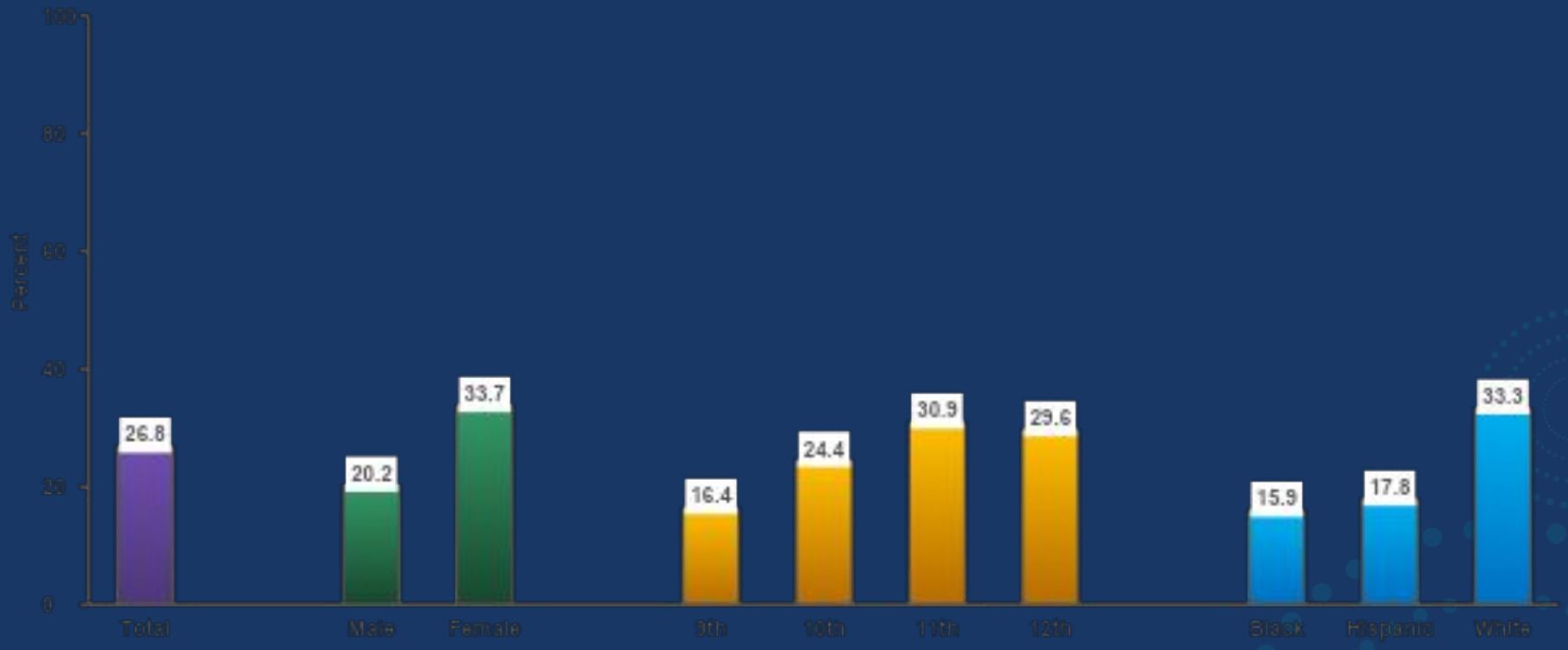
LARC use is up

- ‘Used an IUD or implant to prevent pregnancy before last sexual encounter’

- 1.6% 2013
- 3.3% 2015
- 4.1% 2017

https://www.cdc.gov/healthyyouth/data/yrbs/pdf/trends/2017_sexual_trend_yrbs.pdf

Percentage of High School Students Who Used Birth Control Pills; an IUD or Implant; or a Shot, Patch, or Birth Control Ring,* by Sex,† Grade,† and Race/Ethnicity,† 2015



*Before last sexual intercourse to prevent pregnancy among students who were currently sexually active
†F > M; 10th > 9th, 11th > 9th, 11th > 10th, 12th > 9th; W > B, W > H (Based on t-test analysis, $p < 0.05$.)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
Note: This graph contains weighted results.

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National Youth Risk Behavior Survey, 2015

Teen pregnancy rates are dropping!

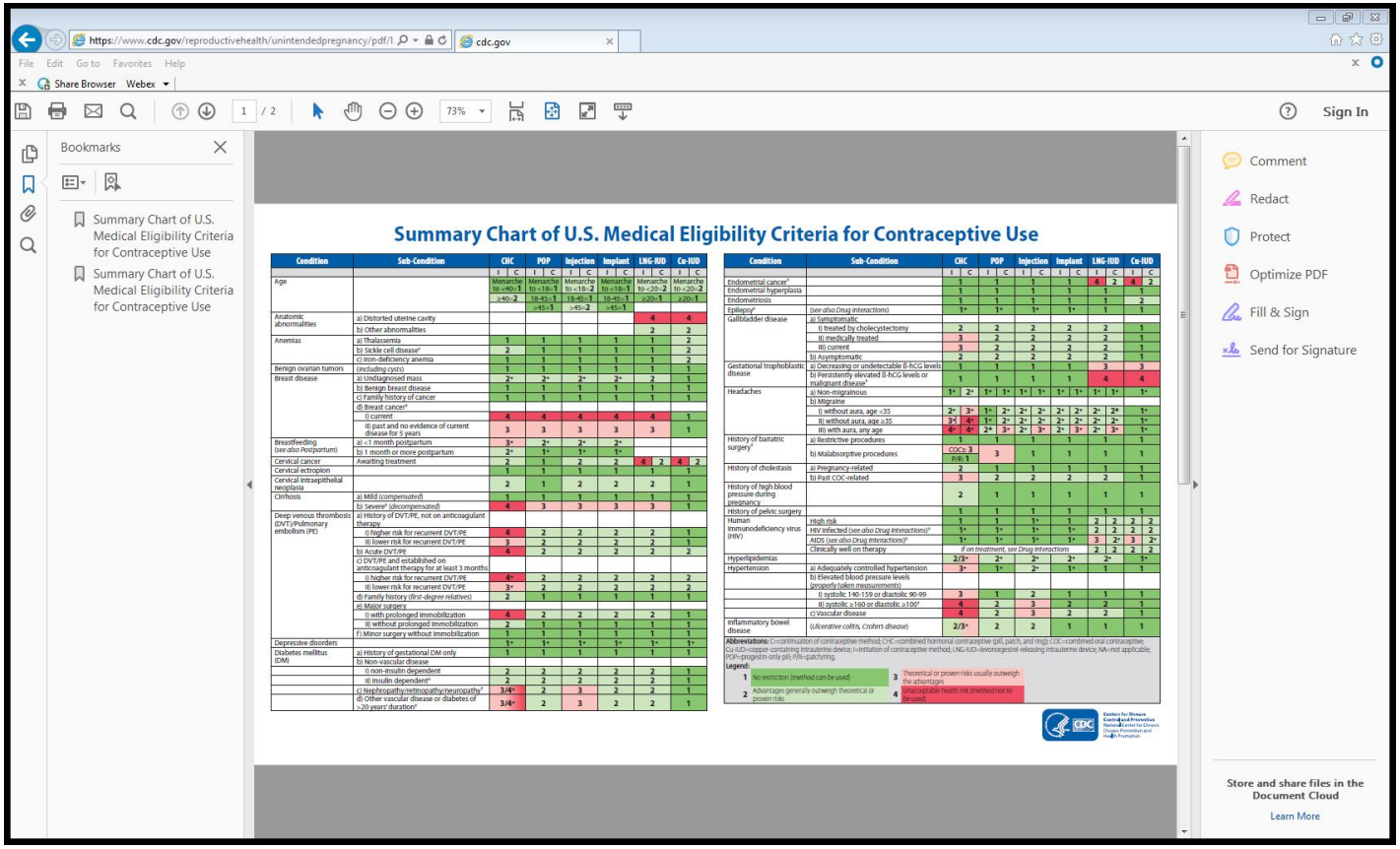
- In 2015, birth rate for 15-19 y/o was 22.3 per 1000
- This is a drop from 40 per 1000 in 2007

- However there are still disparities
  - More than twice as high for Hispanic vs non-Hispanic white
  - Non-Hispanic black rate nearly twice as high as non-Hispanic white
  - By age 17, females more than five times as likely to have had a teen birth if they did not use a method of contraception at their first sexual intercourse (11%) than those who used a method (2%)

https://www.cdc.gov/nchs/products/databriefs/db209.htm#fig4

Eligibility Criteria

- https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html



“Short” Term Methods

Pills

- There are many different pills on the market
- They vary by type of progesterone & dose of estrogen
- Effectiveness: ~91%
- I typically use 30-35mcg estrogen pills

Pills

- Risks
  - Common side effects of spotting, headache, nausea
  - Blood clot risk
  - Needs to be taken consistently
- Benefits
  - Reliable contraception when taken as prescribed
  - Small and easy to swallow
  - Easy to carry (and conceal)
  - Menses control
  - Helps with acne
  - Protective for some cancers

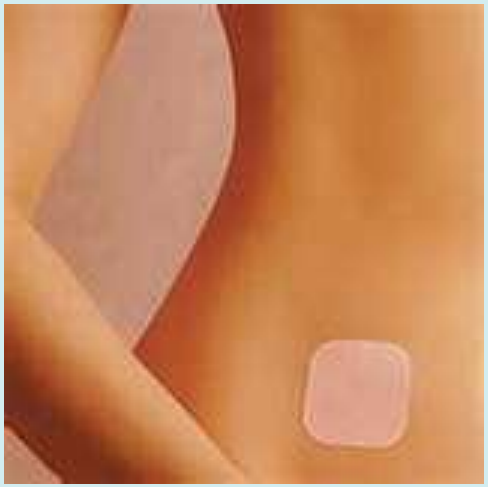
Presenting symptom	Potential cause	Potential Options	
Acne, weight gain, hirsutism, increased LDL, decreased HDL	Excessive androgen	Ortho-cyclen Ovcon-35	MonoNessa, Sprintec Balzvia, Zenchent
Nausea, headache, breast tenderness, high BP	Excessive estrogen	Loestrin Fe 1/20 or 1.5/30 Lo-Ovral Alesse Seasonale Ortho Evra Nordette	Junel Fe 1/20 or 1.5/30 Cryselle, Low Ogestrel Aviane, Lessina Jolessa N/A Levora, Portia
Early or mid-cycle breakthrough bleeding	Insufficient estrogen	Nortrel 0.5/35 Ortho-Novum 1/35 Ortho-Novum 7/7/7	Necon Necon 1/35 Necon 7/7/7, Nortrel 7/7/7
Late cycle breakthrough bleeding	Insufficient Progestin	Nordette Lo-Ovral Ortho-Novum 1/35 or 7/7/7 Loestrin Fe 1/20 or 1.5/30	Levora, Portia Cryselle Necon, Necon 777 Junel Fe 1/20 or 1.5/30
Headache, irritability, fatigue	Excessive Progestin	Alesse Ovcon-35 Nortrel 0.5/35 Ortho-cyclen	Aviane, Lessina Balziva, Zenchent Necon, Brevicon MonoNessa, Sprintec, Previfem
Fluid retention	Hormonal fluctuation	Yasmin Yaz	Ocella Gianvi
menstrual migraine	Hormonal fluctuation	Mircette Lo-Estrin 24 Fe Yaz Seasonique Seasonale	Kariva Gianvi N/A Jolessa

Adapted from Partners Community Healthcare, Inc.

NuvaRing

- Same risks, benefits and effectiveness at OCPs
- Some teens don’t like placing something ‘inside’ or removing it
- Can be expelled with bowel movements or sex

Ortho Evra Patch



- Similar risks, benefits, and effectiveness as OCPs but…
  - Can’t skip menses
  - Less effective in obese
  - Must remember to change weekly

Depo Medroxyprogesterone

- Large dose of progesterone every 12 weeks (can give as often as every 8-10 weeks if spotting)
- Effectiveness: 94%
  - Decreased bone density with extended use (1-2 years)

Mini-pill

- If estrogen is contraindicated, but the teen doesn't want a longer term method
- Norethindrone – 99% effective if used perfectly (but closer to 90% with typical use)
- Also, more likely to have breakthrough bleeding if missed doses

“Long” Term Methods

- LARCs – long active reversible contraception

IUD's

Multiple are on the market

- Mirena – 52mg levonorgestrel lasts for 5 years
- Kyleena – 19.5mg levonorgestrel lasts for up to 5 years
- Skyla – 13.5mg levonorgestrel lasts for 3 years
- Liletta (different company than above) – 52mg levonorgestrel lasts for up to 4 years

- Paragard – copper IUD, can be used as emergency contraception (within 5 days) – lasts for up to 10 years

Implant (Nexplanon)

- Slow release of progesterone (etonorgestrel)
- Lasts for 3 years
- Easy to place (but must be certified)
- Removal can be more challenging
- 1/3rd have unpredictable periods

More options to know about

- Plan B
  - Levonorgestrel – prevents ovulation NOT abortifacient
  - Best within 72hrs, but not for routine contraception
- Ella (Ulipristal)
  - progesterone receptor modulator
  - Used up to 5 days after unprotected sex
- Condoms
  - The only method that protects against infection
  - All teens should use condoms with EVER sexual encounter
  - About 85% effective at pregnancy prevention
- Withdrawal
  - About 80% effective, but I always recommend one of the previous methods

Heavy vaginal bleeding

- Get a thorough history – uHCG, GC/CT
  - bleeding disorder concerns?
  - CBC, TSH, vWF antigen and activity, Factor VIII, PT/PTT

  - If mild bleeding (nl Hct) can start for antiprostaglandins (Naproxen, ibuprofen) or OCP
  - If moderate (Hct<35) – consider PCOS labs; OCP/Mirena
  - If Heavy (Hct<25 or Hgb<8) – send to ED for possible admission

Case Example 1 of 4

Mia is a 16 y/o coming in to discuss menstrual periods

- Menarche was at age 12
- Cycles have been every 3-4 weeks lasting 5 days
- Days 1 & 2 she changes a super pad every 3 hours
- Cramps keep her home from school

  - No past medical history other than migraine with aura
  - She's very busy and forgets to take her multivitamin most days of the week
  - Thinking of having sex with boyfriend of 5 months…doesn't want parents to know

Options include…

Levonorgestrel containing IUD

Mirena, Liletta, Kyleena, Skyla can all be considered. For menstrual suppression given her history of dysmenorrhea, Mirena/Liletta are ideal

Nexplanon

progestin only, effective for 3 years; excellent contraception, but may have irregular bleeding

Depo Provera

progestin only injection every 3 months offers possible menstrual suppression and effective contraception if she can come to receive the dose on schedule

Progestin only pill

potentially effective at menstrual suppression but she'll need to take it at the same time daily. Not idea for contraception

Case Example 2 of 4

- Lydia is a 15 y/o recently diagnosed with PCOS
  - She has hypertension and hyperlipidemia
- Menarche at age 11, but periods have been irregular; last menstrual period was 6 mo ago
  - BMI >95th percentile for age
- She is working with a dietitian an athletic trainer
  - Lipid profile was elevated and HgA1C 5.8 last year

PCOS

- In general, lifestyle changes of balanced nutrition and regular exercise are recommended first line
- Discuss menstrual management
  - OCP if no contraindications
- If metabolic syndrome, consider metformin
- *Avoid* levonorgestrel (more androgenic)
- Preferred norethindrone, norgestimate, desogestrel, drosperinone (ortho-cyclen, Ovcon, Nortrel, Yasmin, Yaz)

*Options include…

Combined oral birth control pill

- Many different options, but lowest androgenic being norethindrone, drospirenone; moderate desogestrel, norgestimate, norethindrone acetate; highest androgen effects are with levonorgestrel, norgestrel

OrthoEvra patch or NuvaRing

Levonorgestrel containing IUD

- Mirena, Liletta, Kyleena, Skyla could all be considered (though contain levonorgestrel). For menstrual suppression given her history of dysmenorrhea, Mirena/Liletta

Nexplanon

- progestin only, effective for 3 years; excellent contraception, but may have irregular bleeding

*possible decreased efficacy if BMI>30

Case Example 3 of 4

- Olivia is a 17 y/o with history of lupus. She has been hospitalized 3 times due to complications of disease and her renal function is suboptimal. She's on methotrexate
  - She had menarche at age 13
  - Periods are monthly and last 6 days
  - Heaviest flow on days 2-3; changes a super tampon every 4 hours

- She came in today at the recommendation of her Rheumatologist
- Mom is in the lobby and knows she has recently become sexually active with boyfriend

Options include…

Levonorgestrel containing IUD

Mirena, Liletta, Kyleena, Skyla can all be considered. For menstrual suppression given her history of heavier menses and need for longer-term contraception, Mirena/Liletta are best

Nexplanon

progestin only, effective for 3 years; excellent contraception, but may have irregular bleeding

Depo Provera

progestin only injection every 3 months offers possible menstrual suppression and effective contraception if she can come to receive the dose on schedule

Case Example 4 of 4

- Monserrat is a 16 y/o with epilepsy
- She and parents would like to discuss options for menstrual suppression
- She is currently taking Topiramate at 200mg PO BID

- No history of blood clots in the family and the patient has generally been healthy otherwise

Options include…

Para Gard IUD

Best option purely for contraception

Levonorgestrel containing IUD

For menstrual suppression, Mirena/Liletta are best options

Depo Provera

Acceptable option if she can receive doses on time

Combined OCP

Some antiepileptic medications can decrease effectiveness of estrogen containing contraception. Use a minimum of 35mcg ethinyl estradiol if this is chosen (Ortho-Novum 1/35, Ortho Cyclen).

Other antiepileptic meds (e.g. lamotrigine) can have decreased serum concentration in the presence of hormonal contraception.

Last thoughts

- Teens no longer need a pelvic exam and pap smear before being prescribed birth control
- Pick the method that the teen will be most likely to adhere to!
- Great resource: King County Public Health

http://www.kingcounty.gov/healthservices/health/personal/famplan/birthcontrol/brochures.aspx

Questions?