

**Academy of Breastfeeding Medicine
Annotated Bibliography:
CONTRACEPTION DURING BREASTFEEDING**

Progestin-only Methods

Reference	Content	Level of Evidence*
Perheentupa A, Critchley HO, Illingworth PJ, McNeilly AS. Effect of progestin-only pill on pituitary-ovarian axis activity during lactation. Contraception , 2003 Jun;67(6):467-71.	Twenty-one women using barrier methods of contraception and 9 using progestin-only pill (POP) were followed from 6 to 18 weeks postpartum. The authors conclude that POP is a good and safe option for hormonal contraception during lactation. The number of breastfeeds per day decreased over time in both groups, but significantly more in the POP group.	II-2
Visness CM, Rivera R. Progestin-only pill use and pill switching during breastfeeding. Contraception , 1995 May;51(5):279-81.	This is a gathering of opinions by 20 experts in reproductive endocrinology and family planning. The consensus of these experts is that POPs can be used throughout the period of lactation if their start is delayed until 6 weeks postpartum. If women want to switch to combined oral contraceptives, it would be acceptable to do so after 6 months postpartum.	III
Kennedy KI, Short RV, Tully MR. Premature introduction of progestin-only contraceptive methods during lactation Contraception , 1997 Jun;55(6):347-50.	This is a review of expert opinions regarding the timing of the introduction of POPs in lactation. There are few studies which give information on the effect of POPs prior to 6 weeks. A rationale is provided for delaying hormonal contraception so as not to interfere with the body's capacity for lactogenesis.	III
World Health Organization, Task Force for Epidemiological Research on Reproductive Health; Special Programme of Research, Development and Research Training in Human Reproduction. Progestagen-only contraceptives during lactation: I. Infant Growth. Contraception , 1994; 50:35-53.	Two thousand four hundred sixty-six mother-infant pairs were studied in 5 countries. No consistent or untoward effect on infants' growth whose mothers used progestagen contraception.	I
World Health Organization, Task Force for Epidemiological Research on Reproductive Health; Special Programme of Research, Development and Research Training in Human Reproduction. Progestagen-only contraceptives during lactation: II. Infant Development. Contraception . 1994; 50:55-68.	Two thousand four hundred sixty-six mother-infant pairs were studied in 5 countries. No consistent or untoward effect on infants whose mothers used progestagen contraception.	I

Estrogen-containing Contraceptives

Tankeyoon M, Dusitsin N, et al. Contraception. Effects of hormonal contraceptives on milk volume and infant growth. WHO Special Programme of Research, Development and Research Training in Human Reproduction Task force on oral contraceptives. Contraception , 1984 Dec;30(6):505-22.	A double-blind three-center study conducted in Hungary and Thailand. Women were randomly assigned to combined oral contraceptive and progestin-only groups, with women using no contraceptives or barrier methods as controls. After 18 weeks, COC users experienced a 41.9% decline in breastmilk volume, compared with 12% in the POP group, and 6.1% in the non-hormonal controls.	I
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Effects of hormonal contraceptives on breast milk composition and infant growth. World Health Organization (WHO) Task Force on Oral Contraceptives. Stud Fam Plann. 1988 Nov-Dec;19(6 Pt 1):361-9.	A multicenter randomized double-blind trial comparing a low-dose combined oral contraceptive (OC) with a progestogen-only OC. A significant decrease in milk output and total energy content as well as widespread changes in milk constituents was seen when combined OCs were used.	I
Glazier A, Brechin S, Raine R, Penney G. A consensus process to adapt the World Health Organization selected practice recommendations for UK. Contraception. 2003 Nov;68(5):327-33.	Eleven opinion leaders were asked to review these recommendations in the United Kingdom. It was left to physicians to decide on their own when to recommend the start of low-dose contraception in breastfeeding women.	III
Illingworth PJ, Seaton JEV, et al. Low dose transdermal oestradiol suppresses gonadotropin secretion in breast-feeding women. Hum Reprod. 1995 Jul;10(7):1671-7.	Small doses of oestradiol caused a significant fall in gonadotropin concentration in 13 fully breastfeeding women at 12 weeks postpartum. This is effective in inhibiting ovulation. None of the women experienced a reduction in milk supply, but more study is required to verify that maintenance of milk supply would be long lasting under this regimen.	II-2

Intrauterine Devices

Zhang LY, Liu YR, et al Breastfeeding, amenorrhea and contraceptive practice among postpartum women in Zibo, China. Eur J Contracept Reprod Health Care. 2002 Sep;7(3):121-6.	Longitudinal study over one year looking at patterns of contraceptive use in breastfeeding women. Information gathered by interviews. Most women in this group switched to the IUD after three months.	II-3
Breastfeeding women are good IUD candidates. Network. 1991 Sep;12(2):5	Based on analysis of Family Health International's IUD data set, the IUD has no effect on breastmilk, IUD insertion is less painful, and there is no apparent increase in perforation risk.	II-3
Bassol S, Nava-Hernandez MP et al. Effects of levonorgestrel implant upon TSH and LH levels in male infants during lactation. Int J Gynaecol Obstet. 2002 Mar;76(3):273-7.	Women randomized to two study groups – IUD users and Norplant users. Blood and milk samples were collected at insertion and 3 and 6 months later. A relationship was found between LNG and infants' TSH levels.	II-3
Jakobsen MS, Sodemann M et al. Promoting breastfeeding through health education at the time of immunizations: a randomized trial from Guinea Bissau. Acta Paediatr. 1999 Jul;88(7):741-7.	Randomized study of 1250 children. Mothers in the intervention group were educated on exclusive breastfeeding, prolonged breastfeeding, and family planning. Time of weaning was not affected, but more intervention mothers had an IUD inserted.	I

Chen JH, Wu SC et al. The comparative trial of TCu-380A IUD and progesterone-releasing vaginal ring use by lactating women. Contraception. 1998 Jun;57(6):371-9.	Ninety-seven breastfeeding women using an IUD were compared with 100 breastfeeding women using vaginal ring. There was a high rate of discontinuance by the vaginal ring group, but the vaginal ring suppressed ovarian function longer. Both methods were effective.	II-1
Andersson K, Ryde-Blomqvist E et al. Perforations with intrauterine devices. Report from a Swedish survey. Contraception. 1998 Apr;57(4):251-5.	Survey of 50 consecutive perforations with the IUD. Fifty-four per cent of patients were breastfeeding, making them appear to be an at-risk group.	II-3
Chi IC, Wilkens LR, et al. Insertional pain and other IUD insertion-related rare events for breastfeeding and non-breastfeeding women—a decade's experience in developing countries. Adv Contracept. 1989 Jun;5(2):101-19.	A total of 6493 women enrolled in multicenter IUD clinical trials over 10 years. Pain protection effect most evident in breastfeeding women in lactational amenorrhea.	II-3
Rodrigues da Cunha AC, Dorea JG, Catuaria AA. Intrauterine device and maternal copper metabolism during lactation. Contraception. 63(2001) 37-39.	Copper metabolism studied in 95 volunteers divided into 3 groups – users of 2 types of copper IUD and no IUD use (controls). Milk concentrations were independent of endometrial concentrations and were similar in all three groups.	I
Forste R. Effects of lactation and contraceptive use on birth-spacing in Bolivia. Soc Biol. 1995 Spring-Summer;42(1-2):108-23.	Based on the 1989 Demographic and Health Survey of Bolivia demonstrated that breastfeeding significantly lengthened the birth interval in second and higher parity births. The IUD had the greatest effect on the likelihood of next birth. Controls were included for demographic, family background, and community environmental factors.	II-3
Hatcher RA et al. Contraceptive Technology , 18 th ed. 2004, Contraceptive Technology Communications, Inc., Ardent Media, Inc., New York, Chap 21 Intrauterine Devices pp495-530.	Broad discussion of the IUD, including advantages, disadvantages, complications, and comparisons with types available in US. Also gives detailed information on insertion techniques.	III

General and Comparative Information

Koetsawang S. The effects of contraceptive methods on the quality and quantity of breast milk. Int J Gynaecol Obstet 1987; 25 Suppl:115-27.	A review of several studies covering the effect of several contraceptives under several different conditions on breastmilk.	III
Kennedy KI. Efficacy and effectiveness of LAM. Adv Exp Med Biol. 2002; 503:207-16.	Review of two major non-randomized protocols on the use of LAM suggesting it is highly effective.	III
Shaaban MM. Contraception with progestogens and progesterone during lactation. J Steroid Biochem Mol Biol. 1991;40(4-6):705-10.	Two groups of 120 nursing women 5-7 weeks postpartum were assigned to either Norplant contraceptive or the injectable norethisterone enanthate, and compared with a similar group using the IUD. Breastfeeding performance and acquisition of infant milestones was not affected.	II-2

RESEARCH NEEDS:

Areas needing further research: The studies which have some validity regarding the effect of estrogen on the quantity of breast milk are older studies which undoubtedly included women taking 35 and 50 μ g of estrogen in their birth control pills. Whether similar results would be obtained using ultra-low dose

contraception is not known. Ultra-low dose pills may significantly reduce the risk of decreased breastmilk supply, or they may be a similar risk as shown in Tankeyoon's study above. Also, the vaginal ring and the contraceptive patch, which are also low dose estrogen methods, should be studied more.

US Preventive Services Task Force Ranking of Evidence from Scientific Studies

- I Evidence obtained from at least one properly randomized controlled trial.
- II-1 Evidence obtained from well-designed controlled trials without randomization.
- II-2 Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.
- II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could be regarded as this type of evidence.
- III Opinions of respected authorities, based on clinical experience, descriptive studies and case reports; or reports of expert committees.

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