

The Latest in Teen Pregnancy Prevention: Long-Acting Reversible Contraception

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ABSTRACT

Teen pregnancy is prevalent in the United States and has a number of potential negative outcomes. The most effective contraceptives available, known as long-acting reversible contraceptives (LARCs), were recently approved for use in adolescents. LARC devices, including the intrauterine device and subdermal implant, are currently recommended as the first-line contraceptive for all women, including adolescents. Despite this recommendation, current LARC use in the adolescent population remains low. A number of barriers to LARC use in adolescents have been identified, including cost, provider knowledge, and patient education. It is important that nurse practitioners providing care to adolescents are knowledgeable of LARC methods and consistently recommend these devices as the first-line contraceptive to all patients desiring contraception because of their high efficacy, safety, and continuation rates. This article discusses LARC benefits, adverse effects, considerations, barriers to access, and implications for nursing practice. *J Pediatr Health Care.* (2018) ■■■, ■■■-■■■.

KEY WORDS

Adolescent, contraception, long-acting reversible contraceptive (LARC), pregnancy

With one of the highest rates of teen pregnancy among developed countries (Sedgh, Finer, Bankole, Eilers, & Singh, 2015), the teen pregnancy crisis in the United States continues to be a major area of concern. Teen pregnancy has been identified by Healthy People 2020 as one of the core indicators of adolescent health (Office of Disease Prevention and Health Promotion, 2017) and is one of the Centers for Disease Control and Prevention's (2017) top seven health priorities. Teen pregnancy places the adolescent mother at risk for low educational attainment, unemployment, and poverty (Cook & Cameron, 2015). Teen mothers are also at an increased risk for adverse pregnancy outcomes including eclampsia, preterm delivery, low birth weight, and neonatal complications (Ganchimeg et al, 2014).

The Centers for Disease Control and Prevention estimated 20.3 births for every 1,000 adolescent females aged 15 to 19 years and 0.2 births for every 1,000 adolescent females aged 10 to 14 years in the United States in 2016 (Hamilton, Martin, Osterman, Driscoll, & Rossen, 2017). However, data indicates that teen pregnancy rates have declined in the last decade. This decline is likely the result of a combination of a decline in sexual activity and increased contraceptive use and efficacy (Lindberg, Santelli, & Desai, 2016). Highly effective contraceptive devices include intrauterine devices (IUD) and the subdermal implant. These devices, also known as long-acting reversible contraceptives (LARCs), are currently recommended as the first-line contraceptive by the American Academy of

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Pediatrics ([American Academy of Pediatrics \[AAP\], 2014](#)) and the American College of Obstetricians and Gynecologists ([ACOG; American College of Obstetricians and Gynecologists, 2012](#)) because of their efficacy and safety in females of reproductive age, including adolescents.

Despite this recommendation, current LARC use remains less than optimal in the adolescent population. It is estimated that less than 5% of sexually active teens use a LARC option, with most sexually active teens using condoms, withdrawal, and oral contraceptive methods ([Martinez & Abma, 2015](#)). A number of barriers to LARC use among teens have been identified, including cost, provider training, provider knowledge, and patient education ([ACOG, 2012; Kumar & Brown, 2016](#)). The purpose of this article is to familiarize all nurse practitioners, especially those providing care to adolescent patients, with LARC methods to facilitate discussion and recommendation of LARC methods as the first-line contraceptive to adolescent patients and their parents.

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LARC OVERVIEW

There are two categories of LARC methods: the IUD and the subdermal implant. Five U.S. Food and Drug Administration (FDA)–approved IUDs are currently on the market, including one copper IUD and four hormonal IUDs. There is currently only one FDA-approved subdermal implant. The copper IUD, the only non-hormonal LARC option, releases copper ions to interfere with sperm motility, fertilization, and possibly implantation ([Teva Women’s Health, 2014](#)). The four hormonal IUDs and the subdermal implant all contain a progestin to thicken cervical mucus, inhibit fertilization, and thin the uterine lining ([Bayer, 2017b](#)). The progestin found in all four IUDs, levonorgestrel, is commonly found in oral contraceptives, whereas the etonogestrel in the subdermal implant is the progestin contained in the vaginal ring.

Efficacy

One of the biggest advantages of LARC methods is their extremely high efficacy rate. As seen in [Table 1](#), the failure rates of LARC devices range from 0.8% to 0.05%. It is estimated that less than 1% of users will become pregnant while using a LARC device, compared with 18% of condom users and 9% of those using oral contraceptives, including pills, patches, and rings ([Trussell,](#)

TABLE 1. Comparison of LARC options^{a,b}

LARC Device	Prescribing Information	Typical Failure Rate, ^c %	Duration	Advantages	Most Common Adverse Effects	Menstrual Bleeding Pattern
Paragard (Teva, North Wales, PA)	Copper IUD	0.8	10 years	Can be used as emergency contraception Nonhormonal	Heavy menstrual bleeding	Typically, no change
Mirena (Bayer, Whippany, NJ)	IUD (levonorgestrel 20 µg/day)	0.2	5 years	Treats heavy or painful menstrual periods Financial assistance through manufacturer	Bleeding pattern changes	Lighter, shorter, less frequent; greater likelihood for amenorrhea
Skyla (Bayer, Whippany, NJ)	IUD (levonorgestrel 14 µg/day)	0.2	3 years	Lower hormone doses Small device Financial assistance through manufacturer	Vulvo-vaginitis, abdominal pain, acne	Typically, no change; amenorrhea less likely
Kyleena (Bayer, Whippany, NJ)	IUD (levonorgestrel 17.5 µg/day)	0.2	5 years	Smaller device Financial assistance through manufacturer	Vulvo-vaginitis, ovarian cysts, abdominal pain, acne	Lighter, shorter bleeding, amenorrhea less likely
Liletta (Allergan, Irvine, CA)	IUD (levonorgestrel 19.5 µg/day)	0.2	3 years	Financial assistance through manufacturer Second device free (depending on insurance)	Vulvo-vaginitis, acne	Lighter, shorter bleeding
Nexplanon (Merck, Kenilworth, NJ)	Subdermal implant (etonogestrel, variable release)	0.05	3 years	Treats heavy, painful menstrual periods Most effective LARC option	Unscheduled bleeding	Lighter bleeding, but unscheduled bleeding possible

^aInformation obtained from prescribing information provided by manufacturer ([Bayer, 2016; Bayer, 2017a; Bayer, 2017b; Bayer, 2017c; Merck, 2017; Allergan, Inc., 2017a; Teva Women’s Health, 2014](#)).

^bAdapted from [Francis and Gold \(2017\)](#).

^cInformation obtained from [World Health Organization Department of Reproductive Health and Research & John Hopkins Bloomberg School of Public Health/Center for Communication Programs \(2011\)](#).

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