



Statement from
Sexual Health and Family Planning Australia (SH&FPA)



Endorsed by PHAA

TIME FOR A CHANGE: INCREASING THE USE OF LONG ACTING REVERSIBLE CONTRACEPTIVE METHODS IN AUSTRALIA

Introduction

All women seeking contraception should be given accurate evidence-based information on the safety, efficacy, advantages and disadvantages of all methods and assisted to make a choice based on their personal needs, preferences and medical suitability. Long acting reversible contraceptives (LARCs) are those methods that require administration less than once per month.¹

The LARC methods available in Australia are the depot medroxyprogesterone acetate (DMPA) injection, the etonogestrel contraceptive implant, the levonorgestrel (LNG) intrauterine device (IUD) and the copper IUD. In both the UK¹ and the USA² there are national recommendations on increasing LARC use to decrease unintended pregnancies and abortions. Despite international evidence, which strongly suggests that the use of LARCs reduces unintended pregnancy,^{3,4} their use in Australia remains low.^{5,6} There is a need to address the barriers to increasing the use of LARCs in Australia, particularly by young women who are highly fertile and have higher rates of unintended pregnancy and abortion.

Use of LARCs in Australia

Although there is no reliable routinely collected data on contraception use in Australia, available surveys and analysis of PBS and MBS data indicate that, while LARC method use is slowly increasing, uptake remains low in comparison to many other developed countries.

Use of oral contraception and sterilisation are higher than in other developed countries.⁷ Recent survey data⁸ suggests that implant, injectable and IUD methods combined are still used by fewer than 10% of Australian women^{6,8} and that their provision in general practice is low. Only 15% of contraceptive consultations in general practice in 2011 involved a LARC method, compared with 69% for the combined oral contraceptive (COC).⁵

Benefits and efficacy of LARCs

Top-tier LARC methods, implants and IUDs, share the characteristic of requiring a single act for long-term use. According to the World Health Organization's evidence-based Medical Eligibility Criteria (MEC) for contraceptive use, LARC methods have few contraindications, and the majority of women are eligible for implants and IUDs.⁹

Despite potential higher up-front costs and the need for clinic visits for insertion and removal, implants and IUDs share the following advantages over other methods:

- Are independent from coitus and user motivation and adherence
- Have the highest effectiveness and continuation rates⁴
- Do not require frequent visits for resupply
- Require no ongoing costs
- Are highly cost-effective¹
- Are reversible, with a rapid return to fertility after removal¹⁰⁻¹²

LARC methods may have additional benefits beyond their fit and forget accessibility, top tier efficacy and high continuation rates. Use of the etonogestrel implant is associated with reductions in dysmenorrhea and pelvic pain^{13,14} and an increase in haemoglobin levels, most likely due to high levels of infrequent bleeding or amenorrhoea.¹⁵ Use of the LNG-IUD is associated with a 71-96% reduction of menstrual bleeding¹⁶, an increase in haemoglobin¹⁷ and a reduction of menstrual pain¹⁸ including in those with endometriosis¹⁹⁻²¹. The copper IUD has the advantage of having no contraindications related to hormone use,²² being immediately effective and being a highly effective method of emergency contraception.²³ A high rate of amenorrhoea²⁴ with use of DMPA (compared to progestogen implants) may be seen as desirable and its use is totally undetectable by others.

Misconceptions

There are many misconceptions about LARC use that are addressed by reviewing the evidence:

- Other than a small increase after the insertion procedure, IUDs do not increase the risk of pelvic infection and can be used by young women, including teenagers²⁵⁻²⁷
- IUDs do not increase infertility²⁸
- IUDs can be inserted without technical difficulty in most nulliparous women including young women and nulliparity is not a contraindication to their use^{28, 29}
- Immediate post-partum, including post-caesarean, and post-abortion insertion of IUDs is safe and effective³⁰⁻³²
- There is no evidence linking weight gain to the use of implants^{33, 34}
- While frequent and/or prolonged bleeding occurs in a proportion of implant users and is a common reason for discontinuation, more women experience infrequent or no bleeding and continuation rates at one year are high³³
- While DMPA injections are not a first line method for those under 18 years²² due to potential concerns about long term bone density, they can be safely used when other methods are not suitable^{35, 36}
- Consideration of the risk of established pregnancy or possible conception is essential before commencing long acting methods but there is no additional benefit to timing insertion with menstruation^{37, 38}
- There is no evidence supporting previously held views that IUD insertion during menses makes the insertion procedure less difficult for the woman or inserter nor that subsequent bleeding patterns are improved by insertion during menses³⁹
- Young people, deemed to be competent to consent to medical treatment, can consent to insertion and removal of LARCs without legal ramifications⁴⁰

Current evidence demonstrates the safety of modern IUDs. A retrospective analysis of case record data from more than 90,000 women who had an IUD inserted showed that less than 1% overall experienced a significant complication and the continuation rate at 12 months was greater than 85%. There was no difference in the rate of complication between teenagers and women aged 25-44 years.⁴¹ The CHOICE study, a three year prospective cohort, which provided free contraception to nearly 10,000 American women at risk of unplanned pregnancy, showed an over 80% and 75% continuation rate at 12 months for the LNG and copper IUD respectively, with around 75% of users being very satisfied or somewhat satisfied with their method.⁴²

LARCs and unintended pregnancy

Because increased use has the potential to reduce unintended pregnancy and abortion rates, LARC methods can be offered as a first-line contraceptive option and encouraged for all Australian women, particularly young women who are highly fertile and have high rates of unintended pregnancy and abortion.⁴³

Unintended pregnancy and abortion among young Australian women is a significant public health issue. South Australia and Western Australia surveillance data indicates that the proportion of abortions (induced abortion as a proportion of induced abortions and live births) is 20-22% across all age groups. The abortion rate is highest in those 20-24 years of age, at 21.4 per 1000 women. The proportion of total pregnancies ending in abortion is highest in younger age groups with more than half of teenage pregnancies ending in abortion. In South Australia in 2010 and Western Australia in 2009 respectively the percentage of pregnancies ending in abortion was 87%/79% for those under 15 years, 52%/52% for 15-19 year olds and 33%/35% for 20-24 year olds.⁸

The CHOICE study showed that 67% of women who were aware of LARC methods chose to use them and their subsequent risk of unintended pregnancy within three years was reduced more than 20-fold compared with those who used other methods.⁴ An Australian prospective study^{44, 45} confirms international studies that have consistently shown that teenagers who have given birth and choose an implant have a lower rate of rapid repeat pregnancy at one year^{46, 47} and two years^{44, 47} and higher continuation rates compared to those who choose COC. Similar results have been shown for DMPA with a reduction of repeat pregnancies and a higher continuation rate compared to the COC.⁴⁸ Women who use a LARC method after an induced abortion are also less likely to have a repeat abortion.⁴⁹⁻⁵¹

Barriers to LARC use

Barriers to the use of LARC methods include:⁵²⁻⁵⁴

- a lack of familiarity with, or misperceptions about, the methods
- high upfront costs
- lack of access to insertion services
- health care providers' concerns about the safety of IUD use, especially in nulliparous younger women and teenagers⁵⁵
- patient barriers, including a general lack of awareness of LARC methods and information about their safety and effectiveness

Cost may present a specific barrier to LARC method use for some Australian women. While implants and LNG IUDs are PBS subsidised, insertion procedure fees may be high and up-front out of pocket costs may be unaffordable unless available through public health services or at discounted rates. The uptake of initially less

expensive methods such as oral contraceptives is higher in Australia.^{5, 56} However, both the implant and IUDs are highly cost-effective even with relatively short-term (12-24 months) use.⁵⁷⁻⁵⁹

Although health care providers generally have favourable attitudes about IUDs, they may use overly restrictive criteria to identify candidates.⁵² An Australian survey of women presenting for IUD insertion found that 18% had been told by either a health professional or a friend or family member (or both) that it was not a suitable method for them, despite these women meeting appropriate MEC.⁶⁰ A global review of the opinions of health care practitioners on insertion of IUDs in nulliparous women showed a low level of certainty around the correct MEC, and a high level of concern about increased risks of pelvic inflammatory disease and infertility.⁵⁵ While the review of barriers preventing more widespread use of IUDs among nulliparous women identified health care provider, health system and user barriers, the beliefs of health care providers were found to have the most profound effect on uptake of these methods.⁶¹

Lack of training and experience with IUDs and implants may contribute to health provider reluctance to recommend these methods. Implant insertion is well within the scope of all general practitioners (GPs) and increasing numbers of nurses are now being trained in their insertion.

In Australia, IUDs are inserted by gynaecologists, some GPs, specialised clinics (including family planning clinics and some other reproductive and sexual health services) and small numbers of nurse practitioners and women's health nurses. Although medical indemnity provider requirements vary, most insurers do not require additional premiums for GPs inserting IUDs. GPs are responsible for ensuring that they are appropriately trained and maintain their clinical competence. Where insertion difficulties are predicted or encountered, referral to specialists or clinics with facilities for sedation or general anaesthesia is advised.

Recommendations

To reduce the rate of unintended pregnancy and abortion, particularly amongst young women, a comprehensive approach is needed including actions that increase the uptake of top tier long acting reversible contraceptive methods in Australia. The following recommendations provide a framework for action.

Health system:

- Development of a systematic national approach to increase LARC use in Australia, particularly among young women where uptake is currently low. This should include an assessment of cost effectiveness, taking into account the reduction in the rates of unintended pregnancy and abortion

- Development of documented local referral pathways for women of all ages and in all areas to access LARCs, particularly IUDs
- The role of nursing professionals in implant and IUD insertion be supported
- Incentives to improve GP participation in the provision of LARCs—including higher MBS rebates for implant and IUD insertion
- Subsidisation of the cost of Copper IUDs, in line with the PBS for LNG IUDs and implants
- Health promotion strategies to raise awareness of benefits and safety of LARCs
- Medicare and private insurance rebate for IUD insertion under sedation and general anaesthesia

Research:

- Systematic data collection of abortion and contraception usage at a population level in Australia to evaluate and monitor the cost effectiveness of increasing LARC use
- Research into the barriers and enablers of LARC use in the Australian context to inform programs for health professional and community education

Health service providers:

- Family Planning providers (FPPs), GPs, obstetricians and gynaecologists (O&Gs) and other health providers to routinely include a discussion of the benefits of LARCs with all women requiring contraception including those commencing or renewing pill or vaginal ring scripts
- FPPs, GPs, O&Gs and other health providers to provide the option for immediate initiation of IUDs and implants where appropriate
- GPs, obstetricians and midwives to include discussion of the benefits of LARCs with pregnant and post-partum women and, where appropriate, provide the option of immediate post-partum initiation of a suitable LARC
- Abortion providers to include discussion of the benefits of LARCs with women presenting for abortion and provide services for immediate initiation of LARC methods where appropriate

Health Professional and Community education:

- Health professional training and continuing education programs to address common misconceptions and include contemporary evidence on the safety and benefits of LARCs, particularly for young women including teenagers
- GPs who have the required level of skill and experience to have access to supervised clinical training options in the insertion of IUDs including a competency assessment

References

1. Long-acting reversible contraception: the effective and appropriate use of long-acting reversible contraception. National Collaborating Centre for Women's and Children's Health. Issued: October 2005 last modified: April 2013
2. Committee on Comparative Effectiveness Research Prioritization, Institute of Medicine. Initial national priorities for comparative effectiveness research. Washington, DC: National Academies Press, 2009. http://www.nap.edu/catalog.php?record_id=12648 (accessed Jun 2013).
3. Baldwin MK, Edelman AB. The effect of long-acting reversible contraception on rapid repeat pregnancy in adolescents: a review. *The Journal of adolescent health* : official publication of the Society for Adolescent Medicine. 2013 Apr;52(4 Suppl):S47-53.
4. Winner B, Peipert JF, Zhao Q, Buckel C, Madden T, Allsworth JE, et al. Effectiveness of long-acting reversible contraception. *The New England journal of medicine*. 2012 May 24;366(21):1998-2007.
5. Mazza D, Harrison C, Taft A, Brijnath B, Britt H, Hobbs M, et al. Current contraceptive management in Australian general practice: an analysis of BEACH data. *The Medical journal of Australia*. 2012 Jul 16;197(2):110-4.
6. Gray E, McDonald P. Using a reproductive life course approach to understand contraceptive method use in Australia. *J Biosoc Sci*. 2010 Jan;42(1):43-57.
7. Reproductive and sexual health in Australia. Ashfield, Sydney: Family Planning NSW. 2011.
8. Reproductive and sexual health in Australia. Ashfield, Sydney: Family Planning NSW. 2013 inpress
9. Medical Eligibility Criteria for Contraceptive Use, 4th edition. World Health Organisation, 2010
10. Bennink HJ. The pharmacokinetics and pharmacodynamics of Implanon, a single-rod etonogestrel contraceptive implant. *Eur J Contracept Reprod Health Care*. 2000 Sep;5 Suppl 2:12-20.
11. Andersson K, Batar I, Rybo G. Return to fertility after removal of a levonorgestrel-releasing intrauterine device and Nova-T. *Contraception*. 1992 Dec;46(6):575-84.
12. Hov GG, Skjeldestad FE, Hilstad T. Use of IUD and subsequent fertility--follow-up after participation in a randomized clinical trial. *Contraception*. 2007 Feb;75(2):88-92.
13. Shokeir T, Amr M, Abdelshaheed M. The efficacy of Implanon for the treatment of chronic pelvic pain associated with pelvic congestion: 1-year randomized controlled pilot study. *Arch Gynecol Obstet*. 2009 Sep;280(3):437-43.
14. Walch K, Unfrid G, Huber J, Kurz C, van Trotsenburg M, Pernicka E, et al. Implanon versus medroxyprogesterone acetate: effects on pain scores in patients with symptomatic endometriosis--a pilot study. *Contraception*. 2009 Jan;79(1):29-34.
15. Dilbaz B, Ozdegirmenci O, Caliskan E, Dilbaz S, Haberal A. Effect of etonogestrel implant on serum lipids, liver function tests and hemoglobin levels. *Contraception*. 2010 Jun;81(6):510-4.
16. Stewart A, Cummins C, Gold L, Jordan R, Phillips W. The effectiveness of the levonorgestrel-releasing intrauterine system in menorrhagia: a systematic review. *BJOG*. 2001 Jan;108(1):74-86.
17. Xiao B, Wu SC, Chong J, Zeng T, Han LH, Luukkainen T. Therapeutic effects of the levonorgestrel-releasing intrauterine system in the treatment of idiopathic menorrhagia. *Fertility and sterility*. 2003 Apr;79(4):963-9.
18. Lindh I, Milsom I. The influence of intrauterine contraception on the prevalence and severity of dysmenorrhea: a longitudinal population study. *Human Reproduction*. 2013 April 11, 2013.
19. Bahamondes L, Petta CA, Fernandes A, Monteiro I. Use of the levonorgestrel-releasing intrauterine system in women with endometriosis, chronic pelvic pain and dysmenorrhea. *Contraception*. 2007 Jun;75(6 Suppl):S134-9.
20. Fedele L, Bianchi S, Zanconato G, Portuese A, Raffaelli R. Use of a levonorgestrel-releasing intrauterine device in the treatment of rectovaginal endometriosis. *Fertility and sterility*. 2001 Mar;75(3):485-8.
21. Wong AY, Tang LC, Chin RK. Levonorgestrel-releasing intrauterine system (Mirena) and Depot medroxyprogesterone acetate (Depoprovera) as long-term maintenance therapy for patients with moderate and severe endometriosis: a randomised controlled trial. *Aust N Z J Obstet Gynaecol*. 2010 Jun;50(3):273-9.
22. UK Medical Eligibility Criteria for Contraceptive Use . Faculty of Sexual & Reproductive Healthcare, 2009
23. Cleland K, Zhu H, Goldstuck N, Cheng L, Trussell J. The efficacy of intrauterine devices for emergency contraception: a systematic review of 35 years of experience. *Human reproduction*. 2012 May 8;27(7):1994-2000.
24. Said S, Oman K, Koetsawang S, Kiriwat O, Srisatayapan Y, Kazi A, et al. A multicentered phase III comparative clinical trial of depot-medroxyprogesterone acetate given three-monthly at doses of 100 mg or 150 mg: II. The comparison of bleeding patterns. World Health Organization. Task Force on Long-Acting Systemic Agents for Fertility Regulation Special Programme of Research, Development and Research Training in Human Reproduction. *Contraception*. 1987 Jun;35(6):591-610.
25. Farley TM, Rosenberg MJ, Rowe PJ, Chen JH, Meirik O. Intrauterine devices and pelvic inflammatory disease: an international perspective. *Lancet*. 1992 Mar 28;339(8796):785-8.
26. Grimes DA. Intrauterine device and upper-genital-tract infection. *Lancet*. 2000 Sep 16;356(9234):1013-9.
27. Mohlajee AP, Curtis KM, Martins SL, Peterson HB. Hormonal contraceptive use and risk of sexually transmitted infections: a systematic review. *Contraception*. 2006 Feb;73(2):154-65.
28. Andersson K, Odilind V, Rybo G. Levonorgestrel-releasing and copper-releasing (Nova T) IUDs during five years of use: a randomized comparative trial. *Contraception*. 1994;49(1):56-72.
29. Harvey C, Bateson D, Wattimena J, Black KI. Ease of intrauterine contraceptive device insertion in family planning settings. *The Australian & New Zealand journal of obstetrics & gynaecology*. 2012 Dec;52(6):534-9.
30. Mwalwanda CS, Black KI. Immediate post-partum initiation of intrauterine contraception and implants: A review of the safety and guidelines for use. *Aust N Z J Obstet Gynaecol*. 2013 Aug;53(4):331-7.
31. Grimes DA, Lopez LM, Schulz KF, Van Vliet HA, Stanwood NL. Immediate post-partum insertion of intrauterine devices. *Cochrane Database Syst Rev*. 2010(5):CD003036.
32. Levi E, Cantillo E, Ades V, Banks E, Murthy A. Immediate postplacental IUD insertion at cesarean delivery: a prospective cohort study. *Contraception*. 2012 Aug;86(2):102-5.
33. Darney P, Patel A, Rosen K, Shapiro LS, Kaunitz AM. Safety and efficacy of a single-rod etonogestrel implant (Implanon): results from 11 international clinical trials. *Fertility and sterility*. 2009 May;91(5):1646-53.
34. Vickery Z, Madden T, Zhao Q, Secura GM, Allsworth JE, Peipert JF. Weight change at 12 months in users of three progestin-only contraceptive methods. *Contraception*. 2013(0).
35. Clark MK, Sowers M, Levy B, Nichols S. Bone mineral density loss and recovery during 48 months in first-time users of depot medroxyprogesterone acetate. *Fertility and sterility*. 2006 Nov;86(5):1466-74.
36. Clark MK, Sowers MR, Nichols S, Levy B. Bone mineral density changes over two years in first-time users of depot medroxyprogesterone acetate. *Fertility and sterility*. 2004 Dec;82(6):1580-6.
37. Bateson D, Harvey C, McNamee K. Contraception: an Australian clinical practice handbook. 3rd ed. Brisbane2012.
38. Quick Starting Contraception, Faculty of Sexual and Reproductive Healthcare, Clinical Effectiveness Unit 2010 .
39. Whiteman MK, Tyler CP, Folger SG, Gaffield ME, Curtis KM. When can a woman have an intrauterine device inserted? A systematic review. *Contraception*. 2013 May;87(5):666-73.
40. Kang M, Sanders J. Medicolegal Issues in Adolescent Health Care. In Kang M, Skinner SR, Sanci L, Sawyer S, Eds. *Youth Health and Adolescent Medicine*. IP Communications, Melbourne, Australia, 2013.
41. Berenson A, Tan A, Hirth JM, Wilkinson GS. Complications and Continuation of Intrauterine Device Use Among Commercially Insured Teenagers. *Obstetrics & Gynecology*. 2013;121(5):951-8.
42. Rosenstock JR, Peipert JF, Madden T, Zhao Q, Secura GM. Continuation of reversible contraception in teenagers and young women. *Obstetrics and gynecology*. 2012 Dec;120(6):1298-305.
43. Chan A, Sage LC. Estimating Australia's abortion rates 1985-2003. *Med J Aust*. 2005 May 2;182(9):447-52.
44. Lewis LN, Doherty DA, Hickey M, Skinner SR. Predictors of sexual intercourse and rapid-repeat pregnancy among teenage mothers: an Australian prospective longitudinal study. *Med J Aust*. 2010 Sep 20;193(6):338-42.
45. Lewis LN, Doherty DA, Hickey M, Skinner SR. Implanon as a contraceptive choice for teenage mothers: a comparison of contraceptive choices, acceptability and repeat pregnancy. *Contraception*. 2010 May;81(5):421-6.
46. Tocce KM, Sheeder JL, Teal SB. Rapid repeat pregnancy in adolescents: do immediate postpartum contraceptive implants make a difference? *Am J Obstet Gynecol*. 2012 Jun;206(6):481 e1-7.
47. Stevens-Simon C, Kelly L, Singer D. Preventing repeat adolescent pregnancies with early adoption of the contraceptive implant. *Fam Plann Perspect*. 1999;31(2):88-93.
48. Templeman CL, Cook V, Goldsmith LJ, Powell J, Hertweck SP. Postpartum contraceptive use among adolescent mothers. *Obstet Gynecol*. 2000;95(5):770-6.
49. Cameron ST, Glasier A, Chen ZE, Johnstone A, Dunlop C, Heller R. Effect of contraception provided at termination of pregnancy and incidence of subsequent termination of pregnancy. *BJOG*. 2012 Aug;119(9):1074-80.
50. Goodman S, Hendlish SK, Benedict C, Reeves MF, Pera-Floyd M, Foster-Rosas A. Increasing intrauterine contraception use by reducing barriers to post-abortal and interval insertion. *Contraception*. 2008 Aug;78(2):136-42.
51. Heikinheimo O, Gissler M, Suhonen S. Age, parity, history of abortion and contraceptive choices affect the risk of repeat abortion. *Contraception*. 2008 Aug;78(2):149-54.
52. Harper CC, Blum M, de Bocanegra HT, Darney PD, Speidel JJ, Policar M, et al. Challenges in translating evidence to practice: the provision of intrauterine contraception. *Obstet Gynecol*. 2008 Jun;111(6):1359-69.
53. Spies EL, Askelson NM, Gelman E, Losch M. Young women's knowledge, attitudes, and behaviors related to long-acting reversible contraceptives. Women's health issues : official publication of the Jacobs Institute of Women's Health. 2010 Nov-Dec;20(6):394-9.
54. Fleming KL, Sokoloff A, Raine TR. Attitudes and beliefs about the intrauterine device among teenagers and young women. *Contraception*. 2010 Aug;82(2):178-82.
55. Black KI, Lotke P, Lira J, Peers T, Zite NB. Global survey of healthcare practitioners' beliefs and practices around intrauterine contraceptive method use in nulliparous women. *Contraception*. 2013 Jun 13.
56. Richters J, Grulich AE, de Visser RO, Smith AM, Rissel CE. Sex in Australia: contraceptive practices among a representative sample of women. *Aust N Z J Public Health*. 2003;27(2):210-6.
57. Trussell J, Lalla AM, Doan QV, Reyes E, Pinto L, Gricar J. Cost effectiveness of contraceptives in the United States. *Contraception*. 2009 Jan;79(1):5-14.
58. Foster DG, Rostovtseva DP, Brindis CD, Biggs MA, Hulett D, Darney PD. Cost savings from the provision of specific methods of contraception in a publicly funded program. *Am J Public Health*. 2009 Mar;99(3):446-51.
59. Chiou CF, Trussell J, Reyes E, Knight K, Wallace J, Udan J, et al. Economic analysis of contraceptives for women. *Contraception*. 2003 Jul;68(1):3-10.
60. Bateson D, Harvey C, Williams J, Black KI. Intrauterine contraception: why are so few Australian women using this effective method? *Med J Aust*. 2011 Mar 21;194(6):324.
61. Black K, Lotke P, Buhling KJ, Zite NB. Intrauterine contraception for Nulliparous women: Translating Research into Action g. A review of barriers and myths preventing the more widespread use of intrauterine contraception in nulliparous women. *Eur J Contracept Reprod Health Care*. 2012 Oct;17(5):340-50.

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