American Academy of Pediatrics
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POLICY STATEMENT

Contraception for Adolescents

abstract

FREE

Contraception is a pillar in reducing adolescent pregnancy rates. The American Academy of Pediatrics recommends that pediatricians develop a working knowledge of contraception to help adolescents reduce risks of and negative health consequences related to unintended pregnancy. Over the past 10 years, a number of new contraceptive methods have become available to adolescents, newer guidance has been issued on existing contraceptive methods, and the evidence base for contraception for special populations (adolescents who have disabilities, are obese, are recipients of solid organ transplants, or are HIV infected) has expanded. The Academy has addressed contraception since 1980, and this policy statement updates the 2007 statement on contraception and adolescents. It provides the pediatrician with a description and rationale for best practices in counseling and prescribing contraception for adolescents. It is supported by an accompanying technical report. *Pediatrics* 2014;134:e1244–e1256

COMMITTEE ON ADOLESCENCE

KEY WORDS

contraception, adolescent, birth control, intrauterine device, contraceptive implant, oral contraceptive pills, contraceptive injection

ABBREVIATIONS

AAP—American Academy of Pediatrics
ACOG—American College of Obstetricians and Gynecologists
BMD—bone mineral density
CDC—Centers for Disease Control and Prevention
COC—combined oral contraceptive
DMPA—depot medroxyprogesterone acetate
EC—emergency contraception
FDA—Food and Drug Administration
HIPAA—Health Insurance Portability and Accountability Act
IUD—intrauterine device
LARC—long-acting reversible contraception
PID—pelvic inflammatory disease
STI—sexually transmitted infection

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INTRODUCTION

Pediatricians play an important role in adolescent pregnancy prevention and contraception. Nearly half of US high school students report ever having had sexual intercourse.[1] Each year, approximately 750 000 adolescents become pregnant, with more than 80% of these pregnancies unplanned, indicating an unmet need for effective contraception in this population.[2,3] Although condoms are the most frequently used form of contraception (52% of females reported condom use at last sex), use of more effective hormonal methods, including combined oral contraceptives (COCs) and other hormonal methods, was lower, at 31% and 12%, respectively, in 2011.[1] Use of highly effective long-acting reversible contraceptives, such as implants or intrauterine devices (IUDs), was much lower.[1]

Adolescents consider pediatricians and other health care providers a highly trusted source of sexual health information.[4,5] Pediatricians' long-term relationships with adolescents and families allow them to ask about sensitive topics, such as sexuality and relationships, and to promote healthy sexual decision-making, including abstinence and contraceptive use for teenagers who are sexually active. Additionally, medical indications for hormonal contraception, such as dysmenorrhea, heavy menstrual bleeding or other abnormal uterine bleeding, acne, and polycystic ovary syndrome, are often uncovered during adolescent visits. A working knowledge of contraception will assist the pediatrician in both sexual health promotion and treatment of common

adolescent gynecologic problems. Contraception has been inconsistently covered as part of insurance plans. However, the Institute of Medicine has recommended contraception as an essential component of adolescent preventive care,[6] and the Patient Protection and Affordable Care Act of 2010 (Pub L No. 111–148) requires coverage of preventive services for women, which includes contraception, without a copay.[7,8]

SETTING THE STAGE

Confidentiality and Consent

In the setting of contraception and sexual health care, the American Academy of Pediatrics (AAP) believes that policies supporting adolescent consent and protecting adolescent confidentiality are in the best interests of adolescents. Accordingly, best practice guidelines recommend confidentiality around sexuality and sexually transmitted infections (STIs) and minor consent for contraception.[9–11] The majority of states have specific laws regarding minor consent to contraception (see *State Minor Consent Laws: A Summary*[12] and the Guttmacher Institute's State Center[13] at http://www.guttmacher.org/statecenter/ for regularly updated state-by-state summaries). For states without specific laws, best practice guidelines, federal statutes, and federal case law may support minor confidentiality and consent.[12] For example, family planning clinics funded by Title X of the federal Public Health Services Act (42 USC §§300–300a-6 [1970]) are required to provide confidential services to adolescents.[12]

The Health Insurance Portability and Accountability Act (HIPAA [Pub L No. 104–191, 1996]) specifically addresses minor confidentiality. Although HIPAA allows parents access to a minor's records as personal representatives, that access is denied when the minor is provided with confidentiality under state or other laws or when the parent agrees that the minor may have confidential care.[14] Therefore, the AAP recommends that pediatricians have an office policy that explicitly describes confidential services and that pediatricians discuss (and document) confidentiality with all parents and adolescents. As an additional protection for minors' confidentiality, HIPAA states that if there is no applicable state law about the rights of parents to access the protected health information of their children, pediatricians (or other licensed health professionals) may exercise their professional judgment to provide or deny parental access to the records.[14] This can be accomplished with careful documentation of their professional judgment.

Insurance, billing, and electronic health record systems create additional challenges, including maintaining the confidentiality of visits, visit content, associated laboratory test results, and payment for the contraceptive method itself.[15] For additional discussion of electronic health records, see the AAP policy statement on health information technology.[16]

Careful attention to minor consent and confidentiality is important, because limitations on confidentiality and consent are linked to lower use of contraceptives and higher adolescent pregnancy rates.[17–21] Parents need not be adversaries; in fact, many parents are supportive of minor consent and confidentiality for sexual health services.[22,23] As permitted by law, adolescent contraception should be provided as a confidential service, with adolescents encouraged to involve parents or trusted adults as they are able.

Sexual History Taking and Counseling

Bright Futures recommends that pediatricians take a developmentally targeted sexual history, assess STI and pregnancy risk, and provide appropriate screening, counseling, and, if needed, contraceptives.[24] Key to history taking is an honest, caring, nonjudgmental attitude and a comfortable, matter-of-fact approach to asking questions. This can be accomplished by assessing the 5 Ps of sexual history taking, as described by the Centers for Disease Control and Prevention (CDC): partners, prevention of pregnancy, protection from STIs, sexual practices, and past history of STIs and pregnancy.[25] Counseling should draw on motivational interviewing approaches, with the focus of the interview on future goals, belief in the adolescents' capacity to change, and engagement of the adolescent in the process of adopting health-promoting behaviors.[26] For an example of motivational interviewing for sexual health counseling, see Ott et al (2007),[27] and for a more detailed discussion of counseling approaches, see the accompanying technical report.[28]

Counseling About Abstinence and Contraception

Counseling about abstinence and postponement of sexual intercourse is an important aspect of adolescent sexual health care. Abstinence is 100% effective in preventing pregnancy and STIs and is an important part of contraceptive counseling. Adolescents should be encouraged to delay sexual onset until they are ready. However, existing data suggest that, over time, perfect adherence to abstinence is low (ie, many adolescents planning on abstinence do not remain abstinent).[29,30] Therefore, pediatricians should not rely on abstinence counseling alone but should additionally provide access to comprehensive sexual health information to all adolescents. For sexually active adolescents, including gay and lesbian adolescents,[31] and those considering initiation of sexual activity, counseling additionally includes initiating contraception, supporting adherence to the contraceptive method, managing adverse effects, and providing periodic screening for STIs.[24]

METHODS OF CONTRACEPTION

This section summarizes the contraceptive options for adolescents; the accompanying technical report provides more detailed information on each of the methods. When comparing the efficacy of different methods, it is important to distinguish between typical use and perfect use, and counseling should be based on typical use. Typical use efficacy refers to the probability of pregnancy during the first year of typical use and includes users with varying degrees of adherence; perfect use efficacy is the probability of pregnancy if used consistently and correctly every time.[32] The most effective methods rely the least on individual adherence; for these methods, typical use effectiveness approaches perfect use effectiveness. Contraceptive methods most commonly used by adolescents are listed below, ordered from most to least effective, starting with long-acting reversible contraception (LARC): implants and IUDs. *Pediatricians are encouraged to counsel adolescents in that order, discussing the most effective contraceptive methods first* (see Table 1 for contraceptive effectiveness).

TABLE 1 Contraceptive Method Efficacy

Method	% of Women Experiencing an Unintended Pregnancy in the First Year of Use		% of Women Continuing Use at 1 Year[a]
	Typical Use[b]	Perfect Use[c]	
No method	85	85	—
Spermicides (foams, creams, gels, suppositories, and film)	28	18	42
Fertility awareness–based methods	24	—	47
Withdrawal	22	4	46
Condom			
Female	21	5	41
Male	18	2	43
Diaphragm	12	6	57
Combined pill and progestin-only pill	9	0.3	67
Contraceptive patch	9	0.3	67
Contraceptive ring	9	0.3	67
DMPA contraceptive injection	6	0.2	56
IUD			
Copper T	0.8	0.6	78
Levonorgestrel	0.2	0.2	80
Single-rod contraceptive implant	0.05	0.05	84
Female sterilization	0.5	0.5	100
Male sterilization	0.15	0.10	100

—, data not available.

[a] Among couples attempting to avoid pregnancy, the percentage who continue to use a method for 1 y.

[b] Among typical couples who initiate use of a method (not necessarily for the first time), the percentage who experience an accidental pregnancy during the first year if they do not stop use for any other reason. Estimates of the probability of pregnancy during the first year of typical use for spermicides, withdrawal, periodic abstinence, the diaphragm, the male condom, the pill, and Depo-Provera are taken from the 1995 and 2002 National Survey of Family Growth, corrected for underreporting of abortion; see the text for the derivation of estimates for the other methods.

[c] Among couples who initiate use of a method (not necessarily for the first time) and who use it perfectly (both consistently and correctly), the percentage who experience an accidental pregnancy during the first year if they do not stop use for any other reason.

Progestin Implants

Implanon and Nexplanon (Merck, Whitehouse Station, NJ) are both single-rod implants that contain etonogestrel, the active metabolite of the progestin desogestrel. Implants, a LARC method, are highly effective, with typical and perfect use failure rates of less than 1%[32,33]; they may remain in place for 3 years. The implant is inserted into the inside of the upper arm by a clinician who has completed the requisite training. Implants are ideal for adolescents who prefer a method that does not require regularly scheduled adherence and who desire an extended length of protection. A common reason for discontinuation is unpredictable bleeding or spotting.[34,35]

Contraceptive implants can also be offered to pregnant adolescents and provided in the immediate postpartum period, while the adolescent is still in the hospital. The American College of Obstetricians and Gynecologists (ACOG) and the CDC both support immediate postpartum insertion of implants as a safe and effective practice that removes barriers to care.[36,37] The main theoretical concern about contraceptive implant use in the postpartum period is whether the progestin might have some effect on breastfeeding; however, studies of contraceptive implant use among breastfeeding women have generally found no effects on breastfeeding performance or infant health and growth.[38,39] When starting an implant, patients should be counseled that a backup method (ie, condoms or abstinence) should be used for at least the first week for contraceptive efficacy and that a condom should be used at all times for protection against STIs.

IUDs

IUDs inserted into the uterus also provide long-acting reversible contraception. Three IUDs currently are approved in the United States: 2 levonorgestrel-releasing T-shaped IUDs (Mirena, 52 mg levonorgestrel, and Skyla, 13.5 mg levonorgestrel; Bayer HealthCare Pharmaceuticals Inc, Wayne, NJ) and a copper-containing T-shaped IUD (Copper T380-A, ParaGard; Teva North America, North Wales, PA). The 13.5-mg levonorgestrel IUD is approved for 3 years,[40] the 52-mg levonorgestrel IUD is approved for 5 years,[41] and the copper IUD is approved for 10 years.[42] Despite their low but increasing use in the United

States, IUDs are used extensively worldwide because they are safe and effective methods of contraception with typical and perfect use failure rates of less than 1%.[43] The copper IUD can be used as emergency contraception (EC) within 5 days of unprotected intercourse.[43,44]

Despite past concerns, IUDs are now known to be safe for nulliparous adolescents. IUDs themselves do not cause tubal infertility in nulliparous women,[45] and studies support a rapid return to fertility after IUD removal.[46,47] The risk of pelvic infection with IUDs occurs only during insertion. Beyond the first 21 days, IUDs do not increase rates of STIs or pelvic inflammatory disease (PID).[48,49] Unless the adolescent is at very high risk for STIs (eg, had sex with a partner with known gonorrhea), screening for gonorrhea and chlamydia can be performed on the day of insertion.[50] Treatment, if needed, can be subsequently provided without IUD removal, because studies have demonstrated that, provided the patient improves with treatment, both STIs and PID can be treated with the IUD in place.[51,52] Contraindications to IUD placement are limited to current purulent cervicitis, gonorrhea, or chlamydia, current PID and other current pelvic infections (see "US Medical Eligibility Criteria for Contraceptive Use" for more extensive discussion).[37] Past PID is not a contraindication to IUD use. HIV infection and immunosuppression are also not contraindications to IUD use.

IUDs can also be offered to pregnant adolescents and provided in the immediate postpartum period, while the adolescent is still in the hospital. Two systematic reviews concluded that immediate postpartum insertion of IUDs is safe and effective,[53,54] and both ACOG and the CDC support this practice.[36,37,55] Studies have shown that many women who desire an IUD at the time of delivery do not return for later insertion and that immediate insertion of IUDs provides similar contraceptive coverage as delayed insertion, even with higher expulsion rates with immediate insertion.[56,57]

The emerging adolescent-specific data on IUDs are promising. However, there are some disadvantages. The limited data in adolescents suggest that expulsion, which occurs in fewer than 5% of women using IUDs, may occur more frequently in younger women.[58] Another concern is that more than half of young nulliparous women report moderate to severe pain with insertion.[59,60] Nonetheless, studies demonstrate IUD continuation rates in adolescents that exceed those with other hormonal methods and effective use of the levonorgestrel IUD for menstrual suppression in adolescent patients with complex medical conditions.[61–67]

Progestin-Only Injectable Contraception

Depot medroxyprogesterone acetate (DMPA, also known by the brand name Depo-Provera; Pfizer, New York, NY) is a long-acting progestin that is given as a single injection every 13 weeks (up to 15 weeks) using a dose of either 150 mg delivered intramuscularly or 104 mg delivered subcutaneously. Many health care providers schedule visits every 11 to 12 weeks for adolescents to allow for missed or delayed visits. Both regimens have similar effectiveness and side effects[68] and are highly effective in preventing pregnancy. In the first year of use, the probability of becoming pregnant with typical use is approximately 6%.[32] DMPA can be initiated on the same day as the visit ("mid-cycle" or "quick" start) as long as the health care provider is reasonably certain the adolescent is not pregnant. For additional details, see the accompanying technical report and the CDC's 2013 "US Selected Practice Recommendations for Contraceptive Use."[52] When starting DMPA, patients should be counseled that a backup method (eg, condoms or abstinence) should be used for at least the first week for contraceptive efficacy and that a condom should be used at all times for protection against STIs.

DMPA is convenient for many adolescents because of its ease of use. Other advantages include improvement in dysmenorrhea and protection against iron deficiency anemia and endometrial cancer.[69] DMPA is safe for most patients with chronic illness,[37] is thought to raise the seizure threshold in adolescents with epilepsy,[70] and may decrease sickle cell crises.[71,72]

The major disadvantages of DMPA include the need for an injection every 13 weeks and the menstrual cycle irregularities that are present for nearly all patients initially. These menstrual irregularities typically improve over time[73,74] and may be less likely to result in discontinuation if patients are counseled about these effects before the first injection.[75,76] Other possible adverse effects include headache, mastalgia, hair loss, change in libido, and weight gain. Studies in both adolescents[77] and adults[78] suggest that weight gain status at 6 months is a strong predictor of future excessive weight gain with ongoing DMPA use, but that weight gain does not occur in all patients.[79,80]

DMPA causes reductions in bone mineral density (BMD),[81–83] and in 2004 the US Food and Drug Administration (FDA) issued a black-box warning about the risk of decreased BMD among DMPA users.[84] Subsequent publications document a substantial recovery of BMD after the patient discontinues DMPA,[85–87] and ACOG, recognizing the risk of unwanted pregnancy if women's contraceptive options are limited, does not advise limiting DMPA use to 2 years (in contrast to earlier concerns[88]) or routinely monitoring bone density after that time frame.[89] Nonetheless, it remains

important to consider other risk factors for osteoporosis and to tailor counseling and recommendations to each patient. All patients should be counseled about measures that promote skeletal health, such as daily intake of 1300 mg of calcium and 600 IU of vitamin D and regular weight-bearing exercise.[90]

Combined Oral Contraceptive Pills

COCs are the most popular method of hormonal contraception for adolescents. COCs all contain a progestin and an estrogen. In almost every pill, the estrogen component is ethinyl estradiol in amounts varying from 10 to 50 μg. Many adolescent medicine experts begin with a COC containing 30 to 35 μg of ethinyl estradiol and a progestin such as levonorgestrel or norgestimate. However, any "low-dose" pill (ie, containing ethinyl estradiol 35 μg or less) can be used. Although inspection of the external genitalia and a vaginal swab or urine screen for STIs are recommended practices in the care of sexually active patients,[91] no gynecologic examination is needed to determine eligibility for COC use. Like other combined methods including the contraceptive vaginal ring and transdermal patch, COCs can be started on the same day as the visit ("quick start") in healthy, nonpregnant adolescents. Patients should be counseled that a backup method (ie, condoms or abstinence) should be used for at least the first 7 days for contraceptive efficacy and that a condom should be used at all times for protection against STIs. The CDC recommends prescribing up to 1 year of COCs at a time.[52] Additionally, a routine follow-up visit 1 to 3 months after initiating COCs is useful for addressing adverse effects or adherence issues.

COCs have few contraindications in healthy female adolescents. They should not be prescribed for patients with severe and uncontrolled hypertension (systolic pressure ≥160 mm Hg or diastolic pressure ≥100 mm Hg), ongoing hepatic dysfunction, complicated valvular heart disease, migraines with aura or focal neurologic symptoms, thromboembolism or thrombophilia, complications of diabetes (ie, nephropathy, retinopathy, neuropathy, or other vascular disease), and complicated solid organ transplantation.[37] The most serious adverse event associated with COC use is the increased risk of blood clots, which increases from 1 per 10 000 to 3 to 4 per 10 000 woman-years during COC use.[92,93] In comparison, the incidence of venous thromboembolism associated with pregnancy and postpartum is 10 to 20 per 10 000 woman-years, of which 1% to 2% are fatal.[94,95] Although smoking should be discouraged, it is not a contraindication to COC use in teenagers and adults younger than 35 years old.[37]

Patients should be informed that common transient adverse effects of COCs include irregular bleeding, headache, and nausea. Recommendations for managing adverse effects have been published elsewhere[96] or can be found online (http://www.managingcontraception.com/qa/index.php or http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6205a1.htm?s_cid=rr6205a1_w).[52] Drug interactions should also be avoided. With medications that decrease COC effectiveness (eg, anticonvulsants and antiretroviral drugs), patients may benefit from choosing an alternative method or dosing[97] (see the accompanying technical report for additional details). Most broad-spectrum antibiotics (rifampin is an exception) do not affect the contraceptive effectiveness of COCs.[37]

Typical use failure rates are 9% in adults and may be higher in adolescents.[32,98] Counseling should include strategies to promote daily adherence, such as cell phone alarms and support from a family member or partner. Patients should be instructed on what to do if pills are missed. A missed pill should be taken as soon as it is remembered. If more than 1 pill in a row is missed, only the most recently missed pill should be taken as soon as possible, and the remaining pills should be taken at the usual time. Patients should be reminded that 7 consecutive hormone pills are needed to prevent ovulation. Additional instructions can be accessed online (http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6205a1.htm?s_cid=rr6205a1_w#Fig2).[52] EC is indicated if 2 or more pills are missed in the first week of the cycle.[99,100] EC should also be considered if 1 or more pills were missed earlier in the same cycle as a missed pill or late in the previous cycle (see online instructions provided earlier for details).

Many patients may benefit from decreasing or eliminating the hormone-free (placebo) interval. Extended or continuous cycles may be useful for treating medical conditions such as anemia, acne, severe dysmenorrhea, endometriosis, dysfunctional or heavy menstrual bleeding, Von Willebrand disease, and other bleeding diatheses and for adolescents who prefer amenorrhea.[101] These regimens may also be useful for conditions that can be exacerbated cyclically, such as migraine (without aura), epilepsy, irritable bowel syndrome, inflammatory bowel disease, and some psychiatric and behavioral symptoms[102]; the most common adverse effect of extended or continuous cycles is unscheduled bleeding. Patients may be reassured to know that observational data indicate that COC use does not increase the risk of infertility or breast cancer[103] and that use of COCs for more than 4 years provides significant protection against endometrial and ovarian cancers.[104]

Contraceptive Vaginal Ring

The vaginal ring (NuvaRing; Merck, Whitehouse Station, NJ) releases a combination

of estrogen and progestin and thus has the same eligibility criteria for use as COCs. As with COCs, a same-day start ("quick start") can also be used with the vaginal ring. The ring is inserted in the vagina and stays in place for 3 weeks, with removal for 1 week to induce withdrawal bleeding, followed by insertion of a new ring. Patients should be instructed to insert a new ring after 7 days even if bleeding has not ceased.

The ring has comparable efficacy, risks, and benefits as other combined hormonal methods but provides the simplest regimen.[32,105,106] Adverse effects are also similar, with the additional vaginal symptoms of discharge, discomfort, and problems related to the device (eg, expulsion).[107] The ring is an excellent method for extended use because, although labeled for 28 days of use, the rings contain sufficient medication to be used for up to 35 days[108] and thus can be replaced once every calendar month. Sexually active patients may be reassured to know that most men were not bothered by its presence, if it was noted at all.[109,110]

Transdermal Contraceptive Patch

The combination hormone (estrogen and progestin) transdermal contraceptive patch (Ortho Evra; Ortho-McNeil Pharmaceutical, Raritan, NJ) is placed on the abdomen, upper torso, upper outer arm, or buttocks using 1 patch for each of 3 weeks in a row, followed by 1 week off the patch, during which a withdrawal bleed usually occurs. Typical use failure rates are similar to those of COCs at 9%.[32] The FDA has identified increased estrogen exposure (1.6 times higher than with a low-dose COC[111]) and a potential increased risk of venous thromboembolism with the patch[112,113] (see accompanying technical report for more complete discussion).

The patch has comparable efficacy, benefits, eligibility criteria for use, and drug interactions as COCs; side effects are similar to those of other combined methods, with the addition of dislodged patches and skin effects, such as hyperpigmentation,[114,115] contact dermatitis, and other irritation.[116] The risk of pregnancy with correct ("perfect") use of the patch is slightly higher for women who weigh more than 198 pounds than for women who weigh less (0.9% vs 0.3% in first 12 months of use).[117,118]

Progestin-Only Pills

Progestin-only pills (also known as "mini-pills") work primarily by thickening cervical mucus, not by inhibiting ovulation. Because very stringent adherence is necessary, their failure rate can be significantly higher than those of other combined hormonal and progestin-only methods (IUDs and contraceptive implants and injections). However, they provide an additional option for patients who have safety concerns about estrogen use (see accompanying technical report for additional details).[37]

Male Condoms

The male condom is the most common contraceptive method used by adolescents, with up to 52% of female and 75% of male adolescents reporting condom use at last intercourse.[1] Advantages include male involvement in the responsibility for contraception, easy accessibility by minors without a prescription, and low cost. Latex condoms also reduce STI transmission, with consistent evidence for the reduction of gonorrhea, chlamydia, trichomoniasis,[119–123] and hepatitis B and HIV transmission[124] and emerging evidence for the reduction of herpes simplex virus,[125,126] human papillomavirus,[127,128] and syphilis transmission.[129] However, condom use requires commitment at every sex act, tends to drop off over time, and is influenced by individual, relationship, and broader social factors.[130–133] Although the perfect use failure rate of condoms is 2%, the typical use failure rate is 18% for all users and can be higher among adolescents.[32] The high typical use failure rate, coupled with the condom's high STI protection, has led to the recommendation for dual contraception: condoms plus a highly effective hormonal or other long-acting method. Instructions for condom use can be found in the accompanying technical report, and additional details are provided in the AAP policy statement on condoms.[133]

Emergency Contraception

In the United States, EC is available as oral levonorgestrel; an oral progesterone receptor modulator, ulipristal acetate; high-dose combined estrogen–progestin oral contraceptive pills (the Yuzpe regimen); and placement of a copper IUD. Levonorgestrel EC is preferred to the Yuzpe regimen because of the superior adverse effect profile and effectiveness, which is up to 85%.[44,134] Ulipristal acetate may have greater effectiveness than oral levonorgestrel at the end of the 5-day window of use, and its remaining effectiveness and adverse effect profile are similar to those of levonorgestrel.[135,136] In addition, on the basis of recent data about lower efficacy of levonorgestrel EC, ulipristal may be more effective in people who weigh more than 165 pounds.[137,138] Placement of a copper-bearing IUD is less commonly used for EC in adolescents but is the most effective EC method, with a failure rate of less than 1%.[139]

The recommended dosage of levonorgestrel is a single 1.5-mg dose.[134,140] It is available either as 2 pills (0.75 mg each) or as 1 pill (Plan B One-Step; Teva Pharmaceuticals, Petah Tikva, Israel). Levonorgestrel-based EC delays or inhibits ovulation and does not

appear to be effective once ovulation has occurred. If used inadvertently during early pregnancy, it is not teratogenic, only ineffective.[141] Thus, a pregnancy test is not mandatory before levonorgestrel EC is prescribed.[44]

Plan B One-Step is approved by the FDA as a nonprescription product for all women of childbearing potential.[142] Generic versions are approved as a nonprescription product for women 17 years of age and older; however, proof of age is not required to purchase them. Providing EC in advance increases the likelihood of use when it is needed without increasing sexual or contraceptive risk-taking behavior.[143,144] Therefore, EC should be prescribed or recommended in advance for use for up to 5 days after an event of unprotected intercourse.[44] Additional details on EC mechanisms and use can be found in the AAP policy statement on emergency contraception[44] and the accompanying technical report.

Withdrawal

Withdrawal, or coitus interruptus, is a method in which the male partner attempts to pull out his penis before ejaculation. Because 57% of female adolescents report using withdrawal,[1] pediatricians should ask about it. However, because of its limited effectiveness (22% failure rate among all users)[32] and lack of STI protection, pediatricians should encourage adolescents to adopt more effective methods.

Other Methods

The female condom, periodic abstinence (fertility awareness or "the rhythm method"), vaginal spermicides, the cervical cap, and the diaphragm are methods less commonly used by adolescents. Additional descriptions are available in the accompanying technical report.

SPECIAL POPULATIONS

Adolescents With Disabilities and Medically Complex Illness

An estimated 16% to 25% of adolescents are identified as having special health care needs, including physical disability, developmental disability, and medically complex illness.[145] The improved survival of adolescents with medically complex illnesses, such as disabilities, chronic disease, HIV, and solid organ transplants, has prompted greater attention to quality-of-life issues. These issues, including adolescent interest in romantic and sexual relationships, are typically addressed by a pediatrician. Sexuality and sexual health care needs in this population are often overlooked, yet data demonstrate that, compared with healthy adolescents, adolescents with chronic illness have similar levels of sexual behaviors and sexual health outcomes (eg, STIs).[146,147] In addition to pregnancy prevention, these adolescents may need menstrual suppression for heavy menstrual bleeding, bleeding disorders, or chemotherapy. Other patients may be using teratogenic medications and need contraception for that reason. Issues that arise include safety concerns with estrogen use, medication interactions, and complications from the underlying disease. The CDC has recently addressed the contraceptive needs of young women with medical conditions by publishing the "US Medical Eligibility Criteria for Contraceptive Use."[37] Available online, this document summarizes the literature on safety and efficacy of different contraceptive methods by medical condition. Additional details on specific populations (eg, those with disabilities) are summarized in the accompanying technical report.

Adolescents With Obesity

The sexual health needs and sexual behaviors of adolescents with obesity are substantially similar to those of their normal-weight peers.[148,149] In addressing contraception, it is important to note that obesity and related endocrine effects can influence the efficacy and adverse effects profiles of contraceptives. For example, a small number of excess pregnancies were found among transdermal contraceptive patch users weighing more than 90 kg (198 lb).[117,118] The World Health Organization and CDC report that data are limited and inconsistent about whether COC effectiveness varies by body weight or BMI.[37,150–152] A common concern of both adolescents and providers is additional weight gain among adolescents with obesity after they start contraception. Data suggest that women with obesity are no more likely to gain weight with COCs, the vaginal ring, IUDs, or implants than normal-weight peers. In contrast, adolescents with obesity who used DMPA were more likely than nonusers with obesity, COC users with obesity, and normal-weight DMPA users to gain weight.[80]

Increasing numbers of adolescents are having bariatric surgery procedures performed, and these patients need highly effective contraception. Post-surgery data reveal an improvement in fertility coupled with the potential for decreased contraceptive effectiveness through malabsorption, vomiting, and diarrhea.[86] Professional consensus statements recommend delaying pregnancy for at least 12 months after the procedure.[153] All contraceptive methods are safe for women with a history of bariatric surgery, with the exception of oral contraceptives for women who have undergone malabsorptive procedures.[37] There is increasing experience and success with the levonorgestrel IUD placed at the time of surgery.[154]

ADHERENCE AND FOLLOW-UP

Frequent follow-up is important to maximize adherence for all methods of contraception and to promote and

reinforce healthy decision-making. Adolescents count on trusted health professionals, such as pediatricians, for support and problem solving around continuation and adherence. Regularly scheduled contraceptive follow-up visits should address use, adherence, adverse effects, and complications. Pediatricians can use motivational interviewing approaches to increase effective and consistent contraceptive use, including engaging parental support for contraceptive adherence, when possible. Follow-up visits should additionally include reassessment of relationships, sexual behaviors, contraceptive needs, STI surveillance and prevention, and other sexual health prevention measures, such as human papillomavirus immunization.

RECOMMENDATIONS

1. Pediatricians should counsel about and ensure access to a broad range of contraceptive services for their adolescent patients. This includes educating patients about all contraceptive methods that are safe and appropriate for them and describing the most effective methods first.
2. Pediatricians should be able to educate adolescent patients about LARC methods, including the progestin implant and IUDs. Given the efficacy, safety, and ease of use, LARC methods should be considered first-line contraceptive choices for adolescents. Some pediatricians may choose to acquire the skills to provide these methods to adolescents. Those who do not should identify health care providers in their communities to whom patients can be referred.
3. Despite increased attention to adverse effects, DMPA and the contraceptive patch are highly effective methods of contraception that are much safer than pregnancy. Pediatricians should continue to make them available to their patients.
4. Pediatricians should allow the adolescent to consent to contraceptive care and to control the disclosure of this information within the limits of state and federal laws. There are a number of supports for protecting minor consent and confidentiality, including state law, federal statutes, and federal case law. Pediatricians will need to be familiar with national best practice recommendations for confidential care and with the relevant minor consent laws in their states.
5. Pediatricians should be aware that it is appropriate to prescribe contraceptives or refer for IUD placement without first conducting a pelvic examination. Screenings for STIs, especially chlamydia, can be performed without a pelvic examination and should not be delayed.
6. Pediatricians should encourage the consistent and correct use of condoms with every act of sexual intercourse.
7. Pediatricians should have a working knowledge of the different combined hormonal methods and regimens, because these provide excellent cycle control both for contraception and medical management of common conditions, such as acne, dysmenorrhea, and heavy menstrual bleeding.
8. Pediatricians should remember that adolescents with chronic illness and disabilities have similar sexual health and contraceptive needs to healthy adolescents while recognizing that medical illness may complicate contraceptive choices.
9. Pediatricians should regularly update their adolescent patients' sexual histories and provide a confidential and nonjudgmental setting in which to address needs for contraception, STI screening, and sexual risk reduction counseling for patients who choose not to be abstinent.
10. Pediatricians should allow sufficient time with their adolescent patients to address contraceptive needs using a developmentally appropriate, patient-centered approach, such as motivational interviewing. If necessary, arrangements should be made for a separate visit for contraceptive follow-up to increase adherence and monitor for adverse effects and complications.
11. Pediatricians can complement the skills and resources of the pediatric office by being aware of state or federally subsidized insurance programs and clinics that provide confidential and free or low-cost reproductive health care services and supplies, including contraception.

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