

Navigating the Research on Hormonal Long-Acting Reversible Contraception and Breastfeeding

Supporting breastfeeding and reducing unintended pregnancies are public health priorities. Breastfeeding decreases infants' risks for asthma, diabetes, childhood leukemia, sudden infant death syndrome, obesity, respiratory infections, and other health issues.¹ Maternal health benefits of breastfeeding include lower rates of Type 2 diabetes, and lowered risk for breast and ovarian cancer.² Mothers and infants also enjoy positive psychosocial effects, including increased bonding, and mothers who breastfeed seem to have a lower incidence of postpartum depression, particularly those who breastfeed for longer periods.³ At the same time, about half of all U.S. pregnancies are unintended,⁴ leading to negative health and economic outcomes, including delayed prenatal care, higher rates of maternal substance use during pregnancy, reduced likelihood of breastfeeding, low birth weight or preterm birth, and lower education attainment (thus lower income), for mothers and children.^{5,6,7,8}

Increasing breastfeeding rates and reducing unintended pregnancy rates are both vital to improving the health of the U.S. population. However, members of the lactation and family planning communities have raised concerns that these two priorities conflict when it comes to inserting hormonal long-acting reversible contraception (LARC) immediately postpartum.

LARC is a highly effective means to prevent unintended pregnancies and subsequent negative outcomes.⁹ LARC includes non-hormonal copper intrauterine devices (IUDs) as well as hormonal methods: levonorgestrel-releasing IUDs (LNG-IUDs) and single-rod etonogestrel (ETG) implants.¹⁰ LARCs have been shown to reduce unintended pregnancies, teen pregnancies, and abortions. The postpartum period is an important time to initiate contraception because women have access to healthcare and may not follow up for a postpartum visit; approximately 50 percent of women do not return for their postpartum visit six weeks after birth.¹¹ The prevalence of women who follow up is lower among certain subgroups, including younger women, lower income, less education, and those with less prenatal care.¹² These represent the same subgroups of women for whom unintended pregnancies may be the most challenging.

However, there are two theoretical concerns with immediate postpartum hormonal LARC. The first is that LNG-IUDs and ETG implants impede lactation because levonorgestrel and etonogestrel are progestins, and higher levels of progesterone could reduce breast milk production. The second concern is that progestins in hormonal LARC transfer to breast milk and might negatively impact infants' reproductive, neuroendocrine, and cognitive development. It is important to note, there is no empirical evidence regarding the aforementioned theoretical concerns.

Because both priorities are important, public health professionals, healthcare providers, lactation consultants, family planning specialists, and other health influencers must carefully weigh the evidence and ethical implications when making recommendations to mothers about immediate postpartum hormonal LARC insertion and breastfeeding. Whenever possible, providers should engage in shared decision-making with their patients to ensure that parents can make informed choices that reflect their priorities and values.

Research

Studies on hormonal LARC and breastfeeding are limited and sometimes conflicting, indicating the need for more research. However, there are several key studies experts can review as they strive to implement evidence-based practices.

There is conflicting data regarding LNG-IUD and breastfeeding outcomes. In 2015, Australian researchers found that 52 percent of women who had LNG-IUDs inserted immediately after a cesarean section were still breastfeeding at six months postpartum versus 12 percent of women who had LNG-IUDs inserted six weeks after giving birth.¹³ The study also found no statistically significant difference between the infants in the two groups in terms of weight gain at six weeks, three months, and six months. However, in 2011, U.S. researchers found that 24 percent of women who delayed LNG-IUD placement until six weeks postpartum were still breastfeeding at six months versus six percent of women whose IUDs were placed immediately postpartum.¹⁴ Additionally, 13 percent of women in the delayed group were exclusively breastfeeding versus two percent of the immediate postpartum group. Other studies on LNG-IUDs did not find negative impacts on breastfeeding; however, none examined immediate postpartum IUD initiation.¹⁵

Studies on ETG implants and breastfeeding have not revealed adverse outcomes. A 2011 randomized controlled trial compared breastfeeding rates between women who received ETG implants one to three days postpartum and women who received implants four to eight weeks postpartum. No difference was found in rates of lactation failure or exclusive breastfeeding versus supplementation at six months postpartum.¹⁶ However, due to the low number of women in the study (one of 33 women who received a LARC immediately postpartum experienced lactation failure), a three percent risk of lactation failure may be clinically significant.

The United States Medical Eligibility Criteria for Contraceptive Use (US MEC) provides [guidance](#) to healthcare providers advising their patients on contraception.¹⁷ Based on systematic review of evidence on the safety of copper IUD and breastfeeding as well as expert feedback, US MEC found that initiation of LARCs, including copper IUDs, LNG-IUDs and implants, in breastfeeding women is considered safe at any time postpartum. US MEC also found that breastfeeding women under six weeks postpartum can generally receive LNG and ETG implants.

Recommendations on Shared Decision-making

In a shared decision-making model, healthcare providers and patients engage in a dialogue to determine the best treatment for a patient.¹⁸ The model acknowledges that both parties are experts essential to the decision-making process: the healthcare provider regarding the science, the patient regarding their own best interests. If a woman is concerned about using a hormonal device, the provider should provide information and guidance on other contraceptive methods. Such patient-centered discussions are particularly important for women of color and other populations who have been selectively counseled toward LARC or permanent sterilization in the past.¹⁹

In 2016, the American College of Obstetricians and Gynecologists released a [committee opinion](#) on optimizing breastfeeding support, including recommendations on talking to patients about contraception.²⁰ The committee's opinion emphasizes that obstetricians should not delay conversations

about contraception with breastfeeding women. In addition, it is recommended that obstetricians should educate patients about non-hormonal and hormonal options. In their opinion, the committee endorses a shared decision-making model: “Obstetric care providers should discuss these limitations and concerns within the context of each woman’s desire to breastfeed and her risk of unplanned pregnancy, so that she can make an autonomous and informed decision.”

The Academy of Breastfeeding Medicine also supports shared decision-making on contraception and breastfeeding. A 2015 clinical protocol on contraception during breastfeeding stated: “[I]n discussion with the patient, clinicians should discuss the risks, benefits, availability, and affordability of all methods. This discussion should address contraceptive efficacy and possible impact on breastfeeding outcomes, within the context of each woman’s desire to breastfeed, risk of breastfeeding difficulties, and risk of unplanned pregnancy.”²¹

The Agency for Healthcare Research and Quality created a five-step shared decision-making process for healthcare providers, which recommends: (1) Seeking patient participation; (2) helping the patient explore and compare treatment options; (3) assessing the patient’s values and preferences; (4) reaching a decision with the patient; and (5) evaluating the patient’s decision.²² Additionally, decision aids can be an important tool for facilitating shared decision-making.²³ They include exercises that help patients think about a treatment’s risks and benefits, as well as their own values and goals.²⁴

Opportunities for State Health Agencies

To implement shared decision-making on immediate postpartum hormonal LARC insertion and breastfeeding, health agencies should consider creating decision aids to help women determine whether immediate postpartum hormonal LARC is right for them. Because the postpartum period is a busy, emotional time, obstetrician and breastfeeding researcher Alison Stuebe recommends discussing the pros and cons of contraception methods several weeks before birth. Stuebe also recommends that lactation consultations be included in these conversations, ensuring everything is done to help parents make well-informed decisions based on their needs. Regardless of whether a woman chooses postpartum LARC, these conversations should include a discussion of the importance of postpartum care and a plan to ensure that she attends a comprehensive postpartum visit. States can assist providers by developing interconception care guides that include breastfeeding as a consideration for various contraception methods. By engaging patients in a respectful dialogue that considers the research, potential risks of unintended pregnancy and hormonal LARC, and the patient’s goals, state health agencies and healthcare providers can work together to help improve U.S. breastfeeding rates and reduce unintended pregnancies.

¹ HHS, Office on Women’s Health. “Why breastfeeding is important.” Available at:

<http://www.womenshealth.gov/breastfeeding/breastfeeding-benefits.html>. Accessed on 5-19-2016.

² Ip S, Chung M, Raman G, et al. “Breastfeeding and Maternal and Infant Health Outcomes in Developed Countries. Evidence Report/Technology Assessment No. 153.” AHRQ Publication No. 07-E007. Rockville, MD: Agency for Healthcare Research and Quality. April 2007. Available at:

<http://archive.ahrq.gov/downloads/pub/evidence/pdf/brfout/brfout.pdf>. Accessed 8-3-15.

³ Ibid.

⁴ Finer LB, Zolna, MR. “Declines in Unintended Pregnancy in the United States, 2008–2011.” *NEJM*. 2016 2016;374:843-52. Available at: <http://www.nejm.org/doi/full/10.1056/NEJMsa1506575>. Accessed on 7-12-2016.

Fact Sheet



- ⁵ Healthy People 2020. "Family Planning: Overview." Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning>. Accessed on 5-19-2016.
- ⁶ Logan C, Holcombe E, Jennifer Manlove J, Ryan S. "The Consequences of Unintended Childbearing." The National Campaign to Prevent Teen and Unplanned Pregnancy, Child Trends. May 2007. Available at: <https://thenationalcampaign.org/sites/default/files/resource-primary-download/consequences.pdf>. Accessed on 5-19-2016.
- ⁷ Finer LB, Zolna, MR. "Declines in Unintended Pregnancy in the United States, 2008–2011." *NEJM*. 2016 2016;374:843-52. Available at: <http://www.nejm.org/doi/full/10.1056/NEJMsa1506575>. Accessed on 7-12-2016.
- ⁸ Gipson, J. D., Koenig, M. A. and Hindin, M. J. (2008), The Effects of Unintended Pregnancy on Infant, Child, and Parental Health: A Review of the Literature. *Studies in Family Planning*, 39: 18–38. doi: 10.1111/j.1728-4465.2008.00148.x. Available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1728-4465.2008.00148.x/abstract;jsessionid=D245DF4BE0F7E60A83A85C32D69F5B4A.f02t04>. Accessed on 7-12/2016.
- ⁹ ASTHO. "Fact Sheet: Long-Acting Reversible Contraception (LARC)." Available at: <http://www.astho.org/LARC-Fact-Sheet/>. Accessed on 5-19-2016.
- ¹⁰ American College of Obstetricians and Gynecologists, Committee on Adolescent Health Care Long-Acting Reversible Contraception Working Group. "Adolescents and Long-Acting Reversible Contraception: Implants and Intrauterine Devices." Committee opinion. October 2012. Available at: <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Adolescent-Health-Care/Adolescents-and-Long-Acting-Reversible-Contraception>. Accessed on 5-19-2016.
- ¹¹ Bennett, WL, et al. "Utilization of Primary and Obstetric Care After Medically Complicated Pregnancies: An Analysis of Medical Claims Data." *Journal of General Internal Medicine*. 2014 29(4):636-45. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/24474651>. Accessed 7-15-2016.
- ¹² MMWR. "Postpartum Care Visits – 11 States and New York City, 2004." December 21, 2007 / 56(50);1312-1316. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5650a2.htm>. Accessed on 7-15-2016.
- ¹³ Braniff K, Gomez E, Muller R. "A randomised clinical trial to assess satisfaction with the levonorgestrel- releasing intrauterine system inserted at caesarean section compared to postpartum placement." *Aust N Z J Obstet Gynaecol*. 55: 279–283. doi:10.1111/ajo.12335. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/ajo.12335/full>. Accessed on 5-20-2016.
- ¹⁴ Chen BA, Reeves MF, Creinin MD, Schwarz EB. "Postplacental or delayed levonorgestrel intrauterine device insertion and breastfeeding duration." *Contraception*. 2011;84(5):499-504. doi:10.1016/j.contraception.2011.01.022. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3202348/>. Accessed on 5-20-2016.
- ¹⁵ Phillips SJ, Tepper NK, Kapp N, et al. Progestogen-only contraceptive use among breastfeeding women: a systematic review. *Contraception*. 2015. Available at: [http://www.contraceptionjournal.org/article/S0010-7824\(15\)00585-5/abstract](http://www.contraceptionjournal.org/article/S0010-7824(15)00585-5/abstract). Accessed on 5-20-2016.
- ¹⁶ Gurtcheff SE, Turok DK, Stoddard G, et al. Lactogenesis after early postpartum use of the contraceptive implant: a randomized controlled trial. *Obstet Gynecol*. 2011 May;117(5):1114-21. doi: 10.1097/AOG.0b013e3182165ee8. Available at: <http://journals.lww.com/greenjournal/pages/articleviewer.aspx?year=2011&issue=05000&article=00013&type=abstract>. Accessed on 5-20-2016.
- ¹⁷ CDC. "United States Medical Eligibility Criteria (US MEC) for Contraceptive Use, 2010." Available at: <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/usmec.htm>. Accessed on 5-20-2016.
- ¹⁸ Mayo Clinic Shared Decision Making National Resource Center. "Shared Decision Making Philosophy." Available at: <http://shareddecisions.mayoclinic.org/decision-aid-information/decision-aids-for-chronic-disease/>. Accessed on 5-23-2016.
- ¹⁹ Higgins JA. "Celebration Meets Caution: LARC's Boons, Potential Busts, and the Benefits of a Reproductive Justice Approach." Association of Reproductive Health Professionals. April 2014. Available at: <https://www.arhp.org/publications-and-resources/contraception-journal/april-2014>. Accessed on 5-19-2016.
- ²⁰ American College of Obstetricians and Gynecologists. "Optimizing Support for Breastfeeding as Part of Obstetric Practice." Committee opinion. February 2016. Available at: <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Practice-Management/Obstetric-Practice>. Accessed on 5-19-2016.

Fact Sheet



[Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Optimizing-Support-for-Breastfeeding-as-Part-of-Obstetric-Practice](#). Accessed on 5-20-2016.

²¹ Berens P, Lobbok M, Academy of Breastfeeding Medicine. "ABM Clinical Protocol #13: Contraception During Breastfeeding, Revised 2015." *Breastfeeding Medicine*. November 2015. Available at: <http://www.bfmed.org/Media/Files/Protocols/Contraception%20During%20Breastfeeding.pdf>. Accessed on 5-23-2016.

²² Agency for Healthcare Research and Quality. "The SHARE Approach." Available at: <http://www.ahrq.gov/professionals/education/curriculum-tools/shareddecisionmaking/index.html>. Accessed on 5-23-2016.

²³ The Commonwealth Fund. "Helping Patients Make Better Treatment Choices with Decision Aids." Available at: <http://www.commonwealthfund.org/publications/newsletters/quality-matters/2012/october-november/in-focus>. Accessed on 5-23-2016.

²⁴ MaineHealth Shared Decision Making Resource Center. "Patient Decision Aids." Available at: http://www.mainehealth.org/mh_body.cfm?id=7848. Accessed on 5-23-2016.

This publication is supported by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.