

Oral Contraceptive

Drugs	MOA	Dosage	Side effect	Contraindication
1. Combined pills (COC) Contain estrogen (Ethinyl estradiol or mestranol) & progestin (Norgestimate, Desogestrel, Drospirenone) (100% effective)	Inhibit ovulation by suppressing the release of gonadotrophins (fsh & lh) → no action on the ovary → ovulation is prevented. Inhibit implantation by causing abnormal contraction of the fallopian tubes & uterine musculature →ovum will be expelled rather than implanted. ↑viscosity of the cervical mucus making it so viscous → no sperm pass. Abnormal transport time through the fallopian tubes .	Pills are taken for 21 days , starting on day 5 th of the cycle & ending at day 26. This is followed by a 7 day pill free period (placebo). Pills are better taken at same time of day . If females are compliant the efficacy of COC can reach as high as (99.9%) in preventing pregnancy.	Estrogen related: Nausea & breast tenderness. Headache ↑ skin pigmentation . Impair glucose tolerance (hyperglycemia). ↑ incidence of breast, vaginal & cervical cancer . Cardiovascular (major concern): Thromboembolism, Hypertension. ↑ frequency of gall bladder disease .	Progesterone related: N & V & headache. Slightly higher failure rate. Fatigue, depression of mood. Menstrual irregularities . Weight gain. Hirsutism. Masculinization (norethindrone). Ectopic pregnancy . ✓ If a mother is a smoker, obese and over 35 we give her Mini pills.
Drug interaction				
Medications that cause contraceptive failure: Antibiotics that interfere with normal gi flora → ↓ absorption → ↓ its bioavailability. Microsomal enzyme inducers → ↑ catabolism of COC. Phenytoin , Phenobarbitone, Rifampin		Medications that ↑ COC toxicity: Microsomal enzyme inhibitors. Acetaminophen, Erythromycin.		Medications of ↓ clearance: Cyclosporine , Warfarin, Theophyline.
2. Mini pills (POP) Contain only a progestin (97%effective) Norethindrone Desogestrel	In very-low-dose (commonly) → no sperm penetration → inhibit fertilization. In intermediate-dose → inhibit fertilization & ovulation .	Oral tablets should be taken every day, all year round . I.M injection e.g. medroxy progesterone acetate every 3 months. Implantable progestin norplant system- l-norgestrel (6 tubes).	Indication: Used when estrogens is contraindicated (specially in cardio-vascular, hepatobiliary, cancer & some metabolic disorders). Are used with no age limits, in smokers & during lactation .	No estrogen side effect.
3. Morning-after pills (EHC) Mifepristone + Misoprostol	Contain both hormones or Each one alone (high dose).	Uses: Unsuccessful withdrawal before ejaculation. Torn, leaking condom, Missed pills, Rape. Exposure to teratogen (live vaccine).	Side effect: Mifepristone → uterine bleeding → need to be in medical surveillance.	

Composition	Method of Administration	Timing of 1st dose After Intercourse	Reported Efficacy
Ethinyl estadiol + Levonorgestrel	2 tablets twice with 12 hrs in between	Better within 12 hrs only up to 72hrs	75%
High-dose only Ethinyl estadiol	Twice daily for 5 days	Better within 12 hrs only up to 72hrs	75 - 85%
High dose only levonorgestrel	Twice daily for 5 days	Better within 12 hrs only up to 72hrs	70 - 75%
Mifepristone ± Misoprostol	A single dose	Within 120 hrs	85 - 100%