Contraceptive Choices
An Update on rules and methods

Dr. Helen Roberts
Senior Lecturer Women’s Health
University of Auckland
Research Manager Family Planning
Newish Information

- COCs
- POPs
- ECP
- IUDs
New Rules-Combined Pill

- Allowed 1 missed pill
- If miss more than one pill-ie 48 hours since last pill was taken
- Need 7 day rule or ecp if unprotected sex
- Only applies 1\textsuperscript{st} week of hormone pills
## 28 day pack

<table>
<thead>
<tr>
<th>Plasma FSH</th>
<th>no suppression</th>
<th>increased suppression</th>
<th>full suppression</th>
<th>no suppression</th>
<th>increased suppression</th>
</tr>
</thead>
</table>

from Ian Fraser, 1986
If you:

- miss 1 pill

### If you miss 2 pills

-and there are more than 7 days since the 1st missed pill

### If you are taking antibiotics while you are taking the medicine and for 7 days after

- and there are 7 days or less since the 1st missed pill

### If you have severe vomiting or diarrhoea

- for more than 24 hours
- for less than 24 hours

#### Use the 7 day rule

- You will not be safe until you have taken 7 hormone pills in a row
- Use another method of contraception such as condoms or do not have sexual intercourse while taking the 7 hormone pills
- If during this time a condom breaks or slips off, you will need an emergency contraceptive pill (ECP)
- If there are less than 7 hormone pills left in the pack, finish the hormone pills and start your new pack immediately (miss the 7 inactive pills or the 7 day break)

#### Options:

- Don’t worry
- You are safe
- Take your next pill at usual time

If you have missed 2 or more pills in the 1st week of hormone pills, and have had unprotected sex (without a condom) in the week of inactive pills (sugar pills) you need the ECP (Emergency Contraceptive Pill)
WHO Medical Eligibility Criteria for contraceptive use (WHOMEC)

WHO have produced a wheel which summarises criteria – available at www.who.int/reproductive-health/publications/mec/index.htm
UK MEC – Eligibility criteria

www.ffprhc.org.uk/publications

• Have updated WHO MEC
• UK MEC summary sheets—see resource
• Have added some new med conditions
  - Inflammatory bowel disease
  - Raynaud’s disease
  - Congenital heart disease
• Have added some new subheadings
Newish pills-Yasmin for PMS

Yasmin-Contains 30mcg EE + 3mg drospirenone which is an analogue of spironolactone
Costs $20 per month

- PMS-Non comparative studies benefit-? placebo response
  Unblinded RCT v Marvelon

- No diff PMS-secondary outcome
  Foidart 2000

- Unblinded RCT v Microgynon
  PMS symptoms- 60% of women each arm
- Benefit for negative affect 2.5(Y) v 4.2(M) – SS
  Sangthawan M 2005
Yasmin-PMS

Double blind RCT v placebo (3 cycles)
• Women with PMDD (n=82)
• Self evaluated COPE-daily phone in
• Greater improvement with Yasmin- not SS
• Underpowered -needed sample size of 300
• New YAZ-better rct evidence for PMS

Freeman 2002
New pop-Cerazette
75mcg desogestrel

- Works by preventing ovulation
- So can help heavy periods and period pain
- Irregular bleeding still a problem
- 50% amenorrhea at 1 year
- Can use where estrogen contraindicated
- **Cost** $10 per month
Cerazette – pill taking rules

• Day 1 start – covered straight away
• Otherwise 7 days
• Not safe if miss one pill – like old coc rules
  • ie more than 36hrs since last pill
• Safe after take 2 pills – mucus
• Really safe after take 7 pills – ovulation
New Rules
Emergency Contraceptive Pill

- WHO multicentre randomised trial of levonorgestrel emergency pill (n=2712)
- 0.75mg LNG-Postinor 2
- 2 doses 12 hours apart v 1.5mg single dose
- 2 tabs stat- as effective
- No difference in side effects
- Postinor 1 will be available in NZ later this year

von Hertzen, Lancet 2002
## Efficacy and delay in taking single dose

<table>
<thead>
<tr>
<th>Days delay in Rx after sex</th>
<th>Observed pregnancies</th>
<th>Proportion of expected pregnancies prevented</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 days</td>
<td>16/1198 =1.34%</td>
<td>84%</td>
</tr>
<tr>
<td>4-5 days</td>
<td>4/150 =2.67%</td>
<td>63%</td>
</tr>
</tbody>
</table>
Contraceptive Implants

- Norplant 6 - one rod 36 mg LNG
- Norplant 2 / Jadelle - one rod 70mg LNG
- Implanon - one rod -3 keto DSG
Contraceptive Implants

- **Jadelle** – 2 rod implant-5 years
- Preloaded inserter-under skin upper arm
- Prevent ovulation most cycles/Cx mucus
- 1,198 women-no pregnancies first 4 years
- 1% failure rate in fifth year (1.1>60kg)
- Not effective if on enzyme inducers
Jadelle Implants

Pregnancy rate

- Schering datasheet
- Taken from 3 studies by Population Council
- But not statistically significant. Sivin et al Contraception 2001;64:43
- Data sheet “a change to new implant could be considered after 4 years of use in women > 60Kg”

<table>
<thead>
<tr>
<th>year</th>
<th>&lt;60Kg</th>
<th>=&gt;60Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>one</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>two</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>three</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>four</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>five</td>
<td>0.18</td>
<td>1.1</td>
</tr>
</tbody>
</table>
Failure Rate with Jadelle

- In the US failure rates of implants were approximately 1/4 of those with the contraceptive pill.
- Implants and IUDs have the highest continuation rates among users of reversible contraceptive methods.

Sivin Drug Safety 2003;26:303
Jadelle

- Improves dysmenorrhea
- Main side effect bleeding disturbances
- Amenorrhea 20-30% women at 1-2 yrs
- Infrequent bleeding 50% women first 3 months
- 30% women at 6 months and decrease with time
- Bleeding patterns at beginning not predictive for later
- Pregnancy rate same even with BTB
- Comparison with Implanon:
  - More variable bleeding pattern with Implanon initially but eventually higher amenorrhea
Norplant-Post Marketing Surveillance Study

- Observational /cohort – so problem with differential reporting (n=16,000)
- Norplant, IUD, sterilization
- Most commonly reported side effects
- Headache, weight gain and mood

Contraception 2001
Availability of Jadelle in NZ

- Registered - slow introduction in 2006
- Initially small group of trained doctors
- ? Why - litigation with other implants
- **Cost** $305 + insertion fee
Remarketing of old methods

- Combined pill
- Female condom
Remarketing of an old method

• **Seasonale** – Same pill as Monofeme, Levlen, Microgynon 30
• Take active pill for 84 days
• Inactive pill for 7 days - withdrawal bleed
• Reduces side effects of hormone withdrawal
• 10 months after it became available in the US - 260,000 scripts had been written
Other ways to take pills

- Tricycle v continuous use
- Similar episodes of BTB
- If BTB take 3 day break
- Suggest continuous use if women still getting pill withdrawal SE in the break
Lybrel-FDA approved May 2007

- 20μg EE+90μg LNG
  At the end of 1 year
- 59% amennorrhea
- 20% spotting only
- 21% BTB requiring sanitary protection
IUDs - misconceptions

- Are abortifacient
- Can travel
- Cause infection
- Should never be used by nulliparous women
What is it?

The Copper T-380A IUD looks like the letter “T.” It is placed in the uterus and has been proven to be highly effective and safe. Small copper bands are on each arm, and the stem of the T is wound with copper wire.

Two factors provide greater effectiveness of the 380A:

- Large surface area of copper (380 mm2)
- Copper release high in the fundus (top) of the uterine cavity from the copper bands mounted on the IUD’s arms.
Copper T 380A-Benefits

- Lower failure rate than ML Cu IUD
- Smaller insertion diameter (3.7mm)
- FDA approved lifespan 10 yrs
- Evidence based 12 yrs
- Family Planning importing from Australia
- **Cost** per device $75
Cochrane reviews of IUD trials

- CuT 380 A-most effective but small absolute difference in pregnancy rates from MLCu 375
- First year user failure /100 women
- Cu T 380A = 0.3-0.8
- Mirena = 0.0-0.6
- MLCu 375 = 0.2-1.5
- Mirena comparable in efficacy to Cu IUDs with more than 250 mm² of copper
- Mirena more amenorrhea and spontaneous expulsion than Cu IUDs>250

Grimes Contraception 2007;75;S55-S59
Cochrane reviews of IUD trials

- Mirena more amenorrhea but less prolonged bleeding than Jadelle
- Continuation rates similar
- All NSAIDs reduce pain and bleeding with IUD use—tranexamic acid 2nd line Rx
- But no benefit on pain after insertion with prophylactic NSAIDs

Grimes Contraception 2007;75;S55-S59
Cochrane reviews of IUD trials

Insertion after TOP

- Only one trial has compared immediate V delayed insertion (3-5 weeks)
- Immediate insertion associated with a non SS increased risk of spontaneous expulsion RR 5.7 (0.8-53.5)
- 42% of women randomised to delayed insertion failed to return

Grimes Contraception 2007;75;S55-S59
Some more IUD info

- Cu IUDs are associated with 50-60% reduction in endometrial cancer
- Cause reduction in endometrial mitotic activity and estrogen receptor concentration
  
  Mansour Contraception 2007;75:S144-S151

- Now recommended that only one follow up visit after first period to confirm no expulsion

  Neuteboom Contraception 2003
IUDs - misconceptions

- Are abortifacient
- Can travel
- Cause infection
- Should never be used by nulliparous women
The Copper IUD Has Broad Eligibility

<table>
<thead>
<tr>
<th>Condition</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menarche to &lt; 20 years</td>
<td>2</td>
</tr>
<tr>
<td>Nulliparous</td>
<td>2</td>
</tr>
<tr>
<td>Vaginitis</td>
<td>2</td>
</tr>
<tr>
<td>≥ 20 years</td>
<td>1</td>
</tr>
<tr>
<td>Parous</td>
<td>1</td>
</tr>
<tr>
<td>Smoking</td>
<td>1</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>1</td>
</tr>
<tr>
<td>Vascular disease</td>
<td>1</td>
</tr>
<tr>
<td>Stroke</td>
<td>1</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1</td>
</tr>
</tbody>
</table>

Many women are eligible to use the copper IUD. It can be a safe and effective alternative for women who are not eligible for hormonal contraception.

Source: WHO Medical Eligibility for Contraceptive Use 2004
### INTRAUTERINE DEVICES (IUDs)

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>CATEGORY</th>
<th>Cu</th>
<th>LNG</th>
<th>RATIONALE/COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST-ABORTION</td>
<td>I = Initiation, C = Continuation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) First trimester</td>
<td>1</td>
<td>1</td>
<td></td>
<td>IUDs can be inserted immediately after first trimester spontaneous or induced abortion.¹</td>
</tr>
<tr>
<td>b) Second trimester</td>
<td>2</td>
<td>2</td>
<td></td>
<td>There is some concern about the risk of expulsion after second trimester abortion. There is a lack of data on the local effects of LNG-IUD on uterine involution.</td>
</tr>
<tr>
<td>c) Post-septic abortion</td>
<td>4</td>
<td>4</td>
<td></td>
<td>There is a significant risk of infection after septic abortion.</td>
</tr>
<tr>
<td>AGE</td>
<td>I = Initiation, C = Continuation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Menarche to 20 years</td>
<td>2</td>
<td>2</td>
<td></td>
<td>There is concern about the risk of expulsion in younger age-groups due to nulliparity.⁵</td>
</tr>
<tr>
<td>b) ≥ 20 years</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMOKING</td>
<td>I = Initiation, C = Continuation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Age &lt; 35 years</td>
<td>1</td>
<td>1</td>
<td></td>
<td>This is not relevant for eligibility for IUD use. There is no risk of thrombosis with IUD use.</td>
</tr>
</tbody>
</table>

IUD is WHO 2 for adolescents
IUD use in adolescents

• Still WHO 2 in 2000-2\textsuperscript{nd} edition of Medical Eligibility Criteria

NICE Guidelines (UK) 2005
National Institute for Health and Clinical Excellence

• IUD may be used by adolescents but STI risk should be considered where relevant

• IUD use is not contraindicated in nulliparous women of any age
IUDs and Infection

• “It has become quite clear that the IUD does not facilitate STIs or increase the risk of infertility. Bacteria are the culprits in the development of PID and infertility, while an IUD (if present) is an innocent bystander”

Rivera Contraception 2002;65:385-388
Family Health International

Underused Research Findings 2007

http://www.fhi.org/en/Topics/IUD.htm
IUD Use and PID: Less Concern than Previously

Recent evidence indicates that risk of PID related to IUD use is far lower than many have thought.

- An excellent study, among young and nulliparous women from Mexico, found no subsequent increased infertility risk among previous IUD users.

- A modeling analysis of IUDs and PID found that even where gonorrhea/chlamydia prevalence is high (10%), only about one case would occur with over 600 insertions.

Risk of PID if insertion with STI

- No RCTs insertion with STI v without STI
- But 6 prospective studies
- Included women who had inadvertently had IUD inserted with lab documented STI
- Risk of PID 0-3% v 0-2% without STI

Cu IUD Review of Use in Nulliparous women

• No increased risk of tubal infertility--if not at risk of STI
• Failure rate is the same <1%
• Expulsion rates slightly higher
  1\textsuperscript{st} yr  2% nullip v 2.6% parous
  5\textsuperscript{th} yr  3.9% nullip v 2.5% parous

Thiery Adv Contraception 1985

• Removal for pain and bleeding higher, continuation rate lower
  Six weeks following insertion
  -10.6% nullip v 2.5% parous removal of IUD
  - 80% nullip v 95.7% p continuation rate

Zhou Contraception 2001

• These event rates lower with smaller devices
<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage of unintended pregnancies within first year of use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Typical Use</td>
</tr>
<tr>
<td>Chance</td>
<td>85%</td>
</tr>
<tr>
<td>Oral Contraceptives : Combined</td>
<td>5%</td>
</tr>
<tr>
<td>Depot progestagen</td>
<td>0.3%</td>
</tr>
<tr>
<td>Subdermal implants: Norplant</td>
<td>0.05%</td>
</tr>
<tr>
<td>Subdermal implants: Implanon</td>
<td>0</td>
</tr>
<tr>
<td>Intrauterine Devices: Copper T380A</td>
<td>0.8%</td>
</tr>
<tr>
<td>Male condom</td>
<td>14.0%</td>
</tr>
</tbody>
</table>
Failure rate for adolescents using the pill more “technical” problems

Although the practical failure rate of the combined pill is 5% – the adolescent failure rate is as high as 32%

Alan Guttemacher Institute 1994
Information lags behind the evidence

• British Survey (2006) reported that women lacked objective information about IUDs, not well informed by health professionals

Asker 2006

• Textbooks (both UK and US) lag behind the evidence

• Advantages under-reported and disadvantages exaggerated

• Several texts listed qualities of women considered by the authors, but unsupported by the evidence, to be contraindications to IUD use eg nulliparity

Espey 2002
Do you want to update from the comfort of your own home

- Dept O+G runs 2 web based courses as part of Dip O+G
- Totally distance learning courses
- 13-15 weeks
- Can do each courses as one off for CME
- Each course is 150 hours and can get 150 MOPS points over 3 years
- Email j.joubert@auckland.ac.nz
WEB 712-contraception, pre and early pregnancy care

- Contraception (4 weeks)
- Preconceptual counselling
- Early normal pregnancy management
- First antenatal visit
- Early pregnancy screening
- Diagnosis of abnormal fetal development
- Early abnormal pregnancy
• Cervical and breast screening
• Menstrual disorders-bleeding problems
• Menstrual disorders-pelvic pain, dyspareunia, PMS
• Sexually transmitted infections
• Vaginal discharges
• Vulval problems
• Climacteric and menopause (2 weeks)