

LONG ACTING CONTRACEPTION 2020

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DISCLOSURE

ALISON O. MARSHALL, RN, MSN, FNP-C
 HAS NO FINANCIAL RELATIONSHIPS WITH COMMERCIAL INTERESTS TO DISCLOSE

Objectives

- Identify the most common side effects associated with long acting reversible contraception (LARC).
- Differentiate between "red flag" side effects and more benign side effects, including in women with migraine, women with fertility differences and women with cardiovascular disease.
- Effectively manage common and frequent side effects of LARC.

HISTORY OF CONTRACEPTION

- 1950's – First oral contraception contained high progestin
- 1960 – First combined oral contraception (COC)
- 1970 – Researchers discovered high dose responsible for venous thromboembolism (VTE)
- 1970's – Phasic preparations to mimic the menstrual cycle introduced
- 1980's – Long acting preparations introduced
- 2002 – transdermal & vaginal hormones approved
- 2003 – Extended cycle OC with Levonorgestrel and Ethinyl Estradiol (EE)
- 2006 – Implanon rod implant

PERCENT OF WOMEN EXPERIENCING AN UNINTENDED PREGNANCY THE 1ST YEAR

Method	Typical Use	Perfect Use
No method	85	85
Diaphragm	12	6
Combined OC	9	0.3
Ortho Evra Patch (ethinyl estradiol and norelgestromin transdermal)	9	0.3
Nuvaring (etonogestrel/ethinyl estradiol vaginal ring)	9	0.3
Depo-Provera (medroxyprogesterone acetate, contraceptive injection)	6	0.2
Copper IUD	0.8	0.6
Mirena IUS (levonorgestrel-releasing intrauterine system)	0.2	0.2
Implanon (etonogestrel implant)	0.05	0.05

WOMEN'S CONTRACEPTIVE DECISION-MAKING

- Factors that influence contraceptive decision-making include:
 - Contraceptive choices/properties
 - External factors-peers, media, cultural/ spiritual beliefs
 - Relationship/partner dynamics
 - Woman's personal characteristics
 - Provider relationship/counseling techniques/bias

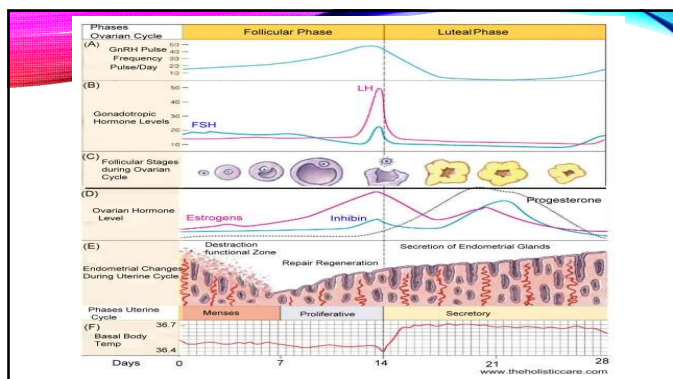
CONTRACEPTIVE STRATEGIES & BARRIERS

Patient success strategies:

- Consider patient's choice & discuss appropriateness
- Provider counseling-impacts adherence & user satisfaction
 - How it works
 - Protection against STD/HIV
 - How to use/switching methods
 - Side effects & how to handle
 - Warning signs or "ACHES"
- Quick start methods

Barriers:

- Waiting periods to initiate methods
- Physical exams prior to method start
- Access
- Cost
- Provider bias' or lack of education
- Political barriers



HORMONAL PROPERTIES

Ovulation

- Low plasma level of estrogen suppress FSH-RH from hypothalamus → production FSH & LH. ∅ midcycle surge of LH & FSH; ovulation suppressed in 95-98%
- High doses estrogen ↑ corpus luteum degeneration, inhibiting progesterone → no implantation & placental placement

Implantation

- Normal secretory phase altered
- Endometrial changes-areas of edema & dense cellularity
- progestins → atrophic endometrial glands=hostile environment

Ovum transport

- Progestins ↑ rate of ovum transport by altering tubal secretion & peristalsis

Cervical mucus

- Progestins promote thick, scanty cervical mucus → inability of sperm to penetrate
- Progestins alter spermatozoa enzymes that allow ovum penetration

PHARMACOLOGICAL ACTIONS: PROGESTIN & ESTROGEN

Progestin	Estrogen
<ul style="list-style-type: none"> • Ovarian and pituitary inhibition • Thickening of the cervical mucus • Endometrial atrophy causes a hostile environment for implantation • Cycle control • Suppression of LH surge 	<ul style="list-style-type: none"> • Ovarian and pituitary inhibition • Thinning of increased cervical mucus • Endometrial proliferation • Cycle control • No follicular maturation activity due to suppression of FSH

PROGESTERONE PRESCRIBING HIGHLIGHTS

- Precautions and Contraindications
 - Thromboembolic disease
 - Breast cancer
 - Impaired liver function
 - Depression
 - Disorders that worsen with fluid retention
 - Progesterone is Pregnancy Category D**
 - Norethindrone acetate is Pregnancy Category X**

****No definitive studies regarding birth defects**

PROGESTERONE SIDE EFFECTS

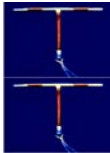
- Irregular bleeding
- Amenorrhea
- Acne
- Injectable and implanted progesterone
 - Weight gain
 - Irregular menstrual bleeding
 - Osteoporosis

PROGESTERONE CLINICAL USE

- Postmenopausal Hormone Replacement
 - Combined with estrogen when uterus is intact
- Progesterone-only contraception
 - progestin-only pills (norethindrone)
 - medroxyprogesterone acetate (Depo-Provera)
- Progesterone implanted IUDs – 4 available
- Monitoring
 - Depression
 - Seizure patients may have increased risk of seizures
 - Diabetics should monitor blood glucose

LONG ACTING METHOD CHOICES


Copper-T IUD



- Brand name: ParaGard®
- Copper ions
- Approved for 10 years of use
- Can be used as emergency contraceptive

Thorneau, PF. Am J Obstet Gynecol. 2008. Fortney JA. J Reprod Med. 1999. Trussel J. Contraceptive Technology. 2011.

LEVONORGESTREL INTRAUTERINE SYSTEM



- Brand name: Mirena®
- 52 mg IUD, 20 mcg levonorgestrel/day
- Approved for 5 years of use (7 years effective)
- Amenorrhea in ~20% of users by 1 year

Mirena Prescribing Information. 2000.; Trussel J. Contraceptive Technology. 2011; Hidalgo M. Contraception. 2002.


LEVONORGESTREL INTRAUTERINE SYSTEM



- Brand name: Liletta®
- 52 mg IUD, 20 mcg released/day
- Very similar to Mirena, but smaller size
- Approved for 3-6 years

Liletta Prescribing Information. 2016


LEVONORGESTREL INTRAUTERINE SYSTEM



- Kyleena
- 19.5 mg IUD, 17.5 mcg released/day
- Approved for 5 years
- As small as Skyla, but higher dose and longer duration of use

Kyleena Prescribing Information. 2013. Trussel J. Contraceptive Technology. 2011

LEVONORGESTREL INTRAUTERINE SYSTEM




- Brand name: Skyla®
- 14 mcg levonorgestrel/day
- Approved for 3 years of use
- Small body, good for smaller uterus

Skyla Prescribing Information. 2013. Trussel J. Contraceptive Technology. 2011

INTRAUTERINE CONTRACEPTIVES: ADVANTAGES

- Provide long-acting, reversible contraception
- Allow for spontaneity in sex life
- Most cost-effective method, over time
- Allow rapid return to fertility when desired
- Have high continuation and acceptability, even among adolescents
- Non-contraceptive benefits



Smith E. *J Am Acad Nurse Pract.* 2012; Mirena LNG IUS PI. 2013; Skyla LNG IUS PI. 2013.

INTRAUTERINE CONTRACEPTIVES: DISADVANTAGES

- Device expulsion
 - 3-5% of all users
- Uterine perforation
 - 1/1000 insertions
- Ectopic pregnancy
 - 0.1% of all pregnancies
- Placement and removal require medical professional
- Placement may be easier in multiparous women

Smith E. *J Am Acad Nurse Pract.* 2012; Mirena LNG IUS PI. 2013; Skyla LNG IUS PI. 2013; Hidalgo M. *Contraception.* 2002.

Dispelling Myths about Intrauterine Contraception

- **Can** be used:
 - in women with multiple partners
 - in women with history of STDs or PID
 - in nulliparous women
 - in teens
 - immediately postpartum
 - immediately post-abortion
 - in women with past ectopic pregnancy
- **ARE** not abortifacients

MacIsaac L. *Obstet Gynecol Clin N Am.* 2007; Toma A. *Pediatr Adolesc Gynecol.* 2006; Otero-Flores JB. *Contraception.* 2003; Suhonen S. *Contraception.* 2004; WHO. 2004.

IMPLANT



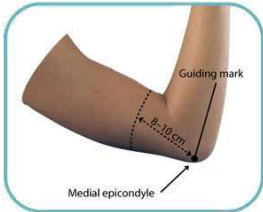
- NEXPLANON® (etonogestrel implant)
 - Contains 68 mg of etonogestrel and releases 30-40 mcg per day*
 - Approved for 3 years of use
 - Placed in upper arm
 - FDA mandated training

*For first 21 days releases 60-70 mcg per day

Trussell J. *Contraceptive Technology.* 2011. NEXPLANON [package insert]. Whitehouse, NJ: N.V. Organon, Oss; 2012.

IMPLANT LOCATION

- Non dominant arm
- 8-10 cm from medial epicondyle
- Subdermal



Trussell J. *Contraceptive Technology.* 2011. NEXPLANON package insert. Funk S. *Contraception.* 2005; Flores, JB. *Int J Gynaecol Obstet.* 2005.






IMPLANTS

Advantages	Disadvantages
<ul style="list-style-type: none"> • High efficacy • Long-term • Rapid reversibility • Rapid procedures • Can use when lactating • Several non-contraceptive benefits 	<ul style="list-style-type: none"> • Bleeding irregularities(34%) • Weight gain (2%) • Emotional liability (2%) • Headache (2%) • Acne (1%) • Depression (1%)

Trussell J. *Contraceptive Technology.* 2011. NEXPLANON [package insert]. Whitehouse, NJ: N.V. Organon, Oss; 2012.

TIMING OF IUD/IUS/IMPLANT INSERTION

Anytime during menstrual cycle when pregnancy can be excluded

Alvarez PJ. *Ginecol Obstet Mex.* 1994. O' Hanley K, et al. *Contraception.* 1992.

Injectable



- Depo Medroxyprogesterone Acetate (DMPA)
- Brand name: Depo-Provera®
- Intramuscular or subcutaneous injection every 3 months

Trussel J. *Contraceptive Technology.* 2011. Cramer BA. *Am J Obstet Gynecol.* 2005.
 Trussel J. *Contraception.* 2004.; Westhoff C. *Contraception.* 2003. et al.

IUD FOLLOW-UP

- Not absolutely required
- "Checking strings"- 6- Week follow-up visit
 - High risk patients
 - Further contraceptive counseling, preventative care
 - Dissatisfied patients

IUD FOLLOW-UP

<ul style="list-style-type: none"> • Copper IUD <ul style="list-style-type: none"> • Associated with prolonged or heavier periods for the first 1-6 months. • Most women's cycles will regulate within 1 year. 	<ul style="list-style-type: none"> • LNG-IUD <ul style="list-style-type: none"> • 42% of women experience unscheduled bleeding in first 1-3 months. • Decreases to 1/5 within first year of use. • By 2 years, 50-70% of women are amenorrheic.
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IUD FOLLOW-UP

<ul style="list-style-type: none"> • Unscheduled bleeding <ul style="list-style-type: none"> • NSAIDS <ul style="list-style-type: none"> • Ibuprofen 800 mg TID x 5-7 days • Mefenamic acid 500 mg BID x 5-7 days • No evidence to support using OCPs 	<ul style="list-style-type: none"> • If discomfort or unscheduled bleeding persist, start w/u for: <ul style="list-style-type: none"> • IUD displacement • Cervicitis • Pregnancy • Uterine polyps or fibroids
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IMPLANT FOLLOW-UP

- No required follow-up, but may be indicated in certain populations
- Check site prn, no routine complications
- Much more unscheduled bleeding!
 - In first three months, only 22% of women experience NO unscheduled bleeding
 - 25% remove because of this
 - Pre-insertion counseling important

IMPLANT FOLLOW-UP

- For temporary treatment of unscheduled bleeding
 - Estrogen
 - 1-3 cycles of combination OCP
 - Conjugated equine estrogen 1.25 mg daily x 10-20 days
 - Estradiol 2 mg daily x 10-20 days
- NSAIDS
 - Ibuprofen 800 mg TID x 10 days
 - Mefenamic acid 500 mg BID x 5 days

DMPA FOLLOW-UP

- Not required, but may be indicated
- Assess weight gain
 - Controversial, but more than hormone containing IUDs
 - Many factors influence weight
- Likely due to dosing mechanism
- Unscheduled bleeding
 - 25% discontinue during first year
 - However, 50% amenorrheic after 9-12 months, increases further with long-term use
 - Pre-delivery counseling important

DMPA FOLLOW-UP

- Treatment modalities for unscheduled bleeding
 - Estrogen
 - 1-3 cycles of combination OCP (low dose < 20mcg OCPs unstudied)
 - Conjugated equine estrogen 1.25 mg daily x 10-20 days
 - Estradiol 2 mg daily x 10-20 days
- NSAIDS
 - Ibuprofen 800 mg TID x 5-7 days
 - Mefenamic acid 500 mg BID x 5-7 days

DMPA FOLLOW-UP

- Don't create unnecessary time barriers to this method!
- Schedule every 13 weeks but-
 - Can give earlier if necessary
 - Can give up to 15 weeks without pregnancy test
 - Not teratogenic
- If > 2 weeks late, can have the injection if not pregnant, but should encourage backup x 7 days, EC as needed.

PEARLS

- Partner with patient in regards to method
- Pre-use counseling SUPER important
- Methods exist to manage unexpected bleeding
- LARC methods are both SAFE and EFFECTIVE

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