Long-Acting Reversible Contraception: Specific Issues for Adolescents

Seema Menon, MD, COMMITTEE ON ADOLESCENCE

Long-acting reversible contraceptives are the most effective methods to prevent pregnancy and also offer noncontraceptive benefits such as reducing menstrual blood flow and dysmenorrhea. The safety and efficacy of long-acting reversible contraception are well established for adolescents, but the rate of use remains low for this population. The pediatrician can play a key role in increasing access to long-acting reversible contraception for adolescents by providing accurate patient-centered contraception counseling and by understanding and addressing the barriers to use.

abstract

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noncontraceptive medical therapy provided by LARC methods.

LARC AWARENESS AND ACCEPTABILITY

A wealth of easily accessible online resources including evidence-based guidelines from the Centers for Disease Control and Prevention (CDC), US Medical Eligibility Criteria for Contraceptive Use (US MEC), and statements from the AAP, American College of Obstetricians and Gynecologists (ACOG), and Society for Adolescent Health and Medicine, all endorse the safety of LARC methods in the adolescent population.1,3,4,19

This information has not effectively reached the adolescent population, with only 20% to 50% of this age group able to recognize LARCs as birth control methods.12–15 Among adolescents aware of LARC methods, unsubstantiated safety concerns related to permanent loss of fertility, misconceptions about the insertion process, and general fears of pain and of having a foreign object in the body contribute heavily to the low use of these methods.11,12,14,15 Counseling from a health care provider has been found to effectively improve knowledge in the adolescent population and can significantly impact LARC use.13,15,17 Many pediatricians working with adolescents approach contraceptive counseling with the predetermination that this population is neither interested in LARC nor will they tolerate the irregular bleeding pattern that can be associated with these methods.13,18 Data have suggested otherwise, as results from the 2011 Contraceptive CHOICE Project reported that 70% of the adolescents surveyed chose LARC when cost was removed as a barrier and accurate counseling was provided.20 In this study, the authors also found continuation rates of LARC to be higher than those of other contraceptive methods at 12 and 24 months of use among adolescents and young adults, suggesting relatively high acceptability.20–22

LARC SAFETY

The US MEC provides an evidence-based summary assigning a level of safety to each contraceptive method when used in women with various medical conditions (Table 1). The CDC classifies the contraceptive subdermal implant as category 1 regardless of age group or parity status.4 Although safe, IUD use in younger and nulliparous women still requires more caution (category 2) than does use in their adult counterparts (category 1) because of concerns related to higher expulsion risk and sexually transmitted infection (STI) rates.4 Newer, well-conducted studies have refuted previous concerns associating IUD use and infertility.8 A few absolute contraindications to LARC use have been defined but are uncommonly encountered in the adolescent population (Table 2). All LARC methods may be safely used at any point in the postpartum period, although IUD expulsion rates vary depending on the timing of placement relative to delivery.2,4,23 Observational studies suggest that LARC does not interfere with lactation, although long-term data used to evaluate the effects on lactation are limited.2,23 Given the dearth of evidence, ACOG recommends patients be counseled that hormonal LARC products may theoretically affect breastfeeding, acknowledging there is a lack of supporting data.2 The Cu-IUD, LNG-IUD, and subdermal implant are all safe for immediate placement in a woman who is breastfeeding, with the Cu-IUD classified as a US MEC category 1 and the latter 2 classified as US MEC category 2.4,23 There are free resources and tools available online from the CDC and other professional societies to assist in counseling adolescents on the safety of LARC use (Table 3).24

Adolescents with chronic medical conditions have a particular need for in-depth contraception counseling. The importance of providing safe and effective contraception to those with medical comorbidities associated with higher morbidity and mortality rates during pregnancy cannot be overstated. In a 2010 survey of 536 women with congenital heart disease, researchers found that 20% of participants were using a contraindicated contraceptive method and 28% of participants were not using any form of contraception despite stating pregnancy was not desired.25 Although data used to guide contraceptive options are limited for adolescents with significant congenital heart defects, the safety of LARC use has been established in those with cardiomyopathy as well as for those at increased risk for a venous thromboembolic event (either from a known thrombophilia or underlying medical condition).1 In a study of 30 adolescents with significant cardiovascular dysfunction, the authors found no complications related to LARC use.26 Drug interactions are also an important

<table>
<thead>
<tr>
<th>Table 1 Medical Eligibility Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

consideration when providing contraception counseling to adolescents with complex medical conditions. Again, the US MEC provides guidance with virtually no significant drug interaction concerns associated with IUD use.\(^4\)

Safety concerns related to the relationship between the relatively high prevalence of STIs, IUD use, and upper genital tract infection (pelvic inflammatory disease) have historically limited use of this method in adolescents. With new data reflected in the CDC recommendations, researchers have found that the IUD is not significantly associated with upper genital tract infection.\(^4\) Therefore, screening tests for STIs are not required before placement of an IUD in a woman without risk factors.\(^27\) Testing for STIs can be performed at the time of placement for adolescents requiring screening.\(^4\) Delaying IUD placement is only recommended if purulent cervicitis is noted on examination or if a known gonorrhea or \textit{Chlamydia} infection has not been treated (US MEC category 4).\(^4\) If an STI is diagnosed after placement, the IUD may be left in place while initiating antibiotic treatment.\(^4\)

The relationship between LARC and condom use has also generated interest. Using data from the Youth Risk Behavior Surveillance System, researchers found that condom use was significantly lower in adolescents using a LARC method (16.4\%) compared with those using combination oral contraceptive pills (37.3\%).\(^28\) Theories as to why condom use may differ when using LARC include adolescents feeling more secure about the efficacy of these methods and pediatricians not routinely recommending condom use to adolescents using LARC.\(^28\) Condom use is a complex behavior that changes over time in a relationship. The use of a particular contraceptive method is only one factor that may influence current condom use. Regardless of the reason, it is important to note the trend of reduced condom use among LARC users when providing contraception counseling to adolescents.

### TIMING OF LARC PLACEMENT

Offering same-day LARC placement to adolescents has been shown to increase the use of these contraceptives.\(^2,29\) Despite this benefit, it is common practice to have multiple unnecessary visits for counseling and testing before LARC placement.\(^29-31\) The 2 major considerations determining if LARC placement can be performed safely are pregnancy and infection. As mentioned previously, delaying IUD placement is recommended if there is an active, untreated infection.\(^4\) It is also recommended that LARC placement be delayed if pregnancy cannot be excluded with reasonable certainty (Table 4).\(^3\) Urine pregnancy tests have been shown to detect

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**TABLE 2 Conditions Presenting an Absolute Contraindication to LARC Use**

<table>
<thead>
<tr>
<th>Condition</th>
<th>LNG-IUD</th>
<th>Cu-IUD</th>
<th>Subdermal Implant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distorted uterine cavity</td>
<td>Placement and</td>
<td>Placement and</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td></td>
<td>continuation contraindicated</td>
<td>continuation contraindicated</td>
<td></td>
</tr>
<tr>
<td>Current breast cancer</td>
<td>Placement and</td>
<td>Not contraindicated</td>
<td>Placement and</td>
</tr>
<tr>
<td></td>
<td>continuation contraindicated</td>
<td></td>
<td>continuation contraindicated</td>
</tr>
<tr>
<td>Untreated cervix cancer</td>
<td>Placement only</td>
<td>Placement only</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td></td>
<td>contraindicated</td>
<td>contraindicated</td>
<td></td>
</tr>
<tr>
<td>Endometrial cancer</td>
<td>Placement only</td>
<td>Placement only</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td></td>
<td>contraindicated</td>
<td>contraindicated</td>
<td></td>
</tr>
<tr>
<td>Malignant gestational trophoblastic neoplasia with intrauterine</td>
<td>Placement only</td>
<td>Placement only</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td>disease</td>
<td>contraindicated</td>
<td>contraindicated</td>
<td></td>
</tr>
<tr>
<td>Unexplained vaginal bleeding before evaluation</td>
<td>Placement only</td>
<td>Placement only</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td></td>
<td>contraindicated</td>
<td>contraindicated</td>
<td></td>
</tr>
<tr>
<td>Active pelvic infection (pelvic inflammatory disease, current</td>
<td>Placement only</td>
<td>Placement only</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td>purulent cervicitis, pelvic tuberculosis, or active gonorrhea</td>
<td>contraindicated</td>
<td>contraindicated</td>
<td></td>
</tr>
<tr>
<td>and/or \textit{Chlamydia} infection)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate postseptic abortion, puerperal sepsis</td>
<td>Placement and</td>
<td>Placement and</td>
<td>Not contraindicated</td>
</tr>
<tr>
<td></td>
<td>continuation contraindicated</td>
<td>continuation contraindicated</td>
<td></td>
</tr>
</tbody>
</table>


**TABLE 3 Resources for Determining LARC Safety**

- http://www.acog.org/About-ACOG/ACOG-Departments/Long-Acting-Reversible-Contraception
- http://fpntc.org
- www.astho.org
- http://larcprogram.ucsf.edu
- https://guttmacher.org/united-states/contraception
Regardless of the timing of pregnancy testing in the next few weeks are important points to start the subdermal implant likely possible even when pregnancy cannot be excluded because the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk.

100% of pregnancies when performed 11 days after expected menses. Determining the date of the last menstrual period is important for pregnancy evaluation and to guide whether back-up contraception is needed after LARC placement (Table 5). A short-term contraception method can also be used before LARC placement if pregnancy cannot be reliably ruled out. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk. This is particularly important when an adolescent selects an IUD. In the case of the subdermal implant, same-day placement is possible even when pregnancy cannot be excluded because of the benefits of starting the subdermal implant likely exceed any risk.

Noncontraceptive uses of LARC

Using contraception to treat menstrual cycle concerns is well established in clinical practice. An estimated 82% of adolescents use the combination oral contraceptive pill for noncontraceptive reasons. The LNG-IUD is particularly important in the treatment of heavy menstrual bleeding. Studies involving adolescents have revealed promising results but are limited by small size. In studies that are focused on adult women, researchers have found a reduction in menstrual blood loss of up to 80% using the LNG-IUD. Adolescents with physical and/or cognitive disabilities and their primary caregivers often seek options to reduce menstrual blood flow. Policies surrounding consent and confidentiality often require review when working with this population of adolescents. Although confidential contraception counseling is often not feasible in this special population, including the adolescent in the discussion when possible is important. Medical therapy has greatly replaced surgical options for menstrual suppression in adolescents with physical and/or cognitive disabilities. However, concerns surrounding weight gain and bone mineral density loss have likely contributed to the increased use of the LNG-IUD in this population. Data regarding LNG-IUD use among young women with physical and/or cognitive disabilities are growing and are overall positive. Authors of a 2013 cohort study reported that 26 adolescents with disabilities (95% with cognitive impairment and 5% with physical impairment) undergoing LNG-IUD placement had an amenorrhea rate of 100% after 1 year of use. The acceptability of LNG-IUD use in this population is also supported by limited data as authors of another study involving 56 adolescents with developmental disability reported a premature IUD removal rate of 7.4% secondary to pain and irregular bleeding comparable to adults.

Adolescents with severe anemia attributable to heavy menstrual bleeding often require hormone therapy to limit menstrual blood loss. Although options have been traditionally focused on combination oral contraceptives and depot medroxyprogesterone acetate, the

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**TABLE 4 How To Be Reasonably Certain That a Woman Is Not Pregnant**

<table>
<thead>
<tr>
<th>A Health Care Provider Can Be Reasonably Certain That a Woman Is Not Pregnant If She Has No Symptoms or Signs of Pregnancy and Meets Any 1 of the Following Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is ≤7 d after the start of normal menses</td>
</tr>
<tr>
<td>Has not had sexual intercourse since the start of the last normal menses</td>
</tr>
<tr>
<td>Has been correctly and consistently using a reliable method of contraception</td>
</tr>
<tr>
<td>Is ≤7 d after spontaneous or induced abortion</td>
</tr>
<tr>
<td>Is within 4 wk postpartum</td>
</tr>
<tr>
<td>Is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [≥85%] of feeds are breastfeeding), amenorrheic, and &lt;8 mo postpartum</td>
</tr>
</tbody>
</table>

Centers for Disease Control and Prevention. How to be reasonably certain that a woman is not pregnant. When to start using specific contraceptive methods. Available at: https://www.cdc.gov/reproductivehealth/contraception/mmwr/spr/appendixb.html. Accessed September 24, 2019.

**TABLE 5 Back-up Contraception After LARC Placement**

<table>
<thead>
<tr>
<th>Type of LARC and Timing of Placement</th>
<th>Need for Contraception Backup for 7 d After LARC Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUD inserted after 7 d of the start of menses</td>
<td>Yes</td>
</tr>
<tr>
<td>LNG-IUD inserted within 7 d of the start of menses</td>
<td>No</td>
</tr>
<tr>
<td>Subdermal implant inserted after 5 d of the start of menses</td>
<td>Yes</td>
</tr>
<tr>
<td>Subdermal implant inserted within 5 d of the start of menses</td>
<td>No</td>
</tr>
<tr>
<td>Cu-IUD insertion (anytime)</td>
<td>No</td>
</tr>
</tbody>
</table>

efficacy of using the LNG-IUD to treat heavy menstrual bleeding has been
recognized.3 Acceptance of this method is growing, with the National
Hemophilia Foundation now recognizing this as a treatment option.39 In a small study of
adolescent girls with known bleeding disorders, the authors found that
100% experienced an improvement in heavy menstrual bleeding and 60%
experienced amenorrhea after LNG-IUD placement.33 These findings are
consistent with studies conducted in the adult population with reported
LNG-IUD associated bleeding pattern satisfaction rates ranging from of
68% to 100%.40–43 The role of the subdermal implant as a treatment
option for adolescents with bleeding disorders is unclear given the higher
rate of prolonged irregular bleeding and lower rate of amenorrhea as
compared to the LNG-IUD. No studies investigating the efficacy of using the
subdermal implant in this population have been reported.

Dysmenorrhea is the most common
gynecologic complaint during
adolescence and is associated with
a relatively high rate (12%) of
monthly school absenteeism.44 Dysmenorrhea is classified as
primary or secondary; the latter is
associated with a wide range of
anatomic abnormalities. Treatment of
dysmenorrhea in the adolescent
population is primarily medical, with
either nonsteroidal antiinflammatory
drugs (NSAIDs) or hormonal
contraceptive methods as initial
agents.44,45 The LNG-IUD and the
subdermal implant have been shown
to provide effective treatment.44,45
Evaluation for causes requiring surgical treatment such as
obstructive Müllerian anomalies or
ovarian cysts is warranted if medical
management is suboptimal, risk
factors for congenital anomalies are
present, or pain is acyclic.44 Even in
cases of secondary dysmenorrhea
attributable to endometriosis,
fibroids, or adenomyosis, the LNG-
and subdermal implant have
been found to be effective treatment
options.44–46

UNDERSTANDING LARC SIDE EFFECTS
Regardless of the reason for use,
pediatricians report discomfort
counseling adolescents on expected
side effects and answering the
multitude of questions surrounding
LARC.19 This discomfort improves
after attending formal LARC training
sessions.18 Reviews of US Food and
Drug Administration package insert
information for the LNG-IUDs reveal
that the absolute risk for an adverse
event is low: ectopic pregnancy (1 in
1000), upper genital tract infection
(0.5%–0.6%), uterine perforation (up
to 0.1%), expulsion (3.5%–4.5%), and
symptomatic ovarian cysts (3.5%).
A large study including 4592
adolescents between 15 and 19 years
of age found irregular bleeding to be
the only significant side effect of
LARC use.47 Of note, there was no
association with weight gain or mood
changes.47 Counseling about potential
changes in bleeding patterns has been
associated with higher LARC
continuation when done prior to
insertion.48 Unscheduled spotting or
light bleeding is expected during the
first 3 to 6 months of LNG-IUD use
and is common with subdermal
implant use; this bleeding is not
harmful and decreases over time.49
Review of LARC package information
provides detailed information related
to expected bleeding patterns. A total
of 35% of LNG-IUD (Mirena) users
report 4 or more bleeding episodes or
1 episode lasting more than 10 days
within the first 3 months of use.
These patterns persist in only
4% of users after 1 year of use.
Approximately 50% of women using
the Mirena IUD report amenorrhea
after 2 years of use. Amenorrhea
rates after 2 years of Liletta use,
another LNG-IUD with similar dosing
as Mirena, is reported to be 26%.
Review of packaging information for
the lower-dose LNG-IUDs (Kyleena
and Skyla) report prolonged or
irregular bleeding patterns in 14% to
20% of users at the 90-day mark; this
pattern persists in 6% to 18% of
users by 1 year of use. Early
discontinuation rates for
unacceptable bleeding associated
with the LNG-IUDs ranges from
approximately 1.5% to 5%. Unlike the
LNG-IUDs, heavier bleeding may
persist after Cu-IUD placement. A
discontinuation rate of approximately
12% is reported to be attributable to
bleeding or pain concerns. Among
subdermal implant users, 17.7%
report prolonged bleeding and 6.7%
report frequent bleeding, but 75% of
women using the implant report
fewer days of bleeding and spotting
compared to their bleeding pattern
before placement.

Bothersome irregular bleeding
associated with LARC can be
effectively treated with a short
course of NSAIDs or oral hormonal
therapy.24,49,50 Smaller studies
suggest that tranexamic acid is
associated with reduced blood loss
after placement of either the Cu-IUDs
or LNG-IUDs.50 Because of its ability
to suppress metalloprotease activity,
doxycycline may also be an effective
option for irregular bleeding
treatment.50 Using this method to
treat unscheduled bleeding has been
associated with lower LARC
discontinuation rates.50 The CDC
Selective Practice Recommendations
for Contraceptive Use provides
guidance to providers managing
irregular bleeding associated with
LARC (Fig 1).3 It is important to
consider that persistent bleeding may
be attributable to pregnancy,
infection, IUD displacement, or new
pelvic organ pathology in LARC users.

INCREASING THE NUMBER OF TRAINED
PROVIDERS
Although LARC placement is
increasing in pediatric primary care
clinics, adolescent medicine clinics,
and school-based clinics, the lack of
trained pediatricians is still a major
barrier to LARC availability within the adolescent population.\textsuperscript{17,18,51} Physicians not trained in LARC placement have concerns that IUD placement may cause emotional or physical trauma to the adolescent.\textsuperscript{18,52} These concerns significantly wane after training and successful placement of these devices.\textsuperscript{18} The first attempt of IUD placement in nulliparous adolescents reveals success rates (96\%) similar to their parous counterparts.\textsuperscript{53} Similarly, the duration of the IUD placement procedure does not vary between adolescents and adults.\textsuperscript{54} Methods used to improve pain and ease of insertion have been investigated and include preprocedure administration of misoprostol, NSAIDs, paracervical block by using lidocaine, and anxiolytic medication including nitrous oxide.\textsuperscript{55–57} Although a few studies have found some benefit in pain reduction associated with paracervical block with lidocaine use, general review of current data do not support the routine use of these strategies during IUD placement.\textsuperscript{24,55,57,58} In special circumstances, IUD placement under sedation is appropriate, most commonly in adolescents with physical limitations or cognitive challenges, and can be combined with other procedures requiring sedation, such as dental care.

Placement and removal of the subdermal implant requires a free in-person training session sponsored by the manufacturer of the product.\textsuperscript{59} Frequency of these training sessions varies geographically, and for some clinicians, training can be difficult to access. To improve access, training sessions are often incorporated into clinical meetings held by professional societies that are focused on adolescent and reproductive health. The contraceptive subdermal implant may only be ordered by a licensed physician after completion of the manufacturer-sponsored training.\textsuperscript{59} IUD training is less formalized than that for the subdermal implant. Unlike the subdermal implant, insertion and removal of IUDs does not require the completion of a specific training program. Although this skill has historically fallen under the domain of the gynecologist or family physician, increased acceptance by both individual pediatricians and professional societies has led to more training opportunities ranging from training sessions at annual clinical meetings to on-site support from pharmaceutical representatives. Access to LARC training for a pediatrician remains a challenge despite the increase in opportunities. Both the ACOG-initiated LARC program (https://www.acog.org/programs/long-acting-reversible-contraception-larc/activities-initiatives) and the National Clinical Training Center for Family Planning (http://www.ctcfp.org/larc/) provide a list of training opportunities open to all physicians regardless of specialty and professional society affiliation.

COST, CONSENT, AND CONFIDENTIALITY CONCERNS

Adolescents and pediatricians express concerns over cost and confidentiality related to LARC. Adolescents also report uncertainty about how to obtain LARC services.\textsuperscript{13,16} Specific concerns from pediatricians over accurate billing and in-office stocking of LARC and the supplies required for both insertion and removal have had a negative impact on LARC availability.\textsuperscript{13,17,18} Billing for LARC services is complex and multilayered, requiring a Current Procedural Terminology code for the placement or removal procedure charge, a Healthcare Common Procedure Coding System code for the actual LARC device charge, and an International Classification of Diseases, 10th Revision code for the diagnosis (Table 6). Importantly, there are codes for failed placement that can help with device replacement from pharmaceutical companies if malfunction occurs. Resources to guide LARC billing practices have been compiled by...
multiple agencies and are widely available (Table 7).

Although the Patient Protection and Affordable Care Act contains provisions designed to expand coverage of LARC and other contraceptives, gaps in access still exist. The Title X Family Planning Program is important and may help fill these gaps. This program, established in the 1970s, provides family planning for anyone desiring services, with priority given to individuals from low-income families. State government public health programs (eg, the New York State Family Planning Benefit Program and the California Department of Health Care Services Family Planning, Access, Care, and Treatment [PACT] program) and cost-assistance programs administered by pharmaceutical companies may also help cover costs.66 Potential cuts to the Title X Family Planning Program and the uncertainty of the Patient Protection and Affordable Care Act make it difficult to forecast future coverage of LARC.

An adolescent’s ability to provide consent for LARC services is dependent on state law. A minimum age of consent for reproductive health services, which includes LARC placement and removal, is explicitly defined by some states. Other states follow the mature minor principle, by which an adolescent under the age of majority and still dependent on parents or guardians can independently consent to reproductive health care services if cognitive maturity is demonstrated.61 The Guttmacher Institute provides a helpful online resource for issues of consent.62

The right to consent does not guarantee confidentiality. The goal upheld by various professional societies such as the AAP, Society for Adolescent Health and Medicine, and ACOG is to consider the medical record as confidential when caring for minors able to consent for reproductive health care services, including LARC.1,61 Breaches in confidentiality often stem from standard practices surrounding electronic health records. The electronic health record has posed multiple challenges that have yet to be adequately addressed, ranging from inability to limit sensitive health information when parents or guardians request medical records to the automated creation of discharge summaries, appointment notifications, and medication lists, which include contraception.63 These concerns may affect the ability to provide LARC services confidentially even when state laws allow for confidential reproductive health care for adolescents.

The complexity of consent and confidentiality is amplified when working with adolescents in the child welfare and justice systems. These adolescents experience unplanned pregnancies at a higher rate than their peers, suggesting that these are special populations with higher rates of unmet reproductive health care needs.64,65 The AAP and the National Commission on Correctional Health Care recommend that these groups of adolescents have access to appropriate reproductive health care services including contraception.65,66

Disclosing reproductive health information is inevitable when obtaining consent for LARC services for adolescents who are unable to provide independent consent. Pediatricians may find themselves navigating between a state law that allows an adolescent to provide independent consent and a welfare agency regulation that restricts this.64 In addition to questions of consent, incarcerated adolescents may also face an additional cost barrier because state-funded health insurance may be suspended during incarceration.65

Billing for LARC services also limits the ability to provide confidentiality. Groups advocating for better confidential care practices have suggested a more generic insurance bill be generated when adolescents are using parent or guardian insurance to cover reproductive

### Table 6: Common Billing Codes for LARC Services

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11981 insertion of implant</td>
<td>J7307 etonogestrel implant</td>
<td>Z30.018 encounter for other contraception (implant insertion)</td>
</tr>
<tr>
<td>11982 removal of implant</td>
<td>J7298 LNG-IUD (Mirena)</td>
<td>Z30.49 check, reinset, or removal of implant</td>
</tr>
<tr>
<td>5300 IUD insertion</td>
<td>J7297 LNG-IUD (Liletta)</td>
<td>Z30.430 IUD insertion</td>
</tr>
<tr>
<td>5380 IUD removal</td>
<td>J7301 LNG-IUD (Skyla)</td>
<td>Z30.432 IUD removal</td>
</tr>
<tr>
<td></td>
<td>J7296 LNG-IUD (Kyleena)</td>
<td>Z30.433 IUD removal and reinsertion</td>
</tr>
<tr>
<td></td>
<td>J7300 Cu-IUD (Paragard)</td>
<td>Z30.431 IUD routine check</td>
</tr>
</tbody>
</table>


### Table 7: Resources for Determining IUD Coverage

| University of California, San Francisco | http://larcprogram.ucsf.edu |
| National Women's Law Center CoverHer project | https://nwlc.org/coverher/ |
| ACOG | https://www.acog.org/programs/long-acting-reversible-contraception-larc/activities-initiatives |


Resources for Determining IUD Coverage

[1] University of California, San Francisco | http://larcprogram.ucsf.edu

Resource Link

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health care services. The Title X Family Planning Program is unique in that a detailed bill of services is not generated and sent to the parent or guardian. The Title X Family Planning Program improves confidential care by allowing the adolescent to provide consent for reproductive health care independent of a parent or guardian. However, consent policies for procedures set by an individual health care facility may still need to be considered in some cases.

**PATIENT-CENTERED LARC COUNSELING**

Pediatricians may unintentionally engage in directive counseling leading patients to select LARC methods when providing contraception care because of the overwhelmingly favorable attention these methods have received from multiple professional societies. Resisting coercive counseling practice is essential when providing reproductive health care. The reproductive justice movement is focused on the human right to maintain bodily autonomy, to have and not have children, and to raise children in safe and sustainable communities. Although this report endorses the demonstrable safety of LARC and supports providers caring for adolescents to incorporate LARC counseling, placement, or referral services into practice, the importance of counseling within the framework of reproductive justice is clear. Focusing contraception counseling on the priorities of the adolescent patient helps keep the discussion patient centered and the decision-making shared (Table 8). Efficacy of pregnancy prevention may not be the sole factor, or even the most important factor, influencing a patient’s choice of contraception. Cultural beliefs surrounding future fertility or bleeding patterns and side-effect profile may heavily influence the patient’s contraceptive choice. Just as cultural beliefs held by patients may impact LARC use, cultural beliefs held by providers may impact LARC availability to adolescents. The AAP and ACOG support conscientious objection by the provider as long patients receive complete information of all services (even those the health care provider is not willing to deliver) and a timely referral to another provider.

Proponents of setting LARC within a reproductive justice framework do not discourage use of these methods. Rather, this framework advocates for active prevention of reproductive right abuses. Programs involving the previously available subdermal implant (Norplant) reflected aggressive marketing to poor women, women of color, and young urban women, and in some cases, offered cash incentive programs. A recent survey of 100 LARC leading experts found that 77% of participants opposed incentive programs surrounding LARC. The majority of participants commented that incentive-based programming is coercive and described this type of policy as “wrong” and “very disturbing.”

The disparity of pregnancy incidence between adolescents from different socioeconomic and racial groups is clear. Pediatricians working with adolescents may feel compelled to deliver clear, directive counseling especially with the growing acceptance of LARC. When pediatricians acknowledge that women in particular socioeconomic and racial groups have been the target of unethical contraceptive marketing or campaigns in the past, there is a natural recognition of the critical importance that patients choose their contraception free of coercion. LARC counseling within the reproductive justice framework enables women to have equal access to LARC methods and allows for the removal of these devices when desired. Structuring LARC counseling within this framework focuses providers on enhancing the well-being of adolescent patients by increasing LARC availability and not on simply increasing LARC use.

**TABLE 8 Steps for Patient-Centered Approach to Contraception Counseling**

<table>
<thead>
<tr>
<th>Patient-Centered Contraception Counseling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review the patient’s general thoughts, fears, and questions related to birth control methods</td>
</tr>
<tr>
<td>Understand the patient goals for contraception: when pregnancy is desired, whether reduction of menstrual bleeding or cramping is desired</td>
</tr>
<tr>
<td>Present all birth control options with information on efficacy, mechanism of action, safety of use, administration details, and side-effect profile</td>
</tr>
<tr>
<td>Review medical eligibility criteria and clearly discuss whether there is a contraindication to a specific birth control method</td>
</tr>
<tr>
<td>If the patient is ready to make a selection, encourage questions on the safety, efficacy, administration details, and side effect profile to ensure comfort with all aspects of the chosen method</td>
</tr>
<tr>
<td>Counsel on expected changes in bleeding</td>
</tr>
<tr>
<td>Assess need for back-up contraception and provide STI prevention education</td>
</tr>
</tbody>
</table>

**RECOMMENDATIONS**

In an effort to increase access to LARC by adolescents, pediatricians should do the following:

1. Recognize LARCs as safe options for adolescents. The US MEC can help clarify questions related to safety of use in a variety of complex medical conditions.

2. Have a clear discussion of expected side effects with their adolescent patients, including expected changes in bleeding patterns, as part of LARC counseling. Providing this type of information and understanding the short-term options to control abnormal uterine bleeding are associated with higher LARC continuation.

3. Recognize LNG-IUD as a promising option for reducing menses, particularly in those...
with cognitive or physical disabilities or those with a diagnosis of anemia attributable to heavy menstrual bleeding.

4. Seek and obtain the required training for placement and removal of LARCs.

5. Understand that LARC placement does not need to be delayed for STI screening. IUD placement should be delayed if purulent cervicitis is noted or if an untreated gonorrhea or Chlamydia infection is present.

6. Emphasize dual therapy with condoms in LARC users to prevent STIs.

7. Be aware that confidentiality can be compromised when delivering LARC services during the consent process and inadvertently by insurance billing and various automated features of the electronic health record. Understand state laws surrounding reproductive health and the financial options available to cover LARC services.

8. When providing same-day LARC services, care must be taken to ensure all available contraceptive methods are reviewed, medical eligibility is considered, side effects are discussed, and personal safety related to intimate partner violence and coerced sexual activity is assessed.

9. Provide LARC counseling within the reproductive justice framework to prevent directive and potentially coercive counseling.

10. Focus on an end goal of improving the availability of LARC services to adolescents and not on increasing adolescent use of LARC methods.

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REFERENCES

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ABBREVIATIONS
AAP: American Academy of Pediatrics
ACOG: American College of Obstetricians and Gynecologists
CDC: Centers for Disease Control and Prevention
Cu-IUD: copper intrauterine device
IUD: intrauterine device
LARC: long-acting reversible contraception
LNG-IUD: levonorgestrel intrauterine device
NSAID: nonsteroidal antiinflammatory drug
STI: sexually transmitted infection
US MEC: US Medical Eligibility Criteria for Contraceptive Use

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Seema Menon and COMMITTEE ON ADOLESCENCE

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