

Contraception

Michelle Isley, MD, MPH

Assistant Professor

**Department of Obstetrics and Gynecology
Division of General Obstetrics and Gynecology
The Ohio State University Wexner Medical Center**

Who needs contraceptives?

- **62 million U.S. women in their child bearing years (15-44)**
 - **43 million (69%) are at risk of unintended pregnancy**
- **Couples who do not use any method of contraception have about an 85% chance of pregnancy over a year**

Guttmacher Institute. Contraceptive Use in the United States. July 2012

Who uses contraceptives?

- **More than 99% of reproductive aged women who have ever had sexual intercourse have used at least one contraceptive**
- **Among women who are at risk of unintended pregnancy, 89% are currently using contraceptives**

Guttmacher Institute. Contraceptive Use in the United States. July 2012

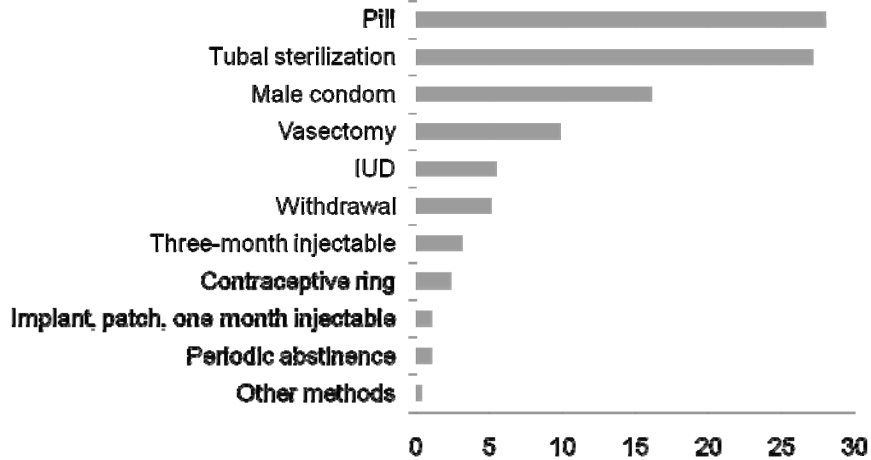
Teen contraceptive use

- **Among teenage women who are at risk of unintended pregnancy, 81% are currently using a contraceptive method**
- **The male condom is the most commonly used method at first sex and at most recent sex among both teenage men and women**

Guttmacher Institute. Contraceptive Use in the United States. July 2012

The majority of women who use contraceptives rely on the pill or sterilization

% of U.S. women aged 15-44 using contraceptives, 2006-2008



Percentage of women experiencing an unintended pregnancy during the first year of use and percentage continuing use at the end of first year- U.S.

Method	Typical Use	Perfect Use	Use at Yr 1
Copper IUD	0.8%	0.6%	78%
LNG-IUD	0.2%	0.2%	80%
Implant	0.05%	0.05%	84%
3-month injectable	6%	0.3%	56%
Ring	9%	0.3%	68%
Patch	9%	0.3%	68%
Pills	9%	0.3%	68%
Male condom	15%	2%	49%

Long-acting reversible methods of contraception (LARC)

- **IUDs and implants are top tier methods**
 - **Highly effective (pregnancy rates < 1%/yr)**
 - **High rates of satisfaction and continuation**
- **LARC methods eliminate the problem on inconsistent method use, which can lead to unintended pregnancy**

LARC methods- Advantages

- Independent from coitus**
- Do not require frequent visits for re-supply**
- No additional costs once they have been placed**
- Highly cost effective**
- Reversible, with rapid return to fertility after removal**

LARC methods- Disadvantages

- **Barriers**
 - **Low patient awareness**
 - **High upfront costs**
 - **Lack of healthcare provider awareness, knowledge, or skills.**

LARC methods and adolescents

- **ACOG published new recommendation in October 2012**
 - **Implants and IUDs should be first-line methods for sexually active adolescents**

Copper T380A IUD

- 10 year duration of action
- 380 mm² of copper surface area
- Typical use failure rate= 0.8%
- Mechanism of action:
 - Inhibition of sperm migration viability, change in transport speed of the ovum, and damage to or destruction of the ovum



Image from Wikipedia

Levonorgestrel (LNG) IUD

- 5 year duration of action
- Contains 52 mg of levonorgestrel
 - Releases 20 mcg/day initially
 - Minimal systemic adverse effects
- Typical use failure rate: 0.2%
- Mechanism of action:
 - Thickens cervical mucous, prevents entry of sperm into upper genital tract
 - Endometrial suppression

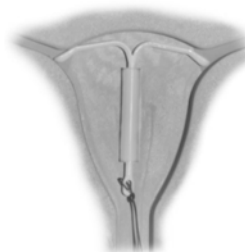
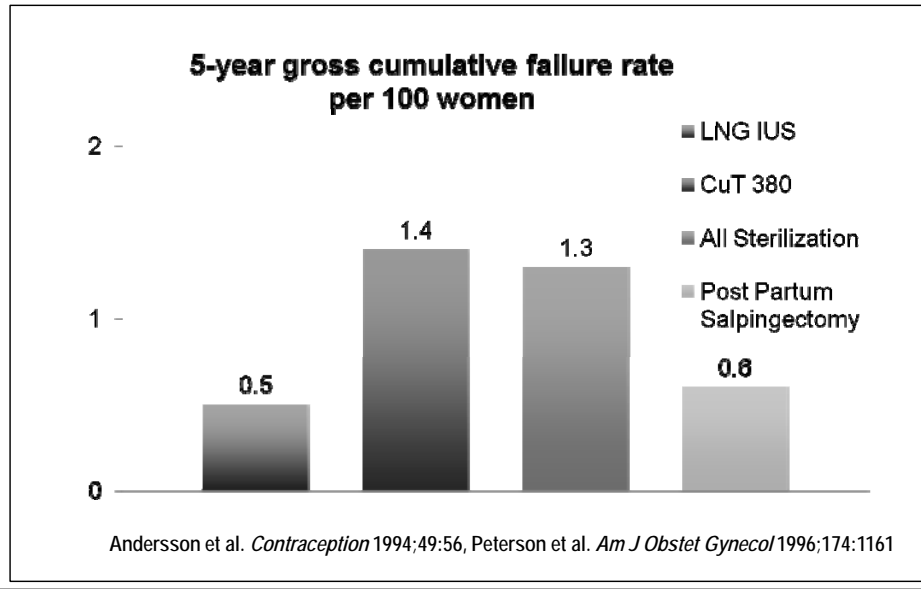


Image from Wikipedia

IUD and Sterilization Efficacy



IUD Side Effects

- **Increased uterine bleeding- may be heavier or more bleeding days (copper IUD)**
- **Dysmenorrhea (copper IUD)**
- **Initial irregular bleeding- 4 to 6 months (LNG IUD)**
- **Amenorrhea (LNG IUD)**
 - Rates reported of 20% to 80%
- **Functional ovarian cyst (LNG IUD)**

Timing of IUD Insertion

- Any time of menstrual cycle if pregnancy ruled out
- During menstruation (ensures not pregnant, masks bleeding and cramps associated with insertion, more open cervical canal)
- Post-partum
 - Immediate (within 48 hrs)→ slightly higher expulsion rate
 - 4-8 weeks
- Post-abortion (first trimester- immediate; second- 4-6 wks)

IUD Contraindications

- Pregnancy
- PID (current or within past 3 months)
- Sexually transmitted diseases (current)
- Puerperal or post-abortion sepsis (current or within 3 months)
- Purulent cervicitis
- Undiagnosed abnormal vaginal bleeding
- Malignancy of the genital tract
- Known uterine anomalies
- Allergy to IUD components/Wilson's disease (copper IUD)

IUDs and Adolescents

- Do not increase an adolescent's risk of PID and STIs
- Do not affect the future fertility of adolescent users

ACOG Committee Opinion Number 539: Adolescents and long-acting reversible contraception: Implants and intrauterine devices.

Progestin-Only Contraceptive Implant

- 3 year duration of action
- Single rod, 40-mm x 2-mm, placed subdermally
 - Contains 68 mg of etonogestrel, (the active metabolite of desogestrel) dispersed in a core of ethylene vinyl acetate and wrapped in membrane of same material
- Typical use failure rate: 0.05%
- Mechanism of action
 - Inhibits ovulation
 - Thickens cervical mucous



Image from Wikipedia

**Single rod
progestin-only
implants versus
two-rod
levonorgestrel
implants?**

**Transdermal
patch versus
birth control pills**

**Case #1:
A 24 year-old
woman who has
intercourse 2-3
times a year**

**Case #2:
A 46 year-old
woman entering
menopause with
an IUD in place.**

**Case #3:
A 19 year-old
who frequently
forgets to take
her birth control
pills.**

**Case #4:
A 30 year-old
woman on birth
control pills who
now wants to get
pregnant.**

**Case #5:
A 20 year-old
basketball player
who wants to
avoid periods
during sports
season**

**Case #6:
A 25 year-old
woman who
wants to switch
from an IUD to a
progestin implant**

**Case #7:
A 40 year-old
couple
considering
vasectomy versus
tubal ligation**

**Case #8:
Estrogen-
progestin pill
versus progestin-
only pill in a 21
year-old woman**

**Case #9:
28 year-old
woman with a
broken condom
last night**

**Case #10:
Drospirenone/ethinyl
estradiol (“Yaz”) in a
woman with pre-
menstrual moodiness?**

**Case #11:
38 year-old woman
on estrogen-
progestin birth
control pills with
new hypertension**

**Case #12:
Monophasic
versus
multiphasic birth
control pill in a 32
year-old woman**