The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Excellence in Women's Health

Intrauterine contraception

This statement has been developed and reviewed by the Women's Health Committee and approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

First endorsed by RANZCOG: July 1991
Current: July 2017
Review due: July 2020

Objectives: To provide advice on the management of women requesting intrauterine contraception (IUC).

Options: The copper containing IUCs (Cu T380 and LOAD 375), as well as the levonorgestrel intrauterine system (LNG-IUS; Mirena)

Outcomes: Effective and safe contraception; management of infection.

Target audience: All health practitioners providing gynaecological care and contraceptive advice and patients.

Evidence: Medline was searched for RCTs and, prospective cohort studies examining safety, efficacy and complications associated with IUC insertion. Evidence summaries from the Faculty of Sexual and Reproductive Health Care (UK) and the British Association for Sexual Health and HIV were referred to.

Values: The evidence was reviewed by the Women's Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

Validation: This statement was compared with guidance published by ACOG,[1] FSRH,[2] WHO,[3] NICE,[4] and Sexual Health and Family Planning Australia.[5]

Background: This statement was first developed by RANZCOG in July 1991 and most recently amended in July 2017.

Funding: The development and review of this statement was funded by RANZCOG.

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1. Patient summary

Intrauterine contraception includes the copper intrauterine devices (Copper TT380 and the LOAD 375) and the intrauterine system (Mirena®). These methods are long lasting, highly effective, and are suitable for use in women of all reproductive ages, regardless of whether or not the woman has had children. In at risk situations, the presence of sexually transmitted infections should be excluded prior to insertion. The methods are reversible and appear to have no long term impact on fertility.

2. Summary of recommendations

Recommendation 1	Grade and reference
A careful history and examination is essential to identify any relative or absolute contra-indications to the use of Intrauterine contraceptive device (IUC). Sexually transmitted infection (STI) risk should be assessed. All women regarded as high risk (e.g. those aged <25 years, or >25 years with a new sexual partner or more than one partner in the last year, or if their regular partner has other partners) should be tested for chlamydia trachomatis, neisseria gonorrhoea and other STIs as requested by the woman prior to insertion or change of IUC. Ideally these results should be available prior to IUC insertion. However, in asymptomatic women there is no need to wait for the screening results, nor provide antibiotic prophylaxis, providing the woman can be contacted and treated if a positive result is found.	Consensus-based recommendation
Recommendation 2	**Grade and reference**
All patients should be counselled about the effectiveness and failure rates of IUC methods and their possible short and long-term complications, including menstrual changes and pelvic infection.	Consensus-based recommendation
Recommendation 3	**Grade and reference**
At the time of IUC insertion pregnancy should be excluded.	Consensus-based recommendation [2,5]

Recommendation 4	Grade and reference
A follow-up visit at 3-6 weeks may be undertaken to exclude infection, perforation or expulsion. More importantly, the patient should also be advised to present if abnormal bleeding, or symptoms suggestive of infection or pregnancy occur, or if they are unable to locate the string of the device.	Consensus-based recommendation
Recommendation 5	**Grade and reference**
The background risk of uterine perforation at the time of insertion is low (1.4 per 1000 insertions) but recent evidence highlighted that women who are breast feeding, regardless of the interval from delivery, have six times the risk of uterine perforation compared to non-breastfeeding women. Although the absolute risk remains low, women should be counselled about this potential complication.	Evidence-based recommendation
Recommendation 6	**Grade and reference**
If PID is diagnosed treatment should follow recommended regimens and be based on local epidemiology and organism sensitivities. The decision to remove the IUC needs to be balanced against the risk of pregnancy. Removal may improve short term outcomes and should be considered if there is no clinical response within 72 hours of commencing treatment, or if the woman requests removal. If the patient is confirmed to have actinomyces, and is symptomatic, prolonged anti-microbial treatment should be used in consultation with a clinical microbiologist or infectious diseases physician; surgery may need to be considered to drain any associated collections.	Consensus-based recommendations [5]
Recommendation 7	**Grade and reference**
If pregnancy is diagnosed with an IUC in situ, ectopic pregnancy should be excluded and if possible the device should be removed because of the risk of serious complications.	Consensus-based recommendation

3. Introduction

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) endorses the views of the Faculty of Sexual and Reproductive Healthcare (UK)(FSRH) and the American College of Obstetricians and Gynaecologists (ACOG) that intrauterine contraceptive methods are highly effective and safe and suitable for use in women of all ages and parity.

The FSRH has published a detailed statement about the use of IUCs, which is a useful resource as is *Contraception: An Australian clinical practice handbook* which has been published by Australian Family Planning organisations.

4. Discussion and recommendations

4.1 What intrauterine contraceptive devices are currently available?

Currently available intrauterine contraception includes the copper intrauterine devices (Cu T380 [standard and short] and LOAD 375), as well as the levonorgestrel intrauterine system (Mirena), which may be used to treat heavy menstrual bleeding as well as offering contraception.

4.2 How is patient suitability for an IUC assessed?

A careful history and examination is essential to identify any relative or absolute contraindications to the use of an intrauterine contraceptive device (IUC). Sexually transmitted infection (STI) risk should be assessed. All women regarded as high risk (e.g. those aged <25 years, or >25 years with a new sexual partner or more than one partner in the last year, or if their regular partner has other partners) should be tested for Chlamydia trachomatis, Neisseria gonorrhoea and other STIs as requested by the woman prior to insertion or change of IUC. Ideally these results should be available prior to IUC insertion. However, in asymptomatic women there is no need to wait for the screening results nor provide antibiotic prophylaxis providing the woman can be contacted and treated if a positive result is found.

Recommendation 1	Grade and reference
A careful history and examination is essential to identify any relative or absolute contra-indications to the use of Intrauterine contraceptive device (IUC). Sexually transmitted infection (STI) risk should be assessed. All women regarded as high risk (e.g. those aged <25 years, or >25 years with a new sexual partner or more than one partner in the last year, or if their regular partner has other partners) should be tested for chlamydia trachomatis, neisseria gonorrhoea and other STIs as agreed with the woman prior to insertion or change of IUC. Ideally these results should be available prior to IUC insertion. However, in asymptomatic women there is no need to wait for the screening results nor provide antibiotic prophylaxis providing the woman can be contacted and treated if there a positive result is found.	Consensus-based recommendation [2]

4.3 What are the possible short and long-term risks/complications associated with the use of IUCs?

World Health Organization (WHO) studies have demonstrated a small increased risk of pelvic infection (less than 1/300 insertions) in the first 20 days after insertion, often relating to asymptomatic and unrecognised STIs. After the first 20 days the rate of Pelvic Inflammatory Disease (PID) in IUC users is approximately the same as would be expected in the general population not using IUC.

In women with active PID the use of IUC in contraindicated. In women at higher risk of STI acquisition (e.g. those aged <25 years, or >25 years with a new sexual partner or more than one partner in the last year, or if their regular partner has other partners) the FSRH and the WHO recommend that the benefits of use generally outweigh the risks unless the woman is at very high individual risk. All women at higher risk of STIs after IUC insertion should be advised to use condoms as well as IUC.

The balance of evidence suggests that the use of an IUC does not affect return to fertility in nulliparous or multiparous women.

The background risk of uterine perforation at the time of insertion is low (1.4 per 1000 insertions) but recent evidence from a large European cohort study highlighted that women who are breast feeding, regardless of the interval from delivery, have six times the risk of uterine perforation compared to non-breastfeeding women. Although the absolute risk remains low, women should be counselled about this potential complication and particular care should be taken in this clinical setting.

All patients should be counselled about the effectiveness and failure rates of IUC and their possible short and long-term complications, including menstrual changes and pelvic infection. Both oral and written information should be provided. At the time of IUC insertion any possibility of pregnancy should be excluded.

Patients may be advised to attend for review three to six weeks after insertion of the IUC to exclude infection, perforation or expulsion. More importantly women should be advised to present if abnormal bleeding, or symptoms suggestive of infection or pregnancy occur, or if they are unable to locate the string of the device. Information should be provided advising when renewal of the device is required.

Recommendation 2	Grade and reference
All patients should be counselled about the effectiveness and failure rates of IUCs and their possible short and long-term complications, including menstrual changes and pelvic infection.	Consensus-based recommendation
Recommendation 3	**Grade and reference**
At the time of IUC insertion pregnancy should be excluded.	Consensus-based recommendation 2,5
Recommendation 4	**Grade and reference**
A follow-up visit at 3-6 weeks may be undertaken to exclude infection, perforation or expulsion. More importantly, the patient should also be advised to present if abnormal bleeding, or symptoms suggestive of infection or pregnancy occur, or if they are unable to locate the string of the device.	Consensus-based recommendation

Recommendation 5	Grade and reference
The background risk of uterine perforation at the time of insertion is low (1.4 per 1000 insertions) but recent evidence highlighted that women who are breast feeding, regardless of the interval from delivery, have six times the risk of uterine perforation compared to non-breastfeeding women. Although the absolute risk remains low, women should be counselled about this potential complication.	Evidence-based recommendation

4.4 What are the management considerations of IUC use where infection (eg. PID or Actinomyces) is suspected?

The most common infections that occur in women using IUCs are Chlamydia and gonorrhoea.
If PID is diagnosed treatment should follow recommended regimes and be based on local epidemiology and organism sensitivities. The decision to remove the IUC needs to be balanced against the risk of pregnancy. Removal may improve short term outcomes and should be considered if there is no clinical response within 72 hours of commencing treatment, or if the woman requests removal.

Pap smears in asymptomatic women reveal Actinomyces-like organisms (ALOs)[7] in approximately 7 per cent of IUC users. It is important to be aware that some ALOs reported in Pap smears are not Actinomyces or are Actinomyces species which do not commonly cause sepsis. Furthermore, the presence of ALOs in a Pap smear does not correlate well with culture for Actinomyces nor with the risk of subsequent PID, which is <1/1000 in these cases. The presence of ALOs in the Pap smear of a woman who is asymptomatic is not an indication for removal of the IUC.

If pelvic pain is present with ALOs identified on a Pap smear consider other infective causes, particularly STIs, and also undertake a formal culture of Actinomyces. Identification of Actinomyces israelii on culture, or direct immuno-fluorescence if available, requires removal of an IUC. If the woman remains symptomatic, prolongedanti-microbial treatment should be used in consultation with a clinical microbiologist or infectious diseases physician; surgery may need to be considered to drain any associated collections.

Recommendation 6	Grade and reference
If PID is diagnosed treatment should follow recommended regimes and be based on local epidemiology and organism sensitivities. The decision to remove the IUC needs to be balanced against the risk of pregnancy. Removal may improve short term outcomes and should be considered if there is no clinical response within 72 hours of commencing treatment or if the woman requests removal. If the patient is confirmed to have actinomyces, and is symptomatic, prolonged anti-microbial treatment should be used in consultation with a clinical microbiologist or infectious diseases physician; surgery may need to be considered to drain any associated collections.	Consensus-based recommendations 5

4.5 How should pregnancy with an IUC *in situ* be managed?

If pregnancy is diagnosed with an IUC *in situ*, ectopic pregnancy should be excluded and if possible, the device should be removed because of the risk of serious complications. These complications include a 50 per cent incidence of spontaneous miscarriage and an increased incidence of placental problems such as antepartum haemorrhage, threatened premature labour and adherent placenta.

Recommendation 7	Grade and reference
If pregnancy is diagnosed with an IUC in situ, ectopic pregnancy should be excluded and, if possible, the device should be removed because of the risk of serious complications.	Consensus-based recommendation

5. References

1. ACOG Practice Bulletin No. 59. Intrauterine Device. Obstetrics and Gynaecology 2005; 105 (1): 223-32.
2. Faculty of Sexual &Reproductive Healthcare Clinical Guidance Intrauterine contraceptive device CEU April 2015. Available at: https://www.fsrh.org/standards-and-guidance/documents/ceuguidanceintrauterinecontraception/
3. World Health Organisation (WHO) Medical Eligibility Criteria for contraceptive use. Geneva Switzerland: WHO, 3rd edn 2004.
4. National Institute for Health and Clinical Guidance (NICE) 2005. Long acting reversible contraception: the effective and appropriate use of long acting reversible contraception.
5. IUC National Standards 2012. Sexual Health and Family Planning Australia (SHFPA); Royal Australian College of General Practitioners (RACGP); Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG). Available at: http://www.shfpa.org.au/images/stories/reports/IUC_national_standards_final_27sep12.pdf
6. International Planned Parenthood Federation (IPPF). Medical and service delivery guidelines for Sexual and Reproductive Health 3rd edn 2004. Available at: http://www.ippf.org/
7. Westhoff C. IUDs and colonization or infection with Actinomyces. Contraception. 2007;75(6 Suppl):S48-50.Morrison CS. Use of STD risk assessment algorithms for selection of IUC users. Contraception 1999:59:97-106.
8. Heinemann K, Reed S, Moehner S, Minh TD. Risk of uterine perforation with levonorgestrel-releasing and copper intrauterine devices in the European Active Surveillance Study on Intrauterine Devices. Contraception. 2015 Apr;91(4):274-9.

6. Other suggested reading

Family Planning New South Wales, Family Planning Victoria and True Relationships and Reproductive Health. Contraception: An Australian Clinical Practice Handbook, 4th edition. Family Planning New South Wales, Family Planning Victoria and True Relationships and Reproductive Health 2016 Available at: https://shop.fpnsw.org.au/contraception-an-australian-clinical-practice-handbook-4th-edition-hardcopy

Farley TMM, Rowe PJ, Rosenberg MJ, Chen J-H, O M. Intrauterine devices and pelvic inflammatory disease: an international perspective. Lancet 1992; 339: 785-788.

UK Medical eligibility criteria for contraceptive use
http://www.fsrh.org/pdfs/UKMEC2009.pdf

7. Links to other College statements

Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)

8. Patient information

A range of RANZCOG Patient Information Pamphlets can be ordered via:

https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Guides/Patient-Information-Pamphlets

Appendix A Women's Health Committee Membership

Name	Position on Committee
Professor Yee Leung	Chair
Dr Joseph Sgroi	Deputy Chair, Gynaecology
Associate Professor Janet Vaughan	Deputy Chair, Obstetrics
Associate Professor Ian Pettigrew	EAC Representative
Dr Tal Jacobson	Member
Dr Ian Page	Member
Dr John Regan	Member
Dr Craig Skidmore	Member
Associate Professor Lisa Hui	Member
Dr Bernadette White	Member
Dr Scott White	Member
Associate Professor Kirsten Black	Member
Dr Greg Fox	College Medical Officer
Dr Marilyn Clarke	Chair of the ATSI WHC
Dr Martin Byrne	GPOAC Representative
Ms Catherine Whitby	Community Representative
Ms Sherryn Elworthy	Midwifery Representative
Dr Amelia Ryan	Trainee Representative

Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in July 1991 and was most recently reviewed in July 2017. The Women's Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the July 2017 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix B part iii)

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women's Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women's Health Committee members were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.

Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

iii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines (2009). Where no robust evidence was available but there was sufficient consensus within the Women's Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

Recommendation category		Description
Evidence-based	A	Body of evidence can be trusted to guide practice
	B	Body of evidence can be trusted to guide practice in most situations
	C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
	D	The body of evidence is weak and the recommendation must be applied with caution
Consensus-based		Recommendation based on clinical opinion and expertise as insufficient evidence available
Good Practice Note		Practical advice and information based on clinical opinion and expertise

Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.