# Screening Adolescent Gynecology in the Pediatrician's Office : Have a Listen, Take a Look

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# Screening Adolescent Gynecology in the Pediatrician's Office: Have a Listen, Take a Look

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Dr Cavanaugh did not disclose any financial relationships relevant to this article.

## Objectives

After completing this article, readers should be able to:

1. Explain the importance of screening gynecology in adolescent girls.
2. Delineate the essential components of screening gynecology in adolescent girls.
3. Describe when and how to perform sexually transmitted disease testing on adolescent girls.
4. Discuss how to counsel adolescent girls on sexuality-related issues.

## Introduction

Pediatricians are in an ideal position to screen for common gynecologic problems in adolescents without ever performing a pelvic examination. Much information can be gathered by reviewing the menstrual history, addressing any sexuality concerns as they arise, and investigating specific gynecologic symptoms as they occur. A routine breast examination and simple external inspection of the genitalia should be considered essential components of the regular health supervision visit for adolescent girls. A more complete pelvic examination is not necessary unless a specific indication exists, as outlined in Table 1. The purpose of this article is to discuss important *asymptomatic* gynecologic conditions that can be detected readily in the pediatrician's office and for which a speculum or bimanual examination usually is not required.

## Having a Listen

The gynecologic history-taking for adolescents should include questions regarding common menstrual problems, sexuality-related concerns, and specific genitourinary complaints. These and other sensitive issues should be addressed privately with the examiner, unless the patient specifically requests otherwise. Use of a self-administered questionnaire or checklist may expedite the process. Questions about current medications must be direct and very specific because many adolescents do not consider oral contraceptives, hormonal injections, or other contraceptives to be medication, and they may not want their parents to know that they are using these agents. Most parents respect their adolescents' need for privacy and appreciate the opportunity for them to receive one-on-one counseling with an experienced health professional. Although minors younger than 18 years of age are entitled to confidentiality and treatment without parental or legal guardian consent for certain conditions in accordance with state laws, open communication always should be encouraged. The reader is referred to the Suggested Reading section for a position paper published by the Society for Adolescent Medicine that gives an in-depth discussion on confidential health care for adolescents.

The menstrual history should include age of menarche; frequency, duration, regularity, and amount of bleeding; dates of last period; and any associated symptoms, such as bloating, abdominal pain, headaches, or other forms of discomfort. Quantification of the amount of flow, including the number of pads or tampons used per day and their degree of saturation, should be attempted. Patient self-report often is unreliable; if heavy bleeding is suspected, a hemoglobin or hematocrit measurement should be obtained.

It is important to address the dramatic physical changes, intense emotional feelings, and sexual experiences that occur during adolescence. Young women may have difficulty coping with rapid growth, secondary sexual changes such as breast development or genital hair, or their menstrual periods. During this period of life, most girls do not want to be

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## Table 1. Indications for a Complete Pelvic Examination in Adolescents

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| **Menstrual Disorders** |
| • Delayed menarche |
| • Unexplained secondary amenorrhea |
| • Persistent oligomenorrhea |
| • Abnormal vaginal bleeding |
| • Severe dysmenorrhea |
| **Abnormal vaginal discharge** |
| **Suspected pelvic inflammatory disease** |
| **Unexplained abdominal pain** |
| **Pregnancy-related care** |
| **Suspected sexual abuse** |
| **Unexplained frequency, urgency, or pain with urination** |
| **Routine cervical cancer screening** |
| • Within 3 years of first vaginal intercourse or |
| • 21 years of age, whichever comes first* |
| **Others as specifically indicated** |

*Once screening is initiated, adolescents should be screened annually. Special considerations may apply, as noted in the Laboratory Investigation section of the text.

perceived as being different from their friends or to be singled out in any way. They often become preoccupied with body image concerns as adult physical features appear and reproductive capacity is achieved. Any delay or acceleration in growth or sexual development can be perceived as a problem and cause worry.

Clinicians can screen for these issues quickly by asking "trigger" questions, as outlined in Table 2. In approaching adolescents, it is critical to consider the cognitive, emotional, and physical developmental stage and the family and community context. Questions should be nonjudgmental and tailored to the individual. The clinician then should follow up on any positive responses. One useful technique is to use open-ended questions, such as "Can you tell me about this?" The patient then is asked progressively more detailed questions in an effort to determine if any additional evaluation or treatment is warranted.

Sexual desires emerge suddenly during adolescence. As noted in Table 2, feelings about sex role, attraction to the opposite sex, and beliefs about self-exploration can be assessed by specific questions. Patients should be asked to explain any positive responses to the trigger questions. It is common for female patients to feel different from other girls, but it is important to determine what makes them feel that way. It usually reflects acknowledgment of their individuality. However, mentioning feeling different from other girls also can be a subtle clue to a young women's sexual orientation. For example, girls who feel different from other girls, are not interested in boys, and are more attracted to girls than to boys can be asked if they feel that they are lesbian or bisexual. Their response to this question, or similarly worded questions on sexual identity, has important implications for additional sexuality counseling. It should not be assumed that all adolescent girls have a heterosexual orientation. Catallozzi and associates (1) and Mravcak (2) offer additional information on taking a sexual history from youth who may be lesbian or bisexual.

Adolescents who have felt forced or pressured into having sex with someone may be at considerable risk for ongoing distress or injury. It is important to identify these individuals as soon as possible so that prompt

## Table 2. Trigger Questions for Sexual Changes, Feelings, and Experiences

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| **Stage of Development** |
| 1. "Do you think you are growing normally?" |
| 2. "Do you have any questions or concerns about your looks or appearance?" |
| 3. "Do you have any questions or concerns about your sexual development?" |
| **Sexual Desires** |
| 4. "Are you in a romantic relationship with anyone? If yes, "tell me about your partner." |
| 5. "Do you feel different from other girls?" |
| 6. "Are you interested in boys?" |
| 7. "Are you more attracted to girls than to boys?" |
| 8. "Are you familiar with the term masturbation?" If yes, "Do you believe it is abnormal or harmful?" |
| **Sexual Experience** |
| 9. "Are any of your friends sexually experienced?" "How about you?" |
| OR, "Have you ***ever*** had any sexual experiences?" |
| 10. "Are you ***thinking*** about being sexually active with anyone sometime soon?" |
| 11. "Have you ***ever*** felt forced or pressured into having sex with anyone?" |

intervention can be obtained to minimize adverse sequelae. Of growing concern is date rape, now the most common form of rape in adolescents. There is a close correlation between sexual assault and the use of alcohol or other drugs by the victims as well as by their assailants. The use of tranquilizers or "date rape" drugs, such as flunitrazepam and gamma-hydroxybutyrate, to spike the drinks of unsuspecting women for the purpose of rape is especially problematic. Finally, it must be remembered that concerns regarding the possibility of sexual abuse are not unique to heterosexual teenagers and must be considered in lesbian or bisexual girls.

The simple question "Have you *ever* had any sexual experiences" can identify adolescent patients in need of reproductive health services. Patients who have had sex should be asked what type of experiences they have had. This may be hugging, kissing, petting, or similar activity. It is important to ask specifically about oral, anal, and genital sex so samples for sexually transmitted diseases (STDs) can be obtained from the appropriate mucosal surfaces. One approach to asking the question is by stating "There are different kinds of sex–oral, anal, and vaginal. What kinds of sex are you having?" Most adolescents are familiar with these words, but in some cases, the examiner may need to use more basic terms to obtain the appropriate answers. For example, anal intercourse also is known as "butt sex" by many teens.

Teenagers who have been sexually active should be asked about their age at first intercourse. Current guidelines recommend that a screening Papanicolaou smear be performed within 3 years of a girl's first vaginal intercourse or by age 21 years, whichever comes first. In addition, it is important to ask, "Have you had sex with males, females, or both?" The response to this question has implications for sexuality counseling, especially regarding the need for birth control.

Teenagers who have a history of sexual activity should be asked how many partners they have had, what forms of protection against STDs were taken, and how consistently such precautions were used. Asking teenagers about participation in group sex is important because this activity places adolescents at considerable risk for venereal infections. Teenagers also should be asked about forms of contraception they have tried, compliance, and history of STDs or abnormal Pap smears. In addition, girls who have been sexually active should be asked if they have ever been pregnant, and if yes, the outcome, including spontaneous miscarriage, elective termination, ectopic pregnancy, and preterm or term delivery.

Patients who have not had sex should be asked if they are *thinking* about being sexually active with someone soon. If they give a positive response, they should be given information on contraception and prevention of STDs. Delay of intercourse and abstinence always should be encouraged.

Although this article focuses on asymptomatic gynecologic conditions, clinicians should screen routinely for genitourinary symptoms as part of the review of systems. Such screening includes asking about lower abdominal pain, vaginal discharge, burning, itching, skin lesions, and malodorous discharge as well as about urgency, frequency, or pain with urination. Although the underlying cause usually is benign and self-limited, any of these symptoms may be caused by STDs or other significant illnesses. It is important for practitioners to inquire specifically about such symptoms, especially because adolescents may not volunteer such information spontaneously.

## Taking a Look

The physical examination provides an additional opportunity to detect significant gynecologic conditions that otherwise may not be apparent. A thorough knowledge of the principles of pubertal development greatly enhances the clinician's ability to care for adolescent girls. It is essential to document maturation of the breasts and development of pubic hair at regular intervals. Use of the Sexual Maturity Rating (SMR) has simplified this process. It is important to plot height, weight, and body mass index, with percentiles for each. Deviation from expected parameters for any of these markers may be the initial manifestation of a significant underlying problem.

A complete breast examination should be part of a routine physical evaluation in adolescent girls because a number of *asymptomatic* conditions may be detected (Table 3). In addition to SMR staging, much information can be gained from inspection alone. Many young women are very self-conscious about any asymmetry, hypertrophy, or lack of breast development. Variations in shape are a source of worry. One example is tuberous breast deformity, a variation of breast shape characterized by hypoplasia of the base and overdevelopment of the areola-nipple complex. Most girls appreciate the clinician taking the initiative to address such concerns, especially if they are too shy or embarrassed to raise the issues themselves. Reassurance usually is all that is needed; in some cases, however, additional medical or psychiatric intervention may be warranted.

Adolescent girls may be reluctant to report any reduction in breast size. Noticeable atrophy of breast tissue usually is caused by loss of subcutaneous fat and supportive glandular tissue related to weight loss due to dieting

**Table 3. Findings Missed in Asymptomatic* Adolescent Girls If Breasts Are Not Examined**

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| **Inspection** |
| 1. Sexual Maturity Rating |
| 2. Significant variations in size, shape, or symmetry |
| 3. Self-inflicted injury (eg, cuts, burns, scars) |
| 4. Dermatologic conditions (eg, dysplastic nevi, malignant melanoma, acanthosis nigricans) |
| 5. Physical or sexual abuse (eg, bruises or other evidence of trauma) |
| 6. Nipple findings |
| • Acquired retracted nipples (usually due to mammary duct ectasia) |
| • Piercing or other forms of body art |
| **Palpation** |
| 1. Breast masses |
| 2. Nipple discharge |
| **Instruction on breast self-examination** |
| **Others** |

*Includes patients who are unable or unwilling to report symptoms.

or eating disorders. However, this finding may be an important clue to the presence of an underlying systemic condition, sometimes even before other symptoms become apparent.

A number of other significant findings may not be diagnosed unless the breasts are inspected. Cuts, burns, scars, or other evidence of self-inflicted injury are relatively common over the breasts and may be the only evidence that the patient is struggling with significant emotional issues. Many young women do not want such behaviors to be discovered and purposefully select areas of the body not normally seen by others. Other important dermatologic conditions may be detected in the breast examination. For example, dysplastic nevi can turn into malignant melanomas, acanthosis nigricans is associated with hyperinsulinism, and bruises or other evidence of trauma to the breast may be an important clue to child abuse or partner assault.

Teenagers may not realize the importance of reporting any acquired nipple abnormalities. For example, an important cause of acquired nipple retraction or inversion in adolescents is mammary duct ectasia, a condition that normally is associated with underlying infection and fibrosis. Affected patients should be referred to a breast care specialist as soon as possible in an effort to prevent complications such as abscess or fistula formation as well as progression of the deformity itself. Adolescent girls may be reluctant to complain about complications from nipple piercing or other forms of body art, especially if they fear reprisal from parents for procedures performed without their permission. Delay in treatment of secondary infections may result in significant scarring, disfigurement, or inability to breastfeed on the affected side.

The nipples should be examined for evidence of discharge. Nipple compression alone is not sufficient to detect the presence of discharge. Correct technique involves gently compressing the subareolar tissue and literally milking toward the nipple.

Palpation of the breasts for masses should be routine for adolescents. Mass lesions are very common in this age group and usually are caused by normal breast tissue, cystic changes, and fibroadenomas or other benign breast tumors. Although primary breast cancer in adolescents is extremely rare, it does occur. Metastatic lesions to the breast are more common, and malignant tumors from adjacent structures must be considered. Clinicians must be aware that cystosarcoma phyllodes can be mistaken easily for a fibroadenoma on examination or radiographically. Although this lesion usually is benign, a rare malignant form exists.

Teaching the breast self-examination to adolescent girls is somewhat controversial. Currently, there is no evidence that this examination increases the early detection of breast cancer in this population. In addition, because benign breast masses are so common in teenagers, there is concern that finding a lump will create unnecessary anxiety for the patient, her family, and even the practitioner. All young women can be reassured that fewer than 1% of all breast masses in adolescents are cancerous, but breast lumps in adolscents still should be followed closely, with appropriate diagnostic testing or therapeutic intervention performed in accordance with current guidelines.

At our Adolescent Medicine Center, instruction on breast self-examination is offered to patients who appear to have the intellectual capacity to understand this information and whose breast development has progressed to an SMR of 4 or 5. We believe that adolescents should be given the option of being educated about their bodies and becoming familiar with the normal changes that occur in their breasts. In addition, the breast self-examination is an important habit to develop for a lifetime, especially for adolescents at increased risk of breast cancer, such as those who have a first-degree relative who

has premenopausal breast cancer or those who have had chest wall irradiation. As part of the instruction on breast self-examination, patients are informed that breast lumps are very common at their age and that they almost never are cancerous. However, patients are advised that if they do find a new lump, they should schedule an appointment and have it checked.

Examination of the external genitalia should be part of a routine physical evaluation in adolescent girls because a number of *asymptomatic* conditions may be detected (Table 4). In addition to SMR staging of the pubic hair, much information can be gained from simple inspection. It must be stressed that teenagers do not always volunteer information to alert the clinician to genital abnormalities. They may be too shy or embarrassed or under the false impression that genital inspection is painful. They may be unaware that they have a congenital or acquired abnormality, especially if their genitalia have not been examined during health supervision visits. Of particular concern is that victims of sexual abuse may fear reprisal from the perpetrator if they call attention to injuries that may require notification of the authorities.

Evaluation for clitoral enlargement is important because clitoromegaly may result from a variety of significant underlying medical conditions. The labia should be examined for adhesions or fusion. Although generally considered to be an innocent finding, labial adhesions in some patients may be caused by trauma, as in cases of abuse. Hypertrophy of the labia is a common benign variant that often is a cause of concern to adolescents. In most cases, the labia minora are prominent; in some patients, the finding may be asymmetric.

Many young women are unaware that they have a hernia involving the labia majora. This abnormality may be diagnosed by noting a bulge when the patient is asked to cough, strain, or bear down, as if having a bowel movement. As in boys, it is preferable to perform this testing when the patient is standing because a hernia is detected more readily in this position. Finding a hernia is significant in adolescent girls because the ipsilateral ovary sometimes is trapped in the hernial sac, and incarceration with strangulation of vital structures can occur at any time. Prompt surgical intervention is indicated in an effort to prevent bowel infarction and to preserve the gonad on the affected side. Unfortunately, not all hernias are evident with standard maneuvers, and diagnosis may not be possible until signs or symptoms occur. Swelling of the labia majora also may be caused by a hydrocele of the canal of Nuck or a mass lesion, such as a fibroma.

Adolescent girls may have significant structural abnormalities of the reproductive tract that have not been detected. For example, an imperforate hymen is a congenital anomaly that can be diagnosed early in life on genital inspection with labial separation. Patients who have this abnormality usually are asymptomatic until puberty. It is important to treat this condition prior to menarche to avoid future obstruction of menstrual flow

**Table 4. Findings Missed in Asymptomatic* Adolescent Girls If External Genitalia Are Not Examined**

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| Ambiguous genitalia |
| Sexual Maturity Rating staging |
| Clitoromegaly |
| Labial abnormalities |
| Labial hypertrophy |
| Fusion, agglutination, or adhesions |
| Swelling of labia majora |
| Hernia or hydrocele of canal of Nuck |
| Mass lesion, such as fibroma |
| Hymeneal abnormalities |
| Imperforate hymen (usually no symptoms prior to menarche) |
| Congenital or acquired |
| Microperforate, cribriform, or septate hymen |
| Dermatologic conditions |
| Dysplastic nevi, malignant melanoma |
| Condyloma accuminata, condyloma lata |
| Vulvar intraepithelial neoplasia |
| Chancre of primary syphilis |
| Lichen sclerosis et atrophicus |
| Sexual abuse or self-mutilation |
| Lacerations, burns, hemorrhagic lesions, scarring, or other signs of trauma |
| Genital piercing |
| Soft-tissue sarcomas |
| Rhabdomyosarcoma |
| Perianal findings |
| Fistules, fissures, tags |
| Others |

*Includes patients who are unable or unwilling to report symptoms.

and hematocolpos, which can cause cyclic lower abdominal pain and may progress to more serious adverse sequelae, including infertility. An acquired form of imperforate hymen is believed to occur following sexual abuse, which underscores the importance of documenting the findings on external genital examination, including patency of the hymen, as part of a comprehensive physical examination. In addition, patients who have a microperforate, cribriform, or septate hymen may have small openings that require surgical correction to prevent difficulty using tampons, inserting vaginal medications, or having vaginal intercourse.

Ambiguous genitalia may be undetected until puberty, especially if the findings are subtle, as may occur with an incomplete form of the androgen insensitivity syndrome. Patients who have this condition, formerly called testicular feminization syndrome, may have partial fusion of the outer vaginal lips, an enlarged clitoris, and a short, blind-ending vagina, but no cervix or uterus. Affected individuals have normal female breast development but are unable to menstruate. Although phenotypically female, they have a male genotype and testes that may be palpable in the inguinal canal, within an inguinal hernia, or in the labia. Intra-abdominal testes also may occur.

A number of significant skin lesions affecting the external genitalia may be completely asymptomatic in adolescent girls, including genital warts caused by human papillomavirus (HPV). The types of HPV that infect the genital area are spread primarily through sexual contact. Infection with HPV is very common in teenagers and can lead to considerable morbidity. Infection with low-risk subtypes of HPV can cause verrucous lesions of the vulva, vagina, or cervix. Such lesions also are called condylomata acuminata or venereal warts. Infection with higher-risk subtypes of HPV may lead to dysplastic changes, including vulvar intraepithelial neoplasia, vaginal intraepithelial neoplasia, and cervical intraepithelial neoplasia. Pediatric practitioners serve a vital role in detecting the skin lesions of HPV and identifying sexually active teenagers who are at risk for acquiring this infection. Referral can be made to a gynecologist or similarly qualified individual as indicated.

Although most genital ulcers are painful, some may be totally asymptomatic, as is characteristic of the chancre of primary syphilis. Condylomata lata are wartlike papules that occur in secondary syphilis and may affect the anogenital area. Such lesions closely resemble the warts of condyloma acuminata, underscoring the importance of considering syphilis testing when verrucous lesions are seen in this area of the body.

Vulvar lichen sclerosis et atrophicus results in marked hypopigmentation with tissue thinning and scarring. The classic vulvar lesions are circumscribed, ivory-white plaques covered with thin "cigarette paper" atrophic skin configured in the shape of an hourglass encircling the vagina and rectum. Pruritus is the most common presenting complaint and can cause secondary excoriation or hemorrhagic lesions that may simulate sexual abuse. Lichen sclerosis et atrophicus may be asymptomatic until the patient has sufficient scarring to cause complications such as dyspareunia, dysuria, and difficulty voiding. With continued progression, the clitoris, the labia minora, or even the opening of the vagina may be obliterated. Simple inspection of the external genitalia can lead to early diagnosis and treatment to avoid such serious complications.

Lacerations, burns, scarring, or other evidence of trauma may not be reported by adolescent girls, especially in cases of sexual abuse or self-mutilation. Hemorrhagic lesions in the genital area should raise suspicion of these diagnoses, especially if the lesions are not pruritic, as is more typical of dermatologic conditions. Girls who have genital piercing can develop bleeding, infections, and allergic reactions following the initial procedure or even when jewelry is changed. They should be counseled to seek prompt medical attention at the earliest sign of complications to prevent spread of infection and to minimize scarring and disfigurement. Although many body piercings are purely for esthetic or decorative purposes, others are chosen to enhance sexual pleasure. Clitoral piercings to encourage clitoral stimulation during sex actually may reduce sexual satisfaction if the procedure is not performed properly or if complications occur.

Malignancies of the genital area are rare in adolescents but do occur. Malignant melanomas may form de novo or develop from predisposing lesions, such as congenital pigmented nevi or dysplastic nevi. Routine inspection of the genitalia is especially important in patients who have dysplastic nevi in other parts of the body or who have a family history of dysplastic nevi or melanoma. Infection with HPV also places affected teenagers at risk for genital cancer. In addition, asymptomatic rhabdomyosarcomas may involve the vulva or be seen protruding from the introitus when they originate in the vagina.

For most adolescent girls, a complete pelvic examination is not necessary unless specifically indicated (Table 1). Pediatric practitioners who are not comfortable performing this examination should learn this skill or refer their adolescent patients to a gynecologist or similarly qualified individual. Details of performing a full pelvic examination are beyond the scope of this article.

Inspection of the anus may reveal a number of important disorders. The skin conditions described previously may involve the perianal region, including the dermatologic changes associated with sexual abuse. Perianal fistulas, fissures, or tags may be asymptomatic and often are unnoticed in patients who have inflammatory bowel disease. Such lesions may precede the development of more serious complications of inflammatory bowel disease and easily can be missed; thus, inspection is warranted.

## Laboratory Investigation

STDs are epidemic among teenagers and can be serious. Complications in young women include pelvic inflammatory disease, infertility, and cervical cancer. Many infections are asymptomatic and can increase the risk for human immunodeficiency virus (HIV) acquisition and transmission. The Centers for Disease Control and Prevention (CDC) has recommended that all sexually active adolescent girls be screened for STDs at least annually, even if symptoms are not present. At our center, patients who have a history of oral, anal, or vaginal sex are screened routinely for STDs at these sites. The importance of undergoing serologic testing for HIV and syphilis is stressed to the patients. Clinicians should have a high degree of suspicion and a low threshold for ordering a pregnancy test in sexually active girls if any doubt exists that they could be pregnant.

Recent technologic advances using noninvasive nucleic acid amplification tests (NAATs) and other newer tests have simplified testing for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* on specimens taken from the cervix or vagina. Although they are more costly than older screening tests, their ease of use, improved sensitivity, and comparable specificity when compared with culture are great advantages. Another advantage of using amplified tests for detecting STDs is the flexibility of being able to use the same sample for detecting both *Chlamydia* and *N gonorrhoeae*.

Studies have shown that amplified tests on urine and self-collected vulvar or vaginal swabs are highly acceptable to adolescent girls who may be unwilling to undergo a more invasive speculum examination, especially if they are asymptomatic. Older tests lack the sensitivity that amplified tests have and should not be used on such noninvasive samples. When urine specimens are obtained in the office, the patients should *not* cleanse the labial area prior to providing the specimen, and a first-catch "dirty urine" (20 to 30 mL of the initial urine stream) should be collected into the cup. Clean-catch samples may reduce the accuracy of tests using the newer technology. Progress is being made toward applying noninvasive sampling (urine and vaginal) to home-based sampling for STD screening. Using the home pregnancy test as a model, home-testing kits for STDs may become an option in the future.

All positive NAAT tests should be considered presumptive evidence of infection, and the patient should receive prompt treatment. However, because NAAT testing is so sensitive, false-positive results may occur (more likely in low-prevalence populations). Repeat testing should be considered if a false-positive NAAT test result would have a substantial adverse medical, social, or psychological impact on the adolescent patient. It also should be recommended to the patient that she notify any sexual partners so they can receive appropriate evaluation and treatment.

Detection of pharyngeal or rectal gonorrhea and rectal *Chlamydia* infection still requires culture. Pharyngeal infection with *C trachomatis* is uncommon, and routine screening for it is not recommended. Because of their high degree of specificity, it is recommended that cultures for gonorrhea and *Chlamydia* be obtained in medicolegal cases, as when sexual abuse is suspected.

Regular gynecologic examinations and cervical cytology screenings are required for early detection of cervical cancer. It generally takes years from the time a woman is infected with HPV until changes found on the cervix actually develop into cervical cancer, except in immunocompromised patients, in whom such changes may occur sooner. According to recent recommendations, Pap smears in adolescents should be obtained within 3 years of first vaginal intercourse or by age 21 years, whichever comes first. Once routine screening has been initiated, it should occur annually throughout adolescence.

Exceptions to these new guidelines for Pap smears in adolescents may apply under special circumstances. The American College of Obstetricians and Gynecologists recently revised their recommendations to acknowledge that the decision about the initiation of cervical cytology screening in adolescents should be based on the clinician's assessment of risks, including age of first intercourse, behaviors that may place the adolescent at greater risk for HPV infection, and risk of noncompliance with follow-up visits. Therefore, obtaining a complete and accurate sexual history is critical.

Another special consideration is the need to obtain a Pap smear in immunocompromised adolescents as soon as they are known to have become sexually active because HPV may be more aggressive in these patients. The 2006 Sexually Transmitted Diseases Guidelines, published by the CDC, recommend that HIV-infected women have a

Pap test twice in the first year after diagnosis of HIV infection, and if the results are normal, annually thereafter.

A pelvic examination and a Pap smear are not one and the same. The absence of an indication to perform a Pap smear does not diminish the need for STD screening in adolescents. However, as noted in the article by Nicoletti and Tonelli, (3) the availability of NAAT testing to screen for gonorrhea and *Chlamydia* reduces the need for a pelvic examination and, in effect, increases the age at which the first pelvic examination is necessary.

## Management

Once the screening gynecologic history and physical examination have been performed, the adolescent can be counseled on menstrual concerns, sexuality-related issues, and specific genitourinary complaints in accordance with her specific needs. Depending on the clinician's knowledge, experience, and comfort level, such counseling can be conducted in the office or the patient can be referred to a practitioner who may be better equipped to carry out this essential role.

Girls who have significant premenstrual symptoms, dysmenorrhea, amenorrhea, oligomenorrhea, or excessive vaginal bleeding should be evaluated and treated. Bleeding disorders, such as von Willebrand disease, frequently present with excessive vaginal bleeding and can be overlooked unless the history is taken properly. Patients who use tampons should be made aware of the signs and symptoms of toxic shock syndrome as well as advised about appropriate precautions for preventing its occurrence. Because many young women use tampons, the number of tampon-related toxic shock syndrome cases has risen in adolescents.

Patients should be asked about any concerns regarding growth, sexual development, or appearance and about positive responses to trigger questions so appropriate counseling can be offered.

Young women who are struggling with their sexual identity may have difficulty dealing with such feelings, especially if there is not a trusted person with whom they can share their thoughts and feelings. They might prefer to tell no one, for fear of rejection or even violence from the public, their friends, or their parents and other family members. These teens may suffer from feelings of guilt, inferiority, and self-deprecation that put them at serious risk for self-harm or even suicide. Some may turn to alcohol or other drugs for comfort or to calm their powerful emotional conflicts. Other forms of acting-out behavior, such as arguing with parents, fighting with peers, or getting into trouble with the law, may signal unresolved sexual identity conflicts. It is important to recognize adolescents who are having a difficult time dealing with such feelings so they can be given support and guidance.

Masturbation is common in adolescent girls, and they should be educated about it. Masturbation is a normal, healthy form of sexual expression that has been the subject of numerous misunderstandings, rumors, and myths throughout the ages and can instill deep feelings of guilt and shame. Misconceptions are more likely if the girls have been told by others that masturbation is abnormal, harmful, or bad. It is important to dispel myths, correct misconceptions, and relieve any unnecessary guilt. Masturbation could be considered a useful and important way to prevent unwanted pregnancy and reduce the risk of acquiring an STD. Pediatric practitioners are in an ideal position to initiate discussions on masturbation as part of routine preventive counseling. Although personal beliefs about this sensitive subject should be respected, family values and medical facts should be distinguished. As they mature, adolescents will be able to process any opposing views and come to their own conclusions with a clear conscience.

At our Adolescent Medicine Center, counseling about contraception and STD prevention includes five basic components: abstinence, secondary abstinence, STD prevention, contraception, and emergency contraception.

1. **Abstinence.** Abstinence, which is the gold standard of risk reduction for teenagers, always should be emphasized because it offers the only guarantee against unplanned pregnancy and infection. Abstinence is safe, sure, and simple.
2. **Secondary abstinence.** A commitment to the idea of secondary abstinence can start at any time. Clinicians should not assume that once sexually active, teens wish to continue. Teens who have been sexually active in the past may have second thoughts and wish to put off sexual involvement. This strategy may be highly effective for adolescents who chose to employ it.
3. **STD prevention.** The consistent, correct use of latex condoms with every act of vaginal or anal intercourse should be stressed. It is important to dispel the myth of "safe sex." This catchy phrase actually may do more harm than good; the poor choice of words gives a false sense of security to adolescents who might try to act responsibly, but still be exposed to STDs whenever there is an unplanned and accidental exchange of body fluids. This scenario happens relatively often, even when so-called "protection" is used, because condoms leak,

break, or slip off easily. Teenage girls should be aware that unprotected anal intercourse places them at increased risk of acquiring HIV and other STDs because the rectal mucosa is very thin and more easily torn than the vaginal mucosa.

Patients need to know that oral sex should not be considered safe but carries some risk of spreading STDs, including HIV. Oral contact with the penis is termed fellatio, oral-vaginal sex is called cunnilingus, and oral-anal sex is known as analingus (also known as "rimming"). Adolescent girls should know how to lower the risk of getting an STD if they engage in such activities. Latex condoms should be worn by the male partner during all acts of fellatio. For cunnilingus or analingus, the risk of transmission of HIV and other STDs can be reduced by the use of barrier protection. Nonlatex condoms and other latex-free barrier products can be substituted for persons who are allergic to latex. In addition, the potential exchange of body fluids through sharing sex toys should be avoided.

Although sustained mutually monogamous relationships may reduce the risk of STD transmission, this strategy is somewhat limited in adolescents because they often engage in serial mutually monogamous relationships.

The recent introduction of the first vaccine to protect against HPV gives pediatricians a new weapon for reducing the risk of HPV infection and its consequences, the most important of which is cervical cancer. The quadrivalent vaccine (Gardasil®, Merck & Co., Inc, Whitehouse Station, NJ) helps to prevent diseases caused by HPV types 16 and 18, which cause 70% of cases of cervical cancer, and HPV types 6 and 11, which cause 90% of cases of genital warts. However, the vaccine does not treat these diseases and does not protect against diseases caused by other types of HPV. The HPV vaccine is not a substitute for cervical cancer screening, and girls who complete the three-injection series still require screening later in life, in accordance with current guidelines.

4. **Contraception.** For adolescents who need contraception, it is important to discuss available options of birth control, contraindications, and adverse effects. The practitioner should help the patient select the best method for her, based on clinical circumstances and individual needs.

5. **Emergency contraception.** All adolescents should be aware of the availability of emergency contraception in the event of unprotected consensual or nonconsensual sex (Table 5). Young men and women should be given this information as part of routine preventive health care so that they can pass it on to others. The American Academy of Pediatrics has published a brochure on emergency contraception for teenage patients and their families (see Suggested Reading).

**Table 5. Indications for Emergency Contraception***

| Unprotected sexual intercourse |
|---|
| • Consensual |
| • Nonconsensual or sexual assault |
| **Underprotected sexual intercourse** |
| • Condom leaks, slips, or breaks |
| • Two or more combination oral contraceptive pills missed |
| • One or more progestin-only pills missed |
| • Depot medroxyprogesterone acetate shot 2 or more weeks late |
| • Transdermal patch detached for 24 hours or more during patch-on weeks |
| • Vaginal ring expelled or removed for 3 hours or more during ring-use weeks |
| • Diaphragm or cervical cap dislodged during intercourse |
| • Vaginal spermicide used alone |

*Data from Gold MA, Sucato GS, Conrad LAE, Hillard PJA. Provision of emergency contraception to adolescents: position paper of the Society for Adolescent Medicine. *J Adolesc Health.* 2004;35:66–70.

Use of the Internet raises additional sexuality-related concerns and safety issues. The potential for meeting a new partner is enhanced by the substantial size of the online dating pool and rapid access through such media as e-mail, chat rooms, and instant messaging services. Unfortunately, the ease of instant communication through such channels also allows sexual predators to use the Internet to traffic child pornography, engage children in inappropriate sexual interaction, and locate children for abusive purposes. Although little is documented about the influence of unrestrained access to pornographic web sites on adolescents, this growing problem may affect their psychosexual development negatively. Widespread online advertising by the sex toy industry raises similar concerns and carries the risk of exposure to products that may cause physical injury and the potential for spread of STDs whenever toys are shared.

Patients and their parents should be warned about the dangers of the Internet and what precautions to take in an effort to reduce the risks for young women. It is important that adolescent girls never get together with someone they "meet" online. It is imperative that teenagers keep their identities private and not share personal

information. If they are uncomfortable or frightened, they should talk to a parent or trusted adult and never send any message they would not want to say face-to-face. Parents must be aware that teenagers are likely to use computers outside their homes or even cell phones or other devices to connect to the Internet. Additional information on Internet safety is beyond the scope of this article; parents can be referred to a brochure on this subject from the American Academy of Pediatrics (see Suggested Reading).

## Miscellaneous Considerations

There are no uniform guidelines for the use of chaperones, and the approach to this practice varies considerably. It is the policy of our program that a female staff member be present when the breasts or genitalia of young women are examined by a male clinician. Having a chaperone present when adolescent girls are examined by female examiners is left to the discretion of the examiners, depending on their comfort level in general and with individual patients in particular. For example, it seems prudent for female examiners to have a chaperone present for girls who appear to be flirtatious toward them or who appear to exhibit bizarre interpersonal behaviors. Many programs also document the presence of the chaperone in the medical record.

Practitioner liability also must be considered when an adequate screening gynecologic evaluation is not performed and important underlying medical conditions are not diagnosed or treated in a timely manner. Failure of patients or parents to comply with medical recommendations pertaining to screening gynecologic issues raises additional concerns. An adolescent's or parent's refusal of the breast examination or inspection of the external genitalia should be recorded in the chart. Refusal should be documented when testing for HIV, syphilis, and other screening tests for STDs is recommended by the clinician.

## Summary

Screening gynecology is an essential component of routine preventive health care for adolescent girls. A number of significant asymptomatic conditions can be missed unless a careful evaluation is performed. Much information can be gathered by taking the history, examining the breasts, inspecting the genitalia, and ordering simple screening studies. The pediatrician's office is the ideal setting to perform these basic gynecologic services; in most cases, a complete pelvic examination is not necessary. Failure to have a listen or to take a look when teens come in for a regular health supervision visit is an important missed opportunity.

## References


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**3.** Nicoletti A, Tonelli M. The timing of the first pelvic exam. *J Pediatr Adolesc Gynecol*. 2005;18:431–432


## Suggested Reading

### Health Care Professionals


American Academy of Pediatrics, Committee on Psychosocial Aspects of Child and Family Health. *Guidelines for Health Supervision III*. Elk Grove Village, Ill: American Academy of Pediatrics; 2002

American College of Obstetricians and Gynecologists, Committee on Adolescent Health Care. The initial reproductive health visit. *Obstet Gynecol*. 2006;107:1215–1219

American College of Obstetricians and Gynecologists, Committee on Adolescent Health Care. Cervical cancer screening in adolescents. *Obstet Gynecol*. 2004;104:885–889

Centers for Disease Control and Prevention. Sexually transmitted diseases guidelines, 2006. *MMWR Morbid Mortal Wkly Rep*. 2006;55(No. RR-11):69

Conrad LAE, Gold MA. What you need to know about providing emergency contraception. *Contemp Pediatr*. 2006;23:49–70

Emans SJ, Laufer MR, Goldstein DP. *Pediatric and Adolescent Gynecology*. 5th ed. Philadelphia, Pa: Lippincott, Williams & Wilkins; 2004

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Society for Adolescent Medicine. Confidential health care for adolescents: position paper of the Society for Adolescent Medicine. *J Adolesc Health*. 2004;35:160–167

Quint EH, Smith YR. Vulvar disorders in adolescent patients. *Pediatr Clin North Am*. 1999;46:593–606


### Patient/Parent Educational Materials


American Academy of Pediatrics. *Emergency Contraception*. Elk Grove Village, Ill: American Academy of Pediatrics; 2005

American Academy of Pediatrics. *The Internet and Your Family*. Elk Grove Village, Ill: American Academy of Pediatrics; 2006

## PIR Quiz

Quiz also available online at www.pedsinreview.org.

6. A previously well 16-year-old girl comes to your office for an annual health assessment. Her menarche was at age 13 years, and her periods occur monthly. Of the following, the *most* appropriate indication for a complete pelvic examination for this patient is:

   A. Cramps at onset of menstruation.
   B. First vaginal intercourse likely soon.
   C. Lesbian sexual orientation.
   D. Regular masturbation.
   E. Spotting between periods.

7. An 18-year-old girl is making her first visit to your office for a health supervision visit. Which of the following questions is *most* likely to facilitate identification of her sexual orientation?

   A. "Are any of your friends sexually experienced?"
   B. "Are you attracted to boys, to girls, or both?"
   C. "Do you have a boyfriend?"
   D. "Have you ever dated anyone?"
   E. "Have you ever had any sexual experiences?"

8. The primary reason for teaching adolescent girls the technique of breast self-examination is:

   A. Early detection of adenocarcinoma.
   B. Early detection of fibroadenomas.
   C. Early detection of mammary duct ectasia.
   D. Early recognition of malignant melanoma.
   E. Familiarization with normal cyclic changes.

9. Routine inspection during a health supervision visit of the external genitalia of a 15-year-old girl who has noted only mild vulvar itching for the past 2 months reveals circumferential thinning and hypopigmentation of the skin surrounding both vulva and anus. Of the following, the *most* likely diagnosis is:

   A. Human papillomavirus infection.
   B. Lichen sclerosus et atrophicus.
   C. Postherpetic hypopigmentation.
   D. Primary syphilis.
   E. Sexual abuse.

10. A 17-year-old girl is concerned that her boyfriend's condom broke during intercourse last night. She is not using any other birth control method. Her urine pregnancy test is negative. You recommend emergency contraception. She also has noted an occasional vaginal discharge recently. Her Pap test result was normal 6 months ago. She does not wish to undergo another pelvic examination at this time. A noninvasive nucleic acid amplification test performed on a first-catch "dirty" urine is a particularly sensitive method for identifying:

    A. *Candida albicans.*
    B. *Chlamydia trachomatis.*
    C. *Gardnerella vaginalis.*
    D. Herpes simplex virus.
    E. *Trichomonas vaginalis.*

# Screening Adolescent Gynecology in the Pediatrician's Office : Have a Listen, Take a Look

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