NEXPLANON for CONTRACEPTION

FLAME LECTURE: 152

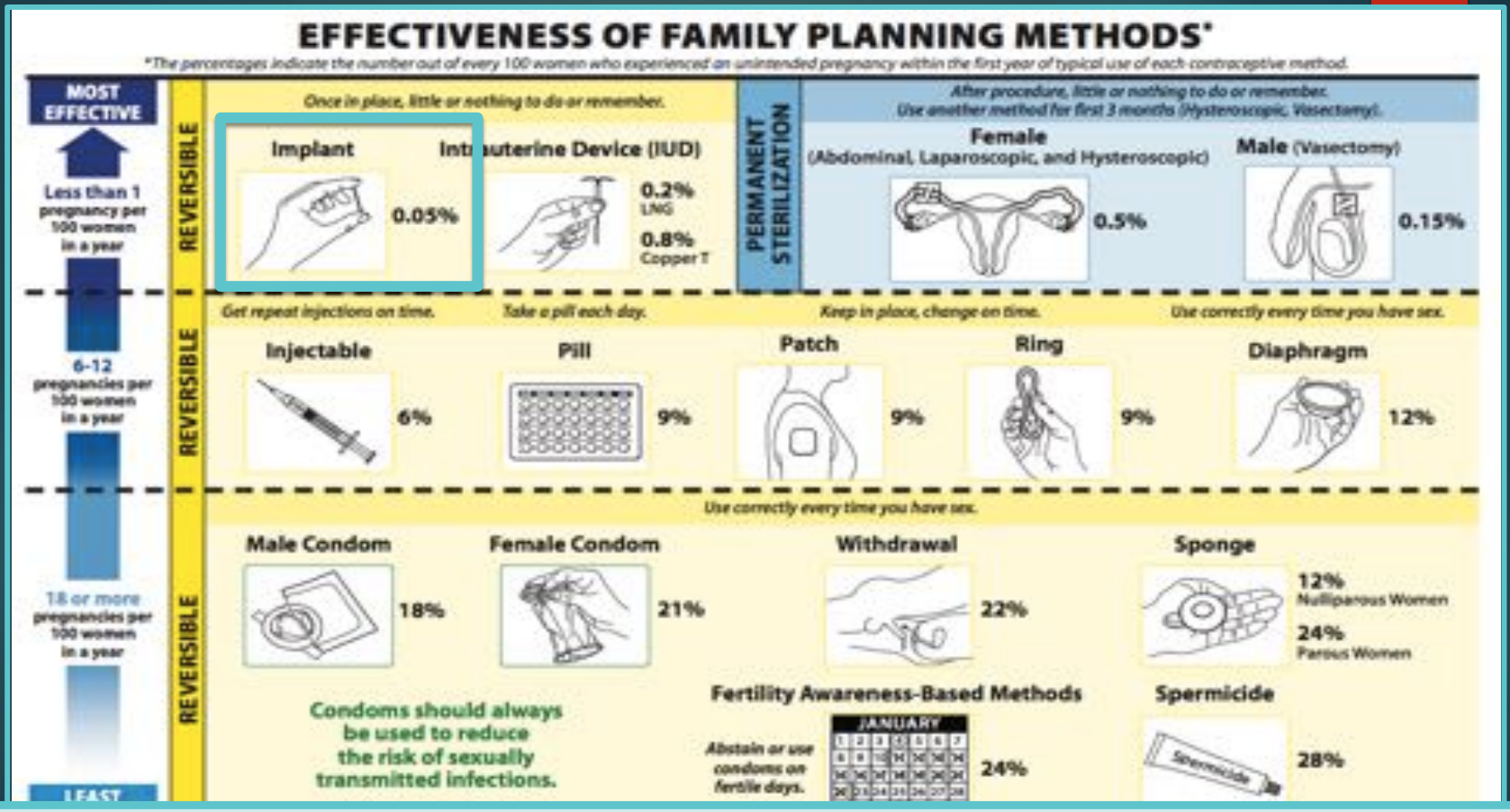
BURNS 1.2.15

Learning Objectives

- Describe the mechanism and effectiveness of contraceptive procedures
- Counsel patients about the benefits, risks and use for each contraceptive method
- Describe barriers to effective contraceptive use and to the reduction of unintended pregnancy
- Prerequisites:
  - NONE
- See also – for closely related topics
  - FLAME LECTURES 149A-C – Combined hormonal contraceptives
  - FLAME LECTURE 150 – Barrier contraceptive methods
  - FLAME LECTURE 151 – Depo-Provera for contraception
  - FLAME LECTURE 153 – Mirena IUD for contraception
  - FLAME LECTURE 154 – Paragard for contraception
  - FLAME LECTURE 149A2 – The Contraceptive Counseling Visit

Nexplanon

- One of 4 types of **Long Acting Reversible Contraceptives (LARCs)**
- Progestin-only contraceptive
  - Main function: Suppresses ovulation by inhibiting LH / FSH surge
  - Thickens cervical mucous & slows tubal motility, blocking sperm migration
  - Atrophies endometrium by decreasing ovarian release of estrogen
    - Ovulation often resumes after 30 months, but cervical mucous thickening maintains implant efficacy
- Implanted subdermally into upper arm
  - Single implant containing etonogestrel (progestin) core
  - Releases progestin at rate of 60µg/day (decreases to 25-30µg by year 3)
  - Replaced every 3 years
- *Nexplanon* vs. other implanted contraceptives
  - *Norplant* was the first implantable contraceptive developed but contained 6 rods instead of 1, had more complications, and was ultimately removed from market in US (though still used in other countries, including as a 2 rod variant *Jadelle*)
  - *Implanon* was the predecessor to Nexplanon. The single rod implant is bioequivalent for both but Nexplanon has an improved inserter mechanism. Implanon is no longer marketed in US.



Etonogestrel Implant

Perfect use: <1% failure in 1st year Typical use: <1% failure in 1st year Continuation for >2yrs: 82%

ADVANTAGES

- Very high efficacy, no difference between typical and correct use
- Menstrual:
  - Decreased menstrual cramps/pain
  - Amenorrhea / oligo-menorrhea common
  - Cyclic headaches may improve
  - Follicular cysts less common
- Convenient, requires no action at time of intercourse
- High continuation rate in clinical trials
- No decrease in Bone Mineral Density, unlike other progestin-only contraceptives (like DMPA)

DISADVANTAGES

- Irregular menses frequent, but usually light ← *this is the biggest problem!!!*
- Amenorrhea / oligomenorrhea common
- No protection against STI's
- Hormonal/progestational side effects, including:
  - Headache (most common)
  - Weight gain
  - Acne
  - Breast tenderness
  - Emotional lability

Notably, these are no different nor worse than other methods

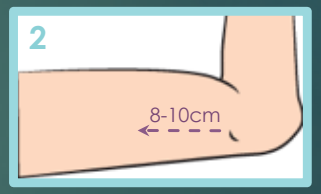
- Unknown if efficacy is the same in obese patients. There is thought to be no difference in efficacy found, but hasn't been adequately studied in patients with BMI >30
- Limitations in access:
  - Expensive
  - Requires access to physician properly trained in insertion & removal

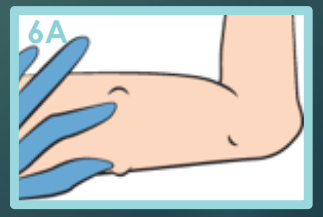
INSERTION

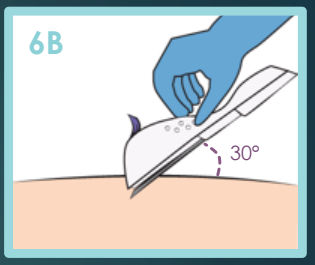
- Pregnancy should be excluded, but if patient becomes pregnant or has insertion while pregnant, no risk for congenital anomalies has been found
- No physical exam or lab tests necessary prior to initiation
- Cycling women:
  - Preferred start time is during first **5** days from start of menses
  - Can also insert anytime in cycle if not pregnant but should use back-up contraception for 3-4 days[3]
- Switching methods without need for back-up:
  - From **COC's**: inserted on day after last active tablet, or on day of removal of vaginal ring/ transdermal patch
  - From **Progestin-only pill**: Can insert any day of month but should insert within 24 hrs of last pill
  - From **DMPA**: Insert during the week the next injection is due
  - From **IUD**: Insert on same day as IUD removal (pt. should abstain from sex for 7 days prior to removal)
  - If inserted on any other day than above, back up contraception should be used for 7 days
- Postpartum: May insert prior to hospital discharge

INSERTION[1]

1. Have patient lie on exam table in position shown
2. Mark insertion site on inner side of non-dominant upper arm, 8-10cm above medial epicondyle of humerus and NOT In the sulcus between the biceps and triceps muscles
3. *Optional*: Mark second spot a few cm proximal to first, as guide for direction during insertion
4. Clean insertion site with antiseptic solution
5. Anesthetize the insertion area, typically with lidocaine + epi
6. Stretch the skin around the insertion site (6A) and puncture the skin with the tip of the needle at 30° angle (6B)
    1. *Note*: DO NOT touch the purple slider until you have fully inserted the needle sub-dermally because this will caused premature release of implant.
7. Slide applicator horizontally to its full length tenting skin up
8. Keeping the applicator still, unlock the purple slider and slide it fully back. This places the implant in its final position and locks the needle within the applicator.
9. Remove the applicator and verify the presence of the implant in the patient's arm by palpating both ends of the rod.

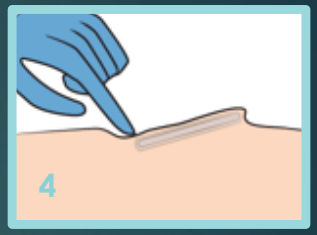


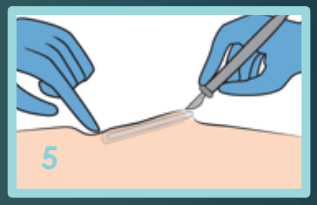


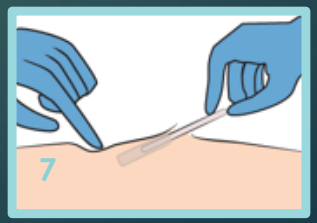


FOLLOW-UP & DISCONTINUATION[2]

- Discontinuation & Removal
  - Can be removed anytime within the 3 years (no later than 3 years)
  - Fertility after discontinuation: ovulation returns within 1-3 weeks
  - Removal procedure:
    1. Have patient lie in same position as insertion
    2. Palpate the distal tip of rod (or use ultrasound if can't palpate it)
    3. Inject local anesthetic under distal tip of rod
    4. Press on the proximal end of rod so that the distal end pushes up against the skin
    5. Use a scalpel to cut the sheath around the rod while still pushing the distal end up
    6. Deepen the incision through the fibrous sheath until you feel the scalpel against the rod
    7. Use fingers or mosquito forceps to pull the now exposed distal end of the rod out
    8. Confirm that entire length of rod has been removed (40mm) and close the incision with an adhesive strip







CDC Guideline - Nexplanon

1 = No restriction for the use of the contraceptive method.
2 = Advantages of using the method generally outweigh the theoretical or proven risks.
3 = Theoretical or proven risks usually outweigh the advantages of using the method.
4 = Unacceptable health risk if the contraceptive method is used.

		Initiation | Continuation
Age		Menarche to <18 years =1
		18-45 years =1
		> 45 years =1
Parity		
Nulliparous		1
Parous		1
Postpartum (nonbreastfeeding)		
<21 days		1
21 to 42 days	With risk of VTE	1
	No risk of VTE	1
>42 days		1
Postpartum (breastfeeding)		
<21 days		2
21 to <30 days	With risk of VTE	2
	No risk of VTE	2
30 to 42 days	With risk of VTE	1
	No risk of VTE	1
>42 days		1
Postabortion		
First trimester		1
Second trimester		1
Immediate post-septic abortion		1
Past ectopic pregnancy		1
Smoking		
Age <35 years		1
Age >35 years	<15 Cig/day	1
	≥15 Cig/day	1
Obesity		
BMI >30		1
Menarche to <18 years + BMI≥30		1
History of Bariatric surgery that limits absorption of nutrients		1
Cardiovascular disease		
Multiple risk factors for arterial CV disease		2
Hypertension	Adequately controlled	1
	Systolic 140-159 or Diastolic 90-99	1
	Systolic ≥ 160 or Diastolic ≥ 100	2
Vascular disease		2
History of high blood pressure during pregnancy		1
Deep Vein Thrombosis / Pulmonary Embolism	History of DVT/PE, not on anticoagulant therapy	2
	Acute DVT/PE	2
	Established DVT/PE, on anticoagulant therapy for at least 3 mo	2
	Family history	1

		Initiation | Continuation
Major surgery	With prolonged immobilization	2
	Without prolonged immobilization	1
Known thrombogenic mutations		2
Superficial venous thrombosis	a. Varicose veins	1
	b. Superficial thrombophlebitis	1
Current and history of ischemic heart disease		2 | 3
Stroke (history of cerebrovascular accident)		2 | 3
Known hyperlipidemias		2
Valvular heart disease	a. Uncomplicated	1
	b. Complicated (pulmonary HTN, risk for a. fib, history of subacute bacterial endocarditis)	1
Peripartum Cardio-Myopathy	a. Normal or mildly impaired cardiac function (Patients with no limitation or slight/mild limitaiton of activities)	1
	b. Moderately or severely impaired cardiac function (Marked limitation of activity or patients who should be at complete rest)	2
Rheumatic Diseases		
SLE	a. Positive (or unknown) antiphospholipid antibodies	3
	b. Severe thrombocytopenia	2
	c. Immunosuppressive treatment	2
	d. None of the above	2
Rheumatoid arthritis	a. On immunosuppressive therapy	1
	b. Not on immunosuppressive therapy	1
Neurologic conditions		
Headaches		
a. Non-migrainous (mild or severe)		1 | 1
b. Migraine	i. Without aura / <35 years	2 | 2
	Without aura / ≥35 years	2 | 2
	With aura	2 | 3
Epilepsy		1
Depressive disorders		
Depressive disorders		1
Reproductive tract infections and disorders		
Vaginal bleeding patterns	a. Irregular pattern without heavy bleeding	2
	b. Heavy or prolonged bleeding (includes regular and irregular patterns)	2
Unexplained vaginal bleeding (suspicious for serious condition, before evaluation)		3
Endometriosis		1
Benign ovarian tumors (including cysts)		1
Severe dysmenorrhea		1
Gestational trophoblastic disease	a. Decreasing or undetectable beta-hCG levels	1
	b. Persistently elevated beta-hCG levels or malignant disease	1
Cervical ectropion		1
Cervical intraepithelial neoplasia		2
Cervical cancer (awaiting treatment)		2

Breast disease	a. Undiagnosed mass	2
	b. Benign breast disease	1
	c. Family history of cancer	1
	d. Breast cancer (current)	4
	e. Breast cancer (past / no evidence of current for 5 years	3
Endometrial cancer		1
Ovarian cancer		1
Uterine fibroids		1
Pelvic inflammatory disease (PID)	a. Past PID (assuming no current risk factors of STIs)	1
	b. Current PID	1
STIs		1
HIV/AIDS	High risk for HIV	1
	HIV infection	1
	AIDS	1
Other infections	Schistosomiasis	1
	Tuberculosis	1
	Malaria	1
Endocrine Conditions		
Diabetes	a. History of gestational disease	1
	b. Nonvascular disease (Type I or Type II)	2
	c. Nephropathy/retinopathy/ neuropathy	2
	d. Other vascular disease or diabetes of >20 years' duration	2
Thyroid disorders	a. Simple goiter	1
	b. Hyperthyroid	1
	c. Hypothyroid	1
Gastrointestinal conditions		
Inflammatory bowel disease (IBD)		2
Gallbladder disease	a. Symptomatic	2
	b. Asymptomatic	2
History of cholestasis	a. Pregnancy-related	1
	b. Past COC-related	2
Viral hepatitis	a. Acute or flare	1
	b. Carrier	1
	c. Chronic	1
Cirrhosis	a. Mild (compensated)	1
	b. Severe (decompensated)	3
Liver tumors		
a. Benign	i. Focal nodular hyperplasia	2
	ii. Hepatocellular adenoma	3
b. Malignant (hepatoma)		3
Anemias		1
Solid organ transplantation		2
Drug Interactions		
Antiretroviral Therapy	NRTI's	1
	nNRTI's	2
	Ritonavir-boosted protease inhibitors	2
Anticonvulsant Therapy	Certain anticonvulsants	1
	Lamotrigine	2
Antimicrobial Therapy	Broadspectrum Antibiotics, Antifungals, Antiparasitics	1
	Rifampicin therapy	2

IMPORTANT LINKS / REFERENCES

- CDC US Medical Eligibility Criteria for Contraceptive Use Chart

1. Managing Contraception *2012-2014*
2. UpToDate
3. *http://www.reproductiveaccess.org/contraception/downloads/switching_bc.pdf*