



# Emergency Contraception

Krishna K. Upadhyia, MD, MPH, FAAP, COMMITTEE ON ADOLESCENCE

Despite significant declines over the past 2 decades, the United States continues to experience birth rates among teenagers that are significantly higher than other high-income nations. Use of emergency contraception (EC) within 120 hours after unprotected or underprotected intercourse can reduce the risk of pregnancy. Emergency contraceptive methods include oral medications labeled and dedicated for use as EC by the US Food and Drug Administration (ulipristal and levonorgestrel), the “off-label” use of combined oral contraceptives, and insertion of a copper intrauterine device. Indications for the use of EC include intercourse without use of contraception; condom breakage or slippage; missed or late doses of contraceptives, including the oral contraceptive pill, contraceptive patch, contraceptive ring, and injectable contraception; vomiting after use of oral contraceptives; and sexual assault. Our aim in this updated policy statement is to (1) educate pediatricians and other physicians on available emergency contraceptive methods; (2) provide current data on the safety, efficacy, and use of EC in teenagers; and (3) encourage routine counseling and advance EC prescription as 1 public health strategy to reduce teen pregnancy.

## BACKGROUND INFORMATION

Emergency contraception (EC) refers to methods of contraception that are used after sexual intercourse to reduce the risk of pregnancy. Methods currently available in the United States are (1) ulipristal acetate (UPA), an oral progesterone receptor agonist-antagonist; (2) levonorgestrel (LNG), an oral progestin; (3) the copper intrauterine device (Cu-IUD); and (4) off-label use of combined oral contraceptives (Yuzpe method). EC can reduce the risk of pregnancy if used up to 120 hours after unprotected intercourse, and hormonal emergency contraceptive pills (ECPs) are more likely to be effective the sooner they are used.<sup>1</sup> Use of EC after unprotected or underprotected intercourse remains an important strategy to reduce unintended pregnancies among adolescents and women.

By the age of 19 years, approximately two-thirds of youth will have initiated sexual intercourse.<sup>2</sup> Most teenagers report first intercourse with a steady partner and consensual sex.<sup>3</sup> Approximately 11% of US high

## abstract

*Children's National Health System, Washington, District of Columbia*

*Policy statements from the American Academy of Pediatrics benefit from expertise and resources of liaisons and internal (AAP) and external reviewers. However, policy statements from the American Academy of Pediatrics may not reflect the views of the liaisons or the organizations or government agencies that they represent.*

*Dr Upadhyia was responsible for all aspects of revising and writing the policy statement with input from reviewers and the Board of Directors; she approves the final manuscript as submitted.*

*The guidance in this statement does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.*

*All policy statements from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.*

*This document is copyrighted and is property of the American Academy of Pediatrics and its Board of Directors. All authors have filed conflict of interest statements with the American Academy of Pediatrics. Any conflicts have been resolved through a process approved by the Board of Directors. The American Academy of Pediatrics has neither solicited nor accepted any commercial involvement in the development of the content of this publication.*

**DOI:** <https://doi.org/10.1542/peds.2019-3149>

Address correspondence to Krishna K. Upadhyia, MD, MPH, FAAP. E-mail: [kupadhyia@childrensnational.org](mailto:kupadhyia@childrensnational.org)

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2019 by the American Academy of Pediatrics

**FINANCIAL DISCLOSURE:** The author has indicated she has no financial relationships relevant to this article to disclose.

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** The author has indicated she has no potential conflicts of interest to disclose.

**To cite:** Upadhyia KK, AAP COMMITTEE ON ADOLESCENCE. Emergency Contraception. *Pediatrics*. 2019;144(6):e20193149

school students report experiencing a forced sexual experience ranging from kissing to forced intercourse.<sup>4</sup> Sexual assault is 1 factor associated with risk for unintended pregnancy among adolescents.<sup>5</sup> Youth with developmental and other disabilities may be at even higher risk of experiencing sexual abuse or assault than their peers are.<sup>6,7</sup> Improved use of contraception, not declines in sexual activity, has been the most significant contributor to the decline in pregnancy risk among US teenagers over the past decade.<sup>8</sup> Pediatricians have an important role to play in enabling adolescent access to all available contraceptive methods to address the Healthy People 2020 objective of continuing to reduce adolescent pregnancy in the United States.<sup>9</sup>

The most commonly used methods of contraception reported by teenagers who have had intercourse in the United States are the condom, followed by withdrawal, the oral contraceptive pill, and ECPs.<sup>2</sup> Condoms are important for protection against sexually transmitted infections (STIs) as well as pregnancy, and the oral contraceptive pill can be an effective method for pregnancy prevention; however, both methods require strict adherence by the user to be maximally effective. Withdrawal is not recommended because of its relatively low effectiveness for pregnancy prevention and because it provides no protection against STIs. Although the American Academy of Pediatrics (AAP) and other medical organizations recommend the use of intrauterine devices (IUDs) and implants as the most effective methods for adolescents,<sup>10,11</sup> rates of use of these methods remain low. The most recent analysis from the Centers for Disease Control and Prevention (CDC) indicates that only 3% of 15- to 19-year-olds who have ever had sex have used an IUD, and 3% report ever having used an implant.<sup>12</sup>

EC is the only contraceptive method designed to prevent pregnancy after intercourse. Indications for the use of EC include intercourse without use of contraception; condom breakage or slippage; missed or late doses of contraceptives, including the oral contraceptive pill, contraceptive patch, contraceptive ring, and injectable contraception; vomiting after use of oral contraceptive pills, and sexual assault. ECPs include products labeled and approved by the US Food and Drug Administration (FDA) for use as EC (levonorgestrel and UPA) and the off-label use of combination oral contraceptives (the Yuzpe method) that have been described in the literature since 1974.<sup>13</sup> Insertion of a Cu-IUD within 5 days of unprotected intercourse is an additional method of EC available in the United States. Insertion of a Cu-IUD is the most effective method of EC and has the extra benefit of providing ongoing contraception when left in place.<sup>1</sup>

Studies have shown that adolescents are more likely to use ECPs when they have been supplied or prescribed in advance of need.<sup>14</sup> As of August 2013, levonorgestrel EC is approved for over-the-counter sale throughout the United States to people of all ages<sup>15</sup>; however, barriers to access include cost and availability in pharmacies.<sup>16</sup> Surveys suggest that most practicing pediatricians and pediatric residents do not routinely counsel patients about EC and do not prescribe it.<sup>17-21</sup> This policy statement provides updated guidance on all methods of EC available to US adolescents (Table 1) and ongoing policy and access issues.

## EC METHODS

### EC Pills

#### *UPA Progesterone Agonist-Antagonist*

In August 2010, the FDA approved a progesterone agonist-antagonist, UPA, for use as an EC.<sup>22</sup> UPA binds to the human progesterone receptor,

thereby preventing the binding of progesterone, and inhibits ovulation. Ulipristal, sold under the brand name ella (Watson, Morristown, NJ), is a single pill containing 30 mg of UPA and is indicated for use up to 120 hours after unprotected intercourse. It is important for patients to be counseled that onset of menses after UPA use may be later than expected and a pregnancy test is indicated if the patient does not have a period within 3 weeks. UPA is currently available by prescription only, regardless of age, and many pharmacies do not have it in stock.

#### *Progestin-Only Pills*

Levonorgestrel EC was approved by the FDA in 1999 under the brand name Plan B and is currently marketed under several names, including Plan B One Step (Teva Women's Health, Woodcliff Lake, NJ), Take Action (Teva Women's Health), Next Choice One Dose (Actavis Pharma, Inc, Parsippany, NJ), and My Way (Gavis Pharmaceuticals, Somerset, NJ). Although levonorgestrel EC originally consisted of 2 pills, current regimens are packaged as a single pill with 1.5 mg of levonorgestrel. Package labeling indicates that levonorgestrel EC should be taken within 72 hours of unprotected intercourse; however, data support that use up to 120 hours after intercourse may prevent pregnancy.<sup>23,24</sup> Adolescents should be instructed to take 1.5 mg of levonorgestrel as soon as possible and up to 120 hours after unprotected intercourse. Adolescents should be aware that the medicine is less likely to be effective when taken at 120 hours when compared with immediate use. No physical examination or pregnancy testing is required before use. Adolescents are advised to test for pregnancy (at home or in a clinic) if they do not have a period within 3 weeks of EC use. It is important for patients to know that levonorgestrel use may cause the next period to come sooner

**TABLE 1** Selected Regimens for EC Available in the United States

Brand	First Dose	Second Dose, 12 h Later	Ethinyl Estradiol per Dose, µg	Levonorgestrel per Dose, mg
Progestin-only pills				
Next Choice or Plan B	2 pills	None	0	1.5
Plan B One Step	1 pill	None	0	1.5
Ovrette	20 pills	20 pills	0	0.75
Other ECP: ella	30 mg of UPA	—	—	—
IUD: Paragard	Insert within 120 h of unprotected intercourse	Insert within 120 h of unprotected intercourse	NA	NA
Combined estrogen and progestin pills				
Ovral	2 white pills	2 white pills	100	0.5
Levora	4 white pills	4 white pills	120	0.6
Nordette	4 light-orange pills	4 light-orange pills	120	0.6
Seasonale	4 pink pills	4 pink pills	120	0.6
Triphasil	4 yellow pills	4 yellow pills	120	0.5
Allesse	5 pink pills	5 pink pills	120	0.5

Additional combinations are available at <https://ec.princeton.edu/questions/dose.html#dose>. NA, not applicable.

than expected.<sup>1</sup> Because use of ECPs may result in a delay in ovulation, it is imperative to counsel patients to abstain from intercourse or use condoms for pregnancy prevention until the next menses.

#### Combined Hormonal Regimens (Yuzpe Method)

The use of combination oral contraceptives for EC is commonly referred to as the Yuzpe method.<sup>13</sup> Used since 1974, its acceptability and efficacy were limited by adverse effects of nausea and vomiting. The Yuzpe method involves taking 2 doses of pills 12 hours apart, each containing a minimum of 100 µg of ethinyl estradiol and a minimum of 500 µg of levonorgestrel. Other pill formulations used for EC are included in Table 1. Similar information is available from the Office of Population Research at Princeton University, which maintains a comprehensive source of information on EC (<http://ec.princeton.edu/>). The availability of many combination oral contraceptives with norgestrel or levonorgestrel makes this alternative particularly helpful when there is no or limited access to an EC product. Although combination oral contraceptives have not been labeled specifically for EC, the CDC “Selected

Practice Recommendations for Contraceptive Use” and professional organizations such as the American College of Obstetricians and Gynecologists acknowledge the use of combination oral contraceptives as safe and effective for EC.<sup>25,26</sup>

#### IUD

Studies have established that the insertion of a Cu-IUD within 5 days of unprotected or underprotected intercourse is the most effective method of EC.<sup>27–29</sup> It must be inserted by a trained provider. In comparison with ECPs, the effectiveness of the Cu-IUD for EC results from the copper component and is not believed to vary by time of insertion within 120 hours of unprotected or underprotected sex.

The mechanisms of action of hormonal IUDs differ from those of the Cu-IUD, and hormonal IUDs have not been approved for use as EC. One published study found that women presenting for EC who desired an IUD for contraception could be offered levonorgestrel ECPs and also have a hormonal IUD placed at the same visit for ongoing contraception.<sup>30</sup>

#### COMPARATIVE EFFECTIVENESS OF ECPs

The effectiveness of oral EC depends on inhibiting ovulation and is affected

by the timing of use within the menstrual cycle. A recently published meta-analysis of ECP trial data compared the effectiveness of EC methods. Pooled data from trials suggest that UPA resulted in fewer pregnancies than levonorgestrel did (relative risk, 0.59; 95% confidence interval, 0.35–0.99; 2 randomized controlled trials,  $n = 3448$ ;  $I^2 = 0\%$ ; high-quality evidence).<sup>1</sup> Levonorgestrel also resulted in fewer pregnancies than the Yuzpe method did (relative risk, 0.57; 95% confidence interval, 0.39–0.84; 6 randomized controlled trials,  $n = 4750$ ;  $I^2 = 23\%$ ; high-quality evidence).<sup>1</sup> It should be noted, however, that current CDC guidance does not indicate a preference for UPA over levonorgestrel regimens.

Two secondary analyses of ECP trial data identified that repeat unprotected intercourse in the same cycle was associated with EC failure.<sup>31,32</sup> The delay of ovulation from ECPs highlights the need for abstinence or contraception after ECP use.

#### EFFECT OF BMI ON EFFECTIVENESS OF ALL METHODS

Efficacy of the Cu-IUD is not affected by body weight. CDC recommendations indicate that young

women in need of EC who do not wish to use a Cu-IUD or who do not have access to IUD insertion should be offered ECPs regardless of their weight.

Although no clinical trials have specifically evaluated the impact of BMI on the effectiveness of oral EC, meta-analyses have suggested that both levonorgestrel and UPA may be less effective in adolescents and women who are overweight.<sup>31-33</sup> In response to these data and labeling changes to EC products in Europe, the FDA conducted its own review of the evidence and issued a statement in 2016 indicating that the data regarding BMI and the effectiveness of levonorgestrel EC are conflicting and made no labeling changes. The FDA stated that there are no safety concerns with the use of levonorgestrel EC in women with BMI greater than 25 or with body weight greater than 165 pounds and that the most important factor affecting the medication's effectiveness is how quickly it is taken after unprotected or underprotected intercourse.<sup>34</sup>

## ADVERSE EFFECTS AND CONTRAINDICATIONS

The only contraindication for use of EC is known pregnancy. According to the CDC Medical Eligibility Criteria for Contraceptive Use, pregnancy is an absolute contraindication for insertion of a Cu-IUD (category 4).<sup>35</sup> ECPs are not indicated for use in patients with documented or suspected pregnancy; however, according to CDC Medical Eligibility Criteria, no harms to the woman, pregnancy, or fetus of inadvertent ECP use during pregnancy are known to exist.<sup>35</sup> Use of ECPs will not disrupt a pregnancy that is implanted in the uterus, and ECPs are not abortifacients. Years of use of hormonal contraceptives indicate that there is no risk of teratogenicity from use of levonorgestrel EC or the Yuzpe method. There have also been no reports of fetal malformations after

the use of UPA. Finally, repeat use of ECPs should prompt discussion of more effective, ongoing contraception, but there is no specific limit on repeated use, including within the same cycle. As noted below, however, the use of hormonal contraceptives within 5 days of UPA may reduce the effectiveness of UPA.

### Ulipristal

The most common adverse effects reported by users of UPA include headache (18%), nausea (12%), and abdominal pain (12%).<sup>36</sup> It is recommended to redose UPA if vomiting occurs within 3 hours of the initial dose. For clinicians who are providing this medication in a setting where the patient is discharged before 3 hours after the dose and without an ongoing relationship with the patient (ie, emergency departments or urgent care), it may be important to discuss provisions for repeat dosing with patients if indicated.

### Levonorgestrel-Only Methods

The most common adverse effect reported after use of levonorgestrel EC is heavier menstrual bleeding; spotting may also be reported.<sup>37</sup> The rate of nausea and vomiting with levonorgestrel EC is approximately half that with the Yuzpe method, and the routine use of antiemetics is not indicated. If vomiting does occur within 3 hours of use, the dose should be taken again. Repeated use of levonorgestrel EC is associated with the same adverse effects as 1-time use. A Cochrane Review of the subject found no serious adverse effects in trials of repeated use.<sup>38</sup>

### Yuzpe and Estrogen-Containing Methods

The most common adverse effects that occur during the first 24 to 48 hours of using estrogen-containing EC methods are nausea (~50%) and vomiting (~20%), which seem to be unaffected by food intake.<sup>39-41</sup> The severity and incidence of nausea and

vomiting can be decreased significantly by using an antiemetic 1 hour before an estrogen-containing regimen. Antiemetics are ineffective if taken after nausea is already present.<sup>41</sup> If vomiting occurs within 3 hours of a dose, the dose should be repeated. As with daily use of oral contraceptives, other adverse effects might include fatigue, breast tenderness, headache, abdominal pain, and dizziness. It should be noted that CDC Medical Eligibility Criteria indicate that benefits of estrogen-containing pills for EC generally outweigh the risks of use even in adolescents or women with health conditions, such as thromboembolic disease (ie, category 2).<sup>35</sup>

### Cu-IUD

The Cu-IUD can be inserted within 5 days of the first act of unprotected sexual intercourse as EC. Otherwise, eligibility criteria and initiation procedures for the Cu-IUD are the same for emergency or nonemergency Cu-IUD insertion. Pain with insertion is possible with use of the Cu-IUD for EC, and some patients may be fearful of pain and/or the required pelvic examination. Events associated with ongoing use of the Cu-IUD include expulsion (~6% in first year) and heavy menstrual bleeding and/or painful periods (~12%). Contraindications for Cu-IUD use include anatomic features that prevent insertion, Wilson disease, and signs of active cervical and/or pelvic infection.<sup>35</sup> Of note, negative STI test results are not required before the insertion of an IUD. However, if an adolescent has not been screened for gonorrhea and *Chlamydia* according to screening guidelines,<sup>42</sup> screening can be performed at the time of IUD insertion, and IUD insertion should not be delayed. The American College of Obstetricians and Gynecologists Long-Acting Reversible Contraception Program provides links to resources for clinicians who are interested in obtaining training on IUD insertion

([www.acog.org/About-ACOG/ACOG-Departments/Long-Acting-Reversible-Contraception](http://www.acog.org/About-ACOG/ACOG-Departments/Long-Acting-Reversible-Contraception)).

## OTHER CLINICAL CONSIDERATIONS

### Initiating Contraception After Use of ECPs

Although there is no specific contraindication for repeated use of EC, it should be emphasized to patients that ECPs are intended for emergency use and routine use of ECPs to prevent pregnancy is not as effective as the regular use of other forms of contraception. Ongoing hormonal contraceptives may be initiated or resumed immediately after use of levonorgestrel ECPs or the Yuzpe method; however, condoms or abstinence should be used in addition for 7 days for back-up protection.<sup>25</sup> Initiation of ongoing hormonal contraceptives after the use of UPA should be delayed for 5 days to minimize the risk of interference with UPA activity.<sup>25</sup> Prescriptions or a supply of hormonal contraceptives can be given at the time of UPA provision; however, patients should be instructed not to initiate them until 5 days after the dose of UPA. In addition, as with levonorgestrel or the Yuzpe method, patients should be counseled to abstain from intercourse or use condoms for 7 days after the initiation of ongoing contraception or until the start of their next period, whichever occurs first.<sup>25</sup>

### Assessing for STI Risk

The discussion of EC methods with patients must include the fact that none of these methods protect from STIs. Because of the cooccurring risk of STIs, offering STI testing at the visit for EC or encouraging patients to schedule follow-up visits for STI testing or treatment are advisable. In addition, follow-up visits are an important time to discuss options for ongoing contraception, abstinence, and consensual intercourse. Although EC is exclusively for use by

individuals at risk of pregnancy, it is important for young men to be counseled on this method as well as on condom use and the regular use of other contraceptive methods so that they can communicate with their at-risk partners about optimal contraceptive use.

### ADOLESCENTS AND EC: AWARENESS AND ACCESS

Data from the CDC indicate that the use of EC by female teenagers who had sexual intercourse at least once has increased over the past decade from 8% in 2002 to 22% in 2011 to 2013.<sup>2</sup> This increase is likely related to regulatory changes that increased nonprescription access to levonorgestrel EC during this time. Despite the FDA approval of levonorgestrel for over-the-counter access without an age restriction, additional access barriers remain. In its most recent survey, the American Society for Emergency Contraception found that only 64% of pharmacies have ECPs in stock on their shelves, and among those that do, nearly half use a lock of some kind requiring employee assistance to obtain it from the shelf.<sup>16</sup> Additionally, despite multiple brand-name and generic products on the market, the cost of levonorgestrel ECPs remains at \$40 to \$50, on average. This cost may be prohibitive, so pediatricians are encouraged to be aware of other resources for patients to obtain affordable ECPs, which may include college health services, school-based clinics, or Title X clinics. Insurance coverage may help with the cost barrier; however, coverage may vary by plan. In addition to the cost barrier, some stores also continue to enforce an unjustified age restriction on purchase.<sup>16</sup>

Access to UPA is also often limited. One study in Hawaii reported data from a secret-shopper study of pharmacies throughout the state that found that less than 3% had UPA in stock at the time of the request.<sup>43</sup> The

average cost of UPA in studied pharmacies was approximately \$50. Another study of pharmacy availability of UPA was conducted in Massachusetts and reported that 7% of pharmacies surveyed had UPA in stock.<sup>44</sup>

Although EC methods are indicated for use only in patients at risk of pregnancy, previous AAP policy statements advised that educating adolescent male patients is important.<sup>45</sup> Evidence suggests that most male teenagers are not knowledgeable about EC.<sup>45-47</sup> One study conducted among an older adolescent and young adult population (ages 18-25 years) recruited from a Job Corps site and a free clinic in Los Angeles surveyed male and female participants and found that 18% of male participants reported having a partner who had previously used EC.<sup>48</sup> Significantly fewer male than female participants in that study reported having received information about EC from a health care provider. Another study of a younger convenience sample of sexually experienced adolescent male participants (ages 13-24 years) in Denver reported that only 42% had heard of EC.<sup>49</sup> One study explored how willing young men are to accept an advanced supply of EC in a clinic setting and found that a majority who were offered EC accepted it.<sup>46</sup>

It is important that information about EC be included in all contraceptive and STI counseling for adolescents wherever these visits occur: the primary care office, the emergency department, specialty clinics, or inpatient units. Discussions should include indications for use and how patients can access EC in a timely fashion. Yet, provider communication about EC remains low and differs by patient characteristics. Findings from a nationally representative sample of sexually active 15- to 24-year-old women in the 2011-2015 National Survey of Family Growth found that provider communication about EC

during a visit for a pelvic examination or Papanicolaou test was infrequent (19%) compared with communication about birth control (67%) and differed by patient characteristics, including race and/or ethnicity and insurance status.<sup>50</sup> For example, a higher proportion of non-Hispanic black (25%) and Hispanic (27%) women reported receiving provider counseling about EC than did non-Hispanic white (14%) women. Reasons for differences in the reporting of counseling by race and/or ethnicity have not been identified by research to date. Adolescents with disabilities (both physical and cognitive) and their families should be counseled on EC as part of routine anticipatory guidance,<sup>51</sup> especially because data suggest that children with disabilities have 2 times the risk of being sexual assaulted compared with children without disabilities.<sup>52</sup> Offering advance prescription of ECPs is encouraged.

Laws allowing minors to consent to birth control services, including EC, without parents and rights to confidentiality vary by state. The Guttmacher Institute regularly updates information on the general categories of reproductive health services to which minors can consent by state.<sup>53</sup> Minors in special circumstances, such as those in the foster care or juvenile justice systems, may face unique barriers to access and confidentiality.<sup>54</sup> State laws regarding reporting age of consent for sexual activity and mandated reporting of sexual activity involving minors also vary by state.<sup>55</sup>

### **PERSONAL BELIEFS FOR PHYSICIANS AND PHARMACISTS**

Despite the fact that hormonal EC will not disrupt an established pregnancy and studies showing that access to EC does not make it more likely that adolescents will engage in more sex or less likely that they will use condoms or other contraceptives,<sup>56-58</sup> public and

medical discourse indicates that personal values of physicians and pharmacists continue to affect access to EC, particularly for adolescents.<sup>59-63</sup> Some physicians decline to provide EC to teenagers, regardless of the circumstance,<sup>20</sup> and others may provide EC only if sexual assault has occurred.<sup>20,64</sup> These decisions by physicians and pharmacists have important adverse consequences for adolescents in their ability to access EC.

A physician's decision to provide EC at a time of need but not in advance of need may be related to the physician's beliefs about whether it is acceptable for teenagers to have sex.<sup>20</sup> Often, physicians hold conflicting values when approaching reproductive health issues with teenagers. Physicians may object to unprotected intercourse or intercourse outside of marriage, but they may also feel the need to prevent unwanted pregnancy among teenagers. It is important that pediatricians are aware of the ways in which the underlying beliefs they bring to their clinical practice affect the care that they provide.

The AAP has issued a policy statement on refusal to provide information or treatment on the basis of conscience, stating that pediatricians have a duty to inform their patients about relevant, legally available treatment options to which they object and have a moral obligation to refer patients to other physicians who will provide and educate about those services.<sup>65</sup>

Pediatricians may also encounter situations in which adolescents and their parents differ in their acceptance of sexual intercourse and contraception. Recognizing the importance of parents and families to adolescent health and helping adolescents make decisions with which they are comfortable can be challenging. In these cases, it is important for pediatricians to be

knowledgeable about the rights of the adolescent with regard to consent for contraception in their state and ensure that adolescents are aware of these rights. Pediatricians can also be an important source of information for parents to help them communicate with their adolescents and to educate them about the importance of contraception and other prevention strategies to reduce risks associated with sexual activity if their adolescents make the decision to have sex.

### **SUMMARY AND RECOMMENDATIONS**

We recommend the following.

1. Pediatricians should be aware that sexual behavior is prevalent among teenagers and that many sexually active teenagers may be the victims of sexual assault. Despite the availability of hormonal and long-acting contraceptives, the pregnancy prevention methods most commonly used by US teenagers are condoms and withdrawal. EC is an important back-up method to which all teenagers should have access.
2. Indications for use of EC include unprotected or underprotected intercourse, such as failure to use any form of contraception; sexual assault; and imperfect contraceptive use (eg, condom breakage or slippage and missed or late doses of oral contraceptive pills, contraceptive patch, contraceptive ring, or injectable contraception).
3. Pediatricians should provide ECPs (levonorgestrel or UPA) or Cu-IUD insertion to adolescents and young adults who are in immediate need of EC. In addition, the AAP recommends that pediatricians provide prescriptions and/or a supply of ECPs (with refills and condoms) so adolescents have them on hand in case of future need (ie, advanced provision).

When a visit is not possible, ECPs can safely be prescribed over the phone without requiring a pregnancy test.

4. ECPs are most effective in decreasing risk of pregnancy when used as soon as possible, but may be used up to 120 hours after unprotected or underprotected intercourse. Adolescents should be instructed to use EC as soon as possible after unprotected intercourse and to then schedule a follow-up appointment with their primary provider to address the need for STI testing and ongoing contraception.
5. Advanced provision of ECPs increases the likelihood that teenagers will use EC when needed, reduces the time to use, and does not decrease condom or other contraceptive use. Levonorgestrel ECPs are available to male and female patients regardless of age without a prescription but may be expensive when purchased over the counter and are often covered by insurance with a prescription. UPA is available by prescription only. Pediatricians should be aware that the stock of available ECPs, especially UPA, may vary by pharmacy and that local patterns of availability, cost, insurance coverage, and sources of low-cost EC in their practice area may affect the ability of their patients to obtain recommended services.
6. When a dedicated ECP product or Cu-IUD are not options, the use of combined oral contraceptive pills for EC (Yuzpe method) may be recommended. Adverse effects may include nausea, vomiting, and abdominal pain, and coadministration of an antiemetic may be considered with this method.
7. Meta-analyses have suggested that both levonorgestrel and UPA may be less effective in individuals who are overweight. Efficacy of the

Cu-IUD is not affected by weight. Patients who do not wish to use a Cu-IUD or do not have access to IUD insertion should be offered EC pills regardless of their weight.

8. Repeat episodes of unprotected sex during the same cycle after the use of ECPs increase the risk of pregnancy because they work by delaying ovulation. Adolescents who use ECPs should be counseled to abstain or use another method to prevent pregnancy until their next period. Ongoing hormonal contraceptives may be initiated immediately after the use of levonorgestrel ECPs or the Yuzpe method. Ongoing hormonal contraceptives should not be initiated sooner than 5 days after the use of UPA to minimize the risk of interference with UPA activity. Nonhormonal methods (eg, condoms) may be initiated immediately after ECP use.
9. The AAP recommends that all adolescents receive counseling about EC as part of routine anticipatory guidance in the context of a discussion on sexual health and family planning regardless of current intentions for sexual behavior. In addition, it is important that information about EC be included in all contraceptive and STI counseling for adolescents wherever these visits occur, including emergency departments, clinics, and hospitals. Information provided should include indications for use and options for access, including over-the-counter availability and advance prescription or supply if available in the clinic. It is important that pediatricians also provide this counseling to adolescents with physical and cognitive disabilities and their parents. At the policy level, pediatricians should advocate for low-cost or free, nonprescription access to ECPs for teenagers regardless of age and insurance

coverage of EC without cost sharing to further reduce cost barriers.

#### LEAD AUTHORS

Krishna K. Upadhyia, MD, MPH, FAAP

#### COMMITTEE ON ADOLESCENCE, 2016–2017

Cora C. Breuner, MD, MPH, FAAP,  
Chairperson

Elizabeth M. Alderman, MD, FAAP, FSAHM

Laura K. Grubb, MD, FAAP

Laurie L. Hornberger, MD, MPH, FAAP

Makia E. Powers, MD, MPH, FAAP

Krishna K. Upadhyia, MD, FAAP

Stephenie B. Wallace, MD, FAAP

#### LIAISONS

Liwei L. Hua, MD, PhD – *American Academy of Child and Adolescent Psychiatry*

Margo Lane, MD – *Canadian Pediatric Society*

Meredith Loveless, MD – *American College of Obstetricians and Gynecologists*

Seema Menon, MD – *North American Society of Pediatric and Adolescent Gynecology*

Lauren B. Zapata, PhD, MSPH – *Centers for Disease Control and Prevention*

#### STAFF

Karen Smith

James Baumberger, MPP

#### ABBREVIATIONS

AAP: American Academy of Pediatrics

CDC: Centers for Disease Control and Prevention

Cu-IUD: copper intrauterine device

EC: emergency contraception

ECP: emergency contraceptive pill

FDA: US Food and Drug Administration

IUD: intrauterine device

STI: sexually transmitted infection

UPA: ulipristal acetate

#### REFERENCES

1. Shen J, Che Y, Showell E, Chen K, Cheng L. Interventions for emergency contraception. *Cochrane Database Syst Rev.* 2017;8(8):CD001324

2. Martinez GM, Abma JC. Sexual activity, contraceptive use, and childbearing of teenagers aged 15–19 in the United States. *NGHS Data Brief*. 2015;(209):1–8
3. Martinez G, Copen CE, Abma JC. Teenagers in the United States: sexual activity, contraceptive use, and childbearing, 2006–2010 national survey of family growth. *Vital Health Stat 23*. 2011;(31):1–35
4. Kann L, McManus T, Harris WA, et al. Youth risk behavior surveillance - United States, 2015. *MMWR Surveill Summ*. 2016;65(6):1–174
5. Trent M, Clum G, Roche KM. Sexual victimization and reproductive health outcomes in urban youth. *Ambul Pediatr*. 2007;7(4):313–316
6. Helton JJ, Gochez-Kerr T, Gruber E. Sexual abuse of children with learning disabilities. *Child Maltreat*. 2018;23(2):157–165
7. Casteel C, Martin SL, Smith JB, Gurka KK, Kupper LL. National study of physical and sexual assault among women with disabilities. *Inj Prev*. 2008;14(2):87–90
8. Lindberg L, Santelli J, Desai S. Understanding the decline in adolescent fertility in the United States, 2007–2012. *J Adolesc Health*. 2016;59(5):577–583
9. US Department of Health and Human Services. Healthy People 2020 objectives: family planning. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning/objectives>. Accessed September 30, 2018
10. Ott MA, Sucato GS; Committee on Adolescence. Contraception for adolescents. *Pediatrics*. 2014;134(4). Available at: [www.pediatrics.org/cgi/content/full/134/4/e1257](http://www.pediatrics.org/cgi/content/full/134/4/e1257)
11. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 735: adolescents and long-acting reversible contraception: implants and intrauterine devices. *Obstet Gynecol*. 2018;131(5):e130–e139
12. Abma JC, Martinez GM. Sexual activity and contraceptive use among teenagers in the United States, 2011–2015. *Natl Health Stat Rep*. 2017;(104):1–23
13. Yuzpe AA, Thurlow HJ, Ramzy I, Leyshon JI. Post coital contraception—A pilot study. *J Reprod Med*. 1974;13(2):53–58
14. Meyer JL, Gold MA, Haggerty CL. Advance provision of emergency contraception among adolescent and young adult women: a systematic review of literature. *J Pediatr Adolesc Gynecol*. 2011;24(1):2–9
15. Rowan A. Obama administration yields to the courts and the evidence, allows emergency contraception to be sold without restrictions. Available at: <https://www.guttmacher.org/gpr/2013/06/obama-administration-yields-courts-and-evidence-allows-emergency-contraception-be-sold>. Accessed January 7, 2019
16. American Society for Emergency Contraception. Inching towards progress: ASEC's 2015 pharmacy access study. Available at: [http://americansocietyforec.org/uploads/3/4/5/6/34568220/asec\\_2015\\_ec\\_access\\_report\\_1.pdf](http://americansocietyforec.org/uploads/3/4/5/6/34568220/asec_2015_ec_access_report_1.pdf). Accessed February 13, 2017
17. Sills MR, Chamberlain JM, Teach SJ. The associations among pediatricians' knowledge, attitudes, and practices regarding emergency contraception. *Pediatrics*. 2000;105(4, pt 2):954–956
18. Golden NH, Seigel WM, Fisher M, et al. Emergency contraception: pediatricians' knowledge, attitudes, and opinions. *Pediatrics*. 2001;107(2):287–292
19. Lim SW, Iheagwara KN, Legano L, Coupey SM. Emergency contraception: are pediatric residents counseling and prescribing to teens? *J Pediatr Adolesc Gynecol*. 2008;21(3):129–134
20. Upadhyia KK, Trent ME, Ellen JM. Impact of individual values on adherence to emergency contraception practice guidelines among pediatric residents: implications for training. *Arch Pediatr Adolesc Med*. 2009;163(10):944–948
21. Batur P, Cleland K, McNamara M, Wu J, Pickle S; EC Survey Group. Emergency contraception: a multispecialty survey of clinician knowledge and practices. *Contraception*. 2016;93(2):145–152
22. Pharma HRA. FDA advisory committee unanimously recommends approval of HRA pharma's ulipristal acetate for emergency contraception. 2010. Available at: [https://ec.princeton.edu/news/HRA\\_Ella\\_PR.pdf](https://ec.princeton.edu/news/HRA_Ella_PR.pdf). Accessed January 7, 2019
23. von Hertzen H, Piaggio G, Ding J, et al; WHO Research Group on Post-ovulatory Methods of Fertility Regulation. Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: a WHO multicentre randomised trial. *Lancet*. 2002;360(9348):1803–1810
24. Rodrigues I, Grou F, Joly J. Effectiveness of emergency contraceptive pills between 72 and 120 hours after unprotected sexual intercourse. *Am J Obstet Gynecol*. 2001;184(4):531–537
25. Curtis KM, Jatlaoui TC, Tepper NK, et al. U.S. selected practice recommendations for contraceptive use, 2016. *MMWR Recomm Rep*. 2016;65(4):1–66
26. American College of Obstetricians and Gynecologists. Practice Bulletin No. 152: emergency contraception. *Obstet Gynecol*. 2015;126(3):e1–e11
27. 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. *Hum Reprod*. 2012;27(7):1994–2000
28. Wu S, Godfrey EM, Wojdyla D, et al. Copper T380A intrauterine device for emergency contraception: a prospective, multicentre, cohort clinical trial. *BJOG*. 2010;117(10):1205–1210
29. Turok DK, Godfrey EM, Wojdyla D, et al. Copper T380 intrauterine device for emergency contraception: highly effective at any time in the menstrual cycle. *Hum Reprod*. 2013;28(10):2672–2676
30. Turok DK, Sanders JN, Thompson IS, et al. Preference for and efficacy of oral levonorgestrel for emergency contraception with concomitant placement of a levonorgestrel IUD: a prospective cohort study. *Contraception*. 2016;93(6):526–532
31. Moreau C, Trussell J. Results from pooled Phase III studies of ulipristal acetate for emergency contraception. *Contraception*. 2012;86(6):673–680
32. Glasier A, Cameron ST, Blithe D, et al. Can we identify women at risk of



- pregnancy despite using emergency contraception? Data from randomized trials of ulipristal acetate and levonorgestrel. *Contraception*. 2011; 84(4):363–367
33. Kapp N, Abitbol JL, Mathé H, et al. Effect of body weight and BMI on the efficacy of levonorgestrel emergency contraception. *Contraception*. 2015; 91(2):97–104
  34. US Food and Drug Administration. FDA communication on levonorgestrel emergency contraceptive effectiveness and weight. Available at: <https://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/ucm109775.htm>. Accessed January 3, 2019
  35. Curtis KM, Tepper NK, Jatlaoui TC, et al. US medical eligibility criteria for contraceptive use, 2016. *MMWR Recomm Rep*. 2016;65(3):1–103
  36. US Food and Drug Administration. Highlights of prescribing information: ella (ulipristal acetate) tablet. Revised March 2015. Available at: [www.accessdata.fda.gov/drugsatfda\\_docs/label/2015/022474s007lbl.pdf](http://www.accessdata.fda.gov/drugsatfda_docs/label/2015/022474s007lbl.pdf). Accessed January 3, 2019
  37. US Food and Drug Administration. Highlights of prescribing information: Plan B One-Step tablet (levonorgestrel) 1.5mg for oral use. Revised July 2009. Available at: [www.accessdata.fda.gov/drugsatfda\\_docs/label/2009/021998lbl.pdf](http://www.accessdata.fda.gov/drugsatfda_docs/label/2009/021998lbl.pdf). Accessed January 3, 2019
  38. Halpern V, Raymond EG, Lopez LM. Repeated use of pre- and postcoital hormonal contraception for prevention of pregnancy. *Cochrane Database Syst Rev*. 2010;(1):CD007595
  39. Ellertson C, Webb A, Blanchard K, et al. Modifying the Yuzpe regimen of emergency contraception: a multicenter randomized controlled trial. *Obstet Gynecol*. 2003;101(6): 1160–1167
  40. Percival-Smith RK, Abercrombie B. Postcoital contraception with dlnorgestrel/ethinyl estradiol combination: six years experience in a student medical clinic. *Contraception*. 1987;36(3):287–293
  41. Raymond EG, Creinin MD, Barnhart KT, et al. Meclizine for prevention of nausea associated with use of emergency contraceptive pills: a randomized trial. *Obstet Gynecol*. 2000;95(2):271–277
  42. Workowski KA, Bolan GA; Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep*. 2015;64(RR-03):1–137
  43. Bullock H, Steele S, Kurata N, et al. Pharmacy access to ulipristal acetate in Hawaii: is a prescription enough? *Contraception*. 2016;93(5):452–454
  44. Brant A, White K, St Marie P. Pharmacy availability of ulipristal acetate emergency contraception: an audit study. *Contraception*. 2014;90(3): 338–339
  45. Committee on Adolescence. Emergency contraception. *Pediatrics*. 2012;130(6): 1174–1182
  46. Garbers S, Bell DL, Ogaye K, Marcell AV, Westhoff CL, Rosenthal SL. Advance provision of emergency contraception to young men: an exploratory study in a clinic setting [published online ahead of print April 17, 2018]. *Contraception*. doi:10.1016/j.contraception.2018.04.005
  47. Marcell AV, Waks AB, Rutkow L, et al. What do we know about males and emergency contraception? A synthesis of the literature. *Perspect Sex Reprod Health*. 2012;44(3):184–193
  48. Schragger SM, Olson J, Beharry M, et al. Young men and the morning after: a missed opportunity for emergency contraception provision? *J Fam Plann Reprod Health Care*. 2015;41(1):33–37
  49. Richards MJ, Peters M, Sheeder J, Kaul P. Contraception and adolescent males: an opportunity for providers. *J Adolesc Health*. 2016;58(3):366–368
  50. Liddon N, Steiner RJ, Martinez GM. Provider communication with adolescent and young females during sexual and reproductive health visits: findings from the 2011–2015 National Survey of Family Growth. *Contraception*. 2018;97(1):22–28
  51. Murphy NA, Elias ER. Sexuality of children and adolescents with developmental disabilities. *Pediatrics*. 2006;118(1):398–403
  52. Hibbard RA, Desch LW; American Academy of Pediatrics Committee on Child Abuse and Neglect; American Academy of Pediatrics Council on Children With Disabilities. Maltreatment of children with disabilities. *Pediatrics*. 2007;119(5):1018–1025
  53. Guttmacher Institute. Minors' access to contraceptive services. 2018. Available at: <https://www.guttmacher.org/state-policy/explore/minors-access-contraceptive-services>. Accessed April 5, 2018
  54. Dudley TI. Bearing injustice: foster care, pregnancy prevention, and the law. *Law Justice*. 2013;28(1):77–115
  55. US Department of Health and Human Services. Statutory rape: a guide to state laws and reporting requirements. 2004. Available at: <https://aspe.hhs.gov/report/statutory-rape-guide-state-laws-and-reporting-requirements>. Accessed April 12, 2018
  56. Stewart HE, Gold MA, Parker AM. The impact of using emergency contraception on reproductive health outcomes: a retrospective review in an urban adolescent clinic. *J Pediatr Adolesc Gynecol*. 2003;16(5):313–318
  57. Gold MA, Wolford JE, Smith KA, Parker AM. The effects of advance provision of emergency contraception on adolescent women's sexual and contraceptive behaviors. *J Pediatr Adolesc Gynecol*. 2004;17(2):87–96
  58. Raine TR, Harper CC, Rocca CH, et al. Direct access to emergency contraception through pharmacies and effect on unintended pregnancy and STIs: a randomized controlled trial. *JAMA*. 2005;293(1):54–62
  59. Conard LA, Fortenberry JD, Blythe MJ, Orr DP. Pharmacists' attitudes toward and practices with adolescents. *Arch Pediatr Adolesc Med*. 2003;157(4): 361–365
  60. Grimes DA. Emergency contraception: politics trumps science at the U.S. Food and Drug Administration. *Obstet Gynecol*. 2004;104(2): 220–221
  61. Pruitt SL, Mullen PD. Contraception or abortion? Inaccurate descriptions of emergency contraception in newspaper articles, 1992-2002. *Contraception*. 2005;71(1):14–21
  62. Karasz A, Kirchen NT, Gold M. The visit before the morning after: barriers to preprescribing emergency

- contraception. *Ann Fam Med*. 2004;2(4):345–350
63. Fairhurst K, Wyke S, Ziebland S, Seaman P, Glasier A. “Not that sort of practice”: the views and behaviour of primary care practitioners in a study of advance provision of emergency contraception. *Fam Pract*. 2005;22(3):280–286
64. Miller MK, Mollen CJ, O’Malley D, et al. Providing adolescent sexual health care in the pediatric emergency department: views of health care providers. *Pediatr Emerg Care*. 2014;30(2):84–90
65. Committee on Bioethics. Policy statement—Physician refusal to provide information or treatment on the basis of claims of conscience. *Pediatrics*. 2009;124(6):1689–1693

## Emergency Contraception

Krishna K. Upadhyia and COMMITTEE ON ADOLESCENCE

*Pediatrics* 2019;144;

DOI: 10.1542/peds.2019-3149 originally published online November 18, 2019;

### Updated Information & Services

including high resolution figures, can be found at:  
<http://pediatrics.aappublications.org/content/144/6/e20193149>

### References

This article cites 50 articles, 8 of which you can access for free at:  
<http://pediatrics.aappublications.org/content/144/6/e20193149#BIBL>

### Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):

#### Current Policy

[http://www.aappublications.org/cgi/collection/current\\_policy](http://www.aappublications.org/cgi/collection/current_policy)

#### Committee on Adolescence

[http://www.aappublications.org/cgi/collection/committee\\_on\\_adolescence](http://www.aappublications.org/cgi/collection/committee_on_adolescence)

#### Adolescent Health/Medicine

[http://www.aappublications.org/cgi/collection/adolescent\\_health\\_medicine\\_sub](http://www.aappublications.org/cgi/collection/adolescent_health_medicine_sub)

#### Contraception

[http://www.aappublications.org/cgi/collection/contraception\\_sub](http://www.aappublications.org/cgi/collection/contraception_sub)

### Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:

<http://www.aappublications.org/site/misc/Permissions.xhtml>

### Reprints

Information about ordering reprints can be found online:

<http://www.aappublications.org/site/misc/reprints.xhtml>

# American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®



# PEDIATRICS<sup>®</sup>

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

## **Emergency Contraception**

Krishna K. Upadhyya and COMMITTEE ON ADOLESCENCE

*Pediatrics* 2019;144;

DOI: 10.1542/peds.2019-3149 originally published online November 18, 2019;

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/144/6/e20193149>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 345 Park Avenue, Itasca, Illinois, 60143. Copyright © 2019 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN<sup>®</sup>

