# Contraception



- For women under 40y: 1yr unprotected intercourse pregnancy rate = 80-90%
- ~70% women of child-bearing age use contraception (mainly COCP and or male condom)
- Failure may be due to user misuse or inherent method failure
- 1 yr failure rate of OCPs <4%, failure rate of male condom 2-15%.

## Combined oral contraceptive pill (COCP)

- Most common
- Contains a combination of synthetic oestrogen and progestogen.
- 1yr failure rate 0.1-3%

*Mode of action*

- Suppress synthesis/secretion of FSH & LH & thus egg development & ovulation
- ↑Cervical mucus viscosity to prevent penetration of sperm
- ↓Endometrial receptivity

*Pros*

- Highly effective, reversible, convenient to use
- Can relieve menstrual problems, and protect against PID
- Reduces benign breast disease, ovarian cysts, ovarian and endometrial cancers

*Cons*

- **SE:** breakthrough bleeding, breast tenderness, skin pigmentation, mood swings, wt gain
- ↑Risk of DVT/PE (esp smoker >35y), HT & CVA. Also MI (if other RF). ↑LDL, ↓HDL.
- Overall ↑mortality
- Slight ↑risk in breast, cervical, liver Ca

## Progestogen-only pills (POP)

- Synthetic progestogens: e.g. norethisterone, levonorgestrel or desogestrel
- 1yr failure rate 0.3-4%

*Mode of action*

- Suppress ovulation (60-97%)
- ↑Cervical mucus viscosity to prevent penetration of sperm
- ↓Endometrial receptivity

*Pros*

- Reliable if taken correctly, reversible and convenient
- Avoids CVS risks of oestrogen
- Can often be used by women with CI to COCP and during breast feeding

*Cons*

- **SE:** Menstrual problems (e.g. amenorrhoea and breakthrough bleeding)
- Needs to taken at the same time daily
- ↑Risk functional ovarian cysts, breast cancer (similar to COCP)

## Progestogen injectables

- Medroxyprogesterone acetate 150mg IM (Depo-Provera®)
- Provides contraception for 3mo.
- 1yr failure rate 0-1%
- Mode of action as POP

*Pros*

- Very effective and convenient, can be used during breast feeding
- Protective against ovarian and endometrial cancers, PID, endometriosis

*Cons*

- Cannot be stopped and delay in return to full fertility (possibly >1yr).
- **SE:** Menstrual irregularities, weight gain
- May have ↑risk of bone loss & breast Ca (and possibly depression).

### Progestogen only subdermal implant (POSDI)

- Subcutaneous implant of etonogestrel (Implanon®) in medial side of upper arm
- 3yrs of contraception
- 1yr failure rate 0-0.07%
- Mode of action as POP – mainly anti-ovulation.

*Pros*

- Very effective for long duration, reversible (removable) & convenient

*Cons*

- **SE:** Weight gain, headache, acne. Irregular bleeding in 1st year.

### Intra-uterine Contraceptive Device (IUCD)

- Copper or inert devices with removal thread
- 5-10yr duration
- 1yr failure rate 0.2-1.5%

*Mode of action*

- Prevent fertilisation and implantation by inducing an uterine inflammatory response

*Pros*

- Highly effective, reversible and convenient
- Immediately effective following fitting

*Cons*

- **SE:** Initially ↑ blood loss and more painful periods. Intermenstrual spotting.
- Displacement or expulsion, uterine perforation, ectopic pregnancy
- ↑Risk of PID in first 3-4wks

### Levonorgestrel-releasing intrauterine system (IUS)

- Mirena®
- Effective for 5 years
- 1yr failure rate 0-0.6%

*Mode of action*

- This is mainly by reducing endometrial growth and preventing implantation.

*Pros*

- Very effective, convenient and reversible
- Reduces blood loss and dysmenorrhoea, less risk of PID compared IUCDs
- Does not significantly interact with other drugs as action is principally local.

*Cons*

- Typical progestogenic **SE:** weight gain, initial menstrual irregularities
- Dysfunctional ovarian cyst, but usually resolves spontaneously
- May require cervical dilatation with local anaesthesia for fitting.

### Physical barriers

- May offer some protection against cervical carcinoma, STD and PID
  - Diaphragms and caps used with a spermicide – failure rate 4-20%
  - Male condoms – failure rate 2-15%
  - Female condoms – failure rate %

### Sterilisation

- 'Permanent'
- Male sterilisation: 1yr failure rate 0-0.05%
- Female sterilisation: 1yr failure rate 0-0.5%

### Natural family planning

- Several methods: calendar, temperature, cervical mucus and palpating the cervix. Also Persona™ device measures urinary estrone 3-glucuronide and LH.
- 1yr failure rate 2-25%

### Coitus Interruptus

- 1yr failure rate 6-17%

## Missed Contraceptive Pill

NB: same advice if vomiting occurs within 3-4 hours of taking a contraceptive pill.

### COCP:

- If was an active hormonal pill, take missed pill ASAP & next pill at regular time (even if means taking 2 pills at the same time)
- If missed ≥2 pills, omit pill free week if in 3rd week of active pills, use condom/abstain from SI for 7d, if in first week after pill free week then consider emergency contraception if SI since start of pill free week.

### POP

- Take missed pill ASAP & next pill at regular time (even if means taking 2 pills at the same time)
- If pill >3hrs late (12 hours with Cerazette) in addition use condom/abstain from SI for 7d and consider emergency contraception if <3d since SI

## Emergency (Post-coital) Contraception

- Prevents ovulation/implantation, not an abortifactant.
- 4 Options: Progestogen-only Emergency Contraception (POEC) – Levonorgestrel, Combined oestrogen and progesterone preparation, Copper IUCD and Mifepristone

### Indications for Emergency Contraception

*No contraception:* Following consensual sexual intercourse, rape or sexual assault. Pregnancy risk may be 2-30% depending on point in menstrual cycle. Ave risk in week 2-3 of cycle = 8%.

*Contraceptive failure or incorrect use*

- OCP: SI<28 days after taking enzyme inducing agents e.g. rifampicin.
- COCP:
  - ≥2 pills missed in 1st 7d of cycle and SI since start of pill-free week.
  - ≥4 pills missed in 2nd or 3rd wks of cycle and SI within 7d.
  - SI w/o additional methods <7d of a course of antibiotics or episode of D&V.
- POP: ≥1 pill missed or >3hrs late (>12hrs for Cerazette), and SI before 2 further tablets.
- Depo-Provera®: SI >14wks after last injection.
- Barrier: Condom or diaphragm ruptured.
- IUD/IUS: Expulsion + SI <7d.

## Assessment

- Elapsed time since unprotected intercourse
- What contraception if any used
- O& G Hx: Previous pregnancies, TOP, STD, contraception, emergency contraception
- Menstrual history: LMP, cycle details, ?already pregnant, ?could implantation of fertilized egg have occurred (5d after mid-cycle ovulation).
- Medications, PMHx, Allergies

## POEC

- Preferred as less nausea & more effective.
- Dose: **Levonorgestrel** 0.75mg PO q12h x 2 OR 1.5mg stat within 120h of SI (ideally<72h)
- May need higher dose if (2.25mg) if on liver enzyme-inducing drugs
- Failure rate 1.1% if given <72h
- Ineffective but not assoc with SE if already pregnant.
- **CI:** Hypersensitivity to levonorgestrel, acute porphyria, sev liver disease

## Combined Pill

- Dose: **ethinylestradiol** 100-120mcg + **levonorgestrel** 500-600mcg PO q12h x 2 <72h of SI
- SE: commonly nausea, vomiting & fatigue – prophylactic **metoclopramide**.
- Failure rate 3% if given <72h
- Vomiting common (20%) if<2hrs, need rpt dose, use condoms for cycle, continue OCP.
- No longer recommended as poorly tolerated

## Copper Intrauterine Contraceptive Device

- Can be used up to 5 days after SI.
- Failure rate <0.1%
- **CI:** Copper allergy, Wilson's disease, prev endocarditis with heart valve, abnormal uterus
- Risk of PID

## Mifepristone

- Antiprogesterone, more often used for early medical abortions
- Stat low dose used for emergency contraception – but not licensed for this in Aus & NZ
- Less N&V than combined pill
- Expensive

## General points for women receiving emergency contraception

- Discuss information about the failure rate, document this.
- Give a written advice sheet about Emergency contraception.
- Explain that their next period may be on time, early or late.
- Explain that should have a pregnancy test if no normal period within 7 days of their expected next period or if they have irregular bleeding.
- Advise that they should see a doctor immediately if they develop lower abdominal pain
- Advise about a more definitive method of contraception for the future.
- Discuss the risk of sexually transmitted infection. Refer to GUM clinic.