HORMONAL CONTRACEPTION - CURRENT PRACTICES
Oral Contraceptive Pills

- First introduced in 1960
- Have undergone considerable modifications since then
- Have been used by millions of women worldwide
- Two major types
  - Combined oral contraceptives (COCs), also called “The Pill”
    - Contain estrogen and progestin
    - Most widely used
  - Progestin only pills (POPs), also called “Mini Pill”
    - Contain no estrogen
    - Good choice for lactating women
Initiate:

Anytime provider is reasonably sure woman is not pregnant
- Preferably, first 7 days of menstrual cycle
- After 7th day, use back-up method for 7 days
- Postpartum:
  - Not breastfeeding – delay 3 weeks
  - Breastfeeding – delay 6 months or till breastfeeding is discontinued

Schedule:

- Take 1 pill each day
- 21-day packs – 7-day break
- 28-day packs – no break
Switching & Discontinuing

• Switch to another method or quit any time
• Recommend finishing pill pack
• If necessary, use back-up until new method becomes effective
• Fertility returns rapidly
COCs – Side Effects

Mechanistic Classification

**ESTROGENIC**

- Nausea, vomiting
- Bloating, edema
- Irritability
- Breast tenderness & increased breast size
- Cyclic weight gain
- Cyclic headaches
- Thromboembolic events (DVT/PE)*
- Telangiectasis
- Chloasma

**PROGESTOGENIC**

- Headaches
- Breast tenderness
- Hypertension

**ANDROGENIC**

- Oily skin, acne
- Hirsutism
- ↑ appetite, weight gain
- Depression, fatigue
- Rash, pruritus
- ↑ LDL-C, ↓ HDL-C

* DVT – Deep Vein Thrombosis
  PE- Pulmonary edema
<table>
<thead>
<tr>
<th>Problem</th>
<th>Action / Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any client concerns →</td>
<td>Provide counseling →</td>
</tr>
<tr>
<td>Dizziness, nausea →</td>
<td>Reassure client, Usually diminish over time →</td>
</tr>
<tr>
<td></td>
<td>If side effects persist and are unacceptable to client: switch to another method</td>
</tr>
<tr>
<td>Nausea →</td>
<td>Take pills with food or at bedtime →</td>
</tr>
<tr>
<td>Weight gain →</td>
<td>Inform about healthy eating and exercise →</td>
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</table>
# Menstrual Side Effects: Management

| Problem                                                                 | Action / Management                                                                                                                                                                                                 |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
| Unexplained vaginal bleeding or amenorrhea of a suspicious nature →    | Assess cause (consider pregnancy or disease) → Treatment based on assessment                                                                                                                                          |
| Amenorrhea →                                                           | Reassure client; No medical treatment necessary →                                                                                                                                                                      |
| Breakthrough bleeding →                                                | Reassure client; Reinforce correct pill taking →                                                                                                                                                                       |
| Prolonged bleeding →                                                   | Administer non-steroidal anti-inflammatory → Use pill with more potent progestin → Use higher dose COC (1-3 cycles) → If side effects persist and are unacceptable to client: Switch to another method |
Non-contraceptive Beneficial Effects

• Reduces risk of:
  – Benign breast disease
  – Ovarian and endometrial cancer
  – Functional ovarian cysts
  – Ectopic pregnancy
  – Symptomatic pelvic inflammatory disease

• Menstrual improvements
COCs – Beneficial Effects

Improvement in Menstrual Symptoms

• Decrease amount of flow and days of bleeding
• Reduce risk of anemia
• Decrease symptoms of painful menstruation
• Decrease symptoms of endometriosis
• Reduce symptoms of premenstrual syndrome
Choosing a COC

• All COCs available for clinical use similarly effective

• Variations do occur in side effects
  – Preparations with 20 µg EE associated with lower incidence of estrogenic side effects (nausea, breast tenderness or bloating) compared to higher-dose estrogen COCs
  – These may result in bleeding pattern disturbance
Choosing a COC

- Acne and hirsutism associated with androgenic progestin can be eliminated by using an OC containing progestin with low androgenicity (e.g. Desogestrel) or with antiandrogenic activity (e.g. drospirenone or cyproterone acetate)
- This will also minimise any possible adverse metabolic side effects e.g. adverse effects or lipid profile (↑LDL-C & ↓HDL-C) or glucose intolerance
Choosing a COC

• A recent study* found a 43% increase in incidence of gestational diabetes among women who used an androgenic progestin–based contraceptive during the 5-year period before pregnancy.

• Formulations with 2nd generation progestins (norgestrel/levonorgestrel) show higher discontinuation rates than those with 3rd generation progestins (desogestrel).

* (Diabetes Care, 2007; 30: 1062-68)
Emergency Contraceptive Pills

• Precise mechanism of action not known
• Not recommended for routine use
• Recommended only when
  – Other methods not used correctly e.g. with a COC, extending hormone free interval > 7 days or missed pills regularly
  – Condom breaks / slips
• No known serious complications
• No known effect on the fetus
Emergency Contraceptive Pills

• A progestin–only pill preferred

• A COC is an alternative method – can be used at any time during the cycle

• Dosage
  – Take 4 low-dose pills at once within 72 hours
  – Repeat after 12 hours

• Nausea & vomiting may occur
  – Repeat dose if vomiting occurs within 2 hours
  – Give anti-emetic 30 min before the first dose of OCP
Progestin-only Pills – POPs

• Contain no estrogen
  – Especially suitable for lactating women
  – Suitable for women in whom estrogen is contraindicated
  – Perimenopausal women
  – Diabetics, hypertensives, smokers

• Contain less progestin per pill compared to COCs

• All pills in the pack active (28-pill pack)
  – No pill-free period
Progestin – Only Pills

- Progestins used as POPs
  - Levonorgestrel (30 µg)
  - Desogestrel (75 µg)
  - Norethisterone (350 µg)
  - Ethynodiol diacetate (500 µg)

- Mechanism of action

<table>
<thead>
<tr>
<th></th>
<th>PRIMARY</th>
<th>SECONDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desogestrel</td>
<td>Inhibition of ovulation</td>
<td>Thickening of cervical mucus</td>
</tr>
<tr>
<td>Other POPs</td>
<td>Thickening of cervical mucus</td>
<td>Inhibition of ovulation</td>
</tr>
</tbody>
</table>
Initiating POPs

• Postpartum
  – Breast-feeding – begin after 3 weeks
  – Not breast-feeding - begin immediately

• Other women
  – Any time if she is not pregnant
  – Preferably in the first 7 days of menstrual cycle
  – After 7th day, use back-up method for 2 days
How to take POPs

• Schedule
  – Take 1 pill each day
  – Within 3 hours of same time each day*
  – No break between packs

• Missed Pill(s)
  – Take most recent missed pill as soon as possible
  – Abstain or use back-up method for 48 hours
  – Take next pill at regular time

*- with POPs other than desogestrel; with desogestrel a tolerance time of 12 hours is permissible
Switching & Discontinuing POPs

• Breastfeeding women :
  – Use POP as long as desired
  – Should not switch from POPs to COCs during first 6 months postpartum

• Non-breastfeeding women :
  – May switch from POPs to another method any time
  – Use back-up or abstain for 7 days if necessary

• Quit pills any time; fertility returns rapidly
Side effects - POPs

Not experienced by all users, not harmful, may be unpleasant

Non – Menstrual
- Persistent ovarian follicles
- Weight gain *
- Nausea *
- Dizziness *
- Acne *
- Breast tenderness *
- Headaches *
- Mood changes *

Bleeding
- Breakthrough bleeding
- Prolonged bleeding
- Spotting
- Irregular cycles
- Amenorrhea

* Less common /intense than COC effects
### Bleeding Problems - POPs

<table>
<thead>
<tr>
<th>Breastfeeding Women</th>
<th>Non-Breastfeeding Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irregular bleeding less common than non-breastfeeding women</td>
<td>Irregular bleeding, amenorrhea, or mixtures of regular and irregular bleeding and amenorrhea are common</td>
</tr>
<tr>
<td>Amenorrhea more common than non-breastfeeding women</td>
<td></td>
</tr>
</tbody>
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Irregular bleeding less common than non-breastfeeding women
Amenorrhea more common than non-breastfeeding women
# Bleeding Problems - Management

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<tr>
<td>Unexplained vaginal bleeding or amenorrhea suspicious nature →</td>
<td>Assess cause → (consider pregnancy or disease)</td>
<td>Treatment based on assessment</td>
</tr>
<tr>
<td>Lower abdominal pain with vaginal bleeding →</td>
<td>Rule out ectopic pregnancy → (refer to higher level provider if necessary)</td>
<td></td>
</tr>
<tr>
<td>Amenorrhea →</td>
<td>Reassure client → No medical treatment necessary →</td>
<td>If side effects persist and are unacceptable to client: switch to another method</td>
</tr>
<tr>
<td>Breakthrough bleeding →</td>
<td>Reassure client; reinforce correct pill taking → Give non-steroidal anti-inflammatory drugs → Give lower-dose COCs (1-3 cycles) →</td>
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# Non-menstrual Side Effects - Management

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<tr>
<td>Any client concerns</td>
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<td>Nausea →</td>
<td>Take pills with food →</td>
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<tr>
<td>Weight gain →</td>
<td>Inform about healthy eating and exercise →</td>
<td></td>
</tr>
<tr>
<td>Persistent ovarian follicles →</td>
<td>Leave alone, usually disappear →</td>
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# COCs or POPs

## The Choice

<table>
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<th>COCs</th>
<th>POPs</th>
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<tbody>
<tr>
<td>Safe for almost everyone</td>
<td>Preferred during breast-feeding</td>
</tr>
<tr>
<td>More effective than POPs in typical use</td>
<td>Synergy with lactation enhances effectiveness</td>
</tr>
<tr>
<td>Require daily pill-taking</td>
<td>Daily pill-taking more strict than COCs*</td>
</tr>
<tr>
<td>Regular cycles</td>
<td>Irregular bleeding common*</td>
</tr>
</tbody>
</table>

* Less a problem for breast-feeding women
Injectable Contraceptives

- 150 mg medroxyprogesterone acetate IM every 3 months
- Contraceptive level maintained for 14 weeks
- Failure Rate: 3% in typical use
- Mechanism:
  - Thickens cervical mucus
  - Blocks the LH surge
  - Initiate treatment during the first week of menses
Injectable Contraceptives

• **Advantages**
  – Long acting
  – Estrogen-free
  – Safe in breastfeeding
  – Can be used in sickle-cell disease and seizure disorder
  – Pt. does not have to take daily
  – Increases milk quality in nursing mothers

• **Disadvantages**
  – Irregular bleeding (70% in first year)
  – Breast tenderness
  – Weight gain
  – Depression
  – Slow return of menses after stopping use
  – Decreases HDL-C
  – Decreases BMD