Contraception

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Intrauterine Contraception

AT A GLANCE

This page includes recommendations for health care providers that address provision and use of intrauterine contraception. This information comes from the *2024 U.S. Selected Practice Recommendations for Contraceptive Use* (U.S. SPR).

Overview

Four intrauterine devices (IUDs) are available in the United States: one copper (380 mm^2) IUD and three levonorgestrel (LNG) (13.5 mg, 19.5 mg, or 52 mg) IUDs. Fewer than one IUD user out of 100 becomes pregnant in the first year with typical use.[28] IUDs are long-acting, are reversible, and can be used by patients of all ages, including adolescents, and by parous and nulliparous patients. IUDs do not protect against sexually transmitted infections (STIs), including human immunodeficiency virus (HIV) infection, and patients using IUDs should be counseled that consistent and correct use of external (male) latex condoms reduces the risk for STIs, including HIV infection.[31] Use of internal (female) condoms can provide protection from STIs, including HIV infection, although data are limited.[31] Patients also should be counseled that pre-exposure prophylaxis (PrEP), when taken as prescribed, is highly effective for preventing HIV infection.[32]

Initiation of Cu-IUDs

Timing

- The copper intrauterine device (Cu-IUD) may be placed at any time if it is reasonably certain that the patient is not pregnant (Box 3).
- The Cu-IUD also may be placed within 5 days of the first act of unprotected sexual intercourse as an emergency contraceptive. If the day of ovulation can be estimated, the Cu-IUD also may be placed >5 days after sexual intercourse as long as placement does not occur >5 days after ovulation.

Need for Back-Up Contraception

- No additional contraceptive protection is needed after Cu-IUD placement.

Special Considerations

Amenorrhea (Not Postpartum)

- **Timing:** The Cu-IUD may be placed at any time if it is reasonably certain that the patient is not pregnant (Box 3).
- **Need for back-up contraception:** No additional contraceptive protection is needed.

Postpartum (Including Cesarean Delivery, Breastfeeding, or Nonbreastfeeding)

- **Timing:** The Cu-IUD may be placed at any time postpartum, including immediately postpartum (U.S. MEC 1 or 2),[1] if it is reasonably certain that the patient is not pregnant (Box 3). Postpartum placement of IUDs is safe.[1] Higher rates of expulsion during the postpartum period should be considered as they relate to effectiveness, along with patient access to interval placement (i.e., not related to pregnancy) when expulsion rates are lower.[1] The Cu-IUD should not be placed in a patient with postpartum sepsis (e.g., chorioamnionitis or endometritis) (U.S. MEC 4).[1]
- **Need for back-up contraception**: No additional contraceptive protection is needed.

Postabortion (Spontaneous or Induced)

- **Timing:** The Cu-IUD may be placed at any time postabortion, including immediately after abortion completion (U.S. MEC 1 or 2),[1] if it is reasonably certain that the patient is not pregnant (Box 3). The Cu-IUD should not be placed immediately after a septic abortion (U.S. MEC 4).[1]

- **Need for back-up contraception:** No additional contraceptive protection is needed.

Switching from Another Contraceptive Method

- **Timing:** The Cu-IUD may be placed immediately if it is reasonably certain that the patient is not pregnant (Box 3). Waiting for the patient's next menstrual cycle is unnecessary.
- **Need for back-up contraception:** No additional contraceptive protection is needed.

Comments and Evidence Summary

In situations in which the health care provider is not reasonably certain that the patient is not pregnant, the patient should be offered a contraceptive method other than an IUD to use until the health care provider can be reasonably certain that the patient is not pregnant and can place the Cu-IUD. (As appropriate, see recommendations for Emergency Contraception.)

A systematic review identified eight studies that suggested that timing of Cu-IUD placement in relation to the menstrual cycle in nonpostpartum women had little effect on long-term outcomes (i.e., rates of continuation, removal, expulsion, or pregnancy) or on short-term outcomes (i.e., pain at placement, bleeding at placement, or immediate expulsion)[69] (Level of evidence: II-2, fair, direct).

Initiation of LNG-IUDs

Timing of LNG-IUD Placement

- The LNG-IUD may be placed at any time if it is reasonably certain that the patient is not pregnant (Box 3).

Need for Back-Up Contraception

- If the LNG-IUD is placed within the first 7 days since menstrual bleeding started, no additional contraceptive protection is needed.
- If the LNG-IUD is placed >7 days since menstrual bleeding started, the patient needs to abstain from sexual intercourse or use barrier methods (e.g., condoms) for the next 7 days.

Special Considerations

Amenorrhea (Not Postpartum)

- **Timing:** The LNG-IUD may be placed at any time if it is reasonably certain that the patient is not pregnant (Box 3).
- **Need for back-up contraception:** The patient needs to abstain from sexual intercourse or use barrier methods (e.g., condoms) for the next 7 days.

Postpartum (Including Cesarean Delivery, Breastfeeding, or Nonbreastfeeding)

- **Timing:** The LNG-IUD may be placed at any time postpartum, including immediately postpartum (U.S. MEC 1 or 2),[1] if it is reasonably certain that the patient is not pregnant (Box 3). Postpartum placement of IUDs is safe.[1] Higher rates of expulsion during the postpartum period should be considered as they relate to effectiveness, along with patient access to interval placement (i.e., not related to pregnancy) when expulsion rates are lower.[1] The LNG-IUD should not be placed in a patient with postpartum sepsis (e.g., chorioamnionitis or endometritis) (U.S. MEC 4).[1]
- **Need for back-up contraception:** If the patient is <6 months postpartum, amenorrheic, and fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [≥85%] of feeds are breastfeeds),[44] no additional contraceptive protection is needed. Otherwise, a patient who is ≥21 days postpartum and whose menstrual cycle has not returned needs to abstain from sexual intercourse or use barrier methods (e.g., condoms) for the next 7 days. If the patient's menstrual cycle has returned and it has been >7 days since menstrual bleeding began, the patient needs to abstain from sexual intercourse or use barrier methods (e.g., condoms) for the next 7 days.

Post-abortion (Spontaneous or Induced)

- **Timing:** The LNG-IUD may be placed at any time postabortion, including immediately after abortion completion (U.S. MEC 1 or 2),[1] if it is reasonably certain that the patient is not pregnant (Box 3). The LNG-IUD should not be placed immediately after a septic abortion (U.S. MEC 4).[1]
- **Need for back-up contraception:** The patient needs to abstain from sexual intercourse or use barrier methods (e.g., condoms) for the next 7 days unless the IUD is placed immediately after abortion completion.

Switching from Another Contraceptive Method

- **Timing:** The LNG-IUD may be placed immediately if it is reasonably certain that the patient is not pregnant (Box 3). Waiting for the patient's next menstrual cycle is unnecessary.

- **Need for back-up contraception:** If it has been >7 days since menstrual bleeding began, the patient needs to abstain from sexual intercourse or use barrier methods (e.g., condoms) for the next 7 days.
- **Switching from a Cu-IUD:** In addition to the need for back-up contraception when starting the LNG-IUD, there might be additional concerns when switching from a Cu-IUD. If the patient has had sexual intercourse since the start of their current menstrual cycle and it has been >5 days since menstrual bleeding started, theoretically, residual sperm might be in the genital tract, which could lead to fertilization if ovulation occurs. A health care provider may consider providing any type of emergency contraceptive pill (ECP) at the time of LNG-IUD placement to address the potential for residual sperm.

Comments and Evidence Summary

In situations in which the health care provider is uncertain whether the patient might be pregnant, the patient should be offered a contraceptive method other than an IUD to use until the health care provider can be reasonably certain that they are not pregnant and can place the LNG-IUD. If a patient needs to use additional contraceptive protection when switching to an LNG-IUD from another contraceptive method, consider continuing their previous method for 7 days after LNG-IUD placement. (As appropriate, see recommendations for Emergency Contraception.)

No direct evidence was found regarding the effects of placing LNG-IUDs on different days of the cycle on short- or long-term outcomes.[69]

Examinations and tests needed before initiation of Cu-IUD or an LNG-IUD

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Among healthy patients, few examinations or tests are needed before initiation of an IUD (Table 1). Bimanual examination and cervical inspection are necessary before IUD placement. A baseline weight and body mass index (BMI) measurement might be useful for addressing any concerns about changes in weight over time. If a patient has not been screened for STIs according to STI screening guidelines, screening may be performed at the time of placement. Patients with known medical problems or other special conditions might need additional examinations or tests before being determined to be appropriate candidates for a particular method of contraception. U.S. MEC might be useful in such circumstances.[1]

Table 1. Classification of examinations and tests needed before intrauterine device initiation +

Examination or test	Class*	
	Cu-IUD	LNG-IUD
Examination		
Blood pressure	C	C
Weight (BMI) (weight [kg]/height [m]^2)	—†	—†
Clinical breast examination	C	C
Bimanual examination and cervical inspection	A	A
Laboratory test		
Glucose	C	C
Lipids	C	C
Liver enzymes	C	C
Hemoglobin	C	C
Thrombophilia	C	C
Cervical cytology (Papanicolaou smear)	C	C
STI screening with laboratory tests	—§	—§
HIV screening with laboratory tests	C	C

Abbreviations: BMI = body mass index; Cu-IUD = copper intrauterine device; HIV = human immunodeficiency virus; LNG-IUD = levonorgestrel intrauterine device; IUD = intrauterine device; STI = sexually transmitted infection; U.S. MEC = *U.S. Medical Eligibility Criteria for Contraceptive Use.*

*** Class A:** Essential and mandatory in all circumstances for safe and effective use of the contraceptive method.
Class B: Contributes substantially to safe and effective use, but implementation may be considered within the public health context,

service context, or both; the risk of not performing an examination or test should be balanced against the benefits of making the contraceptive method available.
Class C: Does not contribute substantially to safe and effective use of the contraceptive method. (Source: World Health Organization. Selected practice recommendations for contraceptive use, 2nd ed. Geneva, Switzerland: WHO Press; 2004.)

† Weight (BMI) measurement is not needed to determine medical eligibility for any methods of contraception because all methods can be used (U.S. MEC 1) or generally can be used (U.S. MEC 2) among patients with obesity (BMI ≥30 kg/m^2). However, measuring weight and calculating BMI at baseline might be helpful for discussing concerns about any changes in weight and whether changes might be related to use of the contraceptive method.

§ Most patients do not require additional STI screening at the time of IUD placement. If a patient with risk factors for STIs has not been screened for gonorrhea and chlamydia according to CDC's *STI Treatment Guidelines* (available at https://www.cdc.gov/std/treatment-guidelines/default.htm), screening may be performed at the time of IUD placement, and placement should not be delayed. Patients with current purulent cervicitis or chlamydial infection or gonococcal infection should not undergo IUD placement (U.S. MEC 4).

Comments and Evidence Summary +

Weight (BMI)

Patients with obesity (BMI ≥30 kg/m^2) can use IUDs (U.S. MEC 1);[1] therefore, screening for obesity is not necessary for the safe initiation of IUDs. However, measuring weight and calculating BMI (weight [kg]/height [m]^2) at baseline might be helpful for discussing concerns about any changes in weight and whether changes might be related to use of the contraceptive method.

Bimanual examination and cervical inspection

Bimanual examination and cervical inspection are necessary before IUD placement to assess uterine size and position and to detect any cervical or uterine abnormalities that might indicate infection or otherwise prevent IUD placement.[70–73]

STIs

Patients should be routinely screened for chlamydial and gonococcal infections according to national screening guidelines. The CDC *Sexually Transmitted Infections Treatment Guidelines* provide information on screening eligibility, timing, and frequency of screening and on screening for persons with risk factors (https://www.cdc.gov/std/treatment-guidelines/default.htm).[31] If STI screening guidelines have been followed, most patients do not need additional STI screening at the time of IUD placement, and placement should not be delayed. If a patient with risk factors for STIs has not been screened for gonorrhea and chlamydia according to CDC STI treatment guidelines, screening may be performed at the time of IUD placement, and placement should not be delayed. Patients with current purulent cervicitis or chlamydial infection or gonococcal infection should not undergo IUD placement (U.S. MEC 4).[1] A systematic review identified two studies that demonstrated no differences in PID rates among women who screened positive for gonorrhea or chlamydia and underwent concurrent IUD placement compared with women who screened positive and initiated other contraceptive methods.[74] Indirect evidence demonstrates women who undergo same-day STI screening and IUD placement have similar PID rates compared with women who have delayed IUD placement. Women who undergo same-day STI screening and IUD placement have low incidence rates of PID. Algorithms for predicting PID among women with risk factors for STIs have poor predictive value. Risk for PID among women with risk factors for STIs is low.[24],[31],[75–84] Although women with STIs at the time of IUD placement have a higher risk for PID, the overall rate of PID among all IUD users is low.[79],[82]

Hemoglobin

Patients with iron-deficiency anemia can use the LNG-IUD (U.S. MEC 1);[1] therefore, screening for anemia is not necessary for safe initiation of the LNG-IUD. Patients with iron-deficiency anemia generally can use Cu-IUDs (U.S. MEC 2).[1] Measurement of hemoglobin before initiation of Cu-IUDs is not necessary because of the minimal change in hemoglobin among patients with and without anemia using Cu-IUDs. A systematic review identified four studies that provided direct evidence for changes in hemoglobin among women with anemia who received Cu-IUDs.[85] Evidence from one randomized trial[86] and one prospective cohort study[87] indicated no significant changes in hemoglobin among Cu-IUD users with anemia, whereas two prospective cohort studies[88],[89] indicated a statistically significant decrease in hemoglobin levels during 12 months of follow-up; however, the magnitude of the decrease was small and most likely not clinically significant. The systematic review also identified 21 studies that provided indirect evidence by examining changes in hemoglobin among healthy women receiving Cu-IUDs,[90–110] which generally demonstrated no clinically significant changes in hemoglobin levels with up to 5 years of follow-up (Level of evidence: I to II-2, fair, direct).

Lipids

Screening for dyslipidemias is not necessary for the safe initiation of Cu-IUDs or LNG-IUDs because of the low likelihood of clinically significant changes with use of hormonal contraceptives. A systematic review did not identify any evidence regarding outcomes among women who were screened versus not screened with lipid measurement before initiation of hormonal contraceptives.[24] During 2015–2016, among women aged 20–39 years in the United States, 6.7% had high cholesterol, defined as total serum cholesterol >240 mg/dL.[111] Studies have demonstrated mixed results about the effects of hormonal methods on lipid levels among both healthy women and women with baseline lipid abnormalities, and the clinical significance of these changes is unclear.[112–115]

Liver enzymes

Patients with liver disease can use the Cu-IUD (U.S. MEC 1);[1] therefore, screening for liver disease is not necessary for the safe initiation of the Cu-IUD. Although patients with hepatocellular carcinoma generally should not use the LNG-IUD (U.S. MEC 3), patients with benign liver tumors, viral hepatitis, or cirrhosis can use (U.S. MEC 1) or generally can use (U.S. MEC 2) the LNG-IUD;[1] screening for liver disease before initiation of the LNG-IUD is not necessary because of the low prevalence of these conditions and the high likelihood that patients with liver disease already would have had the condition diagnosed. A systematic review did not identify any evidence regarding outcomes among women who were screened versus not screened with liver enzyme tests before initiation of hormonal contraceptive use.[24] During 2012, among U.S. women, the percentage with liver disease (not further specified) was 1.3%.[116] During 2013, the incidence of acute hepatitis A, B, or C was ≤1 per 100,000 U.S. population.[117] During 2002–2011, the incidence of liver cancer among U.S. women was approximately 3.7 per 100,000 population.[118]

Clinical breast examination

Patients with breast disease can use the Cu-IUD (U.S. MEC 1);[1] therefore, screening for breast disease is not necessary for the safe initiation of the Cu-IUD. Although patients with current breast cancer should not use the LNG-IUD (U.S. MEC 4),[1] screening asymptomatic patients with a clinical breast examination before placing an IUD is not necessary because of the low prevalence of breast cancer among women of reproductive age. A systematic review did not identify any evidence regarding outcomes among women who were screened versus not screened with a breast examination before initiation of hormonal contraceptives.[23] The incidence of breast cancer among women of reproductive age in the United States is low. During 2020, the incidence of breast cancer among women aged <50 years was approximately 45.9 per 100,000 women.[119]

Cervical cytology

Although patients with cervical cancer should not undergo IUD placement (U.S. MEC 4),[1] screening asymptomatic patients with cervical cytology before IUD placement is not necessary because of the high rates of cervical screening, low incidence of cervical cancer in the United States, and high likelihood that a patient with cervical cancer already would have had the condition diagnosed. A systematic review did not identify any evidence regarding outcomes among women who were screened versus not screened with cervical cytology before initiation of IUDs.[24] Cervical cancer is rare in the United States, with an incidence rate of 9.8 per 100,000 women during 2012.[119] The incidence and mortality rates from cervical cancer have declined dramatically in the United States, largely because of cervical cytology screening.[120] Overall screening rates for cervical cancer in the United States are high; during 2013 among women aged 18–44 years, approximately 77% reported having cervical cytology screening within the past 3 years.[121]

HIV screening

Patients with HIV infection can use (U.S. MEC 1) or generally can use (U.S. MEC 2) IUDs, depending on whether they are clinically well and receiving antiretroviral therapy.[1] Therefore, HIV screening is not necessary before IUD placement. A systematic review did not identify any evidence regarding outcomes among women who were screened versus not screened for HIV infection before IUD placement.[24] Limited evidence suggests that IUDs are not associated with disease progression, increased infection, or other adverse health effects among women with HIV infection.[122–137]

Other screening

Patients with hypertension, diabetes, or thrombophilia can use (U.S. MEC 1) or generally can use (U.S. MEC 2) IUDs.[1] Therefore, screening for these conditions is not necessary for the safe initiation of IUDs.

Provision of medications for IUD placement

- Misoprostol is not recommended for routine use for IUD placement. Misoprostol might be useful in selected circumstances (e.g., in patients with a recent failed placement).
- Lidocaine (paracervical block or topical) for IUD placement might be useful for reducing patient pain.

Comments and Evidence Summary

Before IUD placement, all patients should be counseled on potential pain during placement as well as the risks, benefits, and alternatives of different options for pain management. A person-centered plan for IUD placement and pain management should be made based on patient preference. Barriers to IUD use include patient concerns about anticipated pain with placement and provider concerns about ease of placement, especially among nulliparous patients.[138–140] When considering patient pain, it is important to recognize that the experience of pain is individualized and might be influenced by previous experiences including trauma and mental health conditions, such as depression or anxiety.[141–143] Although these recommendations for provision of medications for IUD placement are based on the best available evidence, not all populations or patient experiences are represented in the literature. The following evidence summary represents results from a systematic review and meta-analysis (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517) and focuses on findings that were statistically significant and clinically relevant.

Misoprostol

Evidence includes 14 RCTs (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517). Eleven trials examined 400 μg doses and three trials examined <400 μg doses. The route of administration varied across trials and included vaginal, buccal, sublingual, and oral administration. For patients without a recent failed IUD placement attempt, the timing of administration ranged from 1 to 8 hours before IUD placement.

- Evidence suggests that misoprostol does not reduce patient pain, adverse events, or need for adjunctive placement measures (e.g., cervical dilation), nor improve provider ease of placement, placement success, or patient satisfaction with the procedure (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
- Evidence suggests that misoprostol might increase patient pain and preplacement abdominal pain or cramping and diarrhea but is not associated with other side effects (i.e., nausea or vomiting) (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
- Evidence from one trial among women with a recent failed IUD placement suggests that pretreatment with 400 μg vaginal misoprostol (200 μg administered 10 hours before and 200 μg administered 4 hours before returning to the clinic for a subsequent IUD placement attempt) might result in higher placement success with second placement attempt compared with placebo (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
- Certainty of evidence: moderate for patient pain, need for adjunctive placement measures, placement success for patients with and without recent prior failed placement attempt, side effects, and patient satisfaction with the procedure; low for provider ease of placement and adverse events.

Lidocaine as a paracervical block

Evidence for lidocaine as a paracervical block includes six RCTs (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517). Four trials examined 1% lidocaine paracervical block (10–20 mL), and two examined 2% lidocaine paracervical block (10–12 mL). The timing of block administration ranged from just before to at least 5 minutes before IUD placement. All six trials administered 2-point injections, and four also administered a tenaculum site injection.

- Evidence suggests that lidocaine as a paracervical block might reduce patient pain (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
  - Three RCTs found reductions in pain at either tenaculum placement, during IUD placement, or after IUD placement before clinic discharge among patients receiving either paracervical block with 1% lidocaine just before to 3 minutes before IUD placement or paracervical block with 2% lidocaine at least 5 minutes before IUD placement compared with patients receiving no treatment or placebo/sham block. However, evidence from three additional RCTs, examined individually or in meta-analysis, did not suggest a reduction in patient pain or did not include statistical testing between groups of interest (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
- Evidence suggests that lidocaine as a paracervical block does not reduce adverse events or need for adjunctive placement measures (e.g., cervical dilation), increase side effects (specifically tinnitus, vomiting, or dizziness), nor improve placement success or patient satisfaction with the procedure (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
- No evidence on provider ease of placement was found.
- Certainty of evidence: moderate for side effects; low for patient pain, need for adjunctive placement measures, placement success, and patient satisfaction with the procedure; very low for adverse events.

Lidocaine as a topical gel, cream, or spray

Evidence for lidocaine as a topical gel, cream, or spray includes 13 RCTs (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517). Five trials examined 2% lidocaine topical gel (two intracervical, one cervical, and two vaginal), one examined 10% lidocaine topical spray (intracervical) and lidocaine topical cream (intracervical), three examined 10% lidocaine topical spray (cervical), three examined lidocaine-prilocaine cream (cervical), and one examined 2% lidocaine topical gel (cervical) plus oral diclofenac. The topical lidocaine was administered by a provider (1–7 minutes before IUD placement) in 11 trials and self-administered by patients (at least 15 minutes before IUD placement) in two trials.

- Evidence suggests that topical lidocaine might reduce patient pain (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
  - One meta-analysis of four RCTs found that topical lidocaine was associated with reduced pain during tenaculum placement. In addition, two RCTs found reduced pain at either tenaculum placement, during IUD placement, or after IUD placement before clinic discharge among patients self-administering 2% lidocaine topical gel (vaginal) 5–15 minutes before IUD placement or those receiving provider-administered lidocaine-prilocaine topical cream (cervical) 7 minutes before IUD placement. However, evidence from seven additional trials, examined individually or in meta-analysis, did not suggest a reduction in patient pain.
- Evidence suggests that topical lidocaine does not reduce adverse events or the need for adjunctive placement measures (e.g., cervical dilation), nor improve placement success, patient satisfaction with the procedure, nor improve provider ease of placement (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).
- No evidence on side effects was found.
- Certainty of evidence: high for placement success; moderate for provider ease of placement, patient pain, need for adjunctive placement measures, and patient satisfaction with the procedure; low for adverse events.

Additional interventions for which evidence suggested no positive effect or evidence was too limited to make a recommendation

Evidence on multiple other interventions was identified, including lidocaine as an intracervical block (one trial), intrauterine instillation (four trials), analgesics (17 trials on seven different interventions), smooth muscle relaxants (six trials on five different interventions), and dinoprostone (five trials).[144] For these interventions, the evidence either suggested no positive effect on the outcomes assessed or the evidence was too limited to make a recommendation. A detailed summary of the evidence is provided (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517).

Provision of prophylactic antibiotics at the time of IUD placement

- Prophylactic antibiotics are generally not recommended for Cu-IUD or LNG-IUD placement.

Comments and Evidence Summary

Theoretically, IUD placement could induce bacterial spread and lead to complications such as PID or infective endocarditis. A meta-analysis was conducted of RCTs examining antibiotic prophylaxis versus placebo or no treatment for IUD placement.[145] Use of prophylaxis reduced the frequency of unscheduled return visits but did not significantly reduce the incidence of PID or IUD discontinuation. Although the risk for PID was higher within the first 20 days after placement, the incidence of PID was low among all women who had IUDs placed.[79] According to the American Heart Association, administration of prophylactic antibiotics solely to prevent endocarditis is not recommended for patients who undergo genitourinary tract procedures, including insertion or removal of IUDs.[146] Studies have not demonstrated a conclusive link between genitourinary procedures and infective endocarditis or a preventive benefit of prophylactic antibiotics during such procedures.[146]

Routine follow-up after IUD placement

These recommendations address when routine follow-up is needed for safe and effective continued use of contraception for healthy patients. The recommendations refer to general situations and might vary for different users and different situations. Specific populations who might benefit from more frequent follow-up visits include adolescents, persons with certain medical conditions or characteristics, and persons with multiple medical conditions.

- Advise the patient that they may contact their provider at any time to discuss side effects or other problems, if they want to change the method being used, and when it is time to remove or replace the contraceptive method. No routine follow-up visit is required.
- At other routine visits, health care providers who see IUD users should do the following:
  - Assess the patient's satisfaction with their contraceptive method and whether they have any concerns about method use.
  - Assess any changes in health status, including medications, that would change the appropriateness of the IUD for safe and effective continued use on the basis of U.S. MEC (e.g., category 3 and 4 conditions and characteristics).[1]
  - Consider performing an examination to check for the presence of the IUD strings.
  - Consider assessing weight changes and discussing concerns about any changes in weight and whether changes might be related to use of the contraceptive method.

Comments and Evidence Summary

Evidence from a systematic review about the effect of a specific follow-up visit schedule on IUD continuation is very limited and of poor quality. The evidence did not suggest that greater frequency of visits or earlier timing of the first follow-up visit after placement improves continuation of use[22] (Level of evidence: II-2, poor, direct). Evidence from four studies from a systematic review on the incidence of PID among IUD initiators, or IUD removal as a result of PID, suggested that the incidence of PID did not differ between women using Cu-IUDs and those using DMPA, COCs, or LNG-IUDs[21] (Level of evidence: I to II-2, good, indirect). Evidence on the timing of PID after IUD placement is mixed. Although the rate of PID generally was low, the largest study suggested that the rate of PID was significantly higher in the first 20 days after placement[79] (Level of evidence: I to II-3, good to poor, indirect).

Bleeding irregularities with Cu-IUD use

- Before Cu-IUD placement, provide counseling about potential changes in bleeding patterns during Cu-IUD use. Spotting or light bleeding and heavy or prolonged bleeding is common during the first 3–6 months of Cu-IUD use, is generally not harmful but might be bothersome to the patient, and generally decreases with continued Cu-IUD use.

- If clinically indicated, consider an underlying health condition, such as Cu-IUD displacement, STIs, pregnancy, thyroid disorders, or new pathologic uterine conditions (e.g., polyps or fibroids), especially in patients who have already been using the Cu-IUD for a few months or longer and who have developed a new onset of heavy or prolonged bleeding. If an underlying health condition is found, treat the condition or refer for care.
- Explore patient goals, including continued Cu-IUD use (with or without treatment for bleeding irregularities) or Cu-IUD removal. If the patient wants to continue Cu-IUD use, provide reassurance, discuss options for management of bleeding irregularities if it is desired, and advise the patient that they may contact their provider at any time to discuss bleeding irregularities or other side effects.
- If the patient desires Cu-IUD removal at any time, remove the Cu-IUD, offer counseling on alternative contraceptive methods, and initiate another method if it is desired.
- If the patient wants treatment, the following treatment option may be considered during days of bleeding, depending on the patient's preferences, treatment goals, and medical history:
    - NSAIDs for short-term treatment, 5–7 days

Comments and Evidence Summary

During contraceptive counseling and before placement of the Cu-IUD, information about common side effects such as spotting or light bleeding or heavy or prolonged menstrual bleeding, especially during the first 3–6 months of use, should be discussed.[91] These bleeding irregularities are generally not harmful but might be bothersome to the patient. Enhanced counseling about expected bleeding patterns and reassurance that bleeding irregularities are generally not harmful has been reported to reduce method discontinuation in clinical trials with other contraceptives (i.e., DMPA).[147],[148]

Evidence is limited on specific drugs, doses, and durations of use for effective treatments for bleeding irregularities with Cu-IUD use. Therefore, this report includes general recommendations for treatments to consider rather than specific regimens.

A systematic review identified 11 studies that examined various therapeutic treatments for heavy menstrual bleeding, prolonged menstrual bleeding, or both among women using Cu-IUDs.[149] Nine studies examined the use of various oral NSAIDs for the treatment of heavy or prolonged menstrual bleeding among Cu-IUD users and compared them with either a placebo or a baseline cycle. Three of these trials examined the use of indomethacin,[150–152] three examined mefenamic acid,[153–155] and three examined flufenamic acid.[150],[151],[156] Other NSAIDs used in the reported trials included alclofenac,[150],[151] suprofen,[157] and diclofenac sodium.[158] All but one NSAID study[154] demonstrated statistically significant or notable reductions in mean total menstrual blood loss with NSAID use. One study among 19 Cu-IUD users with heavy bleeding suggested that treatment with oral tranexamic acid can significantly reduce mean blood loss during treatment compared with placebo.[158] Data regarding the overall safety of tranexamic acid are limited; an FDA warning states that tranexamic acid is contraindicated in women with active thromboembolic disease or with a history or intrinsic risk for thrombosis or thromboembolism.[159],[160] Treatment with aspirin demonstrated no statistically significant change in mean blood loss among women whose pretreatment menstrual blood loss was >80 mL or 60–80 mL; treatment resulted in a significant increase among women whose pretreatment menstrual blood loss was <60 mL.[161] One study examined the use of a synthetic form of vasopressin, intranasal desmopressin (300 μg/day) for the first 5 days of menses for three treatment cycles and found a significant reduction in mean blood loss compared with baseline[153] (Level of evidence: I to II-3, poor to fair, direct). Only one small study examined treatment of spotting with three separate NSAIDs and did not observe improvements in spotting in any of the groups[150] (Level of evidence: I, poor, direct).

Bleeding irregularities (including amenorrhea) with LNG-IUD use

- Before LNG-IUD placement, provide counseling about potential changes in bleeding patterns during LNG-IUD use. Spotting or light bleeding is expected during the first 3–6 months of LNG-IUD use and is generally not harmful but might be bothersome to the patient. Over time, bleeding generally decreases with LNG-IUD use, and many LNG-IUD users experience only light menstrual bleeding or amenorrhea. Heavy or prolonged bleeding is uncommon during LNG-IUD use.

Bleeding Irregularities (Spotting, Light Bleeding, or Heavy or Prolonged Bleeding)

- If clinically indicated, consider an underlying health condition, such as LNG-IUD displacement, STIs, pregnancy, thyroid disorders, or new pathologic uterine conditions (e.g., polyps or fibroids). If an underlying health condition is found, treat the condition or refer for care.
- Explore patient goals, including continued LNG-IUD use or LNG-IUD removal. If the patient wants to continue LNG-IUD use, provide reassurance and advise the patient that they may contact their provider at any time to discuss bleeding irregularities or other side effects.
- If the patient desires LNG-IUD removal at any time, remove the LNG-IUD, offer counseling on alternative contraceptive methods, and initiate another method if it is desired.

Amenorrhea

- Amenorrhea does not require any medical treatment. Provide reassurance.
    - If a patient's regular bleeding pattern changes abruptly to amenorrhea, consider ruling out pregnancy if clinically indicated.

- If the patient desires LNG-IUD removal, remove the LNG-IUD, offer counseling on alternative contraceptive methods, and initiate another method if it is desired.

Comments and Evidence Summary

During contraceptive counseling and before placement of the LNG-IUD, information about common side effects such as spotting or light bleeding, especially during the first 3–6 months of use, should be discussed. Approximately half of LNG-IUD users are likely to experience amenorrhea or oligomenorrhea by 2 years of use.[162] These bleeding irregularities are generally not harmful but might be bothersome to the patient. Enhanced counseling about expected bleeding patterns and reassurance that bleeding irregularities are generally not harmful has been reported to reduce method discontinuation in clinical trials with other hormonal contraceptives (i.e., DMPA).[147],[148]

A systematic review summarized the current body of evidence for treating bleeding irregularities with 52 mg LNG-IUD use[163] (Supplementary Appendix, https://stacks.cdc.gov/view/cdc/156517). RCTs of tranexamic acid,[164] mefenamic acid,[164] and UPA[165] for the treatment of bleeding irregularities with 52 mg LNG-IUDs observed no differences between the treatment and placebo groups in bleeding or spotting over 90 days. A prospective cohort study examining oral estradiol demonstrated a significant reduction in bleeding days after 3 months of treatment compared with baseline; however, 68% of patients experienced side effects (e.g., painful or swollen breasts, headache, weight gain, and vaginal complaints)[166] (Certainty of evidence: moderate to high for RCTs and very low for the observational study).

Management of the IUD when a Cu-IUD or an LNG-IUD user is found to have PID

- Treat the PID according to the CDC *Sexually Transmitted Infections Treatment Guidelines* (https://www.cdc.gov/std/treatment-guidelines/default.htm).[31]
- Provide comprehensive management for STIs, including counseling about condom use.
- The IUD does not need to be removed immediately if the patient needs ongoing contraception.
- Reassess the patient in 48–72 hours. If no clinical improvement occurs, continue antibiotics and consider removal of the IUD.
- If the patient wants to discontinue use, remove the IUD sometime after antibiotics have been started to avoid the potential risk for bacterial spread resulting from the removal procedure.
- If the IUD is removed, consider ECPs if appropriate. Counsel the patient on alternative contraceptive methods and offer another method if it is desired.

Comments and Evidence Summary

Treatment outcomes do not generally differ between patients with PID who retain the IUD and those who have the IUD removed; however, appropriate antibiotic treatment and close clinical follow-up are necessary. A summary of IUD management in patients with PID is provided (Appendix F).

A systematic review identified four studies that included women using Cu-IUDs or other nonhormonal IUDs who developed PID and compared outcomes between women who had the IUD removed and those who did not.[167] One RCT demonstrated that women with IUDs removed had longer hospitalizations than those who did not, although no differences in PID recurrences or subsequent pregnancies were observed.[168] Another RCT demonstrated no differences in laboratory findings among women who removed the IUD compared with those who did not.[169] One prospective cohort study reported no differences in clinical or laboratory findings during hospitalization; however, the IUD removal group had longer hospitalizations.[170] One RCT illustrated that the rate of recovery for most clinical signs and symptoms was higher among women who had the IUD removed than among women who did not.[171] No evidence was found regarding women using LNG-IUDs (Level of evidence: I to II-2, fair, direct).

Management of the IUD when a Cu-IUD or an LNG-IUD user is found to be pregnant

- Evaluate for possible ectopic pregnancy.
- Advise the patient that they have an increased risk for spontaneous abortion (including septic abortion that might be life threatening) and for preterm delivery if the IUD is left in place. The removal of the IUD reduces these risks but might not decrease the risk to the baseline level of a pregnancy without an IUD.
    - If the patient does not want to continue the pregnancy, counsel them about options.

- If the patient wants to continue the pregnancy, advise them to seek care promptly if they have heavy bleeding, cramping, pain, abnormal vaginal discharge, or fever.

IUD Strings Are Visible or Can Be Retrieved Safely from the Cervical Canal

- Advise the patient that the IUD should be removed as soon as possible.
  - If the IUD is to be removed, remove it by pulling on the strings gently.
  - Advise the patient that they should return promptly if they have heavy bleeding, cramping, pain, abnormal vaginal discharge, or fever.
- If the patient chooses to keep the IUD, advise them to seek care promptly if they have heavy bleeding, cramping, pain, abnormal vaginal discharge, or fever.

IUD Strings Are Not Visible and Cannot Be Safely Retrieved

- If ultrasonography is available, consider performing or referring for ultrasound examination to determine the location of the IUD. If the IUD cannot be located, it might have been expelled or have perforated the uterine wall.
- If ultrasonography is not possible or the IUD is determined by ultrasound to be inside the uterus, advise the patient to seek care promptly if they have heavy bleeding, cramping, pain, abnormal vaginal discharge, or fever.

Comments and Evidence Summary

Removing the IUD improves the pregnancy outcome if the IUD strings are visible or the device can be retrieved safely from the cervical canal. Risks for spontaneous abortion, preterm delivery, and infection are substantial if the IUD is left in place.

Theoretically, the fetus might be affected by hormonal exposure from an LNG-IUD. However, whether this exposure increases the risk for fetal abnormalities is unknown.

A systematic review identified nine studies suggesting that women who did not remove their IUDs during pregnancy were at greater risk for adverse pregnancy outcomes (e.g., spontaneous abortion, septic abortion, preterm delivery, and chorioamnionitis) compared with women who had their IUDs removed or who did not have an IUD.[58] Cu-IUD removal decreased risks but not to the baseline risk for pregnancies without an IUD. One case series examined LNG-IUDs. When the IUDs were not removed, eight out of 10 pregnancies ended in spontaneous abortions (Level of evidence: II-2, fair, direct).

SOURCES

CONTENT SOURCE:
National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP); Division of Reproductive Health