

# Provision of Contraception: Key Recommendations from the CDC

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The Centers for Disease Control and Prevention has released comprehensive recommendations for provision of family planning services. Contraceptive services may be addressed in five steps, and counseling may be provided in a tiered approach, whereby the most effective options are presented before less effective options. Clinicians should discuss all contraceptive methods that can be used safely by the patient, regardless of whether a method is available on site and even if the patient is an adolescent or a nulliparous woman. Physical assessment is usually limited to blood pressure evaluation before starting hormonal contraceptives or pelvic examination before placing an intrauterine device. Monitoring the patient's weight also may be helpful. If it is reasonably certain that the patient is not pregnant, any contraceptive may be started immediately. When hormonal contraceptives are selected, one year's supply should be prescribed to reduce barriers to use. Condoms should be made readily available. Documentation of visits for contraception should include patient understanding of use, benefits, and risks, plus an individualized follow-up plan. Bleeding irregularities generally are not harmful and may resolve with continued use of the contraceptive method. All patients—including adolescents; those who identify as lesbian, gay, bisexual, or transgender; and patients with disabilities or limited English proficiency—should receive high-quality care in an accommodating, nonjudgmental environment. The Centers for Disease Control and Prevention supports advance provision of emergency contraceptives. Because no test reliably verifies cessation of fertility, it is prudent to consider contraceptive use until menopause, or at least until 50 to 55 years of age. (*Am Fam Physician*. 2015;91(9):625-633. Copyright © 2015 American Academy of Family Physicians.)



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at <http://www.aafp.org/afp>.

**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 606.

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► **Patient information:** Available at <http://www.aafp.org/afp/2015/0501/p625-s1.html>.

Family physicians are uniquely suited to deliver comprehensive, unfragmented family planning services to patients of all ages.<sup>1</sup> With access to an increasingly robust evidence base on ways to prevent or achieve pregnancy and treat sexually transmitted infections (STIs), clinicians are challenged to offer and manage the safest and most effective options available for patients with various medical conditions, social circumstances, adherence patterns, and financial barriers to care.

Approximately one-half of the 6.6 million pregnancies each year in the United States are unintended, and the rates are highest among young, poor, and minority women.<sup>2</sup> In 2008, women 15 to 44 years of age with incomes at or below the federal poverty level were five times more likely than women at the highest income level to become pregnant unintentionally.<sup>2</sup> Women who use contraception consistently and correctly account for only 5% of unintended pregnancies.<sup>3</sup>

To help clinicians provide optimal sexual and reproductive health services, the Centers for Disease Control and Prevention (CDC) has released comprehensive, evidence-based recommendations that have been methodically and scientifically established by technical and expert panels<sup>4</sup> (*eTable A*). Recommendations pertaining to contraceptive management are addressed in this review. At every health care visit, clinicians should discuss family planning needs with patients of reproductive age and provide requested services as appropriate.<sup>4</sup>

## Provision of Contraception

The CDC recommends a systematic approach to contraceptive counseling and education to ensure safe, high-quality care. *Figure 1* includes a summary of the five steps clinicians should take when providing contraception to patients.<sup>4</sup>

### STEP 1: ESTABLISH RAPPORT

Family planning discussions can be inherently sensitive; therefore, establishing and

## Steps in Providing Contraceptive Services

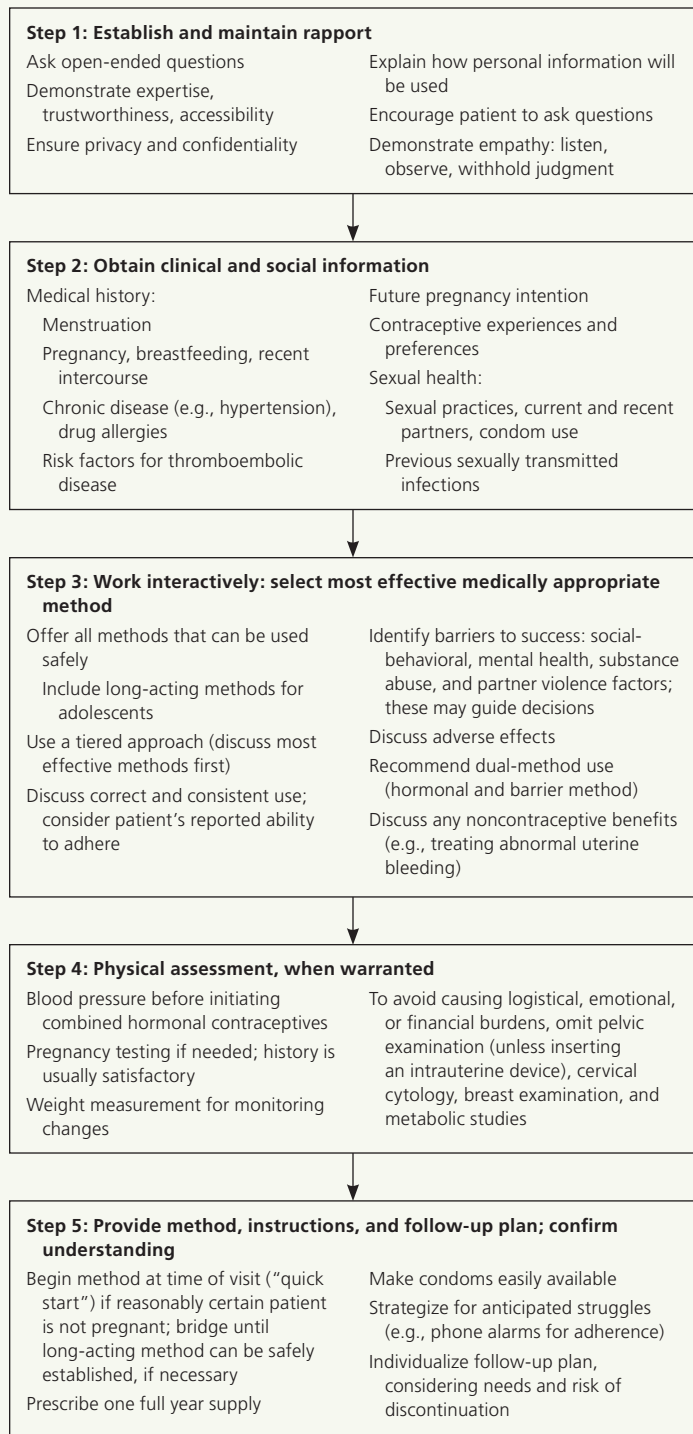


Figure 1. Steps in providing contraceptive services.

Information from reference 4.

maintaining rapport is critical for success.<sup>4-8</sup> Clinicians should ask open-ended questions; demonstrate expertise, trustworthiness, accessibility, and empathy; ensure privacy and confidentiality; explain how personal information will be used; and encourage patients to ask questions.

### STEP 2: OBTAIN CLINICAL AND SOCIAL INFORMATION

Contraceptive recommendations should be personalized, focusing on the patient's safety and reproductive life plan.<sup>4</sup> The interview should elicit, at minimum, menstrual, gynecologic, and obstetric history; medication allergies; infectious or chronic health conditions; and tobacco use. These may alter the patient's medical eligibility for a particular method<sup>9,10</sup> (eTable B).

Knowing the patient's contraceptive experience and intentions regarding pregnancy is useful. A sexual health assessment—including practices, partners, STI status, condom use, and recent intercourse—may aid in selecting and safely initiating appropriate contraception.<sup>4</sup>

### STEP 3: WORK INTERACTIVELY TO HELP THE PATIENT SELECT THE MOST EFFECTIVE AND APPROPRIATE METHOD

Clinicians should discuss all available contraceptive methods that the patient can use safely, regardless of which are available on site.<sup>4,11</sup> The CDC encourages a tiered approach to counseling, whereby the most effective and medically appropriate options are presented before less effective options<sup>4,12-15</sup> (eFigure A).

Other factors that may be important to the patient should be considered, such as her ability to use the method correctly and consistently, and possible adverse effects.<sup>4</sup> Information on noncontraceptive benefits of various methods, such as a potential reduction in dysmenorrhea, abnormal uterine bleeding, or acne, may help patients select and adhere to medication regimens.<sup>4</sup> For patients with or at risk of an STI, dual-method contraception, which combines condoms and another method, should be discussed.<sup>4,16</sup>

Medication adherence concerns apply to patients with substance use, mental illness, difficulties with medication regimens, and sociobehavioral factors.<sup>4</sup> For example, if intimate partner violence is suspected, in addition to providing appropriate safety referrals (e.g., to law enforcement and violence support groups), clinicians may offer long-acting reversible contraception to decrease barriers to contraception adherence.<sup>4</sup>

#### STEP 4: CONDUCT PHYSICAL ASSESSMENT

Clinicians should determine the patient's pregnancy status before initiating a contraceptive method; conduct a blood pressure evaluation before prescribing hormonal contraception; and perform a bimanual examination and cervical inspection before inserting an intrauterine device (IUD) or fitting a cervical cap.<sup>4,17</sup> A bimanual examination is needed before diaphragm fitting.<sup>4,17</sup> In patients with cervicitis or pelvic inflammatory disease, IUD placement should be deferred until appropriate treatment has occurred.<sup>4,9,17</sup>

Requiring other preventive services (e.g., cervical cytology; breast examination; evaluation for STI, diabetes mellitus, dyslipidemia, liver disease, thrombophilia) can introduce barriers to contraceptive care; therefore, such services should be offered as optional adjuncts and not as prerequisites.<sup>4,18,19</sup> Testing for STIs can be performed at the time of IUD placement in asymptomatic patients, and should be performed if routine screening has not occurred according to CDC guidelines.

Monitoring weight may be useful, although weight does not preclude eligibility for any contraceptive method.<sup>4,9,17</sup> A recent Cochrane review suggested that mean weight gain from progestin-only methods was less than 2 kg (4.4 lb) at 12-month follow-up.<sup>20</sup>

#### STEP 5: INITIATE METHOD AND ESTABLISH PLAN

If it is reasonably certain that a patient is not pregnant (*Table 1*<sup>4,17,21-24</sup>) and that she meets appropriate medical eligibility criteria, any contraceptive may be started immediately.<sup>4,9,10,17</sup> If pregnancy status is uncertain, clinicians may consider same-day start of a nonintrauterine method to provide immediate coverage, and then order follow-up pregnancy testing two to four weeks later.<sup>9,17,21,22</sup>

A negative pregnancy test result is insufficient for definitively ruling out pregnancy because results can be affected by test characteristics, the time since most recent intercourse, and recent pregnancy. It may help confirm that pregnancy is unlikely in patients who meet the criteria in *Table 1*<sup>4,17,21-24</sup>; accordingly, pregnancy testing is not universally required before initiating contraception.<sup>17,23,24</sup>

To reduce barriers to care when prescribing combined contraceptives, the prescription for hormonal contraceptives should cover one year's supply, and condoms should be made readily available.<sup>4,17</sup> If requested contraceptive services are unavailable, a temporary method should be established until the patient can be referred for further assessment.<sup>4</sup> Recommendations for backup contraception during method initiation and switching are provided in *Table 2*.<sup>17</sup>

Clinicians should reserve adequate time to counsel patients, particularly on common adverse effects (e.g., abnormal uterine bleeding, weight gain), to help reduce inconsistent use or early method discontinuation.<sup>4,17,20,25,26</sup> Educational resources are presented in *eTable A*. Concern about forgetfulness may be mitigated by reminder systems (e.g., smartphone applications) or use of long-acting reversible contraception.<sup>4,17,26</sup>

Documentation should include the patient's understanding of use, benefits, and risks, plus an individualized follow-up plan.<sup>4,26</sup> The teach-back method, in which the patient is asked to repeat important points, may be helpful.<sup>4</sup>

#### Follow-Up Considerations

Patients should be advised to return at any time to discuss questions or concerns about

**Table 1. How to Be Reasonably Certain That a Woman Is Not Pregnant**

A clinician can be reasonably certain that a woman is not pregnant if:

- (1) The patient has no signs or symptoms of pregnancy  
and
- (2) The patient meets at least one of the following:
  - Is seven days or less after start of her normal menses
  - Has not had intercourse since the start of her last normal menses
  - Has been correctly and consistently using a reliable method of contraception
  - Is seven days or less after a spontaneous or induced abortion
  - Is within four weeks postpartum
  - Is fully or nearly fully breastfeeding (exclusively breastfeeding or most feeds [ $\geq 85\%$ ] are breastfeeds), amenorrheic, and less than six months postpartum

NOTE: If the patient meets both criteria, there is a negative predictive value of 99% to 100% for pregnancy, and routine pregnancy testing is not needed before initiating contraception.

Information from references 4, 17, and 21 through 24.

## Contraception

contraceptive method use, but for most women, routine follow-up visits are not required.<sup>17</sup> When patients present for other routine visits, clinicians should assess for satisfaction and concerns, changes in health status or medication use that might affect eligibility for continued use, and changes in blood pressure (if using a combined hormonal method).<sup>4,17</sup> Patients who use methods inconsistently or incorrectly, or who experience vomiting or severe diarrhea (i.e., affecting absorption), should be counseled on appropriate backup contraception (Table 3<sup>17</sup>).

Irregular bleeding with contraceptives is generally not harmful, and may decrease with continued method use.<sup>17,27</sup> Other reasons for bleeding may be considered, including inconsistent use, medication interactions, infection, pregnancy, and pathologic uterine conditions.<sup>17,27</sup> If patients request treatment for bleeding, five to seven days of nonsteroidal anti-inflammatory drugs may be offered to those using the copper-containing IUD (Paragard), etonogestrel implant (Nexplanon), or depot medroxyprogesterone acetate (Depo-Provera). Alternatively, patients who use an implant or depot medroxyprogesterone acetate may benefit from low-dose combined oral contraceptives or estrogen for 10 to 20 days.<sup>17</sup> Bleeding with the levonorgestrel-containing IUD (Mirena) tends to resolve in three to six months without treatment.<sup>17</sup> Patients who use combined hormonal methods without hormone-free intervals (e.g., continuous use) may skip contraceptive pills for three to four consecutive days to temporarily induce bleeding and endometrial thinning, although not more often than monthly or before the first 21 days of use.<sup>17</sup>

If irregular bleeding persists and is unacceptable to the patient, the clinician should assist with choosing another contraceptive method.<sup>17,27</sup> Women who use intrauterine contraception and who are diagnosed with pelvic inflammatory disease should be treated according to the CDC's STI treatment guidelines; however, the clinician may leave the device in place for two to three days and then reassess the patient for disposition.<sup>17,28</sup> If the device is removed, emergency contraception should be offered if residual sperm are potentially present.

### Special Populations

Clinicians should ensure that all patients—including special populations, such as those who have disabilities

**Table 2. Backup Contraception When Initiating or Switching Methods**

Contraceptive method	Backup method	
	Initiation*	Method switching
Copper-containing IUD	None needed	None needed
Levonorgestrel-containing IUD	7 days; only needed if > 7 days after starting menses	7 days; only needed if > 7 days after starting menses†
Implant	7 days; only needed if > 5 days after starting menses	7 days; only needed if > 5 days after starting menses‡
Injectable	7 days; only needed if > 7 days after starting menses	7 days; only needed if > 7 days after starting menses‡
Combined hormonal contraceptives	7 days; only needed if > 5 days after starting menses	7 days; only needed if > 5 days after starting menses‡
Progestin-only pill	2 days; only needed if > 5 days after starting menses	2 days; only needed if > 5 days after starting menses‡

NOTE: Barrier methods, abstinence from intercourse, or, if applicable, overlap of the current contraceptive may be used during the recommended backup interval. These recommendations reflect a 7-day continuous treatment interval necessary to suppress ovulation with combined hormonal contraceptives.

IUD = intrauterine device.

\*—Any method may be initiated at any time if there is reasonable certainty that the woman is not pregnant, based on the criteria of the Centers for Disease Control and Prevention (Table 1).

†—When switching from a copper-containing IUD, also consider emergency contraceptive pills at the time of placement if residual sperm may be present.

‡—When switching from an IUD, advise one of the following options if residual sperm may be present: (1) delaying removal of the IUD for > 7 days after the new method is established, (2) abstaining from intercourse or using a barrier method for 7 days before IUD removal, or (3) using emergency contraceptive pills at the time of IUD removal.

Information from reference 17.

or limited English proficiency, or who identify as lesbian, gay, bisexual, or transgender—receive high-quality care in a nonjudgmental, accommodating environment. Sexual behaviors and pregnancy risk should not be assumed.<sup>4,15,29-31</sup>

When evaluating males, clinicians should remember to ascertain the patient's sexual health care needs, including contraceptive, preconception, and STI services.<sup>4</sup> Condoms should be made available without additional evaluation, and the principles of the five contraceptive care steps should be applied.<sup>4</sup>

Adolescents should be given the opportunity to privately discuss their family planning needs and to subsequently receive care in the context of relevant law.<sup>4,15,32-34</sup> Without assurances of confidentiality, adolescents are significantly less likely to use family planning services; however, parent-patient communication about sexual and reproductive health may be encouraged to foster support, access to services, contraceptive use, and healthy development.<sup>4,15,34-38</sup> Some adolescents may

**Table 3. Recommendations on Contraception Use for Patients Who Miss Doses**

Contraceptive method	Duration since last dose or use	Recommendation	Transition to next cycle	Backup method	Emergency method
Combined oral contraceptives	< 48 hours and only one missed pill	Take the missed pill as soon as possible; this is not needed in cases of vomiting or diarrhea	Take the remaining pills at the usual time each day (this may require taking two pills on the first day)	None	Not usually needed*
	≥ 48 hours and two or more missed pills	Take the most recent missed pill as soon as possible In cases of vomiting or severe diarrhea, take the next pill as soon as tolerated Other missed pills should be discarded	Take the remaining pills at the usual time each day (this may require taking two pills on the first day)†	7 consecutive days (without vomiting or severe diarrhea)	If appropriate‡
Progestin-only pill	> 3 hours past recommended dose (i.e., > 27 total hours since previous dose), or vomiting or diarrhea within 3 hours of dose	Take one pill as soon as possible	Take the remaining pills at the usual time each day (this may require taking two pills on the first day)	2 consecutive days (without vomiting or severe diarrhea)	Consider if recent unprotected intercourse
Combined hormonal patch (delayed application or detachment)	< 48 hours	Apply a new patch as soon as possible	Keep the same patch-change day	None	Not usually needed*
	≥ 48 hours	Apply a new patch as soon as possible	Keep the same patch-change day†	7 consecutive days	If appropriate‡
Combined vaginal ring (delayed insertion of a new ring or reinsertion of a current ring)	< 48 hours	Insert ring as soon as possible	Keep the ring in until scheduled removal day	None	Not usually needed*
	≥ 48 hours	Insert ring as soon as possible	Keep the ring in until scheduled removal day†	7 consecutive days	If appropriate‡
Injectables (i.e., depot medroxy-progesterone acetate [Depo-Provera])	< 2 weeks late (< 15 weeks after previous injection)	Proceed with injection	Not applicable	None	None
	≥ 2 weeks late	Treat as new start	Not applicable	7 consecutive days	Consider use

\*—Consider if combined hormonal contraceptives were missed earlier in the cycle or in the last week of the previous cycle.

†—If missed in the last week of the cycle (days 15 to 21 of a 28-day pill pack, or week 3 of the patch or ring), omit the hormone-free interval and start next cycle of method. If unavailable, use a backup method until the regular method has been restarted for 7 days.

‡—An emergency method is needed especially if the dose is missed during the first week, and unprotected intercourse has occurred in the previous 5 days.

Information from reference 17.

initially prefer to limit patient-parent discussion to the noncontraceptive uses of hormonal methods.

IUDs and implants are safe and effective for postmenarcheal adolescents,<sup>4,9,17,39-41</sup> and may be considered first-line options regardless of parity.<sup>15,42,43</sup> Of 1,099 patients 14 to 19 years of age in the Contraceptive CHOICE Project, a large prospective contraception study, more than 80% of long-acting reversible contraceptive users continued their method over 12 months vs. only one-half of those using short-acting methods.<sup>44</sup>

### Emergency Contraception

Emergency contraceptives have been reviewed in *American Family Physician*, including oral methods and the copper-containing IUD received within five days of unprotected intercourse to reduce unintended pregnancy risk.<sup>45</sup> Notably, the CDC highlights that ulipristal (Ella) may be more effective than levonorgestrel formulations after the first 72 hours and for women who are overweight or obese.<sup>17,46,47</sup> The CDC also supports advance provision of emergency contraceptive pills.<sup>17,48</sup>

## Contraception

**Table 4. Postpregnancy Risk Classifications for Select Contraceptive Methods**

Category	Combined hormonal pill, patch, or vaginal ring	Progestin-only pill	Depot medroxy-progesterone acetate (Depo-Provera)	Etonogestrel implant (Nexplanon)	Levonorgestrel IUD* (Mirena)	Copper IUD* (Paragard)
<b>Postpartum, nonbreastfeeding women</b>						
< 21 days	4	1	1	1	2	2†
21 to 29 days						
With other risk factors for VTE‡	3	1	1	1	2	2
Without other risk factors for VTE	2	1	1	1	2	2
30 to 42 days						
With other risk factors for VTE‡	3	1	1	1	1	1
Without other risk factors for VTE	2	1	1	1	1	1
> 42 days	1	1	1	1	1	1
<b>Postpartum, breastfeeding women</b>						
< 21 days	4	2	2	2	2	2†
21 to 29 days						
With other risk factors for VTE‡	3	2	2	2	2	2
Without other risk factors for VTE	3	2	2	2	2	2
30 to 42 days						
With other risk factors for VTE‡	3	1	1	1	1	1
Without other risk factors for VTE	2	1	1	1	1	1
> 42 days	2	1	1	1	1	1
<b>Postabortion, spontaneous or induced</b>						
	1	1	1	1	1§	1§

NOTE: Categories: 1 = no restriction on method use; 2 = method has theoretical or proven risks, but its advantages generally outweigh those risks; 3 = method's theoretical or proven risks usually outweigh its advantages; 4 = unacceptable health risk if method is used.

IUD = intrauterine device; VTE = venous thromboembolism.

\*—Category 4 if puerperal sepsis or septic abortion.

†—Category 1 if inserted less than 10 minutes after delivery of the placenta.

‡—Common risk factors for VTE include age  $\geq 35$  years, previous VTE, thrombophilia, immobility, transfusion at delivery, body mass index  $\geq 30$  kg per  $m^2$ , postpartum hemorrhage, postcesarean delivery, preeclampsia, or smoking. Other risk factors may increase the classification to category 4 (e.g., deep venous thrombosis, pulmonary embolism, known thrombogenic mutations, peripartum cardiomyopathy).

§—Category 1 if first trimester event; category 2 if second trimester event.

Information from references 9, 10, and 17.

Any contraceptive method may be started after completion of emergency contraceptive pills. The patient should use a barrier method or abstain from intercourse for seven days (14 days after ulipristal use), and should take a pregnancy test if she does not experience withdrawal bleeding within three weeks.<sup>17</sup> Patients who vomit within three hours after using emergency contraceptive pills should take another dose, at which point an antiemetic may be offered.<sup>17</sup> As of 2013, Plan B One-Step is available over the counter to patients of any age.<sup>49</sup>

### Postpregnancy Contraceptive Options

Clinicians should emphasize postpregnancy contraception counseling. Almost one-half of abortions are repeat abortions, and nearly one in five births to teenagers is a repeat birth.<sup>50,51</sup> The CDC specifies time frames for postpregnancy contraception (Table 4).<sup>9,10,17</sup> Estrogen-containing methods should be deferred until at least three or up to six weeks postpartum, partly because of the risk of venous thromboembolism.<sup>10,52</sup> Progestin-only methods can be safely started immediately postpartum.<sup>10</sup>

**BEST PRACTICES IN GYNECOLOGY – RECOMMENDATIONS FROM THE CHOOSING WISELY CAMPAIGN**

*Recommendation* *Sponsoring organization*

Do not require a pelvic exam or other physical exam to prescribe oral contraceptive medications. American Academy of Family Physicians

*NOTE: Hormonal contraceptives are safe, effective, and well tolerated for most women. Data do not support the necessity of performing a pelvic or breast examination to prescribe oral contraceptive medications. Hormonal contraception can be safely provided on the basis of medical history and blood pressure measurement.*

*Source: For more information on the Choosing Wisely Campaign, see <http://www.choosingwisely.org>. For supporting citations and to search Choosing Wisely recommendations relevant to primary care, see <http://www.aafp.org/afpl/recommendations/search.htm>.*

**Contraception in Women Approaching Menopause**

In the United States, the median age of menopause is 51 years, but the normal range is from 40 to 60 years.<sup>53,54</sup> Because there is no reliable test to verify permanent cessation of fertility, it is prudent to consider contraceptive use to prevent unintended pregnancy until menopause, or at least until 50 to 55 years of age.<sup>17,54</sup>

All contraceptive methods are considered U.S. Medical Eligibility Criteria category 1 or 2 (i.e., no restriction, or advantages generally outweigh theoretical or proven risks, respectively) based on the patient’s age alone. However, clinicians must balance risks of pregnancy at advanced maternal age against risks of contraceptives—particularly those containing estrogen, which may precipitate acute cardiovascular and thromboembolic events.<sup>9,17</sup> Patients should be screened for preexisting conditions that affect medical eligibility criteria.<sup>9,17</sup>

**Sterilization**

Several permanent sterilization options are available in the United States, including abdominal, laparoscopic, or hysteroscopic tubal ligation for women and vasectomy for men<sup>17,55-57</sup> (eTable C). Patients should be counseled about the intended irreversibility of these procedures and the availability of long-acting reversible contraception.<sup>9,17</sup>

**Data Sources:** A PubMed search was completed using the MeSH function with the key phrase contraception combined with at least one of the following terms: effectiveness, safety, recommendations, guidelines, adolescent, female, or male. The search included meta-analyses, randomized controlled trials, clinical trials, and reviews. Also searched were Essential Evidence Plus, the Cochrane Database of Systematic Reviews, and the U.S. Preventive Services Task Force website. The references of the relevant CDC resources were reviewed, as were the references from the systematic reviews generated to create the highlighted CDC resources. Search dates: May 1 to July 1, 2014, and November 23, 2014.

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**SORT: KEY RECOMMENDATIONS FOR PRACTICE**

<i>Clinical recommendations</i>	<i>Evidence rating</i>	<i>References</i>
Clinicians should consider a tiered approach to contraceptive counseling, whereby the most effective and appropriate options are presented before less effective options.	C	4, 12-15
Requiring prerequisite preventive services, such as cervical cytology; breast examination; or evaluation for sexually transmitted infections, diabetes mellitus, dyslipidemia, liver disease, or thrombophilia, can introduce unnecessary barriers to contraceptive care.	C	4, 18, 19
If a patient’s pregnancy status is uncertain, clinicians may consider same-day start of a nonintrauterine method to provide immediate coverage, and should order follow-up pregnancy testing two to four weeks later.	C	9, 17, 21, 22
Prescription of hormonal contraceptives should preferentially cover one year’s supply to decrease barriers to care.	C	4
Family planning services should be offered to adolescents with assurances of confidentiality, in the context of relevant law.	B	4, 15, 32, 35-37
Intrauterine devices and contraceptive implants are safe and effective for postmenarchal adolescents.	B	4, 9, 15, 17, 39-43
Estrogen-containing contraceptives should be deferred until at least three or up to six weeks postpartum, partly because of the risk of venous thromboembolism.	C	10, 52
Contraceptive use for unintended pregnancy prevention should be considered until menopause, or at least until 50 to 55 years of age.	C	17, 54

*A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to <http://www.aafp.org/afpsort>.*

## Contraception

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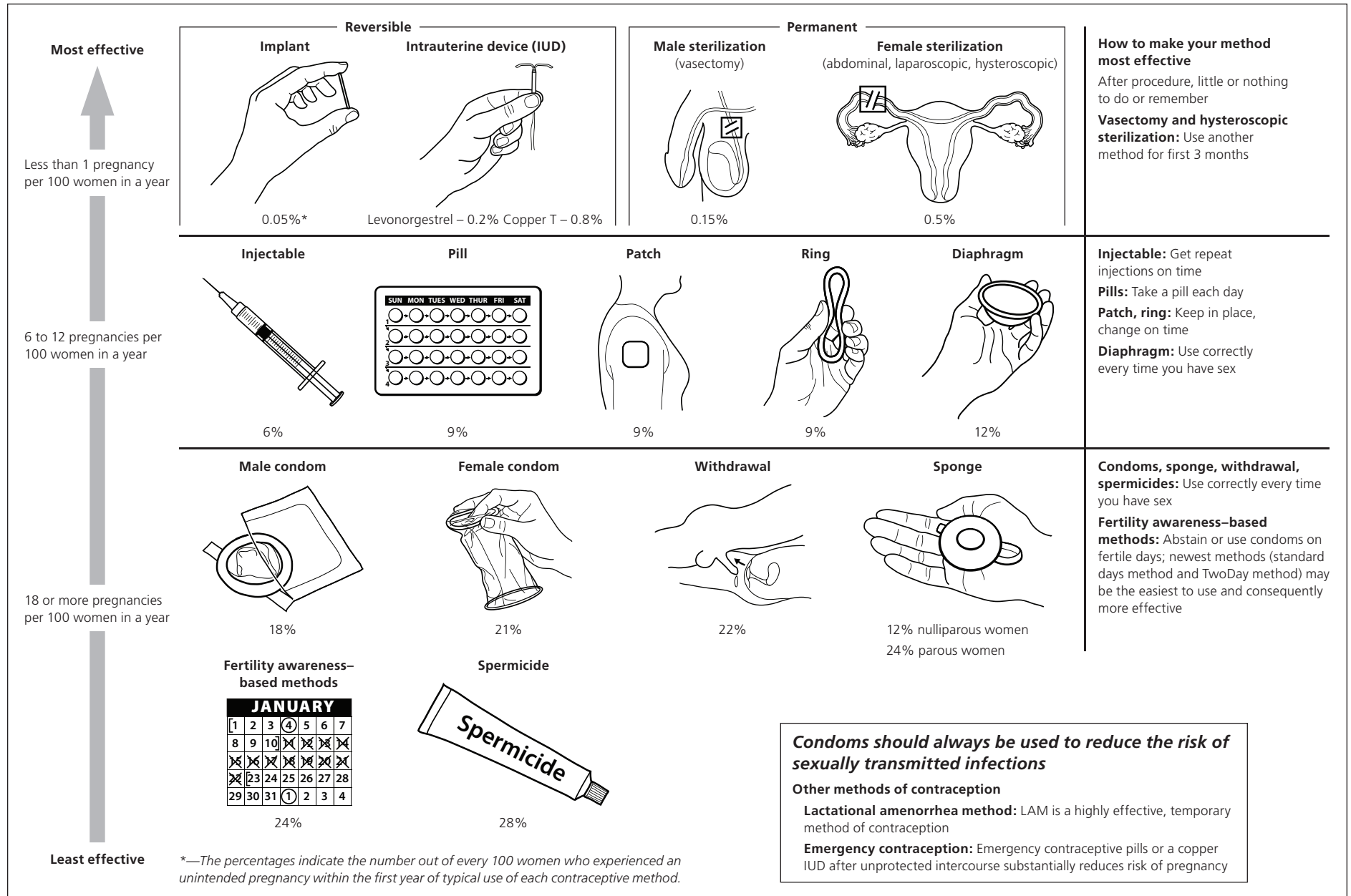
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### REFERENCES

1. Frost JJ. *U.S. Women's Use of Sexual and Reproductive Health Services: Trends, Sources of Care and Factors Associated with Use, 1995–2010*. New York, NY: Guttmacher Institute; 2013.
2. Finer LB, Zolna MR. Shifts in intended and unintended pregnancies in the United States, 2001–2008. *Am J Public Health*. 2014;104(suppl 1):S43–S48.
3. Gold RB, Sonfield A, Richards CL, Frost JJ. *Next Steps for America's Family Planning Program: Leveraging the Potential of Medicaid and Title X in an Evolving Health Care System*. New York, NY: Guttmacher Institute; 2009.
4. Gavin L, Moskosky S, Carter M, et al.; Centers for Disease Control and Prevention (CDC). Providing quality family planning services: recommendations of CDC and the U.S. Office of Population Affairs. *MMWR Recomm Rep*. 2014;63(RR-04):1–54.
5. Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician-patient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;277(7):553–559.
6. Lambert M. Implications of outcome research for psychotherapy integration. In: Norcross JC, Goldfried MR, eds. *Handbook of Psychotherapy Integration*. New York, NY: Basic Books; 1992:94–129.
7. Stelfox HT, Gandhi TK, Orav EJ, Gustafson ML. The relation of patient satisfaction with complaints against physicians and malpractice lawsuits. *Am J Med*. 2005;118(10):1126–1133.
8. Proctor A, Jenkins TR, Loeb T, Elliot M, Ryan A. Patient satisfaction with 3 methods of postpartum contraceptive counseling: a randomized, prospective trial. *J Reprod Med*. 2006;51(5):377–382.
9. Centers for Disease Control and Prevention (CDC). U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. *MMWR Recomm Rep*. 2010;59(RR-4):1–86.
10. Centers for Disease Control and Prevention (CDC). Update to CDC's U.S. Medical Eligibility Criteria for Contraceptive Use, 2010: revised recommendations for the use of contraceptive methods during the postpartum period. *MMWR Morb Mortal Wkly Rep*. 2011;60(26):878–883.
11. Jaccard J. *Careful, Current, and Consistent: Tips to Improve Contraceptive Use*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy; 2010.
12. Madden T, Mullersman JL, Omvig KJ, Secura GM, Peipert JF. Structured contraceptive counseling provided by the Contraceptive CHOICE Project. *Contraception*. 2013;88(2):243–249.
13. Trussell J. Contraceptive failure in the United States. *Contraception*. 2011;83(5):397–404.
14. World Health Organization (WHO) Department of Reproductive Health and Research; Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP). Knowledge for health project. Family planning: a global handbook for providers (2011 update). Baltimore, Md., and Geneva, Switzerland: CCP and WHO; 2011.
15. Ott MA, Sucato GS; Committee on Adolescence. Contraception for adolescents. *Pediatrics*. 2014;134(4):e1257–e1281.
16. Eisenberg DL, Allsworth JE, Zhao Q, Peipert JF. Correlates of dual-method contraceptive use: an analysis of the National Survey of Family Growth (2006–2008). *Infect Dis Obstet Gynecol*. 2012;2012:717163.
17. Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC). U.S. Selected Practice Recommendations for Contraceptive Use, 2013: adapted from the World Health Organization selected practice recommendations for contraceptive use, 2nd edition. *MMWR Recomm Rep*. 2013;62(RR-05):1–60.
18. Stormo AR, Hawkins NA, Cooper CP, Saraiya M. The pelvic examination as a screening tool: practices of US physicians. *Arch Intern Med*. 2011;171(22):2053–2054.
19. American Academy of Family Physicians. Choosing Wisely: Pelvic exam or physical exams to prescribe oral contraceptive medications. 2014. <http://www.aafp.org/patient-care/clinical-recommendations/all/cw-oral-contraceptives.html>. Accessed November 23, 2014.
20. Lopez LM, Edelman A, Chen M, Otterness C, Trussell J, Helmerhorst FM. Progestin-only contraceptives: effects on weight. *Cochrane Database Syst Rev*. 2013;(7):CD008815.
21. Stoddard A, Eisenberg DL. Controversies in family planning: timing of ovulation after abortion and the conundrum of postabortion intrauterine device insertion. *Contraception*. 2011;84(2):119–121.
22. Jackson E, Glasier A. Return of ovulation and menses in postpartum nonlactating women: a systematic review. *Obstet Gynecol*. 2011;117(3):657–662.
23. Stanback J, Nakintu N, Qureshi Z, Nasution M. Does assessment of signs and symptoms add to the predictive value of an algorithm to rule out pregnancy? *J Fam Plann Reprod Health Care*. 2006;32(1):27–29.
24. Tepper NK, Marchbanks PA, Curtis KM. Use of a checklist to rule out pregnancy: a systematic review. *Contraception*. 2013;87(5):661–665.
25. Huber LR, Hogue CJ, Stein AD, et al. Contraceptive use and discontinuation: findings from the contraceptive history, initiation, and choice study. *Am J Obstet Gynecol*. 2006;194(5):1290–1295.
26. Halpern V, Lopez LM, Grimes DA, Stockton LL, Gallo MF. Strategies to improve adherence and acceptability of hormonal methods of contraception. *Cochrane Database Syst Rev*. 2013;10:CD004317.
27. Hatcher RA. *Contraceptive Technology*. 20th ed. New York, NY: Ardent Media; 2011.
28. Tepper NK, Steenland MW, Gaffield ME, Marchbanks PA, Curtis KM. Retention of intrauterine devices in women who acquire pelvic inflammatory disease: a systematic review. *Contraception*. 2013;87(5):655–660.
29. Koh AS, Gómez CA, Shade S, Rowley E. Sexual risk factors among self-identified lesbians, bisexual women, and heterosexual women accessing primary care settings. *Sex Transm Dis*. 2005;32(9):563–569.
30. ACOG Committee on Health Care for Underserved Women. ACOG Committee Opinion No. 525: Health care for lesbians and bisexual women. *Obstet Gynecol*. 2012;119(5):1077–1080.
31. Committee on Adolescence. Office-based care for lesbian, gay, bisexual, transgender, and questioning youth. *Pediatrics*. 2013;132(1):198–203.
32. Ford C, English A, Sigman G. Confidential Health Care for Adolescents: position paper for the society for adolescent medicine. *J Adolesc Health*. 2004;35(2):160–167.
33. Klein DA, Goldenring JM, Adelman WP. HEEADSSS 3.0: the psychosocial interview for adolescents updated for a new century fueled by media. *Contemp Pediatr*. 2014;31(1):16–28.
34. American Academy of Family Physicians. Clinical policies: adolescent health care, sexuality and contraception. 2012. <http://www.aafp.org/about/policies/all/adolescent-sexuality.html>. Accessed November 23, 2014.
35. Jones RK, Purcell A, Singh S, Finer LB. Adolescents' reports of parental knowledge of adolescents' use of sexual health services and their reactions to mandated parental notification for prescription contraception. *JAMA*. 2005;293(3):340–348.



36. Lehrer JA, Pantell R, Tebb K, Shafer MA. Forgone health care among U.S. adolescents: associations between risk characteristics and confidentiality concern. *J Adolesc Health*. 2007;40(3):218-226.
37. Reddy DM, Fleming R, Swain C. Effect of mandatory parental notification on adolescent girls' use of sexual health care services. *JAMA*. 2002; 288(6):710-714.
38. Guilamo-Ramos V, Bouris A, Jaccard J, Gonzalez B, McCoy W, Aranda D. A parent-based intervention to reduce sexual risk behavior in early adolescence: building alliances between physicians, social workers, and parents. *J Adolesc Health*. 2011;48(2):159-163.
39. Winner B, Peipert JF, Zhao Q, et al. Effectiveness of long-acting reversible contraception. *N Engl J Med*. 2012;366(21):1998-2007.
40. Secura GM, Madden T, McNicholas C, et al. Provision of no-cost, long-acting contraception and teenage pregnancy. *N Engl J Med*. 2014; 371(14):1316-1323.
41. Berenson AB, Tan A, Hirth JM, Wilkinson GS. Complications and continuation of intrauterine device use among commercially insured teenagers. *Obstet Gynecol*. 2013;121(5):951-958.
42. Committee on Adolescent Health Care Long-Acting Reversible Contraception Working Group; the American College of Obstetricians and Gynecologists. Committee opinion no. 539: adolescents and long-acting reversible contraception: implants and intrauterine devices. *Obstet Gynecol*. 2012;120(4):983-988.
43. American Academy of Family Physicians. Clinical policies: reversible contraception methods; 2013. <http://www.aafp.org/about/policies/all/contraception-reversible.html>. Accessed November 23, 2014.
44. Rosenstock JR, Peipert JF, Madden T, Zhao Q, Secura GM. Continuation of reversible contraception in teenagers and young women. *Obstet Gynecol*. 2012;120(6):1298-1305.
45. Bosworth MC, Olusola PL, Low SB. An update on emergency contraception. *Am Fam Physician*. 2014;89(7):545-550.
46. Glasier A, Cameron ST, Bliithe 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.
47. Glasier AF, Cameron ST, Fine PM, et al. Ulipristal acetate versus levonorgestrel for emergency contraception: a randomised non-inferiority trial and meta-analysis. *Lancet*. 2010;375(9714):555-562.
48. Rodriguez MI, Curtis KM, Gaffield ML, Jackson E, Kapp N. Advance supply of emergency contraception: a systematic review. *Contraception*. 2013;87(5):590-601.
49. U.S. Food and Drug Administration. FDA approves Plan B One-Step emergency contraceptive for use without a prescription for all women of child-bearing potential. <http://www.fda.gov/newsevents/newsroom/pressannouncements/ucm358082.htm>. Accessed November 23, 2014.
50. Pazol K, Creanga AA, Burley KD, Hayes B, Jamieson DJ; Centers for Disease Control and Prevention (CDC). Abortion surveillance—United States, 2010 [published correction appears in *MMWR Surveill Summ*. 2014;62(51):1053]. *MMWR Surveill Summ*. 2013;62(8):1-44.
51. Centers for Disease Control and Prevention (CDC). Vital signs: repeat births among teens—United States, 2007-2010. *MMWR Morb Mortal Wkly Rep*. 2013;62(13):249-255.
52. Kamel H, Navi BB, Sriram N, Hovsepian DA, Devereux RB, Elkind MS. Risk of a thrombotic event after the 6-week postpartum period. *N Engl J Med*. 2014;370(14):1307-1315.
53. te Velde ER, Pearson PL. The variability of female reproductive ageing. *Hum Reprod Update*. 2002;8(2):141-154.
54. American College of Obstetricians and Gynecologists. *Guidelines for Women's Health Care: A Resource Manual*. 3rd ed. Washington, DC: American College of Obstetricians and Gynecologists; 2007.
55. Peterson HB. Sterilization [published correction appears in *Obstet Gynecol*. 2011;117(4):989]. *Obstet Gynecol*. 2008;111(1):189-203.
56. Cleary TP, Tepper NK, Cwiak C, et al. Pregnancies after hysteroscopic sterilization: a systematic review. *Contraception*. 2013;87(5):539-548.
57. American Urological Association. Vasectomy: AUA guideline. 2012. <http://www.auanet.org/education/vasectomy.cfm>. Accessed November 23, 2014.



**Figure A. Effectiveness of family planning methods.**

Reprinted from Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC). U.S. Selected Practice Recommendations for Contraceptive Use, 2013; adapted from the World Health Organization selected practice recommendations for contraceptive use, 2nd edition. MMWR Recomm Rep. 2013;62(RR-05):6, which was adapted from World Health Organization (WHO) Department of Reproductive Health and Research; Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP). Knowledge for health project. Family planning: a global handbook for providers (2011 update). Baltimore, Md., and Geneva, Switzerland: CCP and WHO; 2011; and Trussell J. Contraceptive failure in the United States. Contraception. 2011;83(5):397-404.

**eTable A. Key Family Planning Resources from the CDC**

<i>Clinical question</i>	<i>Resource</i>	<i>Content</i>	<i>Website</i>
Which services should be offered in a family planning visit?	Providing Quality Family Planning Services: Recommendations of the CDC and the U.S. Office of Population Affairs (2014)	Family planning services Achieving pregnancy Basic infertility services Contraceptive services Preconception counseling Pregnancy testing and counseling Sexually transmitted infection screening Related preventive health services Screening for breast or cervical cancer Other preventive health services Screening for lipid disorders, etc. Conducting quality improvement	<a href="http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/QFP.htm">http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/QFP.htm</a>
What are the best ways to initiate and manage specific contraceptive methods?	U.S. Selected Practice Recommendations (US SPR) for Contraceptive Use, 2013 (adapted from the World Health Organization Selected Practice Recommendations for Contraceptive Use, 2nd ed.)	How to be reasonably certain a woman is not pregnant Contraceptive options Examinations and tests needed Follow-up planning Managing common adverse effects Method initiation Method switching Postpartum and postabortion use When women can stop using contraceptives	<a href="http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/USSPR.htm">http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/USSPR.htm</a>
Which contraceptive methods are safe for women with specific characteristics and medical conditions?	U.S. Medical Eligibility Criteria (US MEC) for Contraceptive Use, 2010 (updated for use during postpartum period, and for those with, or at high risk of, human immunodeficiency virus infection)	Common contraceptive options are evaluated based on common patient characteristics and medical conditions, and are assigned a numerical value based on evidence review: 1 = A condition for which there is no restriction on the use of the contraceptive method 2 = A condition for which the advantages of using the method generally outweigh the theoretical or proven risks 3 = A condition for which the theoretical or proven risks usually outweigh the advantages of using the method 4 = A condition that represents an unacceptable health risk if the contraceptive method is used	<a href="http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/USMEC.htm">http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/USMEC.htm</a>
What is the appropriate treatment of persons who have or are at risk of sexually transmitted infections?	Sexually Transmitted Diseases Treatment Guidelines, 2010 (updated for drug resistance patterns)	Acceptable treatment options for sexually transmitted infections are presented based on most recent treatment resistance patterns, patient drug allergies, and complicating factors	<a href="http://www.cdc.gov/std/treatment/2010/default.htm">http://www.cdc.gov/std/treatment/2010/default.htm</a>
What information is available for patients who are considering various contraceptive options?	CDC patient resource on contraception	Risks and benefits of common contraceptive options (patient resource)	<a href="http://www.cdc.gov/reproductivehealth/unintendedpregnancy/contraception.htm">http://www.cdc.gov/reproductivehealth/unintendedpregnancy/contraception.htm</a>

CDC = Centers for Disease Control and Prevention.

Information from:

Centers for Disease Control and Prevention (CDC). U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. MMWR Recomm Rep. 2010;59(RR-4):1-86.

Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC). U.S. Selected Practice Recommendations for Contraceptive Use, 2013: adapted from the World Health Organization selected practice recommendations for contraceptive use, 2nd edition. MMWR Recomm Rep. 2013;62(RR-05):1-60.

Gavin L, Moskosky S, Carter M, et al.; Centers for Disease Control and Prevention (CDC). Providing quality family planning services: recommendations of CDC and the U.S. Office of Population Affairs. MMWR Recomm Rep. 2014;63(RR-04):1-54.

**eTable B. Select Conditions That Require Additional Consideration When Prescribing Estrogen-Containing Contraceptives**

Condition	Associated risk	Comment
<b>Category 4: unacceptable health risk if method is used</b>		
Breast cancer	Theoretical concern for worse prognosis of disease	Category 3 if in complete remission for 5 years
Deep venous thrombosis or pulmonary embolism	Thromboembolic disease; stroke	Category 3 if no risk factors for recurrence and if condition is resolved or patient is on anticoagulation therapy for ≥ 3 months
Hypertension (systolic ≥ 160 mm Hg or diastolic ≥ 100 mm Hg)	Acute MI and stroke	—
Ischemic heart disease	Acute MI	Current or history of ischemic heart disease
Known thrombogenic mutations	Thromboembolic disease; stroke	Routine screening is not appropriate
Liver disease (severe cirrhosis; hepatoma or hepatocellular adenoma)	May affect estrogen metabolism and place additional burden on decompensated liver	—
Major surgery with prolonged immobilization	Thromboembolic disease; stroke	—
Migraine with aura	Stroke	—
Smoking, age ≥ 35 years	Cardiovascular disease including acute MI	Category 3 if age ≥ 35 years and < 15 cigarettes per day
Solid organ transplantation	Theoretical concerns for worse prognosis, cardiovascular disease, and decreased contraceptive effectiveness with immunosuppressive therapy	Only if complicated
Stroke	Recurrence or worsening of disease	Any history of cerebrovascular accident
Systemic lupus erythematosus (with antiphospholipid antibodies)	Arterial and venous thrombosis	Only if positive (or unknown) antiphospholipid antibodies
Valvular heart disease	Arterial thrombosis	Only if complicated
Vascular disease	Acute MI and stroke	Other than superficial disease
<b>Category 3: method is theoretical or proven risks usually outweigh its advantages</b>		
Acute viral hepatitis	May affect estrogen metabolism and place additional burden on decompensated liver	Initiation of method only; category 4 if severe
Bariatric surgery	May decrease contraceptive effectiveness of oral contraceptives (not patch or ring)	Only malabsorptive procedures (e.g., Roux-en-Y gastric bypass); not restrictive procedures (e.g., gastric banding)
Diabetes with complications (or > 20 years duration)	May worsen control of diabetes, which may worsen diabetic complications	Category 4 if severe
Hypertension (systolic = 140 to 159 mm Hg or diastolic = 90 to 99 mm Hg)	Acute MI and stroke	—
Inflammatory bowel disease	Thromboembolic disease; stroke	Active or complicated disease only (treatment or sequelae may predispose patient to thromboembolism)
<b>Medication interactions</b>		
Lamotrigine (Lamictal) monotherapy	Seizure activity may increase	Lamotrigine levels may decrease
Rifampicin or rifabutin (Mycobutin) therapy	Reduces contraceptive effectiveness	This interaction does not apply to most broad-spectrum antibiotics, antifungals, and antiparasitics
Specific anticonvulsants (e.g., topiramate [Topamax], phenytoin [Dilantin])	Reduces contraceptive effectiveness	Consider other contraceptive options and ethinyl estradiol dose of at least 30 mcg
Specific antiretrovirals	Reduces contraceptive effectiveness	Recommend condom use and ethinyl estradiol dose of at least 30 mcg
Migraine without aura and age ≥ 35 years	Stroke	Age < 35 years, if migraine without aura develops during method use

NOTE: Excludes the postpartum period. Additional category 3 and 4 conditions are available at <http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/USMEC.htm>. Estrogen-containing contraceptives (i.e., combined hormonal contraceptives) include combined oral contraceptive pills, combined hormonal patch, and combined vaginal ring.

MI = myocardial infarction.

Information from:

Centers for Disease Control and Prevention (CDC). U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. MMWR Recomm Rep. 2010;59(RR-4):1-86.

**eTable C. Comparison of Sterilization Techniques**

<i>Method</i>	<i>Annual failure rates (after proper follow-up)</i>	<i>Sterility onset</i>	<i>Additional contraception</i>
Abdominal tubal ligation	1 in 100 to 200	Immediately	None
Laparoscopic tubal ligation	1 in 100 to 200	Immediately	None
Hysteroscopic tubal ligation (coil placement)	1 in 100 to 200 (possibly less once confirmed by hysterosalpingography)	Three to four months	Alternative method advised until confirmatory hysterosalpingography performed three months after procedure
Male vasectomy	1 in 100 overall 1 in 2,000 with confirmed azoospermia	Two to four months	Alternative method until confirmatory semen analysis showing azoospermia (or rare, nonmotile sperm) eight to 16 weeks after procedure

*Information from:*

American Urological Association. Vasectomy guideline. 2012. <http://www.auanet.org/education/vasectomy.cfm>. Accessed November 23, 2014.

Cleary TP, Tepper NK, Cwiak C, et al. Pregnancies after hysteroscopic sterilization: a systematic review. *Contraception*. 2013;87(5):539-548.

Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC). U.S. Selected Practice Recommendations for Contraceptive Use, 2013: adapted from the World Health Organization selected practice recommendations for contraceptive use, 2nd edition. *MMWR Recomm Rep*. 2013;62(RR-05):1-60.

Peterson HB. Sterilization [published correction appears in *Obstet Gynecol*. 2011;117(4):989]. *Obstet Gynecol*. 2008;111(1):189-203.

Trussell J. Contraceptive failure in the United States. *Contraception*. 2011;83(5):397-404.