# ORAL COMBINED HORMONAL CONTRACEPTION (CHC): OVERVIEW

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## Table 1a: Benefits [1,2,11,13,14]

- **Simple & highly effective** (99.7% if *perfect* use; >92% if *typical* use) {inhibit ovulation, endometrial effects, cervical mucus effects, tubal peristalsis}
- Reduces need for sterilization & abortion
- **Significantly improves menstrual symptoms & regularity**
  - ↓ dysmenorrhea & mittelschmerz, abnormal uterine bleeding; ↓ menstrual blood loss (up to 50%), risk of anemia & PMS, ↓ premenstrual dysphoric disorder; ↑ cycle control.
  - Alleviates menorrhagia/hot flashes in perimenopausal.
- **Decreases relative incidence of disease**
  - ↓ bacterial pelvic inflammatory disease by 60%
  - ↓ **endometriosis** Leyland SOGC'10; ↓ salpingitis
  - ↓ **endometrial** cancer by >50% from 2.3→1.3 per 100 ♀ after 10yrs *
  - ↓ **ovarian** cancer by 40%; **NNT=185**/≤5yrs* (benefit also detected in newer oral CHC within 1 year, progesterone-only pill= limited data [13])
  - ↓ ovarian cysts by ?>60%
  - ↓ colorectal cancer
  - ↓ fibrocystic, benign breast disease by ?50-75%
  - ↓ **osteoporosis** (↑ bone density) ↓ectopic pregnancy
  - ↓acne & hirsutism ?↓overall & colorectal cancer

*benefit greatest with long-term use (>5yr) & persists up to 15 yrs after D/C

## Table 1b: Risks [1,2,11,14]

- **Venous Thromboembolism** (**VTE**) - absolute risk:[16]
  **Theory**: estrogen ↓ Protein C activation so ↑ thrombus risk)[3,4,5]
  **Baseline**: Non-CHC users:<4-5 per 10,000/year; ↑ with age e.g. >39yrs
  **CHC Users**: 8-9 / 10,000/yr (up to 14/10,000); highest in **1st year**
  **Pregnancy**: 29 / 10,000/yr (Immediate post-partum period: 300-400 / 10,000/yr) (estrogens ↓ activation of Protein C so ↑ thrombus risk)[3,4,5]
  **↑Risk**: age ≥40yr, obese, smoking, inherited thrombophilia, VTE hx -? slight↑risk with drospirenone, but some data suggests not {see RxFiles YAZ / YAZMIN VTE Q&A}
  **May ↓Risk**: ↓ estrogen dose & levonorgestrel/norethindrone/norgestimate
- **Arterial Thrombosis** (**MI & stroke**): absolute risk is low; no significant ↑risk over baseline in young non-smoking ♀; **↑Risk**: estrogen≥50mcg/day, age >35, smoking, HTN & RF CVD (↑~2-3x); type of progestin or CHC method used e.g. oral, patch unlikely to alter risk.[6]
- **Breast Cancer**: controversial, ?↑1.3x; persists for <10yrs after D/C (also may relate to nulliparity/delay in childbearing)
- **Cervical Cancer**: ↑1.5x with long-term use (>5yr)[7]; {but may relate to early sexual activity & multiple partners ⇨HPV} (10yrs' use starting at age 20 may ↑cumulative cancer incidence at age 50 from 3.8 to 4.5/ 1000 ♀)
- **BMD**: ≤20mcg ethinyl estradiol associated with ↓BMD in adolescents
- Does **not** protect against sexually transmitted infections
- May ↑ and/or precipitate: HTN, HF, diabetes, Raynauds, gallbladder/liver/pancreatitis dx, severe SLE, migraine headache, depression Skovlund'16, GERD, vaginal yeast infections, ↑triglycerides.
- ? may impact (↑ or ↓) sexual function
- Failure esp. if missed doses with ≤20mcg estrogen formulations

**Drug causes of oral CHC failure**: **Alcohol** (excessive chronic), **ABX: rifamycin** (ABX non-rifamycin don't ↓ the efficacy of COC[14,15], unless GI upset↓absorption, see Table 6), **Anticonvulsants** (see seizure chart), **Antivirals** (boceprevir, efavirenz, nelfinavir, ritonavir), aprepitant, bosentan, colesevelam, elagolix, lesinurad, modafinil, orkambi, sarilumab, Red clover & St. John's Wort. Ulipristal: wait 5 days before starting COC.

**GLP-1 agonists** e.g. liraglutide, semaglutide, dulaglutide: space administration.

⇨**Management**: Acute tx (e.g. **antibiotics**): consider back-up method during & for 7 days after. Chronic tx: consider higher estrogen containing product.

**DI**: estrogens-moderate Θ of CYP 1A2; progesterone's Θ P-gp

## Table 2a: Contraindications [1,14]

- Active thromboembolic disease; current or past VTE
- Heart disease: ischemic or complicated valvular
- Uncontrolled **HTN** (systolic ≥160mmHg; diastolic ≥100mmHg)
- History of cerebrovascular accident
- Diabetes with retinopathy/nephropathy/neuropathy
- Undiagnosed uterine bleeding
- Liver disease (acute hepatitis, severe cirrhosis, or tumour)
- Known/suspected breast CA ◆HA with focal neurological sx
- **Pregnancy** (no benefit; fetal risk of inadvertent exposure appears low)
- Post-partum: **avoid** in ≤21 days; & if ↑VTE risk, avoid ≤**42**-84 days; may avoid < 4-6 wks postpartum if **breastfeeding**
- Smoker over age 35 and ≥15 cigarettes/day
- **Migraine** with focal neurologic sx (i.e. aura) or >35yrs (↑CVA)

## Table 2b: Precautions [1] {see DI: left column}

- **Hypertension**: may use po CHCs e.g.EE ≤35mcg if HTN controlled
- **Diabetes**: low dose CHCs unlikely to affect glucose control but estrogen may complicate vascular disease
- **Epilepsy**: some anticonvulsants ↓ CHC efficacy; see seizure chart page 155 for preferred contraceptives
- **Hepatitis, cirrhosis**: avoid CHCs if active disease; may use if liver enzymes returned to normal / mild cirrhosis
- **Symptomatic Gallbladder disease**: may be exacerbated
- **IBD**: diarrhea may ↓ po CHC absorption requiring backup (if >24hr, follow missed pill instructions);↑VTE risk if mod-severe
- **Systemic lupus erythematosus** (SLE): inactive/stable SLE ok, but unknown for severe active or if antiphospholipid antibodies/hypercoagulable states
- Smoker, older age e.g. 35-55yr, obese BMI>30, Kaunitz NEJM'08 or hx of embolic events: higher risk of VTE with CHCs. Consider progesterone-only eg IUD, implant or non-hormonal instead.
- **Bariatric Surgery**:may ↓po CHC absorption, non-oral preferred
- **Obesity/BMI>30**: unlikely, but possible, ↑ in failure rate
- **Porphyria**

## Table 3: Starting Contraceptives see pg 163 below

**Starting Oral Combined Hormonal Contraceptive (CHC)**:
- **most effective if started Day 1 of menstrual period** but can be started any day
- to avoid weekend period, start on 1st Sunday after period begins
- use backup method for first 7 -10 days(**especially** if started **after** Day 5)

**Starting NUVARING CHC**: (if no hormonal contraceptive use in the past mos)
- inserted on or prior to Day 5 of the cycle (even if the patient has not finished bleeding). Backup barrier method recommended until after the first 7 days during the 1st cycle.

**Starting EVRA Patch CHC**:
- apply on Day 1 of menstrual period; or to avoid weekend period, start on 1st Sunday after period begins & use backup method for 1st wk of 1st cycle only. "Patch Change Day" will be on same day every week

**Starting Progestin-only Pill (POP)**: irregular bleeding common
- start on Day 1 of menstrual period and daily thereafter
- use backup method for first 7 days
- take pills at the same time each day to ↓ BTB & pregnancy[11]

**Starting DEPO-PROVERA**: (only contains progesterone)
- inject during 1st 5 days of menses or anytime if pregnancy ruled out
- repeat inj q12wks ?10 weeks if on meds which ↓MPA level -effective up to 14 weeks
- return of fertility delayed 4-31(median 10) months after last inj[11]

## Table 4: ACHES - CHCs Early Danger Signs [8]

| SIGN | PROBLEM |
|---|---|
| **A**bdominal pain (severe) | gallbladder disease, pancreatitis, hepatic adenoma, thrombosis |
| **C**hest pain (severe), SOB | pulmonary embolus or acute MI |
| **H**eadaches (severe) | stroke, hypertension, migraine |
| **E**ye problems -blurred vision, flashing lights, blindness | stroke, hypertension, vascular insufficiency |
| **S**evere leg pain (calf or thigh) | deep vein thrombosis (DVT) |

## Table 5: Adverse Events & Their Management [1,9,14]

**See also Table 8 on next page.**

- **Breakthrough bleeding** (BTB) - most common in 1st 3 months; if persists beyond 3-6 months check for other causes (e.g. chlamydia). Change to CHC with ↑ estrogen if early bleeding (days 1-9) or CHC with ↑ progestin if later bleeding (days 10-21); may also be related to poor adherence, smoking, DIs.
- **Breast tenderness** - if persists beyond 1st 3 months rule out pathologic causes; change to CHC with less estrogen
- **Weight gain** - may ↑ appetite in 1st month but overall little or no weight gain with low dose CHCs (or POP) & within normal limits for age-related gain; may be cyclical due to $Na^+$ & $H_2O$ retention. **YASMIN**, **YAZ**: possible less weight gain (?diuretic effect)
- **Nausea** - often subsides within 3 months; take at HS with food or change to lower estrogen content
- **Headache** - tension headaches unaffected but hormone related or vascular migraines may ↑ or ↓ esp. with continuous long-cycle; if precipitated or exacerbated by CHCs should avoid their use
- **Acne** - sometimes worsens initially but usually improves in the long-term; change to ↓ androgenic CHC (desogestrel, norgestimate, and drospirenone) or use topical therapy
- **Mood Changes** - reported; no different than placebo in trials
- **Chloasma** - irreversible and idiosyncratic; exacerbated by sunlight so use sunscreen & reduce exposure; ↓ estrogen dose

## Table 6: Sick days (with vomiting +/or diarrhea)

- No specific data pertaining to effects of severe vomiting or diarrhea; consider similar management as for missed doses CDC '13
- **Oral CHC** - if vomiting or diarrhea occurs within 24 hours of taking pill, or extends up to 24-48 hours, continue taking pills as usual; if illness continues >48 hours, see missed pill section for management; consider backup method or emergency contraception especially if within the first 7 days of cycle
- **Progestin-only pill** – vomiting or diarrhea within 3 hours of taking pill, take another pill if able to tolerate & continue as usual; consider backup method until 2 days after symptoms resolve &/or until pills have been taken consistently for 2 days

**Contraceptive Health Counselling** ACOG'17: 1st visit 13-15 yrs; develop rapport & personalize discussion for shared decision making; contraception, STIs, prevention strategies (e.g. HPV vaccine)

**CHC**=combined hormonal contraceptive i.e. combined hormonal oral, patch, or ring
**COC**=combined oral contraceptive **POP**=progestin-only pill

# ORAL COMBINED HORMONAL CONTRACEPTIVES (CHC): CHART SOGC'15

| | ORAL CONTRACEPTIVES BRAND NAME; generic g | COMPONENTS E=estrogen P=Progestin A=Androgen | HORMONAL ACTIVITY E | P | A | $ COST (12mon) |
|---|---|---|---|---|---|---|
| 1st Generation | MINESTRIN 1/20 | Ethinyl estradiol 20 mcg; Norethindrone 1 mg | + | +++ | +++ | 248 |
| | LOESTRIN 1.5/30 | Ethinyl estradiol 30 mcg; Norethindrone 1.5 mg | ++ | +++ | ++++ | 248 |
| | DEMULEN 30 | Ethinyl estradiol 30 mcg; Ethynodiol diacetate 2 mg | ++ | ++++ | +++ | 267 21-pack; 281 28-pack |
| | BREVICON 0.5/35 | Ethinyl estradiol 35 mcg; Norethindrone 0.5 mg | +++ | + | + | 249 |
| | SYNPHASIC (Biphasic) | Ethinyl estradiol 35 mcg; Norethindrone 0.5 mg x12; 1mg x 9tab | +++ | ++ | ++ | 232 |
| | BREVICON 1/35; g=SELECT 1/35 | Ethinyl estradiol 35 mcg; Norethindrone 1mg | +++ | +++ | +++ | 249; 200 g |
| | LoLo ✗▼ | Ethinyl estradiol 10 mcg; Norethindrone 1mg | + | +++ | +++ | 293 |
| | | | 24 x EE/NE; 2 x EE only; 2 x placebo | | | |
| 2nd | ALESSE g=AVIANE, ALYSENA, ESME, LUTERA | Ethinyl estradiol 20 mcg; Levonorgestrel 0.1 mg | + | + | ++ | 267; 161 g |
| | TRIQUILAR (Triphasic) | Ethinyl estradiol 30 - 40 - 30 mcg; Levonorgestrel 0.05 - 0.075 -0.125 mg | ++ | + | ++ | 268 |
| | | | Sequence: 6-5-10 tabs | | | |
| | MIN-OVRAL g=PORTIA, OVIMA | Ethinyl estradiol 30 mcg; Levonorgestrel 0.15 mg | ++ | ++ | +++ | 286; 156 g |
| 3rd Generation | MARVELON g=APRI, FREYA, MIRVALA, RECLIPSEN | Ethinyl estradiol 30 mcg; Desogestrel 0.15 mg | ++ | +++ | + | 300; 163 g |
| | CYCLEN | Ethinyl estradiol 35 mcg; Norgestimate 0.25 mg | +++ | + | + | 440 |
| | LINESSA (Triphasic) | Ethinyl estradiol 25 mcg; Desogestrel 0.1 Yellow - 0.125 Orange - 0.15 Red mg | ++ | +++ | + | 266 |
| | | | Sequence: 7-7-7 tabs | | | |
| | TRI-CYCLEN, g Tri-Jordyna (Triphasic); TRI-CYCLEN-LO, g=TRICIRA-Lo | Ethinyl estradiol 35mcg {LO 25mcg}; Norgestimate 0.18 White - 0.215 Lt Blue - 0.25 Blue mg | +++ | + | + | 345 g; 185 g |
| | | | Sequence: 7-7-7 tabs | | | |
| 4th | YASMIN g= ZAMINE, ZARAH (Contains antiandrogenic drospirenone) | Ethinyl estradiol 30mcg; Drospirenone 3mg {spironolactone derivative may ↑K+ esp with 3A4I; check K+ x1 e.g.@4wk} Advisory: may ↑ VTE risk slightly compared to other OC's conflicting data {Also potential DI with sotalol →QT prolongation} | ++ | ++ (?) | - | 224; 179 g |
| | YAZ; g=MYA {PLUS-0.45mg levomefolate ✗ ⊗} | Ethinyl estradiol 20 mcg; Drospirenone 3mg | + | ++ (?) | - | 278, 224 g {PLUS 226} |
| | | | 24 x active; 4 x placebo | | | |

Multiphasic pills may have lower hormone dose per cycle, but lack evidence for less adverse effects or advantage over monophasic

## Table 7. New Ways and Means…

**Standard Dosing:** Failure rate: ≤0.3% perfect use; 3-9% typical use (may be higher with low-dose preps if doses missed)

**Extended/Continuous Dosing:** (e.g. long-cycle regimen) consecutive administration of active pills (e.g. **3**-6-12 months) followed by 4-7 day hormone free interval (menses is no different than traditional dosing).

- **Advantages**: ↓adverse symptoms during hormone free interval (e.g. pelvic pain, **headache** / migraine, bloating, swelling, breast tenderness); ↓ anemia (e.g. fewer moderate/heavy withdrawal bleeds); Legro 07 ↓ endometriosis; ↓ PCOS; convenience (sports, vacation); ? ↑adherence
- **Disadvantages:** no long-term safety data (>2 years & extra 9 weeks/year of exogenous hormone exposure); initially more breakthrough bleeding, but ↓ with time; possible delay in recognition of pregnancy; ↑ cost (but may offset ↓ in feminine hygiene product use)
- ?shorter hormone free intervals may ↓risk of ovulation
- **SOGC:** any CHC contraceptive with <50mcg of ethinyl estradiol may be used oral mono- or multi-phasic ?↑breakthrough bleeding, vaginal NUVARING, transdermal EVRA
- **Commercially formulated extended use oral CHCs:**
  - **SEASONALE** Indayo g $250 ✗▼ **(91 day pack**: 84 x Levo 0.15mg + EE 30mcg & 7 placebos $330/yr)
  - **SEASONIQUE** ✗▼ **(91 day**: 84 x Levo 0.15mg + EE 30mcg & 7x EE 10ug $330/yr). LoSeasonique FDA
- ↑amenorrhea: CHCs with 1mg norethindrone acetate NETA vs 100mcg levonorgestrel[1]

**Vaginal Admin of oral CHCs:** ? ↓AE by avoiding 1st pass metabolism, but unknown safety profile for this route and hormone absorption can be potentially quite high.

**New Products:** (in the USA but not Canada; some contain **folic acid**)

- **MIRCETTE** USA : 28day pack with 21 active tabs (0.15mg desogestrel + 20mcg EE) followed by 2 placebo tabs; then 5 tabs of EE 10mcg (↓ risk of missing first active pills of 21day cycle with ultra-low dose products)
- **NATAZIA** USA: estradiol valerate (new type of estrogen) + progestin: dienogest 26/2day pill regimen
- **BEYAZ** USA: EE+drospirenone+**levomefolate** 24/4 day pill regimen; **LOESTRIN FE** USA: 10mcg EE.

**Missed pills:** SOGC'08 {Consider emergency contraception (EC) in 1st wk if unprotected intercourse in last 5d}

- **If 1 pill delayed <24hrs**: take ASAP (as soon as possible). No backup method or emergency contraception necessary.
- **Week 1**: If ≥1 pill missed, take 1 pill ASAP & continue till end of pack. Back-up method x7days.?EC
- **Week 2 or 3**: If <3 pills missed, take 1 pill ASAP & daily till end of pack; Start new cycle without HFI.

Discard any placebo pills

If ≥3 pills missed, take 1 pill ASAP & daily till end of pack; Start new cycle without HFI; Backup method for 7 days; consider emergency contraception if repeated or prolonged omission.

- CDC Recommendations for Missed/Late oral CHCs: tinyurl.com/CDC-missedCOC

## Table 8. Product Selection guided by Signs & Symptoms of…

**Estrogen Deficiency**
- early bleeding & spotting days 1-9
- pelvic relaxation sx
- atrophic vaginitis
- vasomotor symptoms
- continuous bleeding or spotting ◆ ↓ in flow
- absence of withdrawal bleeding ◆ nervousness

**Progestin Deficiency**
- late bleeding and spotting days 10-21
- delayed withdrawal bleeding

**Estrogen Excess +/– Progestin Deficiency**
- hypermenorrhea,menorrhagia
- nausea, vomiting
- headache (cyclic)
- visual changes (cyclic)
- weight gain (cyclic)
- PMS ◆ bloating, edema
- dizziness ◆irritability
- leg cramps
- dysmenorrhea

**Excess Estrogen**
- hypermenorrhea, clotting, menorrhagia
- ↑breast size or cystic change
- cervical extrophy
- ↑uterine or fibroid growth
- vascular headaches
- dysmenorrhea ◆mucorrhea
- hypertension ◆chloasma
- thromboembolism ◆UTI

**Excess Progestin**
- depression
- breast tenderness
- libido decrease
- weight gain (non-cyclic)
- ↑ appetite
- sx: hypoglycemia, dizzy
- yeast infection
- leg vein dilation ◆ fatigue
- hypertension ◆ cervicitis

**Excess Androgen**
- oily skin / scalp
- ↑ libido ◆edema
- rash & pruritus ◆acne
- cholestatic jaundice
- hirsutism

See RxFiles: Hirsutism, pg 57

**ACNE** See RxFiles: Acne, pg 33-34

- **All CHCs** can be beneficial in acne - due to estrogen binding to sex hormone binding globulin (SHBG)
- Official Acne Indication **ALESSE**, TRI-CYCLEN g, **YASMIN**, **YAZ** & **DIANE 35/CYESTRA-35** ✗▼ $586, $387 g

**DIANE 35**: EE 35mcg + cyproterone 2mg; **Health Canada** April 2003 **warning**: *not for contraception only; stop within 4months of acne resolution*; however indicated for contraception in some other countries.

**Emergency Contraception**: emergency contraception (EC) pills taken **within 3-5 days** of unprotected/inadequately protected sex can delay/inhibit ovulation & therefore prevent fertilization, NOT implantation (less effective after ovulation); will not terminate an existing pregnancy; malformations not reported. Decreases Pregnancy rate from an expected ~8% to ~1%. MedLet'06 **Consider**: Schedule follow-up same day, next day or next period with a doctor after EC use for ongoing contraception or STI testing. AAP

| | | | |
|---|---|---|---|
| 1) **Levonorgestrel** POC Rx not required Sched III (SK) (i.e. **PLAN B**) | **1.5mg x 1 dose; OR 0.75mg STAT then 0.75mg in 12hr** | Preg rate= 2.2% (<72hrs), 2.6% (<120hrs) Glasier '10 (?↓efficacy BMI>26) | **AE**: HA, irregular bleeding, N/V (↑ with Yuzpe method) **DI**:3A4 inducers (e.g. CBZ, St. John's Wort) |
| 2) **Yuzpe (COC)**: {1 dose= 100mcg **EE**/0.5mg levonorgestrel} | **1 dose stat** {e.g. 1 dose= 5 **ALESSE** pills}, **repeat in 12hr** | Preg rate= 2.5-2.9% (<72hrs) Shen'19 | **N/V**: ◆Levonorgestrel & Yuzpe- repeat dose if vomiting ≤2hrs after ingestion |
| 3) **Ulipristal ELLA** ✗ ⊗ $39 | **30mg x 1 dose**; delay restarting OC for 5 days due to DI | Preg rate= 1.4% (<72hrs), 1.6% (<120hrs) Glasier '10 (?↓efficacy BMI>30) | ◆Ulipristal- repeat dose if vomiting ≤3 hours after ingestion → **GRAVOL** – 30 min prior to dose |
| 4) **Copper IUD**: listed in Hormonal Birth Control Chart pg. 163 | **Insert within 5-7 days** if pregnancy is ruled out | Preg rate <0.1% Cleland '12, even after ovulation | MOA: Inhibits sperm function and prevents endometrial receptivity, **1st line BMI ≥30** (efficacy not affected) |

**Medical Abortion:** **MIFEGYMISO** 200mg po mifepristone RU-486, then 800mcg buccal misoprostol 24-48h later; within 63 days FDA:70 days; Dr follow up 7-14 days; $300 Free coverage Sask.; pharmacist may dispense; **CI**:sepsis, ectopic pregnancy, chronic adrenal failure, inherited porphyria, uncontrolled asthma, ↑bleeding.

✗ =non-formulary SK ▼=covered NIHB ✆=prior NIHB sx=symptom **BMD**=bone mineral density **DOC**=drug of choice **HFI**=hormone free interval. **Note**:**21 & 28 tablet packs available** for most oral CHCs (~same cost;28 has 7 inert tablets).

Compassionate Contraceptive Assistance Program: compassion.sogc.org D/C: oral CHC ORTH-NOVUM 1/50, ORTHO 0.5/35, ORTHO 1/35, TRIPHASIL, OVRAL, ORTHO-CEPT, LYBREL; IUD JAYDESS, NOVA-T; IMPLANT NORPLANT

## Extras for Hormonal Contraception:

Preventing Gaps when Switching Contraceptives. Lesnewski '11

| Switching from → | Switching to | Comments |
|---|---|---|
| Combined OC, progestin only pill | Combined OC, progestin only pill | ♦switch **directly** from one pill to another; do not miss a day |
| Combined OC | Patch or Ring | ♦start patch **day before** last pill; start ring **day after** last pill<br>♦Do not need to complete pill cycle before switch |
| Patch or Ring | Combined OC | ♦start pill day **before** scheduled to remove patch/ring; i.e. no more than 8 days after last patch (effective up to 9 days) or 34 days after ring (effective up to 35days)<br>♦Do not need to complete full cycle for patch/ring before pill starts |
| Patch | Ring | ♦insert ring & remove patch on **same day** |
| Ring | Patch | ♦Apply patch **2 days before** ring removal |
| Combined OC, patch or ring | Progestin IUD or injection | ♦Continue pill, patch or ring x **7days** (or use barrier) |
| Copper IUD | Progestin IUD (i.e Mirena) | ♦Use barrier **x 7 days**; return to fertility may be immediate |
| Copper IUD | Progestin injection (i.e. Depo-Provera) | ♦Give injection **7 days before** IUD removal; if done on same day, use **barrier x 7days** |
| Copper IUD | Combined OC, patch, or ring | ♦Start new method **7 days before** removal of IUD or use **barrier x 7days** |
| Progestin IUD (i.e. Mirena) or injection (i.e. Depo-Provera) | Combined OC, patch, or ring | ♦Start new method **7 days before** removal of IUD or next injection (i.e. may start new method **up to 15 weeks after** last injection) |
| Combined OC, patch or ring | Copper IUD | ♦Can insert copper IUD up to **five days** after stopping pill, patch or ring |
| Progestin IUD (i.e. Mirena) | Copper IUD | ♦Can insert copper IUD **right after removing** progestin IUD |
| Progestin injection (i.e. Depo-Provera) | Copper IUD | ♦Can insert copper IUD **up to 16weeks after** the last shot |

**Consider**: Abstain from sexual intercourse or use a barrier method (condoms +/- spermicide) if no overlap in methods for a minimum of 7days for most switches (see above table for exact number of days in bold print)

**Consider EC when OC pills missed**: (SOGC Clinical Practice Guideline – Emergency Contraception in J Obstet Gynaecol Can 2012;34(9): 873. )

- 1 missed combined oral contraceptive pill in the first week
- 3 or more combined oral contraceptive pills missed in the 2nd or 3rd week
- 1 or more pills missed on Progestin only pill

Or when Depo-Provera injection late by 2weeks or more.

**"Patient Friendly" Statistics for Contraceptive Failure Rates:** http://www.fda.gov/ForConsumers/ByAudience/ForWomen/ucm118465.htm#hormonal

**Out of 100 women who use the following method for 1 year:**

- Injection, progestin IUD – 1 may get pregnant
- COC, POP, patch & ring – 5 may get pregnant
- External condoms [aka 'male condoms'] – 11 to 16 may get pregnant
- Diaphragm – 15 may get pregnant
- Sponge – 16 to 32 may get pregnant
- Internal condoms [aka 'female condoms'] – 20 may get pregnant
- Spermicide alone – 30 may get pregnant

**Contraceptive Choices for Post-Partum and Breastfeeding:** (Woodhams, E in Contraception 2012)

**• Generally advisable to avoid sexual acitivity for 6 weeks post-partum although many women resume sexual activity earlier**
**• Avoid estrogen containing formulations (pills, patch, vaginal ring) for first 3-6 weeks regardless of whether breastfeeding (due to increased VTE risk); if breastfeeding, wait minimum 30days until lactation well established; if other risk factors for VTE, wait 6 weeks**
**• Progestin only methods (injection, implant, IUD, pill) can all be started immediately post-partum (recent data shows unlikely to interfere with breastfeeding)**
**• IUD can be inserted immediately post-placental delivery although expulsion rate can be as high as 20% ; if not placed within 10min of placental delivery, wait 6wks**
**• Diaphragms and cervical caps will need re-fitting after delivery; all other barrier methods can be used immediately post-partum**

**After Emergency Contraception** SOGC'15:

Health care providers should **discuss a plan for ongoing contraception** with women who use pills for emergency contraception (EC) & should provide appropriate methods if desired.
Hormonal contraception should be started within 24hrs of taking **levonorgestrel** for EC, & back-up contraception or abstinence should be used for the first 7 days after starting hormonal contraception.
Women who use **ulipristal**-EC should start hormonal contraception 5 days after using ulipristal-EC. Ulipristal-EC users must use back-up contraception or abstinence for the first 5 days after taking ulipristal-EC & then for the first 14 days after starting hormonal contraception.

**References**: 1. Biological activity and therapeutic management. OC Chart. Organon Canada Ltd. 1997. 2. Dickey R. Managing Oral Contraceptive Patients, 9th edition. Essential Medical Information Systems, Durant, OK. 1998. 3. Product monographs. 4. www.RxFiles.ca-Jan00.