Contraception Counseling

Dr. Nuha Qasem, Assistant professor

Family Medicine and Internal Medicine Department/ Hashemite University

Higher Specialization in FM, University of Jordan

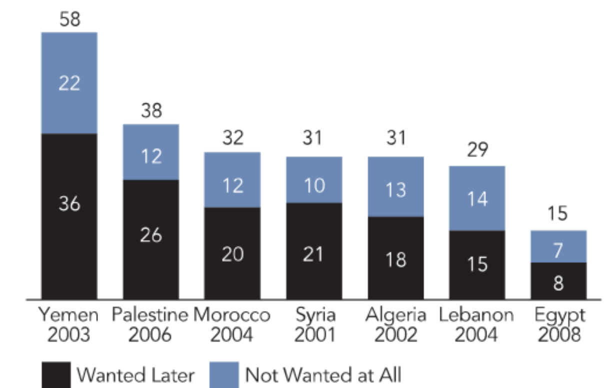
Fellowship in Child and Women Health, University of Bologna, Italy

Family Planning

- Effective use of contraceptives can prevent unintended pregnancies.
- Ensuring women's access to quality family planning information and services improves their health and well-being as well as that of their children.
- International studies have found that unplanned pregnancies are associated with a number of negative consequences:
    - Women with an unintended pregnancy are more likely to have delayed or received inadequate prenatal care, which can affect the health of both mother and child.
    - Infants born of unintended pregnancies are more likely to have
        - Birth defects
        - Low birth weight
        - Poor mental and physical functioning in early childhood

Unintended pregnancies

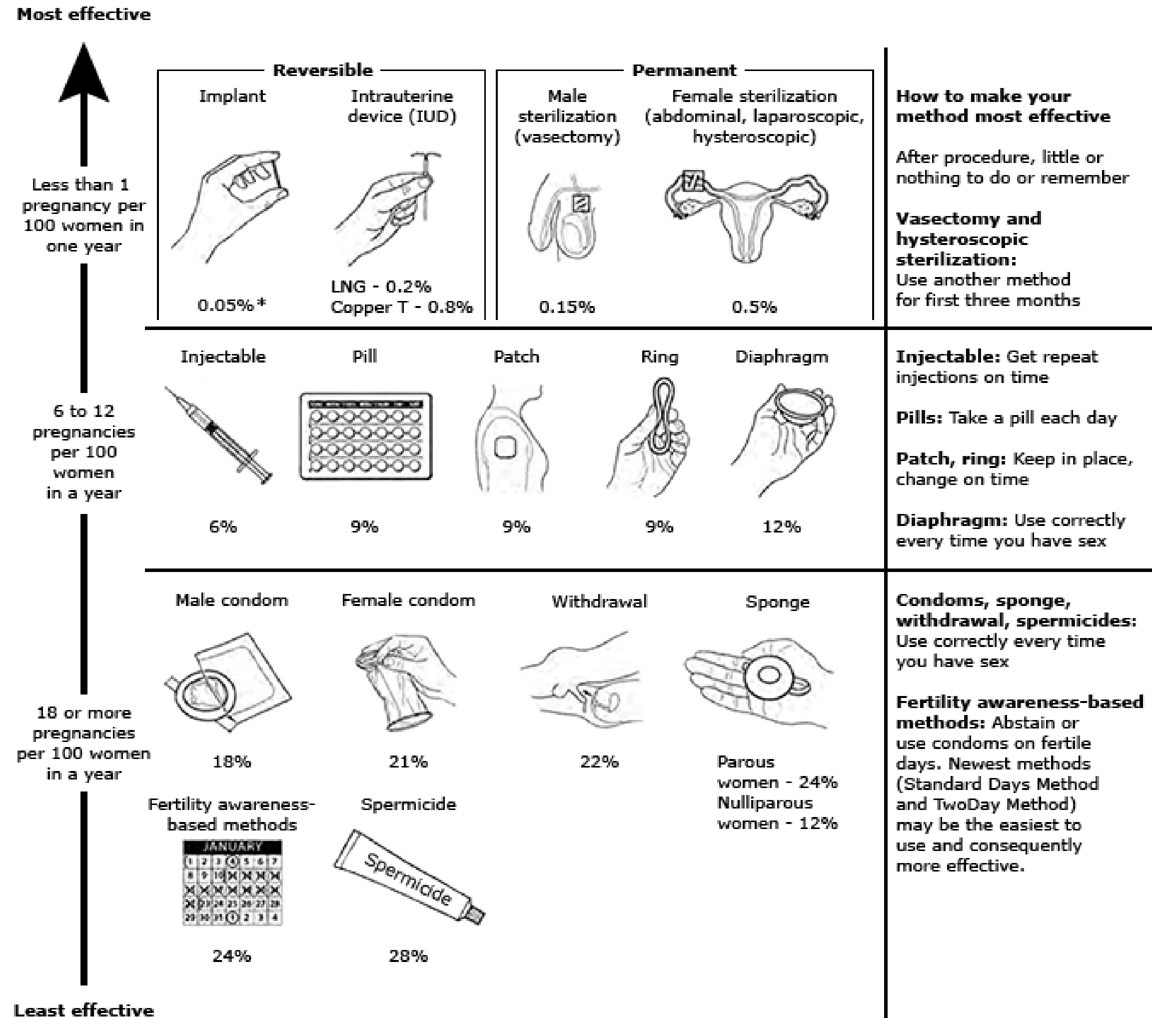
- The 2002 Jordan Population and Family Health Survey (JPFHS) revealed that the proportion of unintended pregnancies was 33% of births to ever-married women within the 5 years preceding the survey.
- According to the 2012 JPFHS if all unwanted births were prevented in Jordan, the total wanted fertility rate would be 2.4 children per woman, or 1.1 child less than the actual total fertility rate (TFR). That theoretical rate implies that the TFR is inflated by 46 % because of unwanted births.
- In the US 50% of pregnancies are unplanned



CONTRACEPTIVE EFFICACY

- **Most effective**
  - Long-acting reversible contraception (LARC: intrauterine contraception and contraceptive implants)
  - Sterilization.
- **Effective**
  - Injectable contraceptives have the highest effectiveness in this tier.
  - Oral contraceptives, the transdermal patch, and the vaginal ring are also associated with a very low pregnancy rate if they are used consistently and correctly, but actual pregnancy rates are substantially higher because of inconsistent/incorrect use .
- **Least effective**
  - Diaphragms, cervical caps, sponges, male and female condoms, spermicides, periodic abstinence, and withdrawal are associated with actual pregnancy rates that are much higher than perfect use rates.

Comparing effectiveness of contraceptive methods



Lactational Amenorrhea Method (LAM)

- Relies on breastfeeding as a contraceptive method.
- Women who are amenorrhoeic and exclusively breastfeed at regular intervals have the same protection against pregnancy for the first 6 months postpartum as women taking combined oral contraceptives (98% efficacy).
- Effective use of this method depends on several important points:
  - 1) regular intervals are defined as no intervals greater than 4 hours between feedings during the day or 6 hours at night
  - 2) exclusive breastfeeding means that supplemental food should not exceed 5-10 % of total feedings. Supplemental feeding increases the risk of ovulation and pregnancy, even in women who are not menstruating.

Fertility Awareness-Based Methods (FAMs)

- Also known as Natural Family Planning of periodic abstinence.
- It is a modern method of contraception
- Relies on realizing the fertile days of a female menstrual cycle and abstaining from sexual activity or using barrier method during that period.
- The failure rate in typical use is estimated to be approximately 25%.

FAMs

- Calendar (rhythm) method
- Standard days method (SDM)
- The TwoDay Method (TDM)
- Basal body temperature (BBT) method
- Cervical mucus method (Billings method)
- Hormone monitoring
- Combined (symptothermal) method

Calendar Method of FAMs

- Keep track of the length of the menstrual cycles for at least 6 periods.
- Can be used by women with irregular length menstrual cycles

- To predict the first fertile day:
  - Find the shortest cycle in the record.
  - Subtract 18 from the total number of days in that cycle.

- To predict the last fertile day:
  - Find the longest cycle in the record.
  - Subtract 11 from the total number of days in that cycle.

Standard Days method

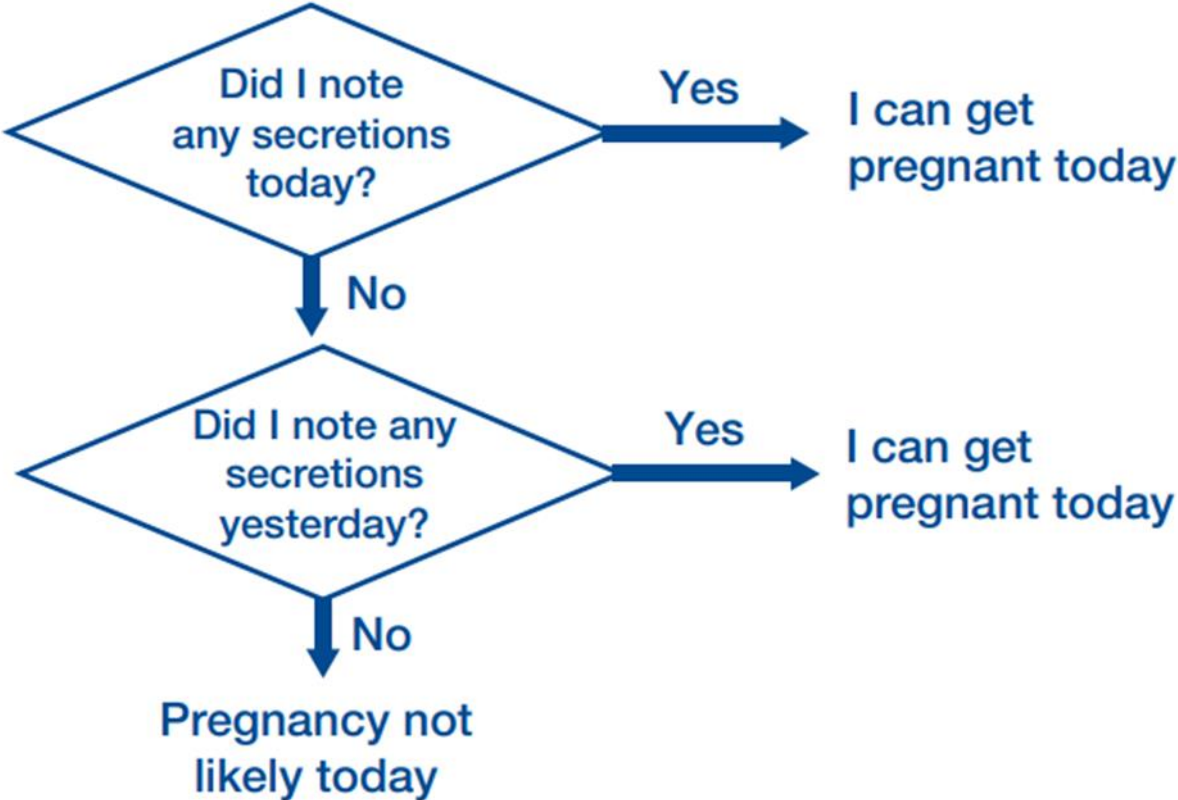
- It is a kind of calendar method
- Can be used by women with regular menstrual cycles; with cycle lengths between 26-32 days.

- It is simply based on avoiding sexual activity or using barrier method between days 8 and 19 of each menstrual cycle.

The TwoDay Method

- More than 96% effective when used correctly
- Women are instructed to monitor their secretions each afternoon and evening as soon as her menstrual bleeding stops
- She is not likely to get pregnant if no secretions felt or observed today AND yesterday.
- Does not require having regular menstrual cycles.
- Rule out infections if secretions have been felt or observed for >14 consecutive days

TwoDay Method Algorithm



Mechanical Barriers

- Male and female condoms
- Cervical cap
- Diaphragm
- Spermicidal agents
- They are considered the least effective methods
- Female diaphragm and cervical cap may increase the risk of UTIs and their use for more than 24-48 hours can be associated with toxic shock syndrome. Their use requires professional fitting and training for use.

Hormonal methods

- Combined Hormonal Contraceptives (CHC)
  - Combination Oral Contraceptive Pills (OCPs)
  - Vaginal Ring
  - Transdermal Patch
- Progesterone-only methods of contraception
  - Progesterone-Only Pills (POPs)
  - DMPA injections
  - Implants
  - LNG-IUS

Combination OCP

- A combination of ethinyl estradiol (20-35mcg) and a progesterone:
  - 1st & 2nd generations: Norethindrone, Levonorgestrel, Norethindrone acetate and Ethynodiol diacetate.
  - 3rd generation: Norgestimate, Desogestrel and Gestodene
  - 4th generation: Drospirenone and Cyproterone acetate.
- Can be monophasic or multiphasic
- Most of the formulations have 21 hormonally active pills followed by 7 placebo pills
- Prevention of ovulation is considered the dominant mechanism of action (MOA), they also alter the consistency of cervical mucus, affect the endometrial lining, and alter tubal transport.
- Failure rates :0.1% with perfect use, 5% with typical use

Vaginal Rings

- Can deliver progesterone or progesterone-estrogen combinations.
- NuvaRing: releases etonogestrel and ethinyl estradiol which are absorbed directly by the reproductive organs.
- It is easily inserted and removed by the woman herself
- It is left in place for 3 weeks and 1 week without to produce a withdrawal bleed.
- If the ring has been out of vagina for more than 3 hours, a backup contraceptive method should be used for 7 days.
- The hepatic first-pass metabolism of the hormones is prevented (absorbed directly to the blood from the vagina), so no nausea or vomiting
- The ring may accidentally slip out during intercourse

Transdermal Patches

- Each patch contains norelgestromin and ethinyl estradiol.
- Applied weekly for 3 consecutive weeks, followed by a patch-free week
- Avoidance of the first-pass effect contributes to decreased nausea and vomiting
- It may be less effective for women who weigh more than 90 kg
- Disadvantages and contraindications are similar to those of combination OCPs.
- If a patch is detached for <24 hours, it can be reapplied at the same location or replaced with a new patch immediately. If detachment lasts >24 hours, a new patch should be applied.

Adverse effects of CHC

- Nausea, breast tenderness, breakthrough bleeding, amenorrhea, and headaches.
- A few months of delay of normal ovulatory cycles may occur after discontinuation of oral contraceptives (up to 3 months)
- CVS:
  - HTN
  - IHD and stroke, venous thromboembolism
- Hepatocellular Adenoma
- Cancers:
  - Increase in the risk of **breast Cancer**
  - Minimal increase in the risk of **cervical cancer** particularly in women who are HPV positive
- Transdermal patches may be associated with more estrogen-related adverse events such as a thromboembolic event compared with combined pills.

Absolute Contraindications of CHC

- Current breast cancer
- < 21 days postpartum
- Decompensated liver cirrhosis
- Hepatocellular adenoma or HCC
- Acute or flare of viral hepatitis
- Acute or history of DVT with high risk of recurrence
- Major surgery with prolonged immobilization
- Diabetes >20-year duration or with microvascular complications
- HTN with BP >/= 160/100
- Current or history of IHD or stroke
- Multiple risk factors for CVD
- Complicated valvular heart disease
- Known thrombogenic mutation
- Migraine headache with aura
- Cigarette smoking of >/=15/day in women aged 35 or older
- SLE with positive (or unknown) antiphospholipid antibodies

Relative Contraindications of CHC

- History of breast cancer and no evidence of recurrence in the last 5 years.
- 21-30 days postpartum
- 30-42 days postpartum with other risk factor for VTE
- History of DVT with low risk of recurrence
- Medically treated Gall Bladder Disease
- History of COC-related cholestasis in the past
- HTN: adequately controlled or BP>140/90
- IBD
- Cigarette smoking of < 15/day in women aged 35 or older
- Acute or history of superficial venous thrombosis
- Use of anticonvulsants or rifampin

Progesterone-only Pills (Minipills)

- Norethindrone or desogestrel-containing pills
- Candidates for use include women who are breastfeeding and women with C/I to estrogen use (e.g. CVD, HTN)
- Taken continuously without pill-free interval
- MOA: An increase in cervical mucus viscosity, suppression of ovulation (not uniformly in all cycles), prevention of endometrial growth and development and a reduction in cilia motility in the fallopian tube.
- Failure rates with typical use are estimated to be 9% in the first year of use.
- A backup method of contraception should be used for 48 hours if a pill is missed or taken late (more than 3 hours after the time of administration (>12 hours with use od desogestrel).
- Disadvantages: Unscheduled bleeding and spotting (common even with correct use), nausea, breast tenderness, headache, and amenorrhea.
- Absolutely contraindicated in patients with current breast cancer
- Relative C/I: past history of breast cancer with no recurrence in the last 5 years, IHD, stroke, hepatocellular adenoma, HCC, decompensated liver cirrhosis, SLE with APA, and the use of anticonvulsants or rifampicin.

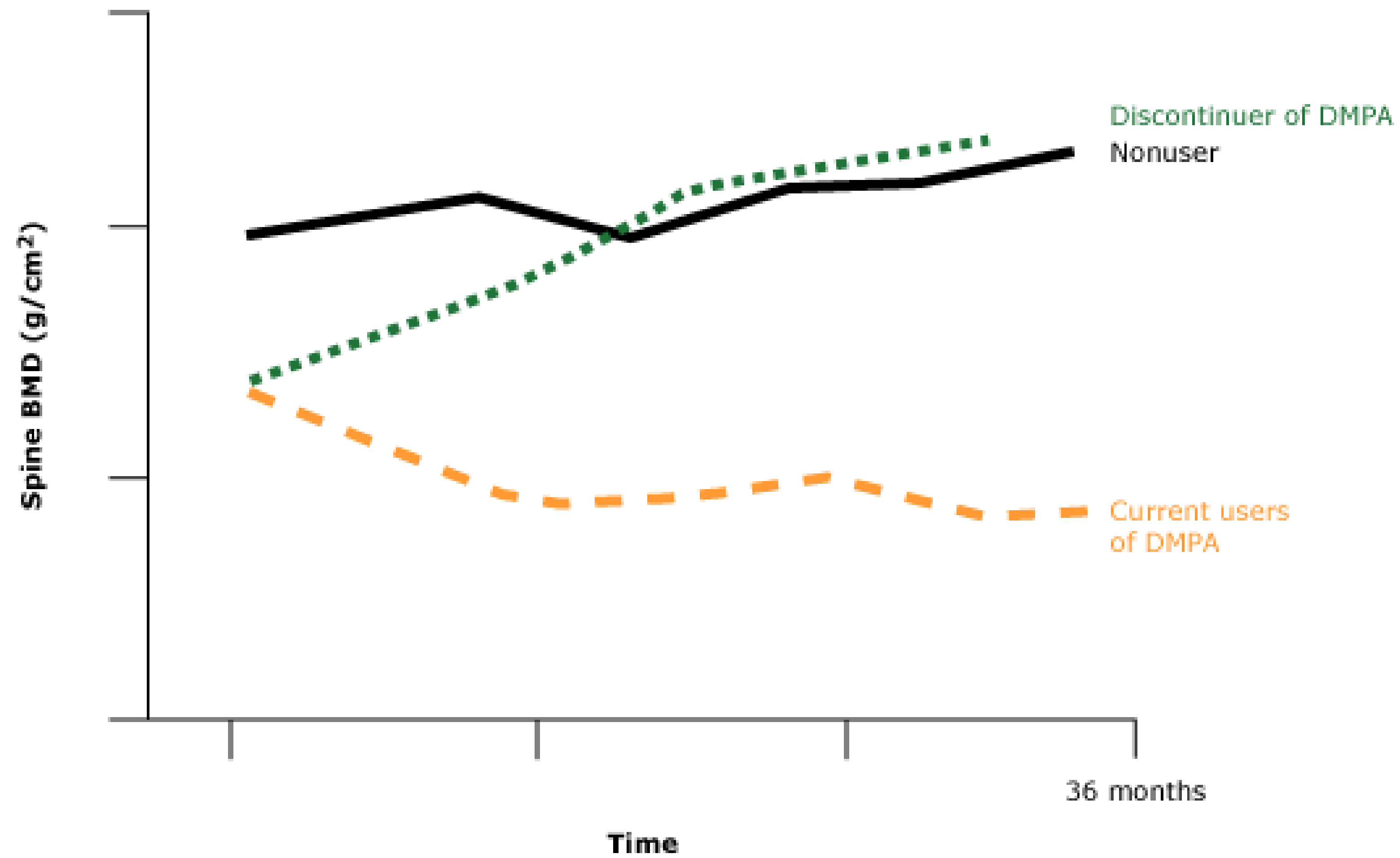
Implants

- The rod is inserted subcutaneously, usually in the woman's upper arm, it releases etonogestrel (an active metabolite of desogestrel)
- Its effect lasts for 3 years.
- MOA: a combination of suppression of ovulation, development of viscous and scant cervical mucus, and prevention of endometrial growth and development.
- Side Effects/Disadvantages: minor surgical procedure, menstrual irregularities are common, headache, breast tenderness and moodiness are less common

DMPA

- Depo Medroxy Progesterone Acetate (e.g.Depo-provera) can be administered IM or SQ
- MOA: suppression of ovulation
- Disadvantages:
  - Delay in the return to fertility (after 10 months of discontinuation 50% regain fertility but it may be delayed up to 18 months)
  - Weight gain, depression, and menstrual irregularities that may continue for as long as 1 year after the last injection.
  - Reduced BMD in current users, this might increase the long-term risk of fractures years after discontinuation of the drug, particularly in three groups of women :
    - Young women, who have not yet attained their peak bone mass
    - Perimenopausal women, who may be starting to lose bone mass and who may have reached menopause by the time of DMPA discontinuation, with no opportunity to regain the lost bone mass
    - Adolescents/women who are immobilized/wheelchair-bound.

BMD during/after DMPA use in adult women



Copper IUDs

- MOA: A foreign-body reaction creates a toxic intrauterine milieu, preventing fertilization
- Efficacy lasts for 10 years
- Advantage:
  - Produce no adverse systemic effects.
  - Reduced risks of endometrial and ovarian cancer .
- Disadvantages:
  - Associated with a risk of uterine perforation at the time of insertion (1%).
  - Increased dysmenorrhea and blood loss may occur in the first few cycles.
- Ectopic pregnancies are reduced overall; however, the ratio of extrauterine to intrauterine pregnancy is increased if conception does occur.
- Absolute contraindications: current STD or PID, postpartum sepsis or immediate postseptic abortion, pelvic TB, unexplained vaginal bleeding, distorted uterine cavity and cervical or endometrial cancers.

LNG-IUS

- MOA: causes cervical mucus to be thicker in consistency, thereby altering sperm migration and prevents endometrial growth
- Efficacy lasts for 5 years (Mirena) or 3 years (Skyla)
- The Mirena device now has FDA labelling for treating menorrhagia as well
- It also decreases the risks of endometrial and ovarian cancer
- Absolute Contraindications:
  - Same as for copper IUD
  - Current breast cancer
- Follow-up 1-3 months after IUD insertion

Overview of contraceptive methods

Characteristics	Copper IUD	Levonorgestrel-releasing IUD	Contraceptive pill, patch, or ring	Etonogestrel implant	DMPA	Male condom	Diaphragm
Pregnancy rate in the first year of use in a typical patient	<1	<1	9	<1	6	18	12
Duration of efficacy	10 years	Three to five years (depending on type)	Use daily (pill), weekly (patch), monthly (ring)	Three years	12 weeks	Single use at the time of each coital act	Reusable. Must be inserted before coitus and used with a spermicidal cream/gel.
Hormonal exposure	None	Progestin	Estrogen and progestin	Progestin	Progestin	None	None
Effect on menses	May be heavier	Lighter, irregular especially in first three to six months	Lighter, regular predictable withdrawal bleeding with cyclic use	Lighter, irregular	Lighter, irregular	None	None
Unscheduled bleeding/spotting	Yes	Yes	Yes	Yes	Yes	No	No
Not a good choice for otherwise healthy women* with:	Heavy or painful periods, iron deficiency anemia, severe distortion of uterine cavity, copper allergy or Wilson's disease, active pelvic infection	Severe distortion of uterine cavity, active pelvic infection, poor tolerance of amenorrhea or unscheduled bleeding, sensitive to hormonal side effects	Contraindications to using exogenous estrogen or who are sensitive to estrogen-related side effects (eg, nausea, breast tenderness, headache, etc), women over 35 years who smoke	Poor tolerance of amenorrhea or unscheduled bleeding	Poor tolerance of amenorrhea or unscheduled bleeding or known preexisting low bone mineral density, or who want to get pregnant quickly upon discontinuation	Sensitivity or allergy to latex (non-latex condoms are available), male partner who won't use the method	Sensitivity or allergy to latex (non-latex diaphragms are available), pelvic relaxation, difficulty with insertion or care of the diaphragm
Access	Must be inserted and removed by a clinician	Must be inserted and removed by a clinician	Prescription	Must be inserted and removed through a tiny skin incision by a clinician with special training	Injection by a clinician	Over-the-counter	Prescription
Selected adverse events	Uterine perforation, expulsion, increased risk of pelvic infection in the first 20 days after insertion	Uterine perforation, expulsion, increased risk of pelvic infection in the first 20 days after insertion	Increased risk of venous thrombosis, hepatic adenoma	Infection or scarring at insertion/removal site, difficult removal	May cause weight gain mood changes, and osteopenia (with long-term use)	Condom may break	May increase risk of urinary tract infection
Selected advantages	Highly effective long-acting method that can be used by women who must or choose to avoid exogenous hormones	Reduction in menorrhagia, dysmenorrhea, and endometrial hyperplasia	Benefits of estrogen include a reduction in dysmenorrhea, menorrhagia, acne vulgaris, and vasomotor symptoms (perimenopausal women)	Highly effective long-acting method that can be used by women who must or choose to avoid estrogen	Effective prolonged contraception that can be used by women who must or choose to avoid estrogen	Best protection against sexually transmitted infections	Low cost and reusable

METHOD SELECTION

- Patient preferences
- Timeframe for pregnancy
- Noncontraceptive benefits

Patient Preferences

- Personal preferences, including privacy, tolerance of side effects, and speed to return of fertility after method cessation
- Effect on menstrual pattern and bleeding
- Childbearing plans (number of children, timing of next pregnancy)
- Pattern of sexual activity (frequency of sex)
- Partner influences and concerns
- Social and cultural factors (eg, religious beliefs)
- Ability to acquire and use the method successfully
- Method-specific experiences or concerns
- Tolerance for daily, vaginal, transdermal, injectable, or coital-related medication
- Concomitant need to prevent STI
- Supportive care from the healthcare provider

Timeframe for Pregnancy

Women who desire pregnancy within 1 year:

- Begin discussion with the most effective **short-acting reversible** contraceptives (ie, pill, patch, and vaginal ring)
- For women who cannot use or do not want hormonal methods, or for women who desire contraception only when they need it, discuss the barrier methods
- Avoid depot DMPA injections in women who desire pregnancy in the near future because this medication can be associated with a delayed return to fertility.
- For women who choose a short-acting method, educate about use of and access to emergency contraception

Timeframe for Pregnancy, cont’d

Women who do not desire pregnancy within 1 year

- Begin discussion by reviewing the most effective and longest-acting contraceptives: the implant, IUDs, and sterilization.
- Educate couples who desire permanent contraception (sterilization) that vasectomy is equally effective, but less morbid and costly, than female tubal occlusion.
- For women who desire reversible contraception but do not want one of the LARC methods, then continue the discussion listed above for short-acting reversible contraception.

Noncontraceptive Benefits of CHC methods

E/P combined contraceptive use can reduce the risk of the following:

- Dysmenorrhea, pelvic pain related to endometriosis
- Menorrhaghea: improvement in IDA
- Ectopic pregnancy
- Symptoms associated with PMS and premenstrual dysphoric disorder
- Benign breast diseases
- Development of new ovarian cysts, but no effect on existing cysts
- Moderate acne and hirsutism
- Ovarian, endometrial and colorectal cancers

Noncontraceptive Benefits, cont'd

- Condoms provide the best protection against acquisition or transmission of STIs.
- Progestin-only contraceptives (ie, pills, injection, and implant) result in
  - Lighter menstrual bleeding and reduced IDA
  - Protection against endometrial cancer
  - Possibly a reduction in risk of upper genital tract infections.

- levonorgestrel-releasing IUDs reduce
  - Heavy menstrual bleeding, anemia, dysmenorrhea
  - Endometriosis-related pain
  - Endometrial hyperplasia
  - Pelvic inflammatory disease
  - Possibly reduce the risk of endometrial cancer (copper- and levonorgestrel-releasing devices).

Medical Issues

- When possible, use LARCs for medically complex women
- History of Cancer
  - Women with active cancer or who have been treated for cancer within 6 months :
    - Avoid CHC contraceptives because both cancer and these contraceptives are risk factors for venous thrombosis.
  - Women who have a history of chest wall irradiation for cancer:
    - Avoid systemic estrogen and/or progestin contraceptives because these women are at increased risk of developing breast cancer and the risk could be greater in women who take exogenous hormones.
  - Women with a history of breast cancer:
    - Use a copper IUD.
    - If the pt is taking tamoxifen, off-label use of a LNG- IUS is preferred to reduce the risk of tamoxifen-induced endometrial changes without increasing the risk of breast cancer recurrence.

Medical Issues, cont'd

- Women with anemia :
  - Use a LNG-releasing IUD to minimize menstrual blood loss.
- Women with osteopenia or osteoporosis
  - Avoid injectable DMPA.
- Unless C/I , women with osteopenia or OP benefit from the effects of an estrogen-containing contraceptive on BMD.
- Women who are immunosuppressed
  - Intrauterine contraception is **not** C/I.
- Women at risk of breast cancer or recurrence
  - Emergency contraceptive pills are **not** C/I.

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

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**; ≥20 yrs: **1**	Menarche to <20 yrs: **2**; ≥20 yrs: **1**	Menarche to <18 yrs: **1**; 18-45 yrs: **1**; >45 yrs: **1**	Menarche to <18 yrs: **2**; 18-45 yrs: **1**; >45 yrs: **2**	Menarche to <18 yrs: **1**; 18-45 yrs: **1**; >45 yrs: **1**	Menarche to <40 yrs: **1**; ≥40 yrs: **2**
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	I: 4 / C: 2	I: 4 / C: 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‡		I: 4 / C: 2	I: 4 / C: 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	I: 1* / C: 1*	I: 1* / C: 1*	1*	1*	1*	1*
	ii) Decreasing ß-hCG levels	I: 2* / C: 1*	I: 2* / C: 1*	1*	1*	1*	1*
	iii) Persistently elevated ß-hCG levels or malignant disease, with no evidence or suspicion of intrauterine disease	I: 2* / C: 1*	I: 2* / C: 1*	1*	1*	1*	1*
	iv) Persistently elevated ß-hCG levels or malignant disease, with evidence or suspicion of intrauterine disease	I: 4* / C: 2*	I: 4* / C: 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	I: 2 / C: 2	I: 2 / C: 2	1	2*	1	1
	b) HIV infection			1*	1*	1*	1*
	i) Clinically well receiving ARV therapy	I: 1 / C: 1	I: 1 / C: 1	If on treatment, see Drug Interactions			
	ii) Not clinically well or not receiving ARV therapy‡	I: 2 / C: 1	I: 2 / C: 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: 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 ‡ Condition that exposes a woman to increased risk as a result of pregnancy. *Please see the complete guidance for a clarification to this classification: www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm.

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

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									
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													
Antiretroviral therapy All other ARV's are 1 or 2 for all methods.	Fosamprenavir (FPV)	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 2017. This summary sheet only contains a subset of the recommendations from the U.S. MEC. For complete guidance, see: http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm. Most contraceptive methods do not protect against sexually transmitted diseases (STDs). Consistent and correct use of the male latex condom reduces the risk of STDs and HIV.

CS266008-A

STARTING CONTRACEPTION

- Examination and testing
  - Prior to insertion of an IUD, a bimanual pelvic examination with cervical inspection is performed.
  - Screening for STI is done as per the CDC guidelines.
  - BP before CHC prescription
  - BMI for hormonal contraceptives to monitor changes over time and counsel women who might incorrectly assume that weight gain is associated with their contraceptive method.
- Exclude pregnancy

Excluding Pregnancy

- This is can be assured when the woman doesn’t have symptoms/signs of pregnancy and meets any of the following:
  - No intercourse since the LMP
  - Has been using correctly a reliable method of contraception
  - She is within 7 days of the LMP or post-abortion
  - She is within 4 weeks postpartum
  - Fully or near-fully breast feeding, amenorrhoeic and < 6mo postpartum.

How to start contraception

Contraceptive method	When to start (if the provider is reasonably certain that the woman is not pregnant)	Additional contraception (ie, back-up) needed	Examinations or tests needed before initiation*
Copper-containing IUD	Anytime	Not needed	Bimanual examination and cervical inspection[¶]
Levonorgestrel-releasing IUD	Anytime	If >7 days after menses started, use back-up method or abstain for 7 days	Bimanual examination and cervical inspection[¶]
Implant	Anytime	If >5 days after menses started, use back-up method or abstain for 7 days	None
Injectable	Anytime	If >7 days after menses started, use back-up method or abstain for 7 days	None
Combined hormonal contraceptive	Anytime	If >5 days after menses started, use back-up method or abstain for 7 days	Blood pressure measurement
Progestin-only pill	Anytime	If >5 days after menses started, use back-up method or abstain for 2 days	None

COC Initiation

- **The quick start** method : the woman begins taking COCs on the day that she is given the prescription, as long as pregnancy is reasonably excluded .
- **The Sunday start** approach: the woman starts the pill on the first Sunday after her period begins (this is fairly convenient because most pill packs are arranged for a Sunday start to avoid withdrawal bleeding on a weekend).
  - With these first two options, the pill is often started >5 days after the onset of menses. When this occurs, back-up contraception is recommended for the first 7 days of the cycle..
- **The first day start** method: start the pill within the first 5 days of the menstrual cycle. No need for backup method.

COC Missed pills

- Missing 1 pill: take the missed pill as soon as remembered followed by the regularly scheduled pill.
- Missing 2 or more consecutive pills:
  - Take the last missed pill
  - A backup method of contraception for the next 7 days
  - If they are missed in the 1st week of the cycle and unprotected intercourse occurs during this week, use of EC could decrease the risk of pregnancy.
  - If she is in the 3rd week of active pills, she should continue the active pill through the placebo week.

Emergency Contraception (EC)

- Used for women who have had recent unprotected intercourse, including those who have had a failure of another method of contraception.
- MOA:
  - Oral (hormonal) EC act primarily by delaying ovulation
  - Copper intrauterine contraception inhibits fertilization by affecting sperm viability and function, and impairs implantation
- Oral and IUD methods are effective only before a pregnancy has implanted.

EC Efficacy

- Copper IUD EC method is the most effective, followed by ulipristal method, followed by Levonorgestrel method and finally the Yuzpe method.

- When used within 72 hours of intercourse it is estimated that:
  - Copper IUD prevents over 95 % of expected pregnancies
  - Ulipristal acetate prevents 2/3 of expected pregnancies
  - Levonorgestrel prevents around 50 % of pregnancies

- The risk of pregnancy following the use of hormonal methods depends on:
  - Body weight/BMI
  - Timing of the menstrual cycle and hence conception probability
  - Further intercourse after EC

Hormonal EC Methods

- **Levonorgestrel** (Plan B)
  - 1.5mg single dose or 2 (0.75mg) doses separated by 12hr.

- **Estradiol plus levonorgestrel** (Yuzpe regimen)
  - Take the equivalent of 100 mcg of ethinyl estradiol plus 0.50 mg of levonorgestrel followed by the same pill regimen 12 hours later.

- **Antiprogestins:**
  - **Ulipristal** (selective progesterone receptor modulator): A single 30 mg tablet.
  - **Mifepristone**: 25-50mg single dose

- The dose of hormonal EC should be repeatd w antiemetic if vomited within 3 hr.
- For both the Plan B and Yuzpe regimens, the effectiveness of EC is highest when taken within 12 hours of intercourse and declines over time

EC Indications

- When no contraception was used during sexual intercourse w/n the previous 120 hr.
- When there is contraception failure or incorrect use within the previous 120 hr.:
  - Condom breakage, slippage or incorrect use
  - Missing 2 or more COCP
  - POP taken > 3 hours late
  - More than 2 weeks late for DMPA injection
  - Failed coitus interruptus
  - Miscalculation or failure to abstain during the fertile days of the cycle
  - Expulsion of IUD

EC Administration

- Neither P/E nor any lab. tests are needed before providing oral hormonal EC.

- Pregnancy should be excluded before prescribing ulipristal or placing an IUD. If pregnancy cannot be excluded based on history and/or P/E, pregnancy testing should be performed.

- Any contraceptive method can be started **immediately** after the use of levonorgestrel or Yuzpe EC

- Hormonal contraception should be started no sooner than 5 days after use of ulipristal acetate

EC

- No known absolute C/I to any of these methods because exposure to the high dose of hormones is short lived.
- Menstrual bleeding after EC typically occurs within 1 week of the expected time.
- No follow-up is required; however the lady should perform a pregnancy test if she doesn't have menses within 3-4 weeks of the EC use.
- No evidence of an increase in risk of ectopic pregnancy or of teratogenic effects

References

- Contraceptive counseling and selection, UpToDate 2018
- Risks and side effects associated with combined estrogen-progesterone oral contraceptives, UpToDate 2018
- U.S. Medical Eligibility Criteria for Contraceptive Use 2016, updated 2017
- Contraception, Medscape 2018
- Emergency contraception, UpToDate 2018