CONTRACEPTION

INTRAUTERINE DEVICES / SYSTEMS

Keywords: Intrauterine, contraceptive, copper IUD, hormonal IUD, IUD, Family Planning, fertility, prevent pregnancy, Mirena

***Note**: Click on individual subjects below; the hyperlink will then take you to that section in document*

AIM

- To inform staff regarding intrauterine contraceptive options, insertion & post procedure management.

KEY POINTS

1. Efficacy for IUDs mentioned in this guideline is more than 99%.[1]
2. The Sexual & Reproductive Health WA (SRHWA) recommends women should be screened for sexually transmitted infections prior to insertion of an IUD. Perform a Pap smear if no current screening.
3. Prior to insertion of an IUD/system all contraindications should be excluded.
4. Women should have counselling prior to insertion of an IUD for contraception regarding side-effects, duration of the contraception, and normal return to fertility following removal.
5. Following removal of an IUD fertility returns immediately[1] & conception occurs on average in 3 months[2]
6. Exclude pregnancy prior to insertion of an IUD. A negative pregnancy test does not exclude possible early pregnancy if the woman had unprotected sex in the previous 3 weeks. A detailed history can exclude mistaking a 'last period' actually being an implantation bleed.[1]

BACKGROUND INFORMATION

Intrauterine Contraceptive Devices (IUDs)/systems are small flexible devices which are made of metal and/or plastic. They release copper or hormone.[1] They are inserted via the cervical canal and may have a marker thread attached which is visible at the external os. IUD contraception works by blocking fertilisation. Where

an IUD is present inflammatory cells in the genital tract appear to impede sperm transport and fertilisation. Copper is toxic to sperm and ova and can have an anti-implantation effect (this is only certain for copper containing IUDs). Progestogen releasing IUDs impair the sperm penetrability of cervical-uterine fluid, sometimes stopping fertile ovulation, and causing endometrial changes including atrophy.[1]

TYPES AND DURATION OF USE[1]

There are 2 main types of IUDs:

1. Copper (Cu-IUD) – 2 types available include:
   - Multiload-Cu375® lasts 5 years
   - TT380® (lasts 10 years) & TT380 Short® (lasts 5 years)
2. Levonorgestrel (LNG) IUD – releases a progestogen hormone, is marketed in Australia as Mirena®. The Mirena may stay in situ for 5 years.

EFFICACY[1]

- Cu-T380 IUD: 99.2% in typical use, 99.4% in perfect use. Multiload Cu375 has similar effectiveness.
- LNG-IUD: 99.8% effective in prevention of pregnancy (typical & perfect use).

CONTRAINDICATIONS[1]

Risk factors for current or recent pelvic infections, the likelihood of uterine cavity distortion, the possibility of a current undiagnosed pregnancy, and current or past history of breast cancer (for women considering the LNG-IUD) are the most significant contraindications to be considered.[1]

CONTRAINDICATIONS TO ALL INTRAUTERINE DEVICES

- Pregnancy; puerperal sepsis or immediate post-septic abortion
- Unexplained abnormal vaginal bleeding
- Cervical, endometrial or ovarian cancer awaiting treatment
- Distortion of the uterine cavity (e.g. fibroids, congenital or acquired uterine abnormality)
- Initiation in a woman with current Pelvic Inflammatory Disease, sexually transmitted infections (STI's) & cervicitis (e.g. asymptomatic chlamydia, gonorrhoea, or pelvic infection).

  However, insertion of an IUD should **not** be delayed to await results of STI screening tests where delay will put her at risk of unplanned pregnancy.
- Active gestational trophoblastic disease

Mirena (LNG-IUD)

NOTE: Mirena® IUD is absolutely contraindicated for women with a history of breast cancer diagnosed in the last 5 years.[1]

Insertion of a **Mirena® IUD** has a **strong relative contraindication** in the following circumstances:

- past history of breast cancer, but no current history in the last 5 years (recommend discussion with her oncologist)
- blood pressure systolic ≥160 or diastolic ≥ 95 mmHg
- active viral disease, decompensated cirrhosis or liver tumours (benign or malignant); positive antiphospholipid antibodies; Ischaemic heart disease or stroke during use

Remove the Mirena® IUD in the following circumstances:

- if a woman develops breast cancer during use.

RELATIVE CONTRAINDICATIONS TO ALL IUDS

- Between 48 hours to 4 weeks postpartum
- Severe thrombocytopaenia[1]

SIDE-EFFECTS AND COMPLICATIONS[1]

These include:

- Pregnancy with an IUD *in situ* increases risk for miscarriage, ectopic pregnancy, & premature birth
- Pelvic infection
- Expulsion – the average risk is 5%, with the highest risk being within the first year
- Perforation – the risk rate is up to 2.3 per 1000 insertions. Highly experienced clinicians who perform frequent insertions have a reduced risk of perforation.
- Bleeding irregularities and dysmenorrhoea – is increased with copper IUDs and are more common in the first 3-6 months, and generally will decrease over time. With the Mirena® IUD persistent bleeding and/or spotting daily is not unusual for 3-5 months, and in up to 65% of cases amenorrhoea after the first year of use is common.
- Vasovagal response to the insertion procedure
- Increased vaginal discharge
- Partner dyspareunia due to the IUD strings.[1]

INITIATION OR TIMING OF IUD INSERTIONS[1]

INSERTION OF COPPER IUDS[1]

SITUATION	INSERTION OF Cu-IUD	EFFECT
No contraception or barriers	Day 1 (first day of bleeding) to day 12 of a normal menstrual cycle, or any time if pregnancy is excluded	Immediate
Combined pill (COC) or vaginal ring	Anytime if pills or ring have been used correctly, otherwise exclude pregnancy	Immediate
Depo-Provera® or Depo-Ralovera®	Anytime within 14 weeks of the injection	Immediate

Implanon®	Anytime if within 3 years of insertion, if no medication interactions. Otherwise pregnancy should be excluded.	Immediate
Progestogen only pill (POP)	Anytime if the pills have been correctly taken. Otherwise pregnancy should be excluded.	Immediate
Copper or Levonorgestrel IUD	Consideration to be given to using condoms for 7 days prior to changeover (in case of failed reinsertion)	Immediate
Abortion 1st trimester	Immediately (at time of abortion).[3] Anytime if pregnancy can be excluded. If medical abortion, after expulsion of products of conception.	Immediate
Abortion 2nd trimester	Before 48 hours, or after 4 weeks if pregnancy excluded.	Immediate
Post-partum[4]	< 48 hours post-birth, or after 4 weeks if pregnancy can be excluded 4 weeks post caesarean (however, some studies suggest insertion at this stage may increase risk of perforation).	Immediate

INSERTION OF A MIRENA® DEVICE/SYSTEM[1]

SITUATION	INSERTION OF A MIRENA®	EFFECTIVE
Normal cycle	Day 1(first day of bleeding) - 7 of normal menstrual cycle Any other time if pregnancy is excluded.	Immediately. 7 days
Combined pill or vaginal ring	Anytime if the pills or ring have been used correctly	Immediately.
Depo-Provera®	Anytime within 14 weeks of injection	Immediately
Implanon®	Anytime within 3 years of insertion, or otherwise exclude pregnancy. Or – insert the Levonorgestrel IUD 7 days prior to removal of the Implanon® implant	7 days Immediately
Progestogen only pill (POP)	Anytime if the pills have been correctly taken. Otherwise pregnancy should be excluded.	7 days, or continue POP for 7 more days
Abortion 1st trimester	Immediately (at time of abortion).[3] Anytime if pregnancy can be excluded	Immediate 7 days
Abortion 2nd trimester	Immediately (<48hrs) after abortion. Four weeks if pregnancy can be excluded.	Immediately. 7 days
Post-partum[4]	Immediately (< 48 hours post-birth), or after 4 weeks if pregnancy can be excluded. 4 weeks post caesarean (however, some studies suggest insertion at this stage may increase risk of perforation).	7 days

SITUATION	INSERTION OF A MIRENA®	EFFECTIVE
Copper IUD	Day 1 (first day of bleeding) - 7 of the menstrual cycle. Other times: Use a condom for 7 days prior to changeover of IUD in case reinsertion fails.	Immediate 7 days
Levonorgestrel IUD	Use condoms for 7 days prior to changeover in case reinsertion fails	Immediate

PRIOR TO INSERTION: MEDICAL HISTORY, EXAMINATION & INVESTIGATIONS[1]

MEDICAL HISTORY[1]

This should include:

- Age –
  - Younger women: At increased risk of chlamydia, so encourage barrier contraception.
  - Women >40 years: A licensed Cu-IUD of >300mm can be considered to remain *in situ* as a contraception until after menopause.
  - A Mirena® inserted for menorrhagia or contraception AFTER THE AGE OF 45 YEARS may be retained for 7 years, or until post-menopausal if she is amenorrhoeic.
- Parity - insertion may be more difficult in the nulliparous women (& parous women without vaginal births) and they have increased risk for expulsion
- Previous fainting / vasovagal reaction to cervical instruments: Consider sedation in hospital setting
- Menstrual and vaginal bleeding (e.g. length, blood loss, dysmenorrhea, unexplained bleeding)
- Sexual history – includes risk assessment for STIs, cervicitis, or Pelvic Inflammatory Disease (PID)
- Obstetric and gynaecological history (e.g. breastfeeding[5], postpartum, endometriosis, fibroids, cervical damage, recent miscarriage/abortion).[1] Immediate IUD insertion postnatal / post abortion increases expulsion risk & follow up after one month is important[4].
- Medications – No concurrent medications are contraindicated.
- Cardiovascular history – discussion with a cardiologist regarding antibiotic prophylaxis is recommended for women with congenital or valvular heart disease

For Mirena (LNG-IUD), also consider:

- Migraines – new headaches or marked changes in headaches should be investigated
- Thromboembolic disease; Cardiovascular disease; Breast cancer
- Liver disease – progestogen in the LNG-IUD is metabolised by the liver

EXAMINATION[1]

- This includes speculum examination & bimanual examination. See KEMH Clinical Guidelines, O&G, Vaginal Procedures: Speculum Examination
- Perform a baseline blood pressure – hypotension from a vasovagal response during IUD insertion may occur.

INVESTIGATIONS[1]

Consider the need for:

- Pap smear if due. See KEMH Clinical Guidelines, O&G, Vaginal Procedures: Pap Smear
- Investigations for bacterial vaginosis if symptoms are present.
- In symptomatic, high risk or women who request testing: Endocervical swab for Chlamydia PCR +/- gonorrhoea.

  See also KEMH Clinical Guidelines, O&G, Vaginal Procedures: Swabs: LVS, HVS, ECS & Rectal; & Gynaecology: Sexually Transmitted Infections: Screening Tests for Asymptomatic and Symptomatic Females; Vaginal Discharges.

PROCEDURE: INSERTION OF A MIRENA®

EQUIPMENT

- IUD pack containing tenaculum or vulsellum forceps and uterine sound
- Sterile speculum
- Iodine (check for allergies) or Chlorhexidine
- Pair of long scissors for trimming Mirena threads
- Sterile packs of gauze or cottonwool x2
- Local anaesthetic gel or syringe and needle as required

	PROCEDURE	ADDITIONAL INFORMATION
1	**Pre insertion**	
1.1	Provide counselling about: • contraceptive device and action • possible complications • insertion procedure • side effects • duration of contraception • signs of infection	

	PROCEDURE	ADDITIONAL INFORMATION
1.2	Obtain written consent[1] on the MR295.09 Consent form prior to insertion.	Consent for Mirena® IUD is required at KEMH
1.3	Perform and record a blood pressure (BP) and pulse rate measurement[1]	A blood pressure measurement prior to insertion will provide a baseline reading in case of hypotension associated with a vaso-vagal response during insertion.
2	**Insertion**	**Insertion should only be attempted after specific training has been undertaken & the clinicians first few insertions (5-6) should be mentored by colleagues skilled in the procedure**
2.1	Another staff member should be available to assist, communicate with the woman during the procedure, and for assistance if a vasovagal reaction occurs.[1]	
2.2	Ask the woman to adopt the dorsal position.	
2.3	Confirm the position and size of the uterus by bimanual examination.[1]	
2.4	Insert the IUD as per training programme and manufacturer's instructions.	A no-touch technique should be used during insertion.[1]
2.5	Perform post-procedure pulse and Blood Pressure.[1]	Delayed vasovagal response may occur.[1]
	Observe the woman in the clinic for 15-20 minutes[1]	Inform her not to drive a vehicle for 1-2 hours.
3	**Education**	
	Inform the woman to seek medical assistance in the following circumstances[1]: • excessive pain, discharge or bleeding • unexplained fever, dyspareunia • suspicion of pregnancy • persistent menstrual abnormalities • Non-palpable string, change in string length or palpable plastic stem.	

	PROCEDURE	ADDITIONAL INFORMATION
4	**Documentation**	
4.1	Place the label found on the Mirena® or Copper IUD packaging in the woman's hospital medical records (or transcribe the batch number and expiry date).	
4.2	Document the insertion information in the woman's hospital medical records.	Include – last menstrual period and pregnancy risk assessment, position of the uterus, length of the uterine cavity on sounding, degree of difficulty, type of device, length to which the strings were cut, batch number, and expiry date.[1]

POST PROCEDURE MANAGEMENT[1]

1. Provide the woman with the manufacturer's instruction sheet provided with the IUD packaging.
2. Decrease the risk of infection by instructing the woman for 48 hours to avoid[1]:
    - sexual intercourse
    - using tampons – sanitary pads should be used instead of tampons
    - water immersion i.e. swimming, baths
3. Provide the woman with an information pamphlet about the contraceptive device. This is available in pamphlets supplied by the manufacturing company to KEMH, or an information sheet is available from Sexual & Reproductive Health WA (formerly Family Planning Association of Western Australia) at http://www.srhwa.com.au/
4. Advise the woman to check the strings on the IUD after menstruation, or once a month. She should attend for general practitioner (GP) review if they are not felt.[1]
5. Advise the woman to attend for GP or Family Planning Services review between 3-6 weeks post insertion, to exclude expulsion[3, 4], infection or perforation.[1] Following this a GP visit for review is required if any abnormalities present, for removal of the IUD, or every 2 years. This can be conveniently combined with routine Pap smear/ Well Woman visits.[1]
6. Discuss the symptoms of pelvic infection and inform the woman to arrange GP review if any symptoms present.
7. Inform the woman to use condoms in addition to the IUD if she is at risk for STIs.[1]

REFERENCES / STANDARDS

1. Family Planning NSW, Family Planning QLD, Family Planning VIC. **Contraception: An Australian clinical practice handbook.** 3rd ed. Canberra: Sexual Health & Family Planning Australia; 2013. Available from: http://contraceptionhandbook.org.au.kelibresources.health.wa.gov.au/acknowledgements-foreword/
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3. Okusanya BO, Oduwole O, Effa EE. Immediate postabortal insertion of intrauterine devices (Review). **Cochrane Database of Systematic Reviews**. 2014 (7).Available from: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001777.pub4/pdf
4. Grimes DA, Lopez LM, Schulz KF, Van Vliet HA, Stanwood NL. Immediate post-partum insertion of intrauterine devices (Review). **Cochrane Database of Systematic Reviews**. 2010 (5).Available from: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003036.pub2/pdf
5. Lopez LM, Grey TW, Stuebe AM, Chen M, Truitt ST, Gallo MF. Combined hormonal versus nonhormonal versus progestin-only contraception in lactation (Review). **Cochrane Database of Systematic Reviews**. 2015 (3).Available from: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003988.pub2/pdf

National Standards – 1- Care Provided by the Clinical Workforce is Guided by Current Best Practice
Legislation -
Related Policies - OD 0324/11 Consent to Treatment Policy for the Western Australian Health System 2011

Other related documents –

- KEMH Clinical Guidelines: Contraception; Vaginal Procedures; Gynae: Sexually Transmitted Infection
- Department of Health WA: Contraception: Intrauterine devices ; Bacterial Vaginosis
- Sexual Health & Family Planning Australia: Contraception Choices Factsheet (2013)
- Sexual & Reproductive Health WA (SRHWA): Contraception patient brochure (2013); Contraception Essentials (for health promotion) (2013); Intrauterine Devices (2014); Long-Acting Reversible Contraceptives information sheet (2013)

RESPONSIBILITY

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