



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER™

Paul L. Foster School of Medicine

Long-Acting Reversible Contraception(LARC) Intrauterine Devices and the Contraceptive Implant

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Learning Objectives

At the end of this session, the participant will be able to:

- Describe the potential role of LARC methods in reducing unintended pregnancy rates.
- Select appropriate candidates for LARC methods.
- List and compare the clinical effects and characteristics of LARC methods.
- Identify management strategies for clinical problems and patient concerns related to use of LARC methods.



Unintended Pregnancy in the U.S.

49%

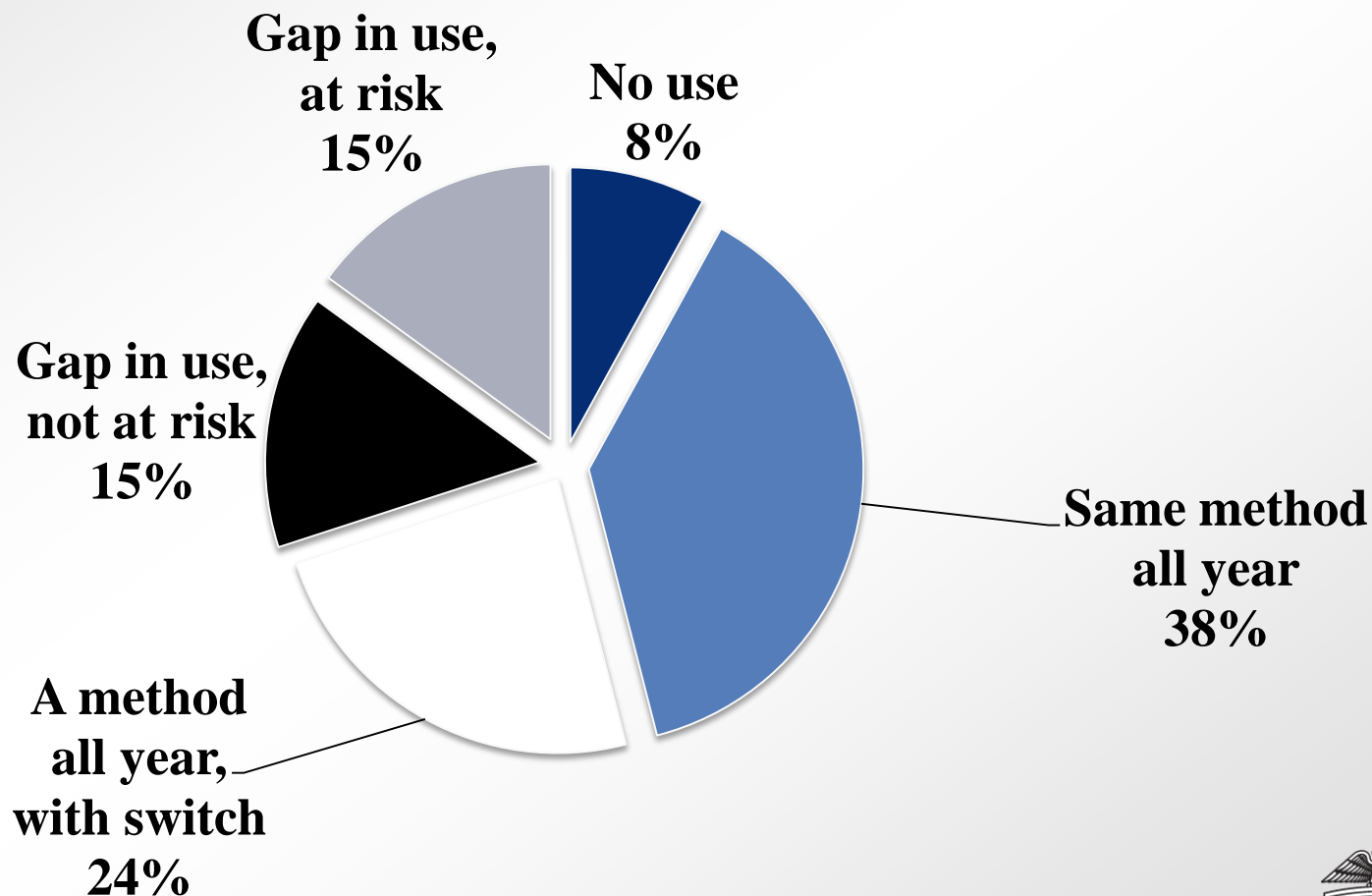
Unintended

Of 6.4 million
pregnancies
per year

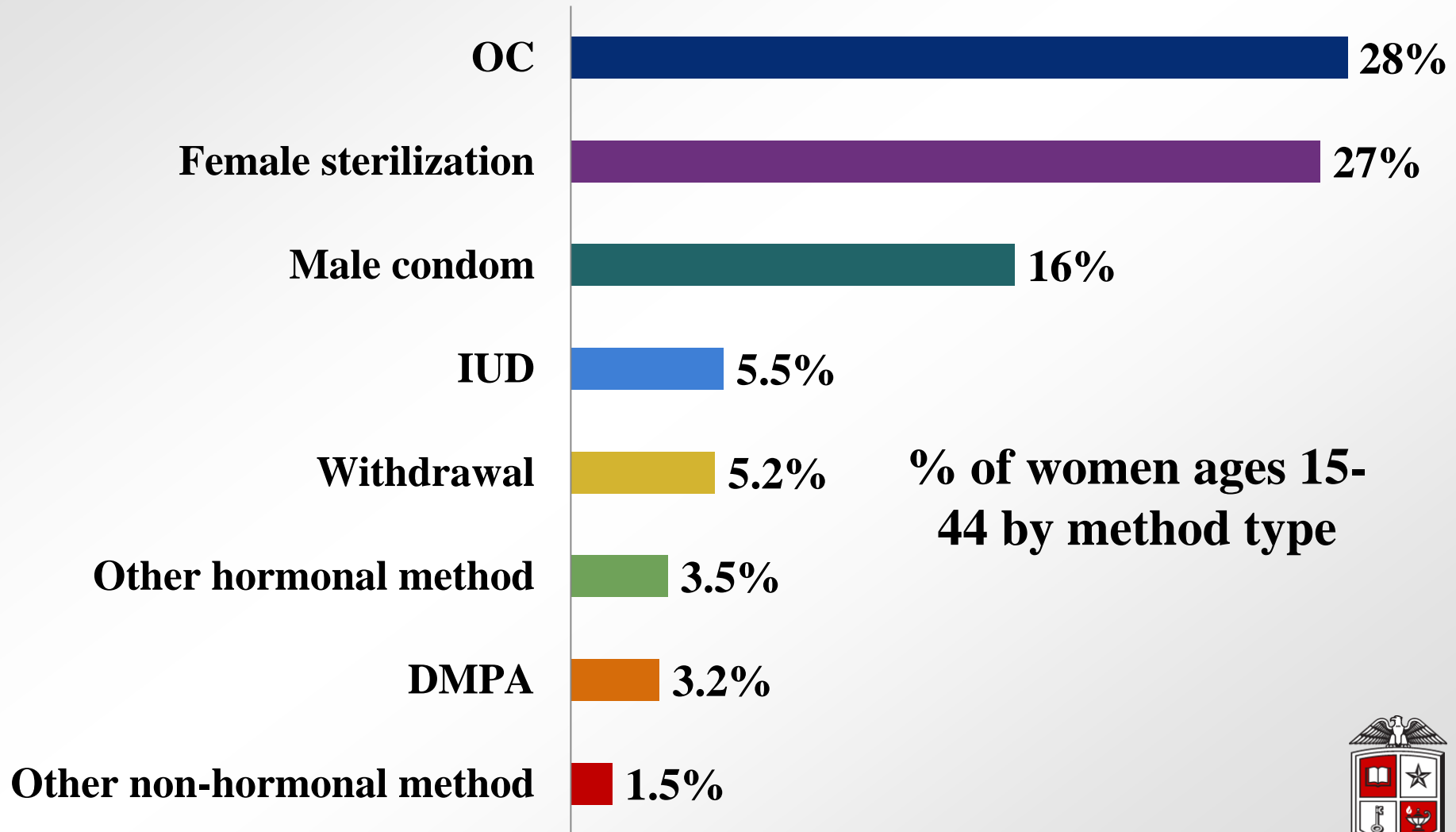
**3.2 million are
unintended**



One-Year Contraceptive Use Patterns



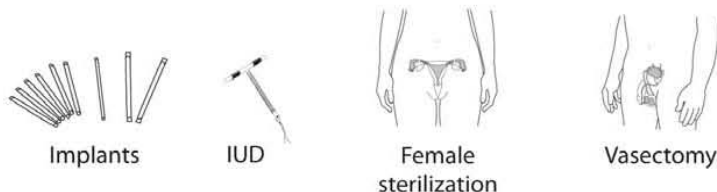
U.S. Contraceptive Use



Comparing Effectiveness of Family Planning Methods

More effective

Less than 1 pregnancy per 100 women in 1 year

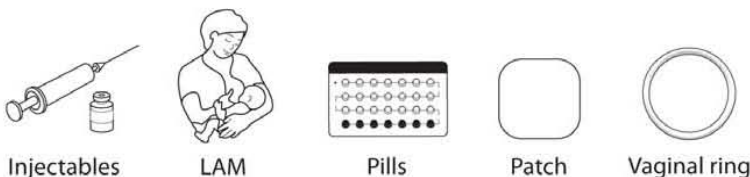


Implants

IUD

Female sterilization

Vasectomy



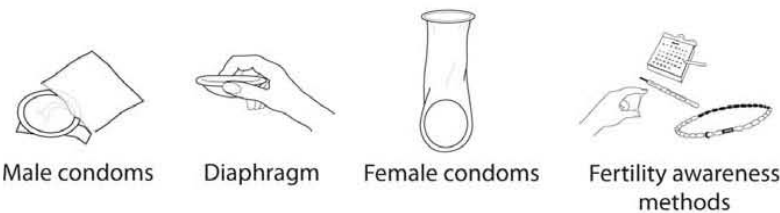
Injectables

LAM

Pills

Patch

Vaginal ring



Male condoms

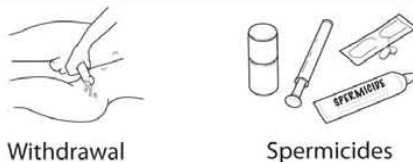
Diaphragm

Female condoms

Fertility awareness methods

Less effective

About 30 pregnancies per 100 women in 1 year



Withdrawal

Spermicides

How to make your method more effective

Implants, IUD, female sterilization: After procedure, little or nothing to do or remember

Vasectomy: Use another method for first 3 months

Injectables: Get repeat injections on time

Lactational amenorrhea method, LAM (for 6 months): Breastfeed often, day and night

Pills: Take a pill each day

Patch, ring: Keep in place, change on time

Condoms, diaphragm: Use correctly every time you have sex

Fertility awareness methods: Abstain or use condoms on fertile days. Newest methods (Standard Days Method and TwoDay Method) may be easier to use.

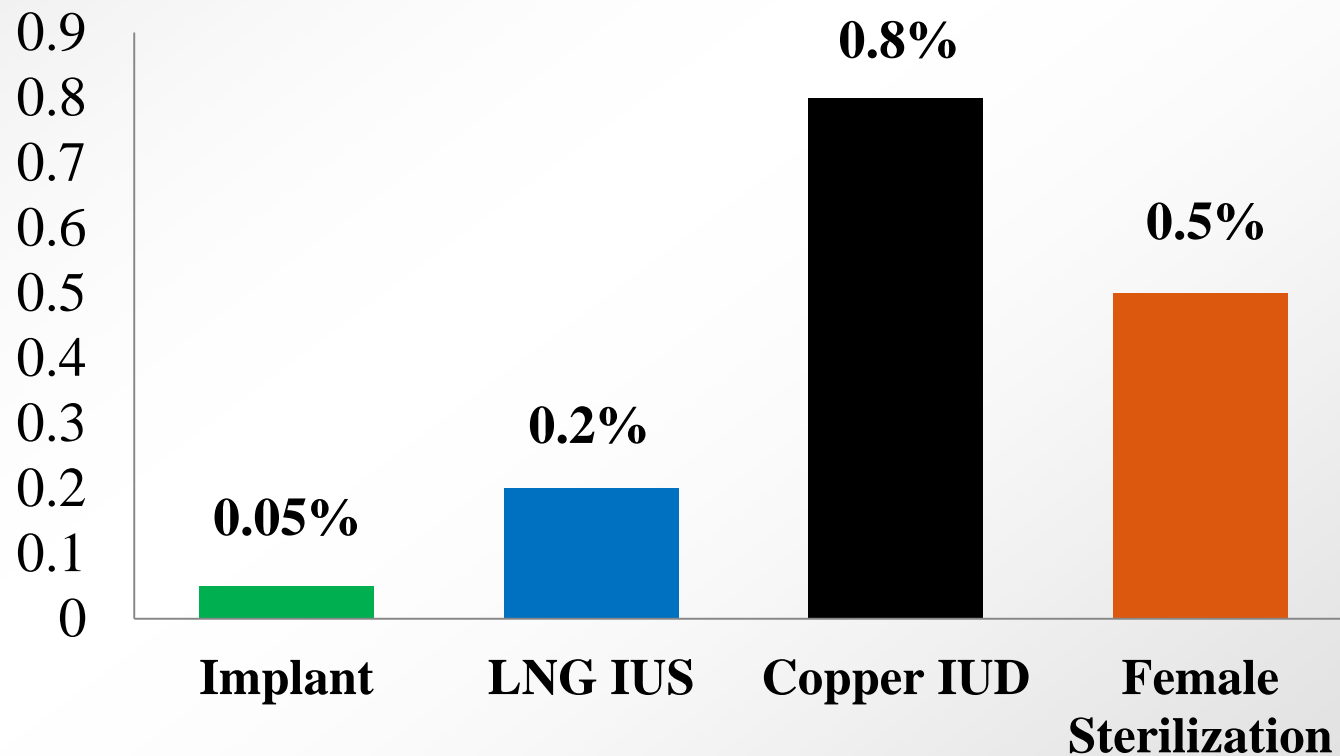
Withdrawal, spermicides: Use correctly every time you have sex



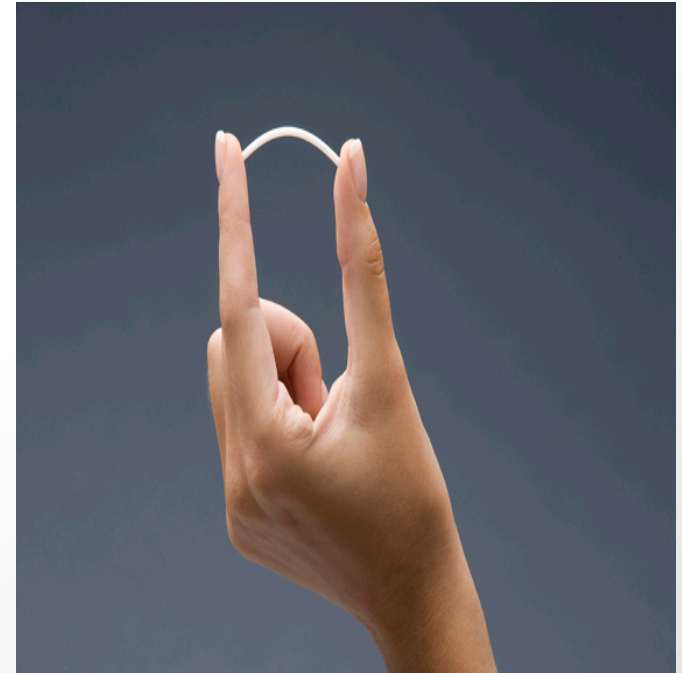
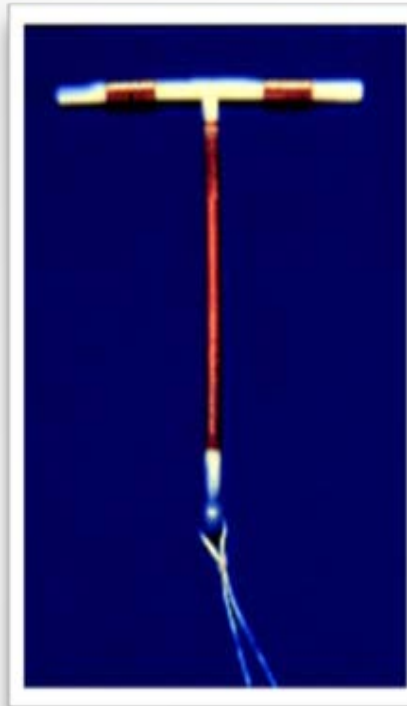
Sources:
 Steiner MJ, Trussell J, Mehta N, Condon S, Subramaniam S, Bourne D. Communicating contraceptive effectiveness: a randomized controlled trial to inform a World Health Organization family planning handbook. *Am J Obstet Gynecol* 2006;195(1):85-91.
 World Health Organization/Department of Reproductive Health and Research (WHO/RHR), Johns Hopkins Bloomberg School of Public Health (JHSPH)/Center for Communication Programs (CCP). *Family Planning: A Global Handbook for Providers*. Baltimore, MD and Geneva: CCP and WHO, 2007.
 Trussell J. Choosing a contraceptive: efficacy, safety, and personal considerations. In: Hatcher RA, Trussell J, Stewart F, Nelson AL, Cates W Jr., Guest F, Kowal D, eds. *Contraceptive Technology, Nineteenth Revised Edition*. New York: Ardent Media, Inc., in press.

Reversible Contraception that Works as Well as Sterilization

% of women experiencing an unintended pregnancy within the first year of use



Increased use of LARC*
has the potential to lower unintended pregnancy
rates



***LARC = Long-Acting Reversible Contraception**



Candidates for LARC

Healthy women of any reproductive age who:

- Desire highly effective contraception
- Desire reversible contraception
- Are nulliparous or parous



College Recommendations

- LARC methods should be offered as first-line contraceptive methods and encouraged as options for most women
- LARC methods have few contraindications
- Almost all women are eligible for the implant and IUDs

American College of Obstetricians and Gynecologists. Practice Bulletin No. 121, "Long-Acting Reversible Contraception: Implants and Intrauterine Devices," July 2011.

American College of Obstetricians and Gynecologists. Committee Opinion No. 450, "Increasing Use of Contraceptive Implants and Intrauterine Devices To Reduce Unintended Pregnancy," December 2009.



Nulliparous Women and Adolescents Can Be Offered LARC Methods



CDC Medical Eligibility Criteria

Category	Restriction
1	No restriction
2	Advantages generally outweigh theoretical or proven risks
3	Theoretical or proven risks usually outweigh advantages
4	Unacceptable health risk



LARC Use with Medical Conditions

Condition	Copper IUD	LNG IUS	Implant
Hypertension (controlled)	1	1	1
Multiple cardiovascular risk factors	1	2	2
History of DVT/PE/Thrombogenic mutations	2	2	2
DVT/PE (on anticoagulant therapy)	1	2	2
Stroke	1	2	2



LARC Use with Medical Conditions

Condition	Copper IUD	LNG IUS	Implant
Migraines with aura	1	2	2
Diabetes	1	2	2
Obesity	1	1	1
HIV infection	2	2	1
AIDS (on ARV therapy)	2	2	2 or 1*

*depending on the type of therapy



Selected Contraindications

Condition	Copper IUD	LNG IUS	Implant
Post-puerperal sepsis or septic abortion	4	4	1
Current PID, purulent cervicitis, CT/GC	4	4	1
Breast cancer	1	4	4
Malignant GTN	4	4	1
Cervical/Endometrial cancer	4	4	2/1
Distorted uterine cavity incompatible with IUD insertion	4	4	1



LARC Summary

- Safe for most women
- Can be used by nulliparous women and adolescents
- Increased use may decrease unintended pregnancy rates



Long-Acting Reversible Contraception

The Single-Rod Contraceptive Implant



The Single-Rod Contraceptive Implant

Etonogestrel (68 mg)

Discreet

Highly effective

Rapidly reversible

Approved for use up to 3 years



Short Insertion and Removal Time

Insertion
< 1 minute



Removal
< 3 minutes



Insertion Timing

- Any time during the menstrual cycle
- Reasonably exclude pregnancy
- Backup method for 7 days unless inserted:
 - Within 5 days of menses
 - Immediately postpartum or post-abortion
 - Immediately upon switching from another hormonal method



Postpartum Insertion

- Safe at any time after childbirth for women who are not breastfeeding
- Theoretic concerns regarding milk production and infant growth and development



Post-Abortion Insertion

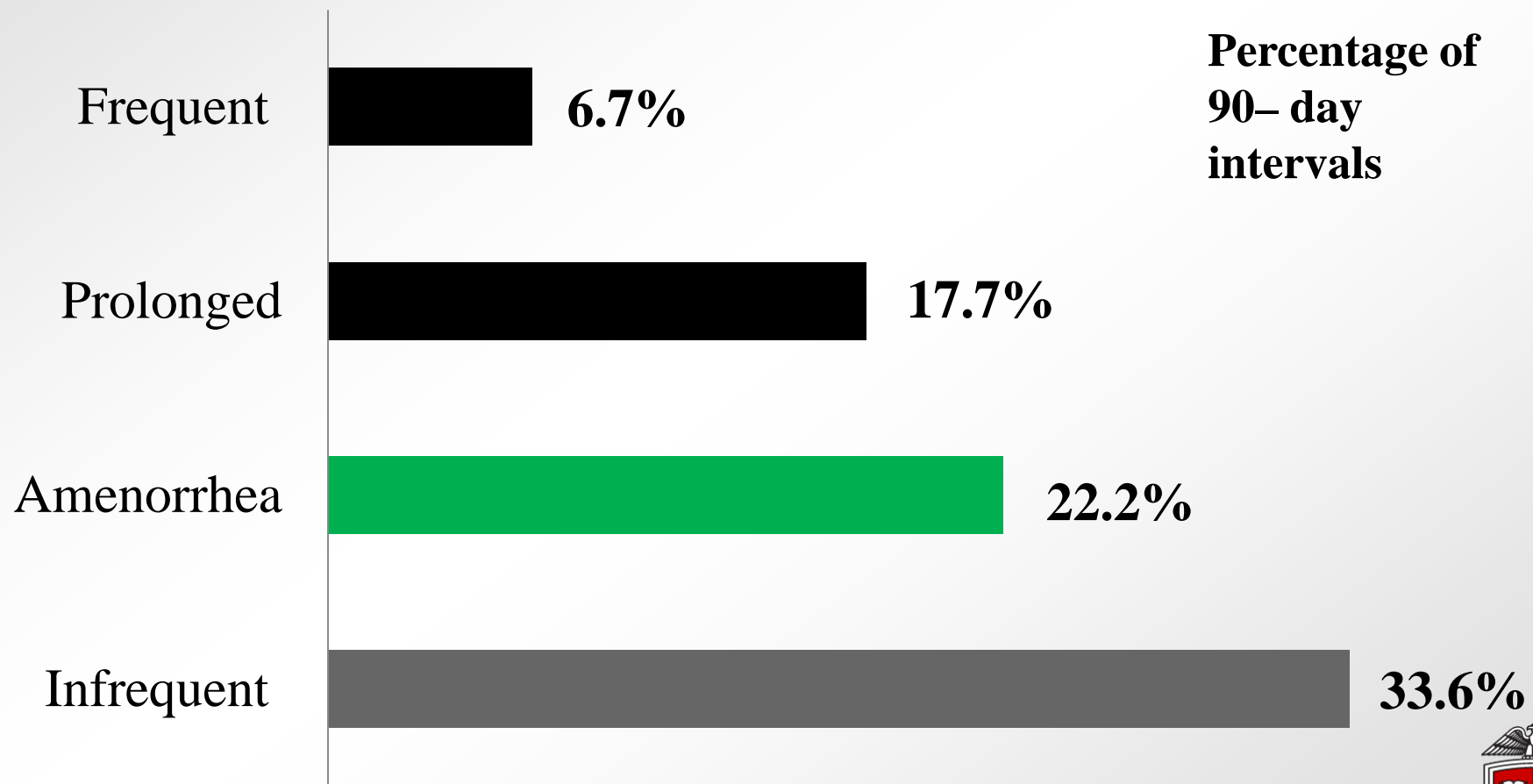
The implant is safe to place after any abortion,
including second-trimester or septic abortion

Significantly reduces the risk of repeat abortion



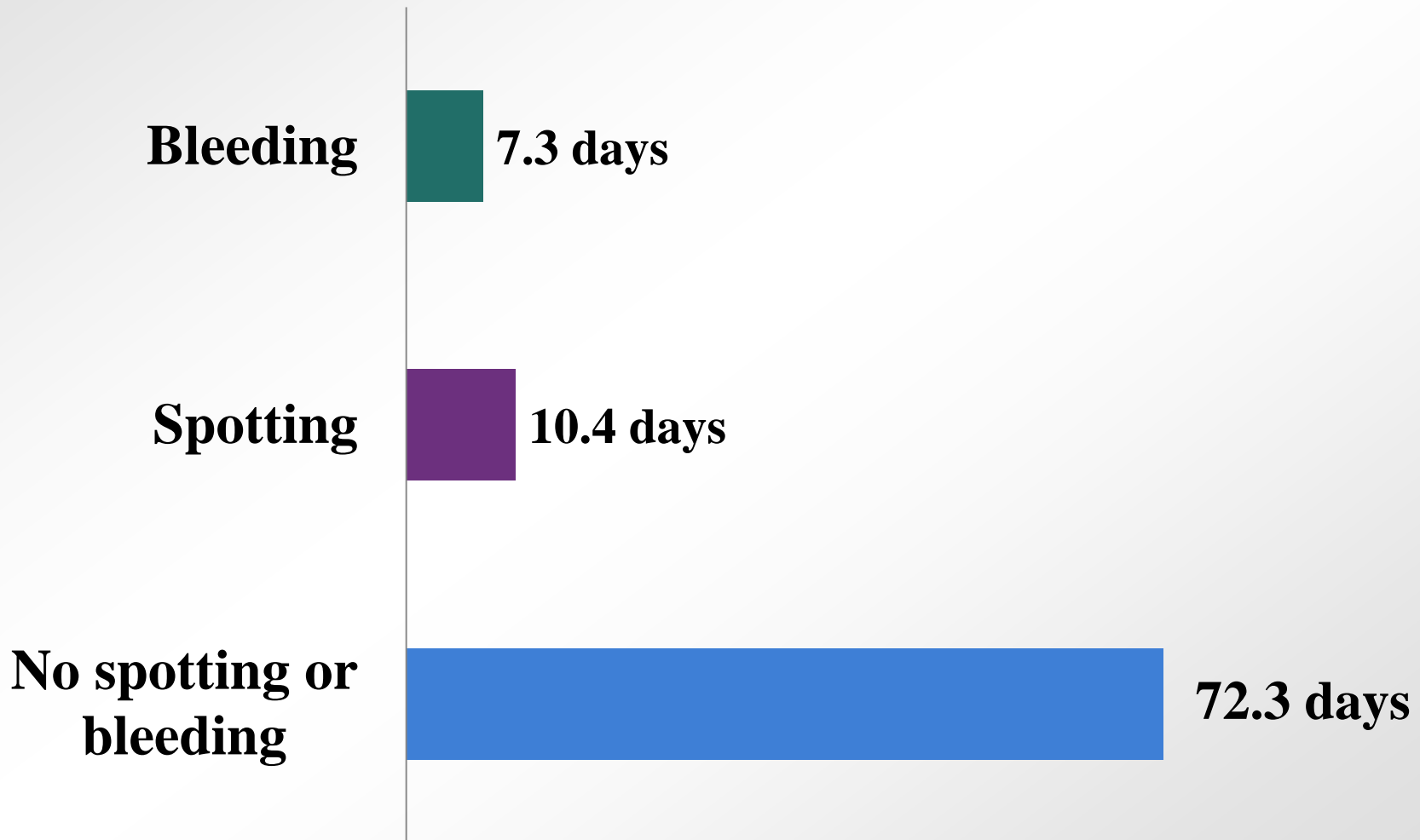
Bleeding Patterns with Implant

First 2 Years



Mean Bleeding/Spotting Days

Per 90 day reference period



Bleeding Patterns Summary

- Provide anticipatory guidance
- Favorable bleeding patterns experienced in the first 3 months are likely to continue
- Unfavorable patterns have a 50% chance of improving
- Women with low body weight have fewer bleeding and spotting days



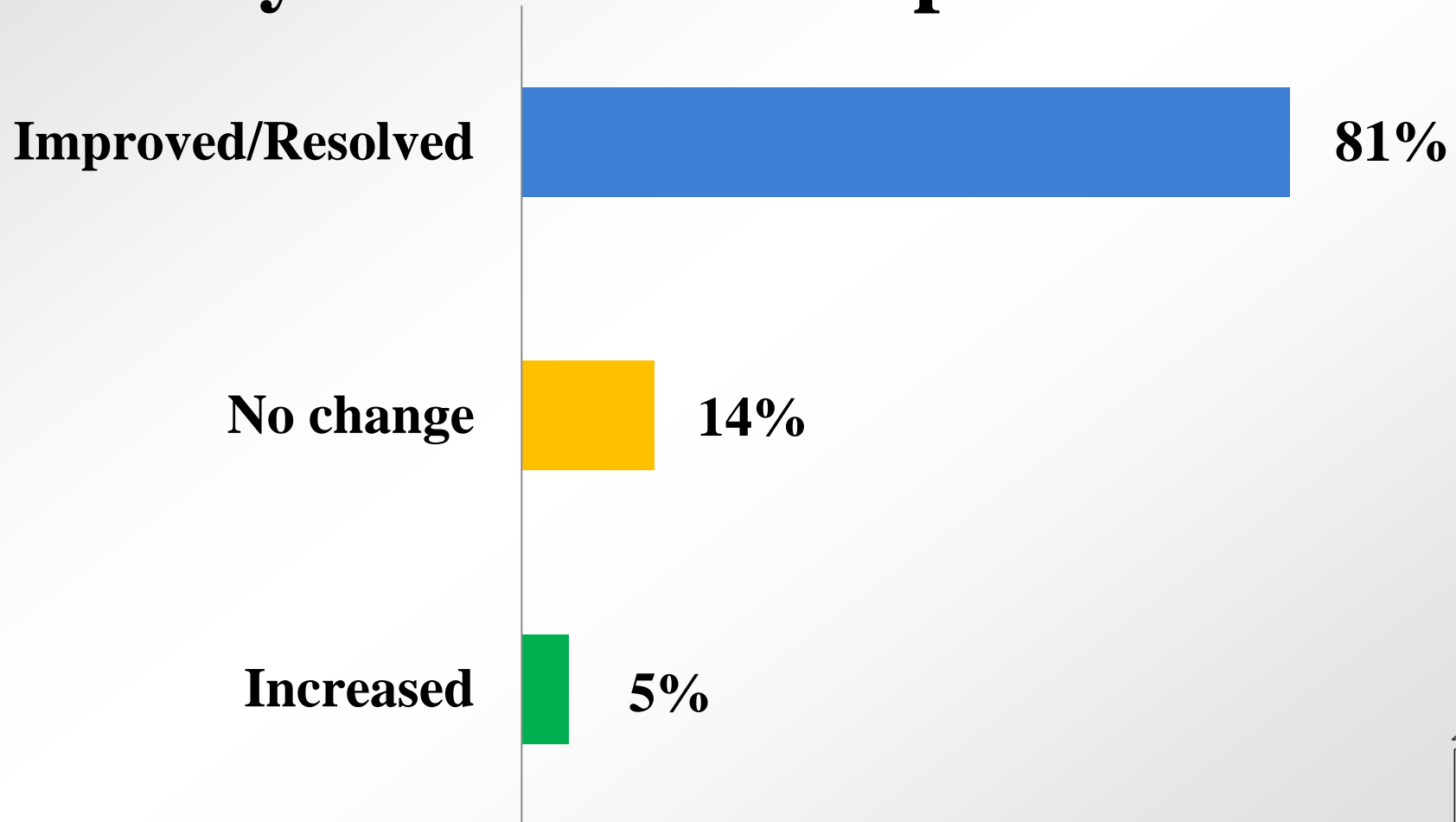
Weight Gain

- 6–12% of users report weight gain
- Only 2.3–3.3% discontinue due to weight gain



Non-Contraceptive Benefit:

Dysmenorrhea Improvement



Implant Summary

- The most effective reversible contraceptive
- Few contraindications
- Provide anticipatory guidance regarding bleeding patterns



Long-Acting Reversible Contraception

Intrauterine Contraception



Intrauterine Contraception

- Highly effective
- Rapidly reversible
- High continuation and satisfaction rates
- Cost-effective



Copper IUD

- Polyethylene wrapped with copper wire
- Approved for use up to 10 years
- Mechanisms of action:
 - *Inhibition of sperm migration and viability*
 - *Change in ovum transport speed*
 - *Damage to or destruction of ovum*
 - *Damage to or destruction of fertilized ovum*
 - *All effects occur before implantation*
- Highly effective



LNG IUS

- Releases 20 mcg levonorgestrel/day
- Approved for use up to 5 years, may be effective up to 7 years
- Mechanisms of action:
 - *Similar effects as copper IUD*
 - *Also causes endometrial suppression and changes in cervical mucus*
 - *All effects occur before implantation*
- Highly effective



Complications are Rare

Expulsion rate 2–10% in first year

Perforation: 1 per 1,000 insertions or fewer



Nulliparous Women and Adolescents

Can Be Offered IUDs

More effective and higher rates of continuation and satisfaction than OCs

Expulsion rates similar in nulliparous vs. parous women



LNG IUS Menstrual Effects

Bleeding duration and amount decreases initially and over time

70% experience oligomenorrhea or amenorrhea within 2 years of insertion



LNG IUS as Treatment for Heavy Bleeding

Menstrual blood reduction: 79–97%

High rates of patient satisfaction and continuation



Copper IUD Menstrual Effects

Initial increased bleeding and cramping

– Treat with NSAIDs

Decreases over time



Managing Bleeding Concerns

Provide anticipatory guidance

Evaluation of abnormal bleeding
similar to non-IUD users



Insertion Timing

- Any time during the menstrual cycle
- Reasonably exclude pregnancy
- No major advantage to insertion during menses
- Difficult insertions are rare



Insertion Protocols

Routine antibiotic prophylaxis is not recommended before insertion

Current data do not support routine screening for STIs prior to insertion for women at low risk

Treat mucopurulent discharge or known STI before insertion



Women at High Risk of STIs

Reasonable to screen for STIs and
place IUD on same day

Treat with IUD in place if results are
positive

Risk of PID remains low



Backup Contraception

Not needed at any time after Copper IUD insertion

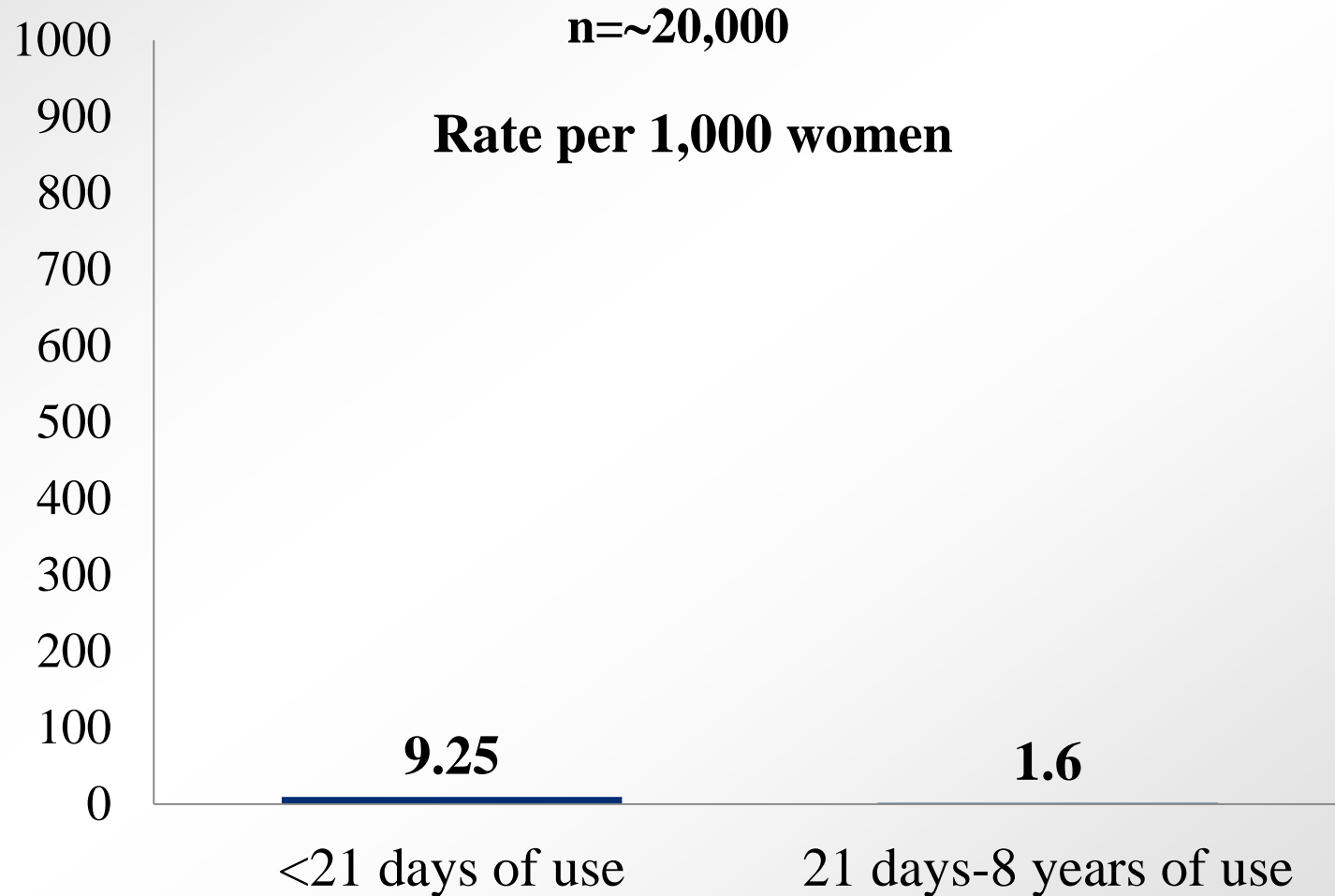
Needed for 7 days unless LNG IUS inserted:

- *Within 5 days of menses*
- *Immediately postpartum or post-abortion*
- *Immediately upon switching from another hormonal method*



IUDs Do Not Cause PID

Rate of PID by Duration of IUD Use



IUDs Do Not Cause Infertility

- No evidence that IUD use is associated with subsequent infertility
- Chlamydia is associated with infertility



Postpartum Insertion

Particularly favorable time

- High motivation
- Known pregnancy status
- Convenience

Women at risk for unintended pregnancy

- 45% report unprotected sex within 6 weeks of delivery



Immediate Postpartum Insertion

Appears safe and effective

Within 10 minutes of placental separation

Cut strings 1–2 weeks after insertion



Expulsion Rates

Higher with immediate postpartum insertion (up to 24%)

- May be lower after Cesarean delivery
- Benefits may outweigh risk of expulsion



Breastfeeding

Copper IUD has no effect on breastfeeding

Hormonal content of LNG IUS raises
theoretic concern

No difference found in breastfeeding
duration or infant growth between Copper
IUD and LNG IUS users



Post-Abortion Insertion

Insertion of an IUD immediately after abortion or miscarriage is safe and effective

- Lowers repeat abortion rate
- Increases rates of use



Intrauterine Contraception

Other Issues



Ectopic Pregnancy

IUDs may be offered to women with a history of ectopic pregnancy

IUD use does not appear to increase absolute risk



Pregnancy with IUD In Situ

The FDA and WHO recommend removal when possible without an invasive procedure



Copper IUD as EC

Most effective method of emergency
contraception

Can be inserted up to 5 days after
unprotected intercourse to prevent
pregnancy



Other Procedures

Can be performed with IUD in place:

- Endometrial biopsy
- Cervical colposcopy
- Cervical ablation or excision
- Endometrial sampling



IUD Summary

- Few contraindications
- Nulliparous women and adolescents can be offered IUDs
- Clinicians should provide anticipatory guidance to patients regarding bleeding patterns



LARC Summary

- Encourage as first-line options
- Can be used by most women
- Highly effective
- Highest continuation and satisfaction rates
- Increased use may reduce unintended pregnancy rates



LARC Practice Resources

www.acog.org/goto/larc



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

