BIRTH CONTROL

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CONTENTS

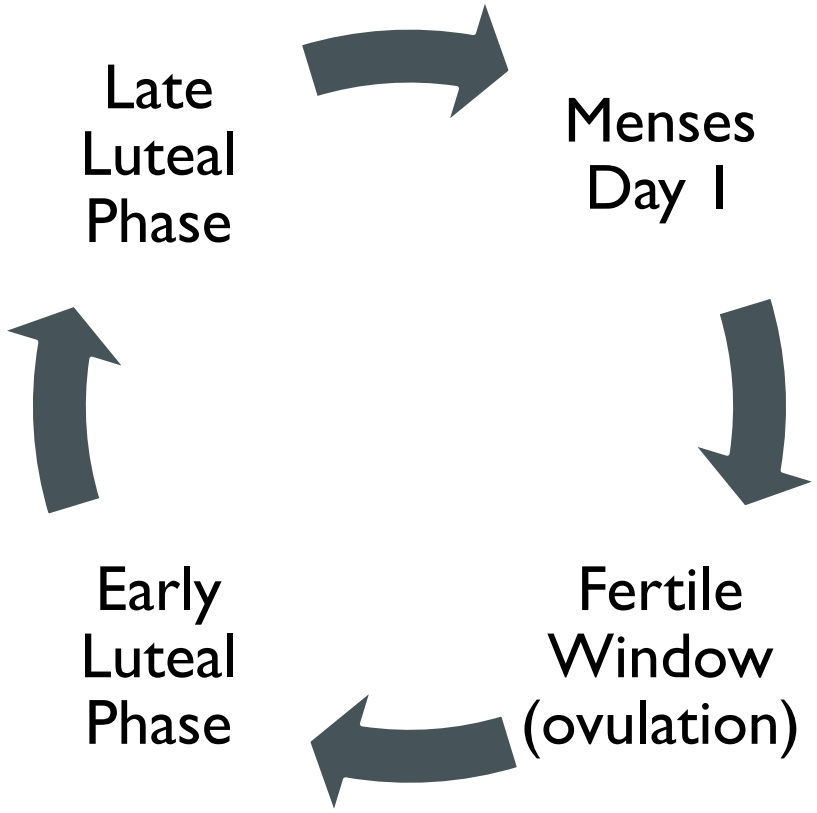
NO METHODS

PREGNANCY RATES OVER 12 MONTHS RANGE FROM 30% TO 65%

(TRYING TO CONCEIVE)

FERTILITY AWARENESS AKA PERIODIC ABSTINENCE

- Two-day method (detect cervical mucus changes)
- Standard days (avoid sex from cycle day 8-19)
  - Failure rate is 4% to 14%
- Symptothermal method (combines cervical mucus changes and basal body temperature)
  - Performs best in clinical research, failure rate 1.8%
- Ovulation method relies on periodic abstinence
  - Failure rate of 3.1%

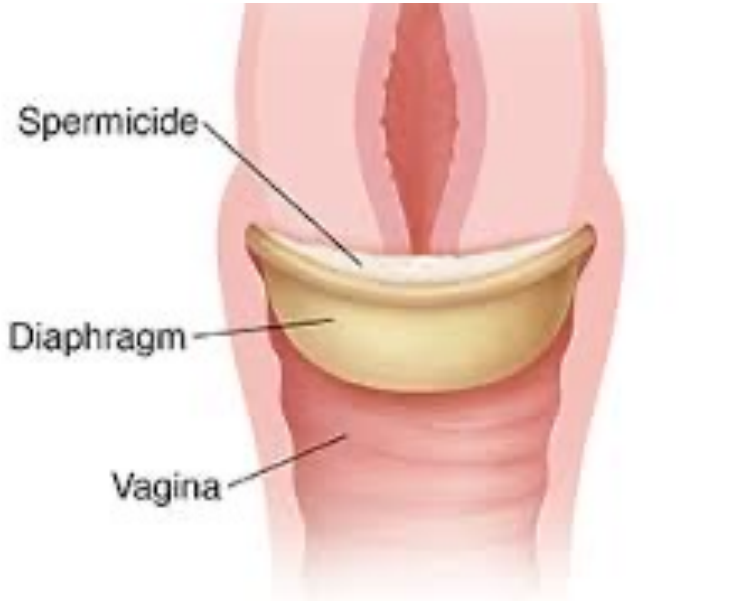


WITHDRAWAL AKA COITUS INTERUPTUS

- Frequently utilized
- Least effective category with internal condoms and spermicides (20 pregnancies in 100 women/year)

BARRIER METHODS - NONHORMONAL

- Spermicides
- Cervical caps (FemCap®)
- Diaphragm



CONDOMS

- Internal condom
- External condom

FIND YOUR PERFECT CONDOM SIZE

WHY?

Risks of using the wrong condom size:

- Condom slippage
- Condom breaking

Both Can Result in Unwanted Pregnancy or Contracting an STD!

SOLUTION

Use the appropriate condom Size!

HOW?

Find Your Condom Size in Few Easy Step

WWW.CONDOM-SIZES.ORG

1. Measure Your Penis Circumference

- Use a measuring tape or a piece of string and measure around the thickest part of your erect penis.

- Straighten out the string and use a ruler to measure the distance – that's your circumference!

2. Compare your Circumference with the average To Get A Rough Idea Where You Stand

less than 4.6 inches

- you need a snugger fit condom, example: Lifestyles Snugger Fit, Iron Grip, Glyde Slimfit

between 4.6 and 5.1 inches

- use a regular condom – Durex Extra Sensitive, Trojan Ultra Thin, Crown Skinless Skin

more than 5.1 inches

- you need a large condom – Trojan Magnum XL, Lifestyles KYNG, TheyFit Custom Fit

3. Use The Chart Below To Get the Suggested Condom Size For Your Circumference

Penis Circumference (inches/mm)	Suggested Condom Width (in/mm)
<4" / 102mm	1.77" – 1.85" / 45 - 47mm
4.1" – 4.5" / 104 – 114mm	1.85" – 1.93" / 47 - 49mm
4.5" – 4.7" / 114 – 119mm	1.96" – 2.05" / 50 - 51mm
4.7" – 4.9" / 119 – 124mm	2.05" – 2.09" / 52 – 53mm
4.9" – 5.1" / 125 – 130mm	2.09" – 2.13" / 53 – 54mm
5.1" – 5.5" / 130 – 140mm	2.15" – 2.28" / 55 - 58mm
5.5" – 5.8" / 140 – 147mm	2.28" – 2.37" / 58 – 60mm
5.8" – 6.1" / 147 – 155mm	2.37" – 2.53" / 60 - 64mm
>6.1" / 155 mm	2.53" – 2.72" / 64 - 69mm

Note: Keep in mind that condom width is measured when a condom is lying flat

FIND MORE CONDOMS

To Get More Condom Suggestions For Each Circumference check out Condom Calculator and Condom Size Chart at www.condom-sizes.org

http://www.condom-sizes.org/condom-size-chart/condom-size-chart
http://www.condom-sizes.org/condom-sizes/condom-calculator

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EXTERNAL CONDOM

- Advantages: prevents STI transmission, low failure rate when used correctly, few contraindications
- Disadvantages: requires male cooperation, may disrupt pleasure, may cause a latex allergic reaction, decreased sensation, environmental impact, odor, need to avoid oil-based lubricants

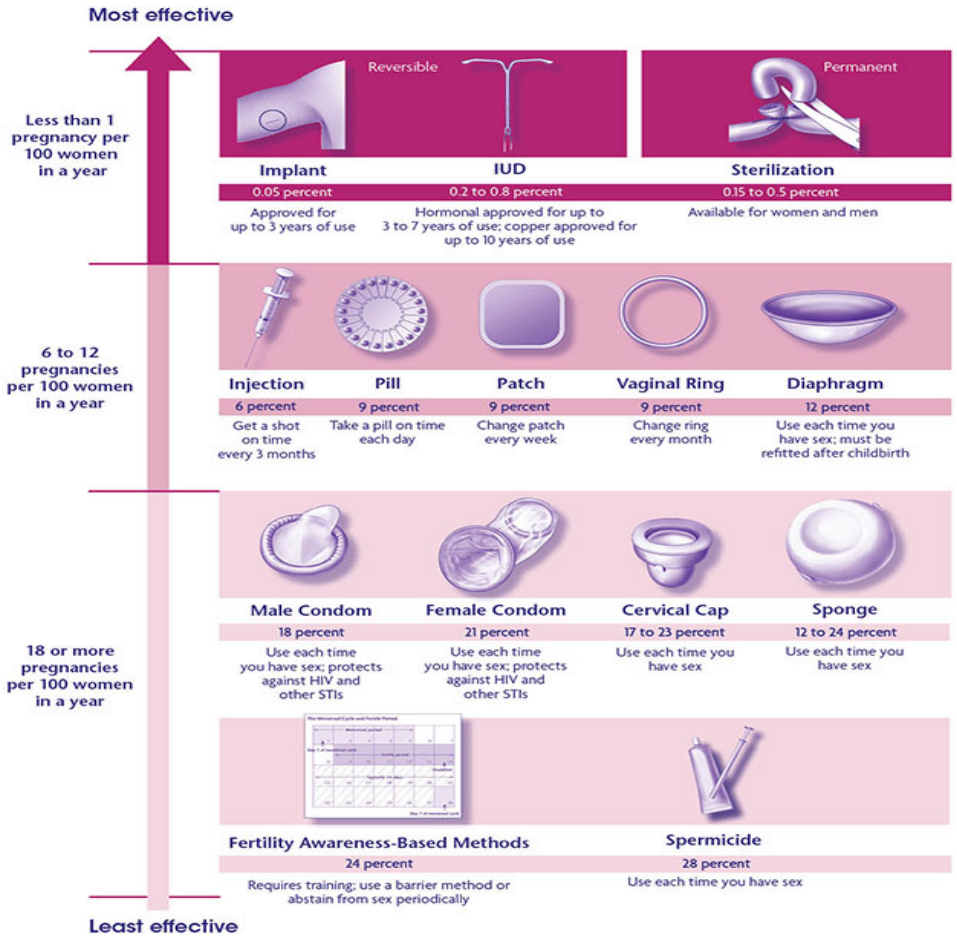
INTERNAL CONDOM

- Advantages: Protects from pregnancy and STI (reduced skin contact), can be placed up to 8h prior to sex, non-latex, does not require male erection to be maintained or withdrawal immediately after male ejaculation
- Disadvantages: expensive, correct use can be difficult, nitrile sheath can be irritating, tears may occur if genital jewelry is present

CERVICAL BARRIERS

- The Caya® diaphragm is a ”one size fits most”, needs a prescription, used in combination with spermicide
  - Reusable, made of silicone
- The FemCap® is a soft silicone cap shaped like a sailor's hat
  - Size is based on obstetrical history (nulliparous=22mm, multiparous but no vaginal delivery=26mm, vaginal delivery=30mm)
- The Today® sponge is a soft polyurethane cushion, 2.5cm thick, 5cm in diameter, with a dimple on the surface that covers the cervix. It is impregnated with nonoxylnol-9 spermicide (1g)
  - Need to add liquid to the sponge to activate the spermicide
  - Left in place for at least 6 hours after intercourse, < 24 hours of use
  - OTC, single use and disposable, one size, but limited availability and high failure rate
- Spermicides alone: foam, gel, suppository, film of nonoxylnol-9

Effectiveness of Birth Control Methods*



Abbreviations: HIV, human immunodeficiency virus; IUD, intrauterine device; STIs, sexually transmitted infections.

Other methods of birth control

Lactational amenorrhea method: This is a temporary method of birth control that can be used for the first 6 months after giving birth by women who are exclusively breastfeeding.
Emergency contraception: Emergency contraceptive pills taken or a copper IUD inserted within 5 days of unprotected sex can reduce the risk of pregnancy.
Withdrawal: The man withdraws his penis from the vagina before ejaculating. 22 out of 100 women using this method will become pregnant in the first year.

*Percentage of women who will become pregnant within the first year of typical use of the method

ACOG
The American College of Obstetricians and Gynecologists

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Adapted from the U.S. Department of Health and Human Services/Centers for Disease Control and Prevention; World Health Organization (WHO) Department of Reproductive Health and Research, Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP). Knowledge for health project. Family planning: a global handbook for providers (2011 update). Baltimore, MD; Geneva, Switzerland: CCP and WHO; 2011; and Trussell J. Contraceptive failure in the United States. Contraception 2011;83:397–404.

COMBINED HORMONAL CONTRACEPTION (CHC)

- COCs, the patch, and the ring all work primarily by inhibiting ovulation.
- The hormonal progestin component suppresses the release of gonadotropin-releasing hormone (GnRH) from the hypothalamus and the luteinizing hormone (LH) surge from the pituitary.
- The estrogen potentiates the effects of the progestin by suppressing the release of follicle-stimulating hormone (FSH) from the pituitary contributing to inhibition of ovulation.
- Progestin has secondary affects including thickening the cervical mucus thereby inhibiting sperm penetration.
- CHC also affects other parts of the reproductive tract. Progestins slow tubal motility which may disrupt ovum or embryo transport. CHC induces endometrial changes including atrophy, edema, and vascular changes which may affect implantation; however, since unintended pregnancies do occur—we also know that this is not the primary mechanism of action, and the endometrium can still support implantation.
- The percent of women who experience an unintended pregnancy when using the pill, patch, or ring perfectly during the first year of use is 0.3 % or 3 per 1,000 women.

COMBINED ORAL CONTRACEPTIVES

- Debut over 50 years ago in 1960 (pioneers, reproductive rights, feminism)
- First pill "Enovid-10" had 150micrograms of mestranol and 9.85 milligrams of norethynodrel
  - Mestranol is an inactive pro-drug that demethylates in the liver to become ethinyl estradiol (EE)
  - With Enovid-10, conversion led to 50 micrograms of EE
- Now the standard is considerably less estrogen with a range of 10 micrograms to 35 micrograms
  - Safety data is not strong enough to recommend a particular dose in this range
  - New formulations containing non-synthetic estradiol (estradiol valerate [E2V] and 17-beta estradiol) claim a theoretical benefit for less venous thromboembolism and metabolic effects

COMBINED HORMONAL PILLS

- Monophasic vs multiphasic
  - Monophasic contains same amount of estrogen and progesterone in each active pill
  - Multiphasic can be biphasic, triphasic, and quadriphasic
- 28-day cycle in which up to 7 pills in the package are placebo
- Extended cycles, 84 active pills and 7 placebo pills
  - The advantages of continuous pill use include convenience of skipping a menstrual period and eliminating the symptoms that may occur during the hormone-free interval such as headaches, bloating, and dysmenorrhea
- 28-day packs can be used continuously, however:
  - insurance may not allow for early prescription refill or the coverage of the extra packs necessary to accomplish continuous use.

- Many combinations exist
- EE, E2V, doses 10mcg to 35mcg
- Progesterone, testosterone, spironolactone
  - Low androgenic effects
- Drospirinone, a progestin structurally related to spironolactone, exhibits progestogenic, antimineralocorticoid, and antiandrogenic activities
- Nomegestrole acetate and dienogest, have primarily progestogenic activities
- Dienogest also has antiadrogenic activity

PROGESTERONE TYPES

	Progesterone		Testosterone		Spironolactone
Parent Component	19-Norprogesterone	17α-Hydroxy progesterone	19-Nortestosterone		17α-Spironolactone
Class name	Nonpregnanes	Pregnanes	Estranes	Gonanes	Spironolactone
Product name	Nomegestrol acetate		Norethindrone	Norgestrel/levonorgestrel	Drospirenone
			Norethindrone acetate	Norgestimate	
			Ethynodiol diacetate	Desogestrel	
			Norethynodrel	Gestodene	
		Dienogest (both prog/test)			

Recreated from The Handbook of Contraception Table 2.1

EFFECTIVENESS

- Second-tier contraceptives, first year typical use failure of 7%
- No difference between choice/dose of COC
- Barriers to successful use:
  - Requiring monthly refills
  - Low motivation to avoid pregnancy
  - Financial hardship
- Excellent safety profile for most healthy, nonsmoking individuals

NONCONTRACEPTIVE BENEFITS

- Reduced monthly blood loss (35mL to 20mL)
- Effective for heavy menstrual bleeding
  - Only Natazia (estradiol valerate + dienogest) is approved for this indication
- Less iron-deficiency anemia
- Fewer menstrual irregularities
- Decreased risk of endometrial cancer
  - 1 year reduction 40%, 10-year reduction 80%
  - Protection lasts for up to 20 years
- Decreased risk of ovarian cancer (same as endometrial)
- Lower risk of benign breast disease (cysts, fibrocystic changes, fibroadenomas)
- Less dysmenorrhea
- Less symptomatic endometriosis
- Less premenstrual symptoms
- Premenstrual dysphoric disorder (Yaz®)
- Decreased functional ovarian cyst
- Lower incidence of androgen-excess conditions
  - Acne, hirsutism
  - Ortho Tri-Cyclen®, Estrostep®, and Yaz® are FDA approved for this
- Less Mittelschmerz
- Reduced hot flashes and other perimenopausal symptoms

HOW DO YOU CHOOSE WHICH ONE?

- Shared decision making!
- CDC U.S. Medical Eligibility Criteria (MEC)
  - Category 1: no restriction
  - Category II: advantages outweigh risk
  - Category III: risks outweigh advantages (relative CI)
  - Category IV: unacceptable health risks (absolute CI)
    - Cigarette smoking
    - Multiple risk factors for CVD (age, smoke, DM, HTN)
    - Uncontrolled HTN
    - SBP >160, DBP 100
    - Migraine with aura/scotomata

- Long-acting reversible contraception (LARC) should be encouraged, particularly if they plan to postpone pregnancy for over 1 year.
- Adolescents have a higher rate of unintended pregnancy when using short-acting methods
- Consider hypertension, history of venous thromboembolism, cirrhosis, heart failure
- Family history of breast cancer is not a contraindication
  - Current breast ca is

DRUG INTERACTIONS (INTERFERE WITH EFFECTIVENESS)

Reduce COC effectiveness

- OTC: St. John's wort
- Anticonvulsants (MEC III): barbiturates, carbamazepine, phenobarbital, phenytoin, primidone, topiramate, oxcarbazepine
- Antivirals (MEC II): efavirenze, ritonavir, ritonavir-boosted protease inhibitors, atazanavir, fosamprenavir (MEC 3), nelfinavir
- Anti-TB (MEC III): rifampin or rifabutin
- Broad-spectrum Abx (MEC I)

COC reduces its effectiveness

- Lamotrigine (MEC III)
- Thyroid medication: increases the sex hormone-binding globulin
- Potassium sparing drugs: ACE inhibitors, potassium-sparing diuretics, angiotensin II receptor inhibitors, aldosterone antagonists, daily NSAIDs must be monitored for the first few months of starting drospirenone

INITIATION

Quick Start

- Requires a backup method for 7 days if not within 5 days of menses
- Decreased risk of unintended pregnancy

Waiting

- Start on the first day of menses
  - No additional backup method needed
- Start on the first Sunday after menses
  - Benefit is avoiding menses on the weekend
  - Disadvantage is it requires an additional 7 days of using backup contraceptive

SWITCHING METHODS

- Start the same day they discontinue the former method
- If it's been more than 5 days, use a backup method
- If switching from an IUD to COC:
  - Sex without a barrier method in the prior 5 days? Residual sperm can lead to pregnancy
    - Start COC and return for IUD removal in 7 days
    - Take Emergency Contraception (EC) and start COC:
      - Immediately if levonorgestrol EC is used
      - In 5 day if ulipristal is used

MANAGING SIDE EFFECTS

- Irregular bleeding
- Breast tenderness
- Nausea
- Headache

- Strategies:
  - Take the pill at the same time everyday
  - Take the pill at bedtime

SKIPPED PILLS

First week of pack

- Missing one pill:
  - Take missed tablet when remembered and next one at the correct time
  - Use back up method
- Missing two or pills:
  - Take 2 pills as soon as possible and then 2 more the following day
  - Use backup method

After the first week of pack

- Missed one pill:
  - Take two pills as soon as possible, no backup
- Missed two pills in a row:
  - Take two pills as soon as possible and then two more the following day, use backup
- Missed more than two pills:
  - Discard current pack and begin a new cycle
  - Use backup method until 7 days

WARNING SIGNS: ACHES

- Abdominal pain (mesenteric or pelvic vein thrombosis, or ectopic pregnancy)
- Chest pain (PE, MI)
- Headaches (stroke)
- Eye problems (stroke or retinal vein thrombosis)
- Severe leg pain (DVT)

PROGESTIN-ONLY ORAL CONTRACEPTIVES (POP)

- ”Mini-Pills”: contain 25-75% of the progestin dose contained in COCs
- Less effective than COCs
  - Limited duration of effect
  - Inconsistent ovulation suppression
  - Difficulties with adherence
- More breakthrough bleeding but fewer adverse effects
- Higher use in age over 40 and during lactation
- >3h delay is considered missing a dose

BENEFITS

Contraceptive

- Simple, same pill every day with no break
- Quick return to fertility
- No effect on bone density

Noncontraceptive

- Decreased dysmenorrhea
- Decreased symptoms of endometriosis
- Protection from endometrial cancer
- Decreased PID from thickened cervical mucus

HOW TO CHOOSE THE BEST OPTION?

Category

- Synthetic progestins structurally related to testosterone (estranes and gonanes)
- Majority contain norethindrone (estrane)
  - 28 days of active pills, no placebo
- Since 2019, Drospirinone 4mg approved
  - 24 active pills, 4 placebo pills
  - Improved bleeding profile, effective up to 24h

Contraindications

- Few
- Absolute: current breast cancer (MEC IV)
- MEC III:
  - Past history of breast cancer >5 years
  - Liver disease with severe decompensated cirrhosis
  - Liver tumors
  - Ischemic heart disease or stroke while on POP
  - SLE with antiphospholipid antibodies
  - History of bariatric surgery with malabsorptive procedures

Palacios S, Colli E, Regidor PA. Bleeding profile of women using a drospirenone-only pill 4 mg over nine cycles in comparison with desogestrel 0.075 mg. *PLoS One*. 2020;15(6):e0231856. Published 2020 Jun 29. doi:10.1371/journal.pone.0231856

SLYND (DROSPIRENONE)

Anti-Mineralocorticoid Activity

- Drospirenone counteracts estrogen-induced stimulation of the renin-angiotensin aldosterone system which can result in reduced fluid retention[6]

Anti-Androgenic Activity

- Drospirenone has no androgenic activity, and is reported to improve androgenic-related skin disorders[7,8]

6. Vroonen L, Cavalier E, Vranken L, et al. Influence of drospirenone on renin-angiotensin-aldosterone system evaluation. Endocrine Abstracts. 2011;26:12.
7. Slopien R, Milewska E, Rynio P, et al. Use of oral contraceptives for management of acne vulgaris and hirsutism in women of reproductive and late reproductive age. Menopause Review. 2018;17(1):1-4. doi: 10.5114/pm.2018.74895
8. Greer JB, Modugno F, Allen G, et al. Androgenic progestins in oral contraceptives and the risk of epithelial ovarian cancer. Obstet Gynecol. 2005;105:731-740.

TRANSDERMAL CONTRACEPTIVES (PATCH)

- Highly effective, reversible
- Can contain CHC and progestin only
- Currently available:
  - Ortho Evra® and Xulane® contain ethinyl estradiol 35mgcg and norelgestromin
  - Twirla® contains 120mcg levongestrel (LNG) and 30mcg EE.
- Similar to COCs but additional benefits include
  - Weekly, increased compliance
  - Lower peak serum concentrations after application
  - Avoidance of first-pass hepatic metabolism
- Common adverse effects include site reactions (17%), breast discomfort (22%), nausea (27%), and headache (21%)
- Less common side effects include dysmenorrhea (10%), breakthrough bleeding (6%), mood/affect/anxiety (6%)
- Similar MOA, contraindications and initiation as the COC

INSTRUCTIONS

- Apply a patch to clean, dry and nonirritated skin
  - Arm, abdomen, buttock, back
- New patch is replaced on the same day weekly for 3 weeks, followed by a one week off
- Peel off half on the protective liner and apply the sticky portion to the skin, remove the remaining protective liner, press patch firmly with the palm for 10 seconds
- Check on the patch everyday to assure its attached
  - 1.8% shown to fall off; if this occurs, replace with a new patch
  - Heat, humidity, and exercise do not affect patch adhesion

CONTRACEPTIVE VAGINAL RING

- NuvaRing®: etonogestrel ENG 120mcg/EE 5mcg, 28d cycle, 21 days on, 7 days off
- Annovera® approved in 2018, contains segesterone acetate aka nestorone (SA/EE), total of 13 cycles
- Similar efficacy to other CHCs
- Patient controlled, discrete, and monthly
- After reaching a steady state, circulating hormone levels are lower than with COCs and with no fluctuations
- Similar to the patch, it avoids the first pass effect of liver metabolism
- Cycle control is excellent, bleeding pattern is highly predictable, low rates of breakthrough bleeding

NUVARING®

- Soft, flexible, transparent made of ethinyl vinyl acetate
- Outer diameter of 54mm, cross-sectional diameter of 4mm
- ENG 11.7mg, EE 2.7mg, releases 120mcg/day of ENG and 15mcg EE over 21 days
  - Can be used continuously

ANNOVERA®

- Similar to the NuvaRing® but can be reused for one year
  - After 21 days, the SA/EE ring should be removed and stored in a clean and dry place until replacement 7 days later

MECHANISM OF ACTION

- Same as other CHCs
  - Estrogen and progestins synergistically act on the hypothalamus via negative feedback to decrease pulsatile secretions of GnRH, thereby decreasing FSH and LH
  - Follicle development is suppressed, estradiol levels do not increase in the manner necessary to cause an LH surge
    - Ovarian suppression occurs
  - Estrogen acts to stabilize the endometrium for the added benefit of cycle regulation and minimizing breakthrough bleeding
  - Progestins thicken cervical mucus, alter tubal peristalsis, and reduce endometrial receptivity due to reduced glycogen production and decreased gland proliferation
- Effectiveness, typical use 7-8% unintended pregnancies; perfect use 0.3% unintended pregnancies

SIDE EFFECTS

- Similar to other CHCs
- Vaginal symptoms: 6% reported vaginitis and 5% reported leukorrhea
  - Weak inflammatory response, not infection
- Headache (6%), subjective weight gain (4%), nausea (3%), emotional lability (3%); breast tenderness and dysmenorrhea are both 2.6%
- VTE risk increased similar to COCs
- Sexual effects: most do not feel the ring during penetrative intercourse

DEPOT MEDROXYPROGESTERONE ACETATE (DMPA)

- Injectable, progestin only contraceptive
- Effective, with typical use 6 out 100 women will become pregnant in the first year
- Unlike other methods, there is a delayed return to fertility after discontinuation (median is 10 months)
- Depo-Provera® has been used for treatment of endometriosis, abnormal uterine bleeding, and contraception
  - Generic available
  - Dosing is 150mg of MPA, effective for 13 weeks
  - Available as a sterile, white, injectable suspension, stored at room temperature, administered IM (gluteal or deltoid)
- Depo-SubQ provera 104™ (2004), treatment of endometriosis pain and contraception
  - Prefilled syringe, small SC needle, contains 104mg in 0.65mL; given in anterior thigh or abdominal wall; less painful

CONSIDERATIONS

Advantages

- Every 3 months dosing
- Effective regardless of weight
- Private
- Minimal drug interactions
- Decreased menstrual blood loss (anemia)
- Treats AUB a/w fibroids, adenomyosis, coagulopathy; endomet
- Decreased dysmenorrhea, mood changes, headaches, breast tenderness
- Decreased risk of endometrial and ovarian cancer, PID, ectopic pregnancy
- Fewer sickle cell crises, decreased seizures

Disadvantages

- Delayed return to fertility
- Weight gain, approximately 2kg
- Side effects
  - Bleeding irregularities
  - Weight gain: increases appetite, controversial
  - Breast tenderness, headache, mood changes, nausea, acne,
  - Pain at injection site
  - Hypoestrogenic effects, hot flashes, vaginal dryness
  - Reversible decreases in bone mineral density
  - Allergy (rare)

BONE MINERAL DENSITY (BMD)

- Pregnancy, breastfeeding, menopause, and hormonal contraceptives can affect BMD
- DMPA reduces pituitary gonadotropins (FSH, LH), decreasing ovarian production of estrogen, leading to BMD loss
- "black box warning" not supported by ACOG and CDC
- Bone loss is reversible and similar to breastfeeding loss; no study showing increased fracture risk
- Routine BMD monitoring in adolescents and young adults is not recommended
- Regular exercise (weight-bearing), smoking cessation, and calcium/vit D supplementation is recommended

IMPLANTABLE CONTRACEPTION

- Progestin-only, rapidly reversible, LARC
- Available options include the single rod etonogestrel implant, and the two-rod levonorgestrel system (not US)
- History:
- Norplant developed in 1983, approved in the US in 1990, and was withdrawn from the market in 2002
  - Limited supply of the silastic components of capsules); discontinued worldwide in 2008
- Jadelle, two-rod LNG system, approved in US in 1998 but never marketed, manufactured in China, less expensive
- Implanon approved in 2006, single rod inserted via a preloaded and disposable inserter
  - Rod made of ethylene vinyl acetate, less fibrous sheath development
  - Removed from market in 2012 for improvement
- Nexplanon® is the new and improved version, now radio-opaque and a simpler inserter

CONSIDERATIONS

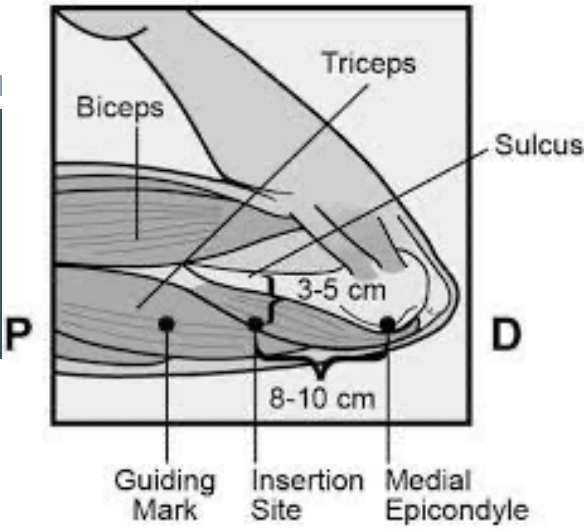
Mechanism of action

- Ovulation suppression
- Thickened cervical mucus

Side effects

- Irregular bleeding (common) because implants allow for follicular development but not ovulation leading to endogenous estrogen production at nearly normal levels → endometrial sloughing occurs
- Correction:
  1. 7-day course of oral estrogen: conjugated estrogens 1.25mg OR estradiol 2mg
  2. OCP for 1 to 3 months
  3. 7 days of tamoxifen 10mg twice daily
  4. 7 days of daily ulipristal acetate 15mg
  5. NSAIDs for 5-7 days (Naproxen 500mg BID)
- Other side effects include headache (16%), weight gain (12%), acne (12%), breast tenderness (10%), emotional lability (6%), and abdominal pain (5%)

INSERTION

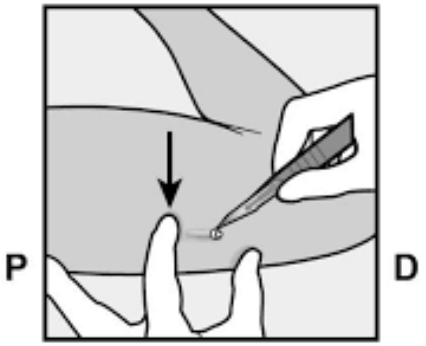


- 7 days of backup contraception is needed
- Merck provides clinician training, 3 hours, on patient selection, counseling, insertion, and removal
- Instruments:
  - 25-gauge needle, 1.5 inches long, attached to a 2-5mL syringe
  - 1% lidocaine without epinephrine (can also provide supplemental lidocaine cream prior to injection)
  - Antiseptic solution
  - Adhesive strip for closure (can also use surgical glue)
  - Elastic pressure bandage ("Kerlex")
  - Gloves, drapes, Nexplanon applicator

- Positioning: supine with upper inner arm exposed, elbow bent to 90°
- Location: avoid blood vessels and nerves located in the bicipital groove (since 2018)
  - Overlies triceps muscle, about 8-10cm from the medial epicondyle of the humerus and 3-5cm posterior to the sulcus

REMOVAL

- Instruments:
  - 25-gauge needle, 1.5 inches long, attached to a 2-5mL syringe
  - 1% lidocaine without epinephrine (can also provide supplemental lidocaine cream prior to injection)
  - Antiseptic solution
  - Adhesive strip for closure (can also use surgical glue)
  - Elastic pressure bandage ("Kerlex")
  - Gloves, drapes
  - Sterile mosquito forceps (curved and straight)
  - #11 scalpel
  - Can be followed by a replacement if desired



INTRAUTERINE DEVICES

Hormonal

- LNG-52, T-shaped polyethylene IUD that releases 20 mcg per day
  - Mirena® approved for 7 years as of 2022
  - Liletta® approved for 5 years
  - Reduction in bleeding: 20% of users
- LNG-19.5, T-shaped polyethylene IUD that releases LNG 18mcg per day
  - Kyleena®, approved for 5 years
  - Reduction in bleeding: 12% of users
- LNG-13.5, T-shaped IUD that releases LNG 14mcg per day
  - Skyla® approved for 3 years
  - Reduction in bleeding: 6% of users

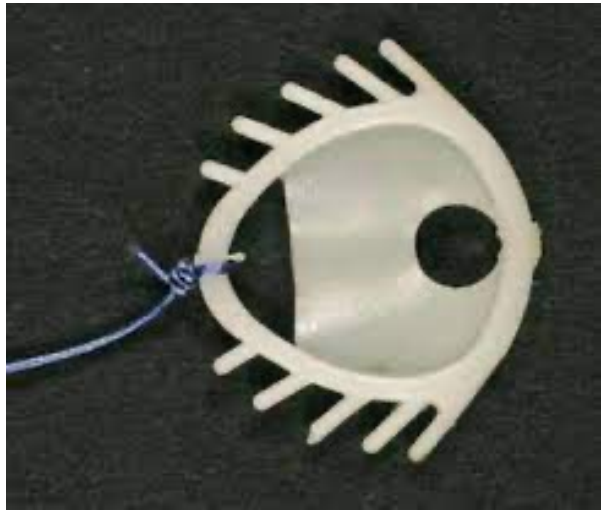
Nonhormonal

- CuT380A, T-shaped polyethylene IUD with 380mm^2 of copper
  - Paragard® approved for 10 years (up to 12 years)
    - Maintain menstrual cycle, bleed heavier

CONSIDERATIONS

Historical Controversy

- Popular in the 1960s and 1970s
- After the Dalkon shield was linked to septic abortion and serious pelvic infections, many US manufacturers withdrew their products



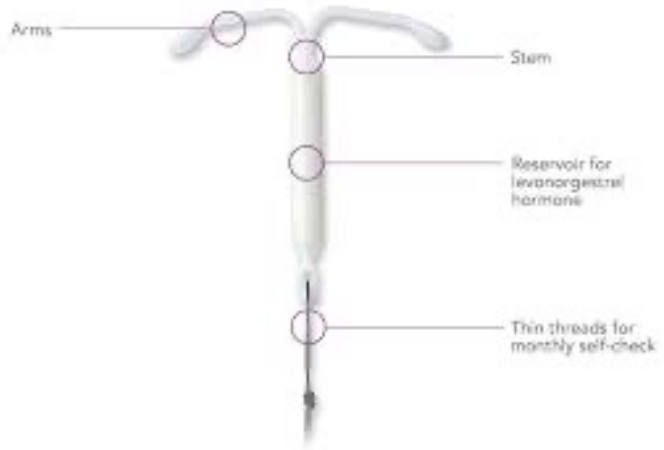
Modern-day IUDs

- Highly effective:
  - Copper T380: 0.6% failure rate in perfect use
  - LNG-52: 0.1% failure rate in perfect use
- Mechanism of action:
  - Prevent from from fertilizing ova
  - Copper ions reduce sperm motility and viability
  - Copper ions also increase WBC, enzymes and prostaglandins in uterine fluid
  - LNG IUD inhibit fertilization by thickening cervical mucus and changing the uterotubal fluid to impair sperm migration. Also alters the endometrium to prevent implantation

EFFECTIVE EMERGENCY CONTRACEPTIVE

- Copper IUD within 5 days of unprotected sex is safe and the most effective form of postcoital contraception
  - Rate of pregnancy in that cycle is 0.1%
  - also provides LARC when inserted reducing the rate of unintended pregnancy while in place

THERAPEUTIC USES

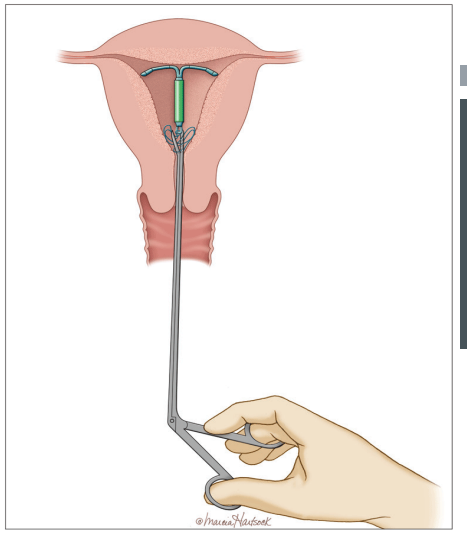


- LNG-52 is used to manage menorrhagia
- LNG-52 is used to treat endometriosis, pelvic pain and dyspareunia
- LNG-52 is used to treat endometrial hyperplasia
- LNG-52 is used for endometrial protection in menopausal women treated with estrogen therapy and also for those persons taking Tamoxifen®

INSERTION

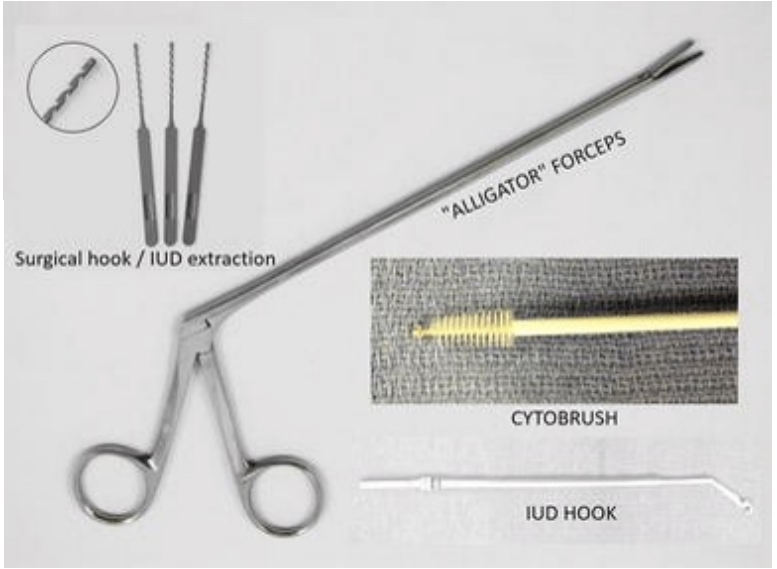
- Pain control: NSAID up to one hour before insertion, heat packs, diaphragmatic breathing
- Bimanual pelvic exam to assess the size, shape, and position of the cervix, and to exclude signs of infection
- Sterile gloves should be used
- Place an adjustable speculum
- Collect swabs first if needed
- Apply antiseptic to cervix
- Apply tenaculum and pull gently to straighten the angle between the cervix and uterus to reduce perforation risk
- Sound the uterus to confirm uterine position, identify anomaly, and measure depth (usually 6-9cm)
- Open the package
- Proceed with manufacturer's instructions to load and place the device
- Cut strings to 3cm

REMOVAL



Alligator forceps can assist in extraction of an IUD that has nonpalpable strings but remains within the uterus and is not perforating the uterine wall.

- "cough" "laugh" "bear-down"
- Slow and steady traction on strings with a ring forcep
- Strings not visible: coax with cytobrush, IUD hook, alligator forceps, metal pipelle, or manual vacuum aspiration with a small cannula to remove the device
- Paracervical local anesthesia may be needed for patient comfort
- Rarely, hysteroscopy may be needed
- Misoprostol/dilators too



COMPLICATIONS

- Expulsion: 2-10%, if it occurs, they have a 33% chance of it happening again
  - Immediate and early postpartum placements are associated with increased expulsion rates
- Perforation: rare
- Bleeding and pain: higher dose of LNG leads to decreased bleeding and spotting
  - Heavy bleeding 3 months or more should rule out pregnancy, endometritis, polyp, and malignancy
  - Trial of naproxen 500mg BID; can also consider 3-month trial of OCP

EMERGENCY CONTRACEPTION (EC)

- Nearly half of all pregnancies in the US are unintended
- "last chance" option for un/under protected intercourse
- In the US, four options:
  - Progestin-only levonorgestrel (LNG) EC pill 1.5mg (Plan B, Actavis, Gavis, syzygy
    - taken within 72 hours
  - Combination oral contraceptives (COC); take 2 doses 12 hours apart
  - Selective progesterone receptor modulator (SPRM) EC pill (ulipristal acetate 30mg); Ella
    - FDA approved for up to 72 hours, rx needed
  - Copper T IUD; most effective, inserted within 5 days of unprotected sex

USING COC

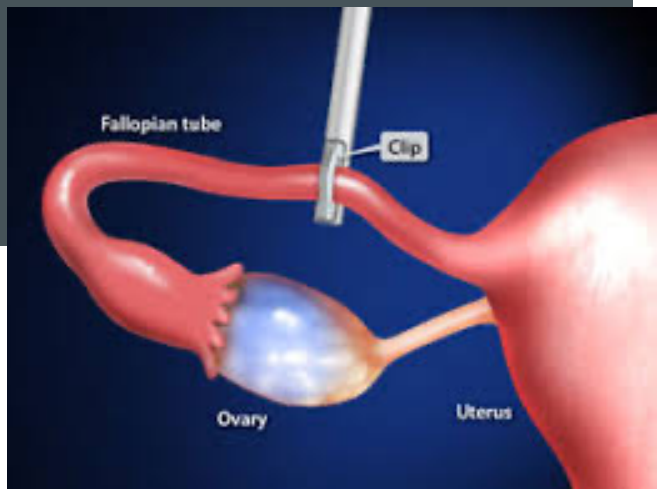
- OCPs containing levonorgestrel or norgestrel can be used with the Yuzpe method
  - First dose of two to six pills is taken as soon as possible within 72 hours of unprotected intercourse
  - Second dose is taken 12 hours later
  - Recommend pretreatment with antiemetic

®	content	Pills per dose
Cryselle, Elinest, low-Ogestrel	30mcg EE plus 0.3mg norgestrel	4+4
Altavera, Amethia, Camrese, Chateal, Introvale, Jolessa, Kurvelo, Levora, Marlissa, Nordette, Portia, Quasense, Seasonale, Seasonique, Setlakin	30mcg EE plus 0.15 mg LNG	4+4
Ayuna, enpresse, levonest, myzilra, triphasil, trivora, viena	30mcg EE plus 0.125 mg LNG	4+4
Afirmelle, Amethia Lo, Aubra, Aviane, CamreseLo, Falmina, Lessina, LoSeasonique, Lutera, Orsythia, Sronyx	20mcg EE plus 0.1 mg LNG	5+5
Amethyst	20mcg EE plus 0.09mg LNG	6+6

MENSTRUAL CYCLE IRREGULARITY AFTER EC

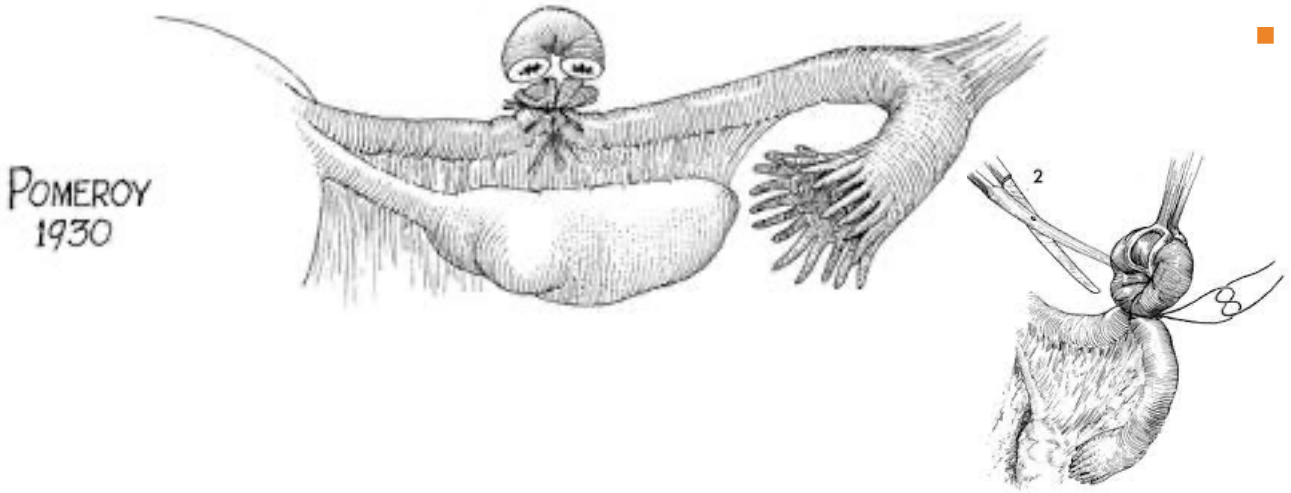
- Menses will start within 1 week before of after the expected time (87%)
- LNG EC: may have spotting for a few days
  - Bleeding pattern can be similar (75%), heavier (13%), or lighter (12%)

FEMALE STERILIZATION METHODS



Associated with pregnancy

- Postpartum (with cesarean or minilaparotomy)
  - Pomeroy or modified Pomeroy partial salpingectomy
- Parkland, Uchida, Irving, Madlener, fimbriectomy, total salpingectomy, hysterectomy
- Post-abortal (minilapartomy or laparoscopic)



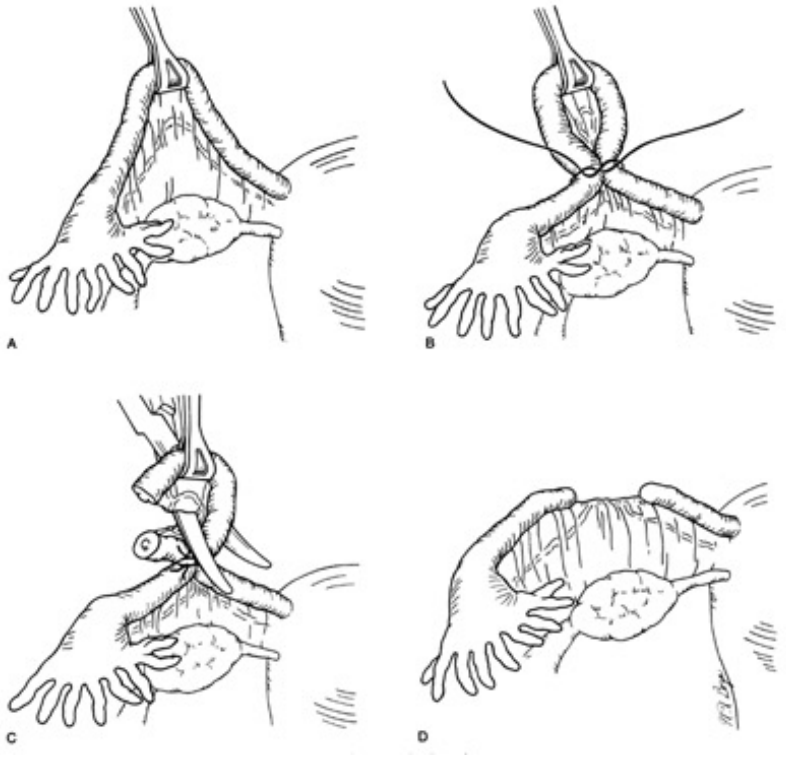
Interval

- Laparotomy
- Parkland, Uchida, Irving, Madlener, fimbriectomy, total salpingectomy
- Mini-laparotomy
- Laparoscopy (fulguration, clips, rings, loops)
- Vaginal
  - blind transcervical, chemical, tissue adhesives
  - Hysteroscopic

Hysterectomy

POMEROY METHOD

- Following accurate identification of the fallopian tube, a Babcock clamp is placed around the proximal portion of the tubal ampulla and the tube is elevated to reveal the vascular supply of the mesosalpinx (see Fig. 1A). It is important to follow the tube distally to its fimbriated end to ensure that it is the fallopian tube and not the round ligament. A single strand of rapidly absorbable suture material (1-0 or 0 plain catgut) is placed around the elevated loop of tube and firmly tied. The fallopian tube is thus ligated and the blood supply is occluded simultaneously (see Fig. 1B). A hemostat may now be placed on the suture strands immediately distal to the knot, and the excess suture may be excised. The hemostat now becomes a useful holder for the next step in the procedure. At this point, a second tie of the same suture material may be applied at the discretion of the surgeon, but this is not usually necessary. While gentle traction is maintained on the elevated section of tube, the open blade of the Metzenbaum scissors is used to pierce the mesosalpinx and approximately 1 cm of tube is excised (see Fig. 1C). The excised tube should be appropriately labeled and sent to the pathology laboratory for documentation. With the contraction of the muscularis, the white avascular endosalpinx appears as an elevated area in the center of each cut segment. The proximal and distal ends of the divided and ligated oviduct are now examined for bleeding and then the tube is returned to the abdominal cavity and the procedure is repeated on the opposite tube.



Great review of techniques: Schmidt, E, Diedrich, J, *et al*, *Glob. libr. women's med.*, *(ISSN: 1756-2228)* 2014; DOI 10.3843/GLOWM.10400. Last updated 9/2014.

REVERSAL

- Patients should understand that tubal sterilization is *irreversible, permanent*
- However, situations may change, and patients may seek guidance on reversal versus In Vitro Fertilization (IVF)
- The potential for reversal is directly proportional to the amount of normal tube remaining.
- The more of the tube removed or destroyed initially will determine the success of a reversal operation
- Microsurgery is an option
  - Open blocked ends of the remaining tubal segments
  - Insert a narrow flexible stent through their inner cavities into the uterine cavity.
  - The newly created tubal openings are then drawn next to each other by placing a retention suture in the connective tissue that lies beneath the fallopian tubes.
  - Microsurgical sutures are used to precisely align the muscular portion and outer layer.
  - The tubal stent is then gently withdrawn from the fimbrial end of the tube.
- The probability of successful pregnancy after tubal reversal is low

VASECTOMY

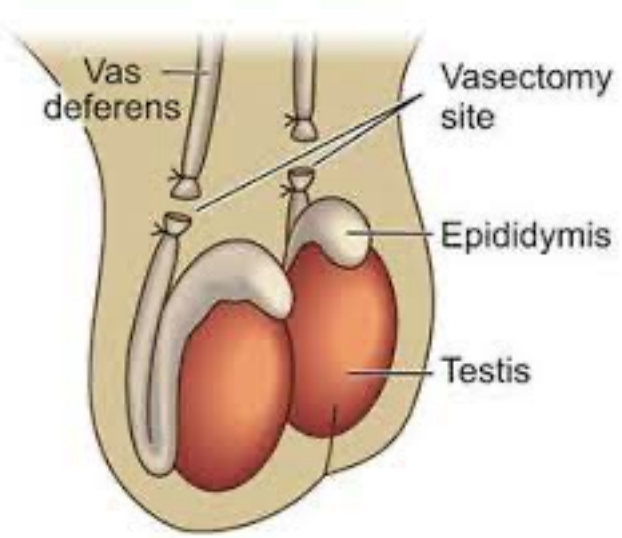


Image from https://www.urologysanantonio.com/vasectomy

SPECIAL POPULATIONS

- Medical Conditions → US MEC
- Disabilities
  - Physical: Cerebral palsy and spinal cord injuries
    - Increased risk of VTE
  - Sensory: vision and hearing
  - Intellectual and developmental: Down Syndrome, fetal alcohol syndrome
    - Issues of informed consent
- Postpartum: lactating and nonlactating
- Perimenopausal: CHC significantly reduce vasomotor symptoms, as does DMPA; estrogen for bone health
- Adolescents: consent, confidentiality, LARC
  - Transgender and gender nonconforming youth (TGNC)
    - Early puberty (tanner stage 2-3), can start GnRH analogues for puberty suppression (suppress HPO axis)
    - Youth receiving feminizing treatment with estrogen and antiandrogen medication (spironolactone) still require contraception
    - Youth receiving masculinizing treatment with testosterone also require contraception, as ovulation is not suppressed
    - Gender dysphoria: estrogen can lead to breast tenderness: IUD placement can be difficult

THE EUGENICS MOVEMENT

- Targeted minorities and disadvantaged women
- "Feeble-mindedness was the criteria:
  - Could not be expected to provide good heredity, a normal home, and intelligent care
- More than 60,000 people were sterilized in 32 states during the 20th century
- Francis Galton coined the false term "Science of Eugenics" in 1883
- Applied emerging theories of genetics to human breeding
- White supremacy elites with strong biases about was "fit" and "unfit" embraced eugenics
  - Thought increased breeding of Anglo Saxons and Nordics would improve American society
  - Immigrants, Blacks, Indigenous people, poor whites and people with disabilities became targets

STATE LAWS

- Indiana passed the world's first sterilization law in 1907
- 31 states followed
- Peak reached in the 1930s and 1940s, but continued until the 1960s
- Nazi Germany used the US eugenics movement to develop: The Third Reich's 1933 "Law for the Prevention of Offspring with Hereditary Diseases"[1]
  - Book: Hitler's American Model: The United States and the Making of Nazi Race Law by James Q. Whitman
  - Book: Racial Hygiene Medicine under the Nazis by Robert N. Proctor
  - Nazi's sterilized approximately 400,000 children and adults, mostly Jewish and others, under this law
  - Modeled after laws in Indiana and California

1. https://www.ushmm.org/learn/timeline-of-events/1933-1938/law-for-the-prevention-of-offspring-with-hereditary-diseases

TREND

- Started with white men, then women
- Over time, became more women and people of color, highlighting sexism and racism
- Book: Fit to Be Tied, Sterilization and Reproductive Rights in America, 1950-1980 by Rebecca M. Kluchin
- In the 1950s, segregation by race was commonplace
  - Integration led to a need to maintain racial hierarchies and white supremacist control through control of reproduction
  - Book: Mothers of Massive Resistance, White Women and the Politics of White Supremacy by Elizabeth Gillespie McRae
  - Book: Killing the Black Body by Dorothy Roberts
- Idea not poverty was managed with reproductive constraint
  - Book: How All Politics Became Reproductive Politics, From Welfare Reform to Foreclosure to Trump by Laura Briggs
- In the 1960s and 1970s, Medicaid also funded nonconsensual sterilization
  - More than 100,000 Latino, Black, Indigenous women were forcibly sterilized
  - Book: Population control politics: women, sterilization, and reproductive choice by Thomas M. Shapiro
  - Book: No Mas Bebes, When Doctors Think They Know Better by Renee Tajima-Pena
- Between 1997 and 2010, about 1,400 women in California prisons had unwanted sterilizations as "cost-saving measures"
  - Documentary "Belly of the Beast" by Erika Cohn

GLOBALLY

- Czech Republic women forced sterilization documented as recently as 2007
- Northern China women part of the religious Muslim minority, Uighurs
  - https://www.businessinsider.com/china-forcibly-sterilizing-uighur-women-xinjiang-abortions-contraception-ap-2020-6

CONSENT LAWS

- ACOG: Sterilization of Women: Ethical Issues and Considerations. Committee Opinion Number 695. April 2017
- In 1976, the U.S. Department of Health, Education, and Welfare developed protective regulations for Medicaid-funded sterilizations to prevent further coercive or nonconsensual procedures. The regulations prohibit sterilization of women younger than 21 years and of women with mental disabilities, require waiting periods between the time of consent and the sterilization procedure (currently, a 30-day waiting period), and require the use of a standardized consent form
  - Department of Health and Human Services. Consent for sterilization . Washington, DC: DHHS; 2012. Available at: http://www.hhs.gov/opa/sites/default/files/consent-for-sterilization-english-updated.pdf.

SOCIETY AND CULTURE

LEGAL POSITIONS

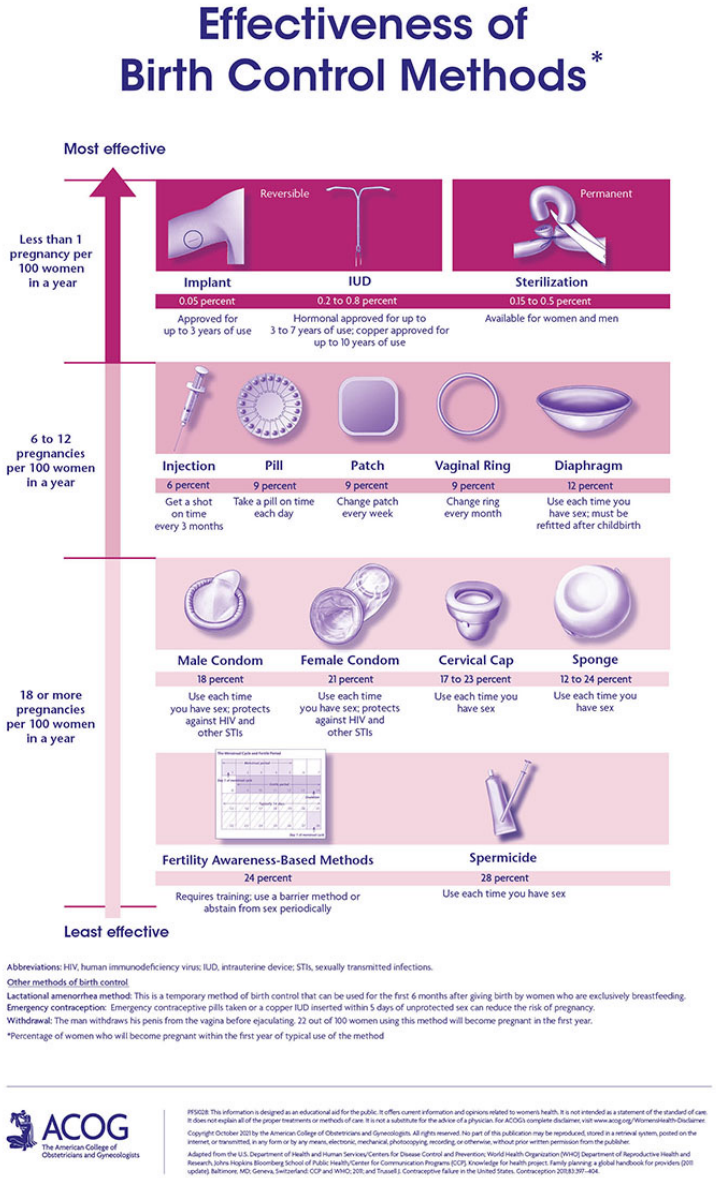
RELIGIOUS VIEWS

ACCESSIBILITY

ABORTIONS

- Highly controversial, mostly due to personal beliefs that one feels are superior to others
  - Religion plays a large role in dictating what a woman can do with her body and her worth
  - Viability is at 24 weeks; before then the placenta is supporting the fetus and without it, the fetus rarely survive
- Options available include:
  - Medication (Mifepristone, Misoprostol) up to 9 weeks
  - Surgery (Dilation and suction Curettage up to 14 weeks, Dilation and Evacuation >14 weeks)
    - Laminaria to dilate
  - Third trimester abortion is rare

GUIDES


Effectiveness of Birth Control Methods*
Most effective
Less than 1 pregnancy per 100 women in a year
Reversible
Permanent
Implant
0.05 percent
Approved for up to 3 years of use
IUD
0.2 to 0.8 percent
Hormonal approved for up to 3 to 7 years of use; copper approved for up to 10 years of use
Sterilization
0.15 to 0.5 percent
Available for women and men
6 to 12 pregnancies per 100 women in a year
Injection
6 percent
Get a shot on time every 3 months
Pill
9 percent
Take a pill on time each day
Patch
9 percent
Change patch every week
Vaginal Ring
9 percent
Change ring every month
Diaphragm
12 percent
Use each time you have sex; must be refitted after childbirth
18 or more pregnancies per 100 women in a year
Male Condom
18 percent
Use each time you have sex; protects against HIV and other STIs
Female Condom
21 percent
Use each time you have sex; protects against HIV and other STIs
Cervical Cap
17 to 23 percent
Use each time you have sex
Sponge
12 to 24 percent
Use each time you have sex
Fertility Awareness-Based Methods
24 percent
Requires training; use a barrier method or abstain from sex periodically
Spermicide
28 percent
Use each time you have sex
Least effective
Abbreviations: HIV, human immunodeficiency virus; IUD, intrauterine device; STIs, sexually transmitted infections.
Other methods of birth control
Lactational amenorrhea method: This is a temporary method of birth control that can be used for the first 6 months after giving birth by women who are exclusively breastfeeding.
Emergency contraception: Emergency contraceptive pills taken or a copper IUD inserted within 5 days of unprotected sex can reduce the risk of pregnancy.
Withdrawal: The man withdraws his penis from the vagina before ejaculating. 22 out of 100 women using this method will become pregnant in the first year.
*Percentage of women who will become pregnant within the first year of typical use of the method
ACOG
The American College of Obstetricians and Gynecologists
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Adapted from the U.S. Department of Health and Human Services/Centers for Disease Control and Prevention; World Health Organization [WHO] Department of Reproductive Health and Research, Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP). Knowledge for health project. Family planning: a global handbook for providers (2011 update). Baltimore, MD; Geneva, Switzerland: CCP and WHO; 2011, and Trussell J. Contraceptive failure in the United States. Contraception 2011;83:397–404.

Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion

Condition	Sub-Condition	Cu-IUD		LNG-IUD		Implant		DMPA		POP		CHC	
		I	C	I	C	I	C	I	C	I	C	I	C
Age		Menarche to <20 yrs:**2**		Menarche to <20 yrs:**2**		Menarche to <18 yrs:**1**		Menarche to <18 yrs:**2**		Menarche to <18 yrs:**1**		Menarche to <40 yrs:**1**	
		≥20 yrs:**1**		≥20 yrs:**1**		18-45 yrs:**1**		18-45 yrs:**1**		18-45 yrs:**1**		≥40 yrs:**2**	
						>45 yrs:**1**		>45 yrs:**2**		>45 yrs:**1**			
Anatomical abnormalities	a) Distorted uterine cavity	**4**		**4**									
	b) Other abnormalities	**2**		**2**									
Anemias	a) Thalassemia	**2**		**1**		**1**		**1**		**1**		**1**	
	b) Sickle cell disease‡	**2**		**1**		**1**		**1**		**1**		**2**	
	c) Iron-deficiency anemia	**2**		**1**		**1**		**1**		**1**		**1**	
Benign ovarian tumors	(*including cysts*)	**1**		**1**		**1**		**1**		**1**		**1**	
Breast disease	a) Undiagnosed mass	**1**		**2**		**2***		**2***		**2***		**2***	
	b) Benign breast disease	**1**		**1**		**1**		**1**		**1**		**1**	
	c) Family history of cancer	**1**		**1**		**1**		**1**		**1**		**1**	
	d) Breast cancer‡												
	i) Current	**1**		**4**		**4**		**4**		**4**		**4**	
	ii) Past and no evidence of current disease for 5 years	**1**		**3**		**3**		**3**		**3**		**3**	
Breastfeeding	a) <21 days postpartum					**2***		**2***		**2***		**4***	
	b) 21 to <30 days postpartum												
	i) With other risk factors for VTE					**2***		**2***		**2***		**3***	
	ii) Without other risk factors for VTE					**2***		**2***		**2***		**3***	
	c) 30-42 days postpartum												
	i) With other risk factors for VTE					**1***		**1***		**1***		**3***	
	ii) Without other risk factors for VTE					**1***		**1***		**1***		**2***	
	d) >42 days postpartum					**1***		**1***		**1***		**2***	
Cervical cancer	Awaiting treatment	**4**	**2**	**4**	**2**	**2**		**2**		**1**		**2**	
Cervical ectropion		**1**		**1**		**1**		**1**		**1**		**1**	
Cervical intraepithelial neoplasia		**1**		**2**		**2**		**2**		**1**		**2**	
Cirrhosis	a) Mild (*compensated*)	**1**		**1**		**1**		**1**		**1**		**1**	
	b) Severe‡ (*decompensated*)	**1**		**3**		**3**		**3**		**3**		**4**	
Cystic fibrosis‡		**1***		**1***		**1***		**2***		**1***		**1***	
Deep venous thrombosis (DVT)/Pulmonary embolism (PE)	a) History of DVT/PE, not receiving anticoagulant therapy												
	i) Higher risk for recurrent DVT/PE	**1**		**2**		**2**		**2**		**2**		**4**	
	ii) Lower risk for recurrent DVT/PE	**1**		**2**		**2**		**2**		**2**		**3**	
	b) Acute DVT/PE	**2**		**2**		**2**		**2**		**2**		**4**	
	c) DVT/PE and established anticoagulant therapy for at least 3 months												
	i) Higher risk for recurrent DVT/PE	**2**		**2**		**2**		**2**		**2**		**4***	
	ii) Lower risk for recurrent DVT/PE	**2**		**2**		**2**		**2**		**2**		**3***	
	d) Family history (*first-degree relatives*)	**1**		**1**		**1**		**1**		**1**		**2**	
	e) Major surgery												
	i) With prolonged immobilization	**1**		**2**		**2**		**2**		**2**		**4**	
	ii) Without prolonged immobilization	**1**		**1**		**1**		**1**		**1**		**2**	
	f) Minor surgery without immobilization	**1**		**1**		**1**		**1**		**1**		**1**	
Depressive disorders		**1***		**1***		**1***		**1***		**1***		**1***	

Condition	Sub-Condition	Cu-IUD		LNG-IUD		Implant		DMPA		POP		CHC	
		I	C	I	C	I	C	I	C	I	C	I	C
Diabetes	a) History of gestational disease	**1**		**1**		**1**		**1**		**1**		**1**	
	b) Nonvascular disease												
	i) Non-insulin dependent	**1**		**2**		**2**		**2**		**2**		**2**	
	ii) Insulin dependent	**1**		**2**		**2**		**2**		**2**		**2**	
	c) Nephropathy/retinopathy/neuropathy‡	**1**		**2**		**2**		**3**		**2**		**3/4***	
	d) Other vascular disease or diabetes of >20 years' duration‡	**1**		**2**		**2**		**3**		**2**		**3/4***	
Dysmenorrhea	Severe	**2**		**1**		**1**		**1**		**1**		**1**	
Endometrial cancer‡		**4**	**2**	**4**	**2**	**1**		**1**		**1**		**1**	
Endometrial hyperplasia		**1**		**1**		**1**		**1**		**1**		**1**	
Endometriosis		**2**		**1**		**1**		**1**		**1**		**1**	
Epilepsy‡	(*see also Drug Interactions*)	**1**		**1**		**1***		**1***		**1***		**1***	
Gallbladder disease	a) Symptomatic												
	i) Treated by cholecystectomy	**1**		**2**		**2**		**2**		**2**		**2**	
	ii) Medically treated	**1**		**2**		**2**		**2**		**2**		**3**	
	iii) Current	**1**		**2**		**2**		**2**		**2**		**3**	
	b) Asymptomatic	**1**		**2**		**2**		**2**		**2**		**2**	
Gestational trophoblastic disease‡	a) Suspected GTD (immediate postevacuation)												
	i) Uterine size first trimester	**1***		**1***		**1***		**1***		**1***		**1***	
	ii) Uterine size second trimester	**2***		**2***		**1***		**1***		**1***		**1***	
	b) Confirmed GTD												
	i) Undetectable/non-pregnant ß-hCG levels	**1***	**1***	**1***	**1***	**1***		**1***		**1***		**1***	
	ii) Decreasing ß-hCG levels	**2***	**1***	**2***	**1***	**1***		**1***		**1***		**1***	
	iii) Persistently elevated ß-hCG levels or malignant disease, with no evidence or suspicion of intrauterine disease	**2***	**1***	**2***	**1***	**1***		**1***		**1***		**1***	
	iv) Persistently elevated ß-hCG levels or malignant disease, with evidence or suspicion of intrauterine disease	**4***	**2***	**4***	**2***	**1***		**1***		**1***		**1***	
Headaches	a) Nonmigraine (mild or severe)	**1**		**1**		**1**		**1**		**1**		**1***	
	b) Migraine												
	i) Without aura (includes menstrual migraine)	**1**		**1**		**1**		**1**		**1**		**2***	
	ii) With aura	**1**		**1**		**1**		**1**		**1**		**4***	
History of bariatric surgery‡	a) Restrictive procedures	**1**		**1**		**1**		**1**		**1**		**1**	
	b) Malabsorptive procedures	**1**		**1**		**1**		**1**		**3**		COCs: **3**	
												P/R: **1**	
History of cholestasis	a) Pregnancy related	**1**		**1**		**1**		**1**		**1**		**2**	
	b) Past COC related	**1**		**2**		**2**		**2**		**2**		**3**	
History of high blood pressure during pregnancy		**1**		**1**		**1**		**1**		**1**		**2**	
History of Pelvic surgery		**1**		**1**		**1**		**1**		**1**		**1**	
HIV	a) High risk for HIV	**1***	**1***	**1***	**1***	**1**		**1**		**1**		**1**	
	b) HIV infection					**1***		**1***		**1***		**1***	
	i) Clinically well receiving ARV therapy	**1**	**1**	**1**	**1**	If on treatment, see Drug Interactions							
	ii) Not clinically well or not receiving ARV therapy‡	**2**	**1**	**2**	**1**	If on treatment, see Drug Interactions							

Key:	
1 No restriction (method can be used)	**3** Theoretical or proven risks usually outweigh the advantages
2 Advantages generally outweigh theoretical or proven risks	**4** Unacceptable health risk (method not to be used)

Abbreviations: ARV = antiretroviral; C=continuation of contraceptive method; CHC=combined hormonal contraception (pill, patch, and, ring); COC=combined oral contraceptive; Cu-IUD=copper-containing intrauterine device; DMPA = depot medroxyprogesterone acetate; I=initiation of contraceptive method; LNG-IUD=levonorgestrel-releasing intrauterine device; NA=not applicable; POP=progestin-only pill; P/R=patch/ring; SSRI=selective serotonin reuptake inhibitor; ‡ Condition that exposes a woman to increased risk as a result of pregnancy. *Please see the complete guidance for a clarification to this classification: https://www.cdc.gov/reproductivehealth/contraception/contraception_guidance.htm.

Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion

Condition	Sub-Condition	Cu-IUD		LNG-IUD		Implant		DMPA		POP		CHC	
		I	C	I	C	I	C	I	C	I	C	I	C
Hypertension	a) Adequately controlled hypertension	1*		1*		1*		2*		1*		3*	
	b) Elevated blood pressure levels (*properly taken measurements*)												
	i) Systolic 140-159 or diastolic 90-99	1*		1*		1*		2*		1*		3*	
	ii) Systolic ≥160 or diastolic ≥100†	1*		2*		2*		3*		2*		4*	
	c) Vascular disease	1*		2*		2*		3*		2*		4*	
Inflammatory bowel disease	(*Ulcerative colitis, Crohn's disease*)	1		1		1		2		2		2/3*	
Ischemic heart disease†	Current and history of	1		2	3	2	3	3		2	3	4	
Known thrombogenic mutations‡		1*		2*		2*		2*		2*		4*	
Liver tumors	a) Benign												
	i) Focal nodular hyperplasia	1		2		2		2		2		2	
	ii) Hepatocellular adenoma‡	1		3		3		3		3		4	
	b) Malignant‡ (hepatoma)	1		3		3		3		3		4	
Malaria		1		1		1		1		1		1	
Multiple risk factors for atherosclerotic cardiovascular disease	(e.g., older age, smoking, diabetes, hypertension, low HDL, high LDL, or high triglyceride levels)	1		2		2*		3*		2*		3/4*	
Multiple sclerosis	a) With prolonged immobility	1		1		1		2		1		3	
	b) Without prolonged immobility	1		1		1		2		1		1	
Obesity	a) Body mass index (BMI) ≥30 kg/m²	1		1		1		1		1		2	
	b) Menarche to <18 years and BMI ≥ 30 kg/m²	1		1		1		2		1		2	
Ovarian cancer‡		1		1		1		1		1		1	
Parity	a) Nulliparous	2		2		1		1		1		1	
	b) Parous	1		1		1		1		1		1	
Past ectopic pregnancy		1		1		1		1		2		1	
Pelvic inflammatory disease	a) Past												
	i) With subsequent pregnancy	1	1	1	1	1		1		1		1	
	ii) Without subsequent pregnancy	2	2	2	2	1		1		1		1	
	b) Current	4	2*	4	2*	1		1		1		1	
Peripartum cardiomyopathy‡	a) Normal or mildly impaired cardiac function												
	i) <6 months	2		2		1		1		1		4	
	ii) ≥6 months	2		2		1		1		1		3	
	b) Moderately or severely impaired cardiac function	2		2		2		2		2		4	
Postabortion	a) First trimester	1*		1*		1*		1*		1*		1*	
	b) Second trimester	2*		2*		1*		1*		1*		1*	
	c) Immediate postseptic abortion	4		4		1*		1*		1*		1*	
Postpartum (*nonbreastfeeding women*)	a) <21 days					1		1		1		4	
	b) 21 days to 42 days												
	i) With other risk factors for VTE					1		1		1		3*	
	ii) Without other risk factors for VTE					1		1		1		2	
	c) >42 days					1		1		1		1	
Postpartum (*in breastfeeding or non-breastfeeding women, including cesarean delivery*)	a) <10 minutes after delivery of the placenta												
	i) Breastfeeding	1*		2*									
	ii) Nonbreastfeeding	1*		1*									
	b) 10 minutes after delivery of the placenta to <4 weeks	2*		2*									
	c) ≥4 weeks	1*		1*									
	d) Postpartum sepsis	4		4									

Condition	Sub-Condition	Cu-IUD		LNG-IUD		Implant		DMPA		POP		CHC	
		I	C	I	C	I	C	I	C	I	C	I	C
Pregnancy		4*		4*		NA*		NA*		NA*		NA*	
Rheumatoid arthritis	a) On immunosuppressive therapy	2	1	2	1	1		2/3*		1		2	
	b) Not on immunosuppressive therapy	1		1		1		2		1		2	
Schistosomiasis	a) Uncomplicated	1		1		1		1		1		1	
	b) Fibrosis of the liver†	1		1		1		1		1		1	
Sexually transmitted diseases (STDs)	a) Current purulent cervicitis or chlamydial infection or gonococcal infection	4	2*	4	2*	1		1		1		1	
	b) Vaginitis (*including trichomonas vaginalis and bacterial vaginosis*)	2	2	2	2	1		1		1		1	
	c) Other factors relating to STDs	2*	2	2*	2	1		1		1		1	
Smoking	a) Age <35	1		1		1		1		1		2	
	b) Age ≥35, <15 cigarettes/day	1		1		1		1		1		3	
	c) Age ≥35, ≥15 cigarettes/day	1		1		1		1		1		4	
Solid organ transplantation‡	a) Complicated	3	2	3	2	2		2		2		4	
	b) Uncomplicated	2		2		2		2		2		2*	
Stroke†	History of cerebrovascular accident	1		2		2	3	3		2	3	4	
Superficial venous disorders	a) Varicose veins	1		1		1		1		1		1	
	b) Superficial venous thrombosis (acute or history)	1		1		1		1		1		3*	
Systemic lupus erythematosus†	a) Positive (or unknown) antiphospholipid antibodies	1*	1*	3*		3*		3*	3*	3*		4*	
	b) Severe thrombocytopenia	3*	2*	2*		2*		3*	2*	2*		2*	
	c) Immunosuppressive therapy	2*	1*	2*		2*		2*	2*	2*		2*	
	d) None of the above	1*	1*	2*		2*		2*	2*	2*		2*	
Thyroid disorders	Simple goiter/ hyperthyroid/hypothyroid	1		1		1		1		1		1	
Tuberculosis‡ (*see also Drug Interactions*)	a) Nonpelvic	1	1	1	1	1*		1*		1*		1*	
	b) Pelvic	4	3	4	3	1*		1*		1*		1*	
Unexplained vaginal bleeding	(suspicious for serious condition) before evaluation	4*	2*	4*	2*	3*		3*		2*		2*	
Uterine fibroids		2		2		1		1		1		1	
Valvular heart disease	a) Uncomplicated	1		1		1		1		1		2	
	b) Complicated†	1		1		1		1		1		4	
Vaginal bleeding patterns	a) Irregular pattern without heavy bleeding	1		1	1	2		2		2		1	
	b) Heavy or prolonged bleeding	2*		1*	2*	2*		2*		2*		1*	
Viral hepatitis	a) Acute or flare	1		1		1		1		1		3/4*	2
	b) Carrier/Chronic	1		1		1		1		1		1	1
Drug Interactions													
Antiretrovirals used for prevention (PrEP) or treatment of HIV	Fosamprenavir (FPV) All other ARVs are 1 or 2 for all methods.	1/2*	1*	1/2*	1*	2*		2*		2*		3*	
Anticonvulsant therapy	a) Certain anticonvulsants (phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine)	1		1		2*		1*		3*		3*	
	b) Lamotrigine	1		1		1		1		1		3*	
Antimicrobial therapy	a) Broad spectrum antibiotics	1		1		1		1		1		1	
	b) Antifungals	1		1		1		1		1		1	
	c) Antiparasitics	1		1		1		1		1		1	
	d) Rifampin or rifabutin therapy	1		1		2*		1*		3*		3*	
SSRIs		1		1		1		1		1		1	
St. John's wort		1		1		2		1		2		2	

Updated in 2020. This summary sheet only contains a subset of the recommendations from the U.S. MEC. For complete guidance, see: https://www.cdc.gov/reproductivehealth/contraception/contraception_guidance.htm. Most contraceptive methods do not protect against sexually transmitted diseases (STDs). Consistent and correct use of the male latex condomreduces the risk of STDs and HIV.

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