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Child abuse is common and frequently presents to the emergency department (ED). Sometimes the presentation is subtle and masked by vague histories and nonspecific physical findings.

Considering sexual abuse in the differential diagnosis is critical for the child and his/her safety. Understanding techniques for obtaining a history, the range of normal physical findings and abnormalities that are clearly associated with abuse, enables the physician to complete a thorough evaluation and to document with confidence. High-risk populations, such as children with special needs, present unique challenges to the clinician.

This article carefully reviews the history, physical examination, diagnostic evaluation, and reporting expectations for children with suspected sexual abuse.

— The Editor

Pediatric Trauma: Recognizing and Managing Child Sexual Abuse

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Child sexual abuse is no longer the "hidden pediatric problem" that Dr. Kempe described in 1977.[1] In fact, many physicians faced with the care of children will care for victims of child sexual abuse. Many victims of abuse present to their local emergency department (ED) for evaluation.[2,3] Children may present to the ED with acute life-threatening injuries, an acute sexual assault, or with vague complaints such as vaginal discharge or behavioral concerns.[3] This article aims to demystify what child sexual abuse is and how to evaluate a potential case.

Child abuse is quite prevalent in our society.[4-6] It is estimated that 1 in 4 girls and 1 in 6 boys will experience some form of child sexual abuse by the time they become 18 years of age.[6]

The national rate of child sexual abuse is 1.2 per 1,000 children.[4] It is believed that child sexual abuse may be under-reported for several reasons, such as delayed disclosure, inability to

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disclose due to developmental level of the child and the child not recognizing that the abusive act is wrong.[5,6]

The *syndrome of child sexual abuse accommodation* sheds light on why a child's disclosure may occur so long after the abuse and is particularly informative as to why the disclosure may be problematic or even retracted by the child.[7] This syndrome occurs in the following stages: secrecy, helplessness, entrapment/accommodation, disclosure, and retraction.

In the first stage of this syndrome, the victimized child is forced to keep the inappropriate sexual contact a secret and at first feels trapped and helpless. Because the child is either directly or implicitly coerced into the sexual contact, the feeling of entrapment continues as the abusive behavior persists over a period of time in an environment that has failed to provide necessary protection. The feelings of helplessness lead to accommodative behaviors, because the child fears that no one will believe the story if he or she does tell. Such a child is usually the product of an environment that already has failed to protect him or her. The child does not always reach disclosure and retraction. If the child does disclose, any subsequent failure of the people and the surrounding environment to protect and support the child adequately only serves to reinforce the child's initial feelings of helplessness and may lead to retraction of the initial disclosure.

The barriers that initially stood in the way of recognizing the sexual abuse of children are increasingly being surmounted as health care professionals, child protection workers, law enforcement officers, and attorneys become more knowledgeable about the sexual exploitation of children and are more readily able to identify the problem and intervene. The reasons behind the failure of professionals to recognize the sexual abuse of children are many and include the following: a) social and cultural taboos around the notion of adults sexually exploiting children, b) personal anxiety surrounding discussion of sexual topics in general, c) collective and personal denial that sexual victimization of children occurs at all, and d) a relative lack of knowledge about the victimization of children.[7] As openness in society around the discussion of sexually related topics increases, and as the general public's and professionals' awareness and understanding of the problem of sexual abuse has grown, we are developing a greater awareness of how to identify children who may have been sexually abused, how to evaluate them optimally, and how to best work with them to help them overcome the effects of such a traumatic experience.

Definition

Child sexual abuse can be defined as "a dominant, more powerful person involving a dependent, developmentally immature child or adolescent in sexual activities for that dominant person's own sexual stimulation or for the gratification of other people, as in child pornography or prostitution."[7] The American Academy of Pediatrics defines child sexual abuse as "the engaging of a child in sexual activities that the child cannot comprehend, for which the child is developmentally unprepared and cannot give informed consent, and/or that violate the social and legal taboos of society."[2] Children younger than 12 years cannot *consent* to sexual activity with an adult.[8] Any sexual contact with coercion or force is reportable to a child protective service agency.[8]

The essential components of the definition of sexual abuse involve the child's developmental immaturity and inability to consent, and the perpetrator's betrayal of the child's trust. In cases of sexual abuse, the perpetrator has authority and power over the child ascribed by his or her age or position and is thus able, either directly or indirectly, to coerce the child into sexual compliance. In intrafamilial sexual abuse, the involvement of the child in sexual activities violates the social taboos of family roles.[7]

Child sexual abuse can include fondling of a child's genitals, penetration of the genitals, anus or mouth, incest, rape, indecent exposure and the production of pornography.[5] State and federal laws define and classify sexual abuse. Some child sexual abuse can be more passive including viewing pornography or sexual acts at the request of an adult. This also can be part of the "grooming" process that some sexual perpetrators use with their victims. In this, the perpetrator becomes close to the child gaining their trust and then slowly exposes the child to inappropriate sexual contact or knowledge hoping to breakdown barriers to future inappropriate sexual contact. This grooming process over a period of time may lead to active sexual abuse of the child.[9]

Child sexual abuse is part of a spectrum of coercive sexual acts involving children and adolescents. The following are legal definitions of such coercive acts and help to demonstrate what these acts have in common, as well as the differences, with child sexual abuse.[10]

Sexual assault is a comprehensive term that includes multiple

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Table 1. Signs and Symptoms in Child Sexual Abuse

NONSPECIFIC PHYSICAL AND BEHAVIORAL COMPLAINTS		PHYSICAL FINDINGS	
Physical	*Behavioral*	*Specific Findings*	*Nonspecific Findings*
Anorexia	Compulsive or excessive masturbation	Hymenal brusing or tears	Normal genital, anal, and perianal examination
Abdominal pain	Unusual sexual curiosity; repetitive sexualized play	Recent or healed lacerations of hymen extending to the vaginal mucosa	Generalized or localized erythema or increased vascularity of genital or perianal areas
Enuresis	Excessive distractibility	Posterior fourchette scarring	Posterior fourchette or fossa navicularis midline avascular areas
Dysuria	Nightmares	Genital bite marks	Labial agglutination
Encopresis	Phobias, fears, anxiety	Sexually transmitted diseases	Hyperpigmentation or hypopigmentation of genital or perianal areas
Vaginal itching	Clinging behavior, difficulty in separation	Thickening of anal verge tissues with alteration of normal rugal pattern	Hymenal irregularities, notches, or bumps not extending to the vaginal mucosa or fossa navicularis or not associated with vascular pattern alterations
Vaginal discharge	Aggressive behavior	Perianal scars or tags outside of midline location	Significantly enlarged hymenal orifice
Vaginal bleeding	Abrupt change in behavior		Small skin fissures in posterior fourchette and perianal areas
Urethral discharge	Attempted suicide		Purulent vaginal discharge
Painful defecation	Depression		Perianal smooth areas or anal tags in midline location
	Post-traumatic stress disorder (PTSD)		
	Dissociation		

types of forced or inappropriate sexual activity. Sexual assault includes situations in which there is sexual contact with or without penetration that occurs because of physical force or psychological coercion. This includes touching a person's sexual or intimate parts or the intentional touching of the clothing covering those intimate parts.[10]

The term *molestation* is applied when there is noncoital sexual activity between a child and an adolescent or adult. Molestation may include viewing of sexual materials, genital or breast fondling, or oral-genital contact.

From legal and clinical perspectives, *rape* is defined as "forced sexual intercourse" that occurs because of physical force or psychological coercion. Rape involves vaginal, anal, or oral penetration by the offender. This definition also includes incidents in which penetration is with a foreign object, such as a bottle, or situations in which the victim is unable to give consent because of intoxication or developmental disability.[10] The terms *acquaintance rape* and *date rape* are applied to those situations in which the assailant and victim know each other.

Statutory rape involves sexual penetration by a person 18 years or older of a person under the age of consent.[10] Statutory rape laws are based on the premise that, until a person reaches a certain age, he or she is legally incapable of consenting to sexual intercourse. The age of consent varies from state to state. In some states, there are new statutory rape laws mandating that sexual intercourse and sexual contact now must be reported if certain age differences exist between a minor (usually defined as younger than 18 or 21 years) and his or her sex partner (whether minor or adult), even if the sexual act was voluntary and consensual. There is concern that the new laws and mandated reporting statutes may have a significant impact on the interaction between the health care provider and the patient. Adolescents and health care providers may have concerns regarding medical or social history, access to care, and confidentiality, and some adolescents may refuse to seek care or refuse to disclose personal risk information because of possible reporting of sexual partners.[10]

At this point, clarification of *child sexual abuse* and *acute sexual assault* of adolescents and adults is necessary. Sexual abuse of children is a distinct, unique form of victimization and differs markedly from sexual assault in several important ways.[7] First, sexual abuse of children is commonly a longitudinal pattern of abusive contacts that may occur over weeks, months, or years prior to ending through disclosure or discovery. In contrast, adult sexual assault often occurs as a single, violent episode. The perpetrator in child sexual abuse is often a trusted caregiver known to the child and family and less commonly a complete stranger. Although the perpetrator in adult sexual assault may be a family member, as seen in cases of domestic violence, or an acquaintance, as in date rape, in some cases, the perpetrator is a stranger not known to the victim. Finally, physical violence is uncommon

in child sexual abuse owing mainly to the manipulation of the child's trust and the perpetrator's desire to avoid discovery of the abuse. On the other hand, physical violence is a common component seen in cases of adolescent and adult sexual assault. These distinctions are not absolute, and there is some overlap between what is typically seen in child and adolescent sexual abuse and what is seen in adolescent and adult sexual assault.

Sexual abuse includes and overlaps with intrafamilial abuse, pedophilia, and rape.[7] *Intrafamilial abuse* (sometimes referred to as incest) is sexual activity between individuals who are not permitted to marry, including step-relatives. In the cases involving stepfamily relationships, the presence or absence of a blood relationship is not as important as the kinship role that the abuser has in relation to the child. *Pedophilia* is defined as the preference for sexual contact with children by an adult. Pedophiles typically are skilled at ingratiating themselves with children and are likely to target the most vulnerable among them for sexual contact. Finally, rape is a legal term defined by various statutes, typically seen as a violent act that includes some form or variant of forcible sexual intercourse. Rape includes actual or threatened physical force sufficient to coerce the victim and may include some cases of child sexual assault.

Presentation

Sexual victimization of children is very different from physical maltreatment in two important dynamics. The first is that most perpetrators do not intend to actually physically harm their victims; because of this, few children present with injuries. The second dynamic is that few children disclose their experience immediately following the sexually inappropriate action and this lack of disclosure results in some diagnostic challenges in identifying residua and collecting forensic evidence. Therefore, physicians must understand the dynamics of sexual victimization and be able to obtain a medical history from the child in a manner that is nonleading, facilitating, and empathetic. An appropriately obtained medical history will assist the physician in assessing the residual effects, both physical and psychological, as well directing a treatment plan.

The diagnosis of child sexual abuse is based primarily on the history provided by the patient. Often there are no physical signs. The child's developmental stage and developmental limitations on event recall make obtaining a child sexual abuse history difficult. The health care provider must rely on a history that, at times, does not seem reliable. Any weakness in the history may reflect factors other than the truth of the child's allegation.

Sexually abused children can present in a variety of ways. Some are nonspecific behavioral changes such as acting out, increased aggressiveness, or withdrawal and depression (*Table 1*). Some are somewhat more specific behavioral changes such as excessive masturbation, acting out adult sexual acts, or perpetrating sexual acts on other children.[3] Some physical symptoms are nonspecific such as dysuria, pain in the genital area, or blood in the underwear.[3] Some are commonly associated with nonabusive etiologies, such as irritant vaginitis or urinary tract infections, and must be differentiated from child sexual abuse.

Not all sexually abused children appear to have psychological or behavioral symptoms, at least not at the time of medical assessment. Therefore, abuse is not inevitably pathogenic, and some victims have limited sequelae. It has been demonstrated that children may be more likely to have psychological and behavioral sequelae with repeated episodes of abuse. Posttraumatic stress disorder and other trauma-related symptoms (e.g., dissociation) generally have been lowest among those surviving only one type of abuse (physical or sexual) and highest among those surviving combined abuse.

Another way children can present is a parental concern about a child's statements.[3] To interpret a child's statements about sexually abusive acts requires that one be familiar with how a child refers to his/her genitalia. A young child might make a statement such as "hurt boo boo" with a gesture to the genital area. An older child might state, "he held me down and put his ding a ling in my coochie". The context in which the disclosure arises can be important also. Did the child spontaneously disclose abuse or was the caretaker questioning him/her about whether anyone had hurt him/her?

Timing of Examination

The timing of the physical exam is dependent on many variables: physical symptoms such as genital bleeding or discharge, a parent or victim's anxiety about the abuse, and the time of last contact with the perpetrator. If the alleged abuse occurred within 72 hours of presentation or if the child has genital bleeding, discharge or pain, a complete examination should be done immediately.[3,5,11-13] Although some residua to genital trauma may last beyond 72 hours, the potential to collect seminal products and other body fluids that could potentially identify a perpetrator is minimal.

If the child discloses abuse and the last incident of possible contact was more than 72 hours and the child is asymptomatic, the full detailed examination may be scheduled with a primary care physician or specialist in child abuse at a later date.[7] However, if the child has presented to an ED with the concern of child sexual abuse, it still may be necessary to conduct a screening examination.

Medical Evaluation

The medical evaluation itself serves many purposes, such as identifying trauma or conditions that require medical care, collecting forensic evidence, reassuring the child and caretakers, and returning control of the child's body to him or her.[8,14,15] The examination also will allow the examiner to assess the child's mental health and medical needs and make appropriate referrals.[8]

The evaluation includes obtaining history from the parent or caretaker, if present, and then obtaining a medical history from the child if possible.[14,16] The physical exam should include a complete physical examination with a focused examination of the genitalia to look for residua to the abuse, such as trauma or sexually transmitted disease (STD).[3]

Some hospitals have protocols in place for response to allegations of child abuse, be it physical or sexual.[17] Physicians should be aware of their own agency's policies regarding this. However, the law on reporting suspected child maltreatment applies to all physicians and exists in all 50 states.[16] If a mandated reporter, such as medical personnel or a social worker, suspects that a child has been physically or sexually abused, he or she must report those suspicions to the local child protective services agency.[3,5] State laws may vary in regard to notifying law enforcement; therefore, physicians should make themselves aware of the laws in their particular state. Some hospitals have specialists in child abuse available to answer questions or to help evaluate children in acute settings.[17]

History

From Caretaker. When obtaining a history from the parent or caretaker, do this out of the presence of the child.[16] Find out what concerns the caretaker has and why. *Did the child disclose something to someone? What has made the caretaker suspicious? If the child has disclosed something, exactly what words did she or he say and in what context?*[8] *Has the caretaker noticed any behavioral changes recently?* This could include moodiness, increased anger, sexual promiscuity, or running away depending on the age and developmental level of the child.[3] *Has the child had any physical symptoms such as genital or rectal bleeding, pain, dysuria, discharge or itching? Has the caretaker had any other concerns? Who cares for the child? What is the caretaker's biggest concern?*

From Child. In cases of alleged child sexual abuse, a child protective services agency and/or law enforcement may become involved. These professionals often need to conduct interviews of the child for their investigation. This, however, does not prevent the physician from obtaining a history from the child. This history should include relevant review of systems and questions needed for a pediatric history.[3] The interview with the child should take place outside the caretaker's presence if at all possible. Sometimes a child will spontaneously blurt out what has happened to him or her. In these cases, it is vital to document exactly what the child said using his or her words.[3,16] When talking with children, try to use open-ended and non-leading questions to obtain details of what happened.[16] Questions such as, "*Can you tell me why you are here?*" or "*Can you tell me more about that?*" are helpful, especially with older children who can talk more freely. It is helpful to explain that "*I am a doctor (or nurse, physician assistant, etc.) who checks children to make sure they are healthy. I need to check you from head to toe including your private area*." Asking if the child has told anyone about what has happened is important to ascertain if they are being appropriately protected (this is important for the child protective services agency to know). If the child is frightened or extremely anxious, a detailed history should be deferred.[3] If, at any time, you begin to feel uncomfortable, stop and let the investigating professionals do their interviews. They should be trained in how to question children in cases of suspected abuse. Just remember that the child is your patient and should be your main focus.

The history should include from whom the history was obtained and specific words the child used in his/her disclosure.[3,5] If you interviewed the child, clearly document what you asked and what the child's words were in response. This can be very important if the case later goes to court. Good documentation of history and examination findings can aid in the prosecution of cases of child sexual abuse.[18]

A high percentage of child sexual abuse victims are younger than 5 years. The age and concomitant developmental level of these children present a distinct management challenge. Many children in this preschool group do not have fully formed language skills. Their words for their own sexual anatomy may be rudimentary and imprecise. For example, some children at this age are unable to distinguish between their genitals and their anus. Others use terms such as "peepee" or "hinie" without distinct meaning. Children younger than 5 years also may have difficulty with two other developmental skills: 1) sense of time and 2) sequencing ability. Some children may be unable to differentiate last week or last month from yesterday. Others will be unable to sequence a story as to what happened first, second, third, and so forth. Both of these developmental deficiencies may result in difficult-to-understand histories and what seem to be changing or impossible stories.

Children at older developmental levels may be reluctant to reveal and describe their abuse for fear of negative peer or parental reaction or because of a feeling that they will be seen as being a contributor to the abuse. They may be old enough to realize the embarrassment and shame that come with being a victim, even an innocent victim. A clever perpetrator will know how to gauge a child's developmental level and use the child's developmental stage to the perpetrator's own benefit.

Physical Examination

When examining children, restraint or sedation is rarely needed and some experts believe that procedural sedation is not very helpful in examinations for alleged child sexual abuse.[17,19] If the child has a significant injury and the child is unable to cooperate for an examination, procedural sedation or even general anesthesia may rarely be needed.

The exam should include a complete physical exam to look for overall health, other signs of trauma, and disease. The exam should not add emotional distress to the child.[3] A supportive adult, who is not suspected of abusing the child, should be present during the examination if possible.[2] The child should be prepared for the examination by a professional who can explain what is going to happen in terms the child understands. This is quite helpful in getting children to cooperate for a comprehensive physical examination.[3,17] Some hospitals have child life specialists or nurses who can help facilitate this examination.

Examination Positions and Techniques. Some exam positions that may be helpful to visualize the anogenital area are the supine frog leg, supine knee chest, prone knee chest, or dorsal lithotomy position, which is often used in adolescents or

women.[8,14] The ideal examination position is one in which the child feels most comfortable and is most cooperative. Under no circumstances should an uncooperative child be physically restrained for an examination.

In young children, having the child sit on the mother's lap with mom in the lithotomy position and the child's legs lying over mom's can be useful. The prone knee chest position is quite helpful to visualize the vaginal canal, especially when looking for foreign bodies. Most children and adolescents tolerate this position well. Helpful techniques for visualization of the female genitalia include labial separation, labial traction, moistened cotton swabs or Foley catheters.[10,15] In acute examinations, toluidine blue dye may be helpful in documenting superficial tears in the genital or anal areas.[20,21] This technique should be done before any digital or speculum examination.[21] The dye is taken up by nucleated cells, thus revealing superficial tears.[20,21] This dye has even been used at autopsy to help in the detection of injuries from sexual abuse.[22]

To visualize the anogenital area, one needs a good light source.[14] If available, an otoscope or hand-held magnifying glass can be helpful. For documentation, a detailed description and diagrams are adequate. Photographs taken by a camera with macro lens or a colposcope with attached camera or video camera can be helpful, but not necessary for a good examination.[8,14,15,23,24] Photographs are helpful not only for documentation, but also for peer review or second opinions. Even if photographs or video is obtained, one still should maintain a detailed description and diagrams in the medical record.[23]

The emergency physician (EP) should not force the examination on the child or restrain the child beyond infancy or toddlerhood. Speculum exams are rarely, if ever, needed in prepubertal girls.[3,14] If a speculum exam is needed in a prepubertal girl, it will most likely be done under general anesthesia because the prepubertal hymen is exquisitely sensitive to touch and pain.

Physical Findings

A medical evaluation of the child suspected of being sexually abused includes the child's account of his or her experience; a past medical history; a review of systems, with particular attention paid to the genitourinary and gastrointestinal systems; a thorough physical examination (*Table 1*); and appropriate laboratory testing. In the evaluation of alleged sexual abuse, the genitalia and anus deserve special attention, but they are examined only within the context of a complete physical assessment. The general examination helps remove the focus on the child's genital area and helps emphasize the child's physical normality.

One must remember that all injuries to the anal or genital area may not be the result of sexual abuse. There have been case reports of motor vehicle crashes causing anogenital injuries that can mimic findings in cases of child sexual abuse.[25] There are also reports of inline skating accidents causing significant genital injuries requiring surgical repair.[26] Accidental injuries to the hymen do occur, but are quite rare and should have a clear history consistent with the physical exam findings.[27] Also, anal tone can be decreased with sedation or stool in the anus and rectum.

Differential diagnosis of genital bleeding in girls includes lichen sclerosus et atrophicus, urethral prolapse, straddle injuries, precocious puberty, or vaginitis.[17] Erythema of the genitals is nonspecific and could be caused by hygiene, bacterial infection, or chemical irritation in addition to trauma, either accidental or inflicted.[14] Straddle injuries usually involve injury to the labia or perineum and rarely involve the hymen.[28] (*See Table 2*.)

There are many articles and texts available about various findings regarding child sexual abuse. Physicians who are regularly involved in care of children and adolescents should become familiar with normal anogenital findings in girls and boys and findings that are highly suspicious for child sexual abuse.[5,29] There have been some recommendations that pediatric EPs receive additional training in the area of child sexual abuse and that all children with abnormal examination finding in an ED have follow-up examinations by a physician with specialty training in child abuse.[30] There have been multiple studies looking at normal anogenital anatomy in girls of all ages.[31-37] This is important because some findings that were initially thought to be due to sexual abuse now are known to be found in "nonabused" girls.

In evaluating a child for the possibility of sexual abuse, more attention is given to the hymen than any other structure. Unfortunately, there is an exceptional amount of misunderstanding concerning the anatomy of the hymen. A common misconception is that there is a clinical entity known as congenital absence of the hymen. This condition does not exist as an isolated congenital anomaly with otherwise anatomically normal genitalia. The hymenal membrane and orifice may be quite variable in configuration. The appearance of the hymenal membrane and the orifice will change with age and the influence of estrogen.

Anal abuse can occur to both girls and boys. The anus itself is designed to relax and contract to allow for the passage of stool. Anal findings that may be concerning for penetrating trauma are perianal scars and lacerations deep to the external anal sphincter.[14,29,38] Again, studies suggest that positive anal findings are rare.[38]

Sexual abuse involving male victims occurs, but seems to occur at a slightly lower rate than that involving female victims.[18,28,39] The reporting of male sexual abuse may be more likely to bring up social taboos and/or teasing from other children.[18] Injuries to the male genitalia in sexual abuse do occur. They can include bite or pinch marks on the penis or scrotum or inner thighs near the genitalia.[14,29] Injuries due to physical abuse also may be seen in the genitalia.[40] These may be seen in children around toilet training age and include injuries to the penis or scrotum or immersion burns to the genitalia.[41] They also can be seen in older children in the context of bullying, harassment, and gang attacks.[40]

In the majority of cases, the physical exam will not reveal any findings definitive for sexual contact.[28,38,42] This can be because trauma to the genital area heals quickly and rarely leaves scars.[43] This again emphasizes the importance of the child's history. In some cases, the child will have definitive findings for penetrating trauma without a history.[3]

Table 2. Differential Diagnosis of Genital Findings

GENITAL FINDINGS	DIFFERENTIAL DIAGNOSIS
Genital bleeding	• Straddle injury (or other accidental trauma) • Vaginal foreign body • Lichen sclerosus et atophicus • Dermatitis (e.g., atopic, contact, seborrhea) • Vaginitis (e.g., nonspecific, shigella, streptococcus) • Estrogen withdrawal (e.g., newborn, stopping exogenous estrogen, precocious puberty) • Neoplasm (e.g., sarcoma botryoides) • Congenital or structural abnormalities
Vaginal discharge	• Normal physiologic leucorrhea • Vaginal foreign body • Vaginitis • Local irritation (e.g., chemical irritant) • Structural abnormality (e.g., ectopic ureter, fistula, draining pelvic abscess)
Anogenital bruising/bleeding	• Accidental injury • Dermatologic condition (e.g., lichen sclerosus, vascular nevi, Mongolian spot) • Systemic illness (e.g., vasculitis) • Anal fissure • Hemorrhoids
Anogenital redness or lesions	• Local irritation (from poor hygiene, restrictive clothing, chemical contact) • Dermatitis (e.g., contact, atopic, seborrhea) • Lichen sclerosus et atrophicus • Vaginitis (e.g., nonspecific, streptococcal) • Pinworm or scabies infestation • Candidiasis • Systemic illness (e.g., Stevens Johnson, Bechet's, Kawasaki's disease, molluscum contagiosum, Crohn's disease)
Penile redness/ swelling[6]	• Accidental trauma (e.g., penis caught in zipper) • Balanitis • Hair tourniquet • Phimosis or paraphimosis • Dermatologic condition (e.g., balanitis xerotica obliterans)
Scrotal discoloration	• Accidental trauma • Testicular torsion • Torsion of the appendix testis or appendix epididymis
Dysuria	• Urinary tract infection • Vulvovaginitis

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Specific Findings of Sexual Abuse (*Table 1*)

History is of paramount importance in cases of suspected child abuse. In fact, one recent study suggested that more than 95% of medical examinations in cases of alleged sexual abuse show no definitive findings of sexual contact.[48] This finding reiterates the need for good documentation of the child's history (if there is one) in their own words. Studies of healing show that acute injuries from trauma resolve quickly.[49]

Findings that can be considered definitive for child sexual abuse include pregnancy or sperm found in or on the child's body.[14,28] Findings that can be considered clear evidence of penetrating or blunt force trauma include an area of absence of hymenal tissue on the posterior rim between 3 o'clock and 9 o'clock, a complete hymenal transection, bruising on the hymen or an acute laceration of the hymen.[11,14,50] History, in addition to the physical findings, can help differentiate between child sexual abuse and accidental or other injury.[28,47]

Forensic Evidence Kits

When collecting forensic evidence, sexual assault kits may be modified for prepubertal children.[3,12] Chain of evidence must be maintained. Hospitals often have protocols in place for collection of such evidence.[3] Again, good documentation is essential. Many states have kits available for collection of such forensic evidence. One study showed that swabs from the body of prepubertal children were not necessary after 24 hours post assault.[12] Law enforcement sometimes needs to be reminded to collect bedding and clothing as these often yield the majority of forensic evidence.[12] Some hospitals have sexual assault nurse examiners (SANEs) or forensic nurse examiners (FNEs) available to help with forensic evidence collection.[44] A smaller subset of hospitals has SANEs or FNEs with adequate knowledge and training in collection of forensic evidence in child sexual abuse cases.

Sexually Transmitted Infections

Sexually transmitted infections are a rare sequela of child sexual abuse.[45-47] The clinician who evaluates children or adolescents for suspected sexual abuse should always consider testing for the presence of sexually transmitted organisms. The extent to which a child or adolescent victim of suspected sexual abuse should be evaluated for sexually transmitted organisms should be individualized and based upon the circumstances of the abuse, the child's age, the presence of symptoms, the prevalence of a STD in a community, and any information available on the medical conditions and risk status of the perpetrator. Obtaining specimens requires skill and expertise to avoid unnecessary physical and psychological trauma to the child victim. If the sexual abuse has resulted in infection, this must be identified and treated. Additionally, the presence of sexually transmitted organisms may be an important piece of medicolegal evidence indicating the need for further investigation and protection of the child.

It always should be remembered that if the child has symptoms, signs, or evidence of an infection that might be sexually transmitted, the child should be tested for other common STDs.

The following recommendation for scheduling examinations

is a general guide.[47] The exact timing and nature of follow-up contacts should be determined on an individual basis and should be considerate of the child's psychological and social needs. Compliance with follow-up appointments may be improved when law enforcement personnel or a child protective services agency is involved.

Prepubertal Children

During the initial examination and 2-week follow-up examination (if indicated), the following should be performed:

All children

- Visual inspection of the genital, perianal, and oral areas for genital warts and ulcerative lesions

Selected children if history or examination indicates presence of a STD.

- Cultures for *Neisseria gonorrhoeae* specimens collected from the pharynx and anus in both boys and girls, the vagina in girls, and the urethra in boys. Cervical specimens are not recommended for prepubertal girls. For boys, a meatal specimen of urethral discharge is an adequate substitute for an intraurethral swab specimen when discharge is present.
- Cultures for *Chlamydia trachomatis* from specimens collected from the anus in both boys and girls and from the vagina in girls. Limited information suggests that the likelihood of recovering *Chlamydia* from the urethra of prepubertal boys is too low to justify the trauma involved in obtaining an intraurethral specimen. A urethral specimen should be obtained if urethral discharge is present. Pharyngeal specimens for *C. trachomatis* also are not recommended for either sex because the yield is low, perinatally acquired infection may persist beyond infancy, and culture systems in some laboratories do not distinguish between *C. trachomatis* and *C. pneumoniae*.
- Wet mount and/or culture of a vaginal swab specimen for *Trichomonas vaginalis* infection. The presence of clue cells in the wet mount or other signs, such as a positive whiff test, suggests bacterial vaginosis in girls who have vaginal discharge.
- Collection of a serum sample to be evaluated immediately, preserved for subsequent analysis, and used as a baseline for comparison with follow-up serologic tests. Sera should be tested immediately for antibodies to sexually transmitted agents. Agents for which suitable tests are available include *Treponema pallidum*, HIV, and hepatitis B and C. The choice of agents for serologic tests should be made on a case-by-case basis. Vaccination for the hepatitis B virus (HBV) should be recommended if the medical history or serologic testing suggests that it has not been received or immunity has waned.

An examination approximately 12 weeks after the last suspected sexual exposure is recommended to allow time for antibodies to infectious agents to develop if baseline tests are negative. Serologic tests for *T. pallidum*, HIV, and HBsAg should be considered. The prevalence of these infections differs substantially by community, and serologic testing depends upon whether risk factors are known to be present in the abuser or assailant. In addition, results of HBsAg testing must be interpreted carefully, because HBV also can be transmitted nonsexually. The choice of tests must be made on an individual basis.

The risk for a child's acquiring an STD as a result of sexual abuse has not been determined. It is believed to be low in most circumstances, although documentation to support this position is inadequate.

Presumptive treatment for children who have been sexually assaulted or abused is not widely recommended because preadolescent girls appear to be at lower risk for ascending infection than do adolescent or adult women, and regular follow-up usually can be ensured. However, some children – or their parent(s) or guardian(s) – may be concerned about the possibility of infection with an STD, even if the risk is perceived by the health care provider to be low. Patient or parental/guardian concerns may be an appropriate indication for presumptive treatment in some settings (e.g., after all specimens relevant to the investigation have been collected). Typically, prepubertal children are not routinely given prophylaxis for STDs at acute examination because follow-up after incubation period allows for appropriate specimens to be collected. However, otherwise sexually active adolescents may benefit from STD prophylaxis as the prevalence of STDs in this population is higher than that in preadolescent children.

Many sexually transmitted infections also can be transmitted vertically from infected mother to child. These include HIV, gonorrhea, *Chlamydia*, herpes, human papilloma virus and others.[39,46] In child sexual abuse, cultures for gonorrhea and *Chlamydia* still are considered the legal "gold standard" even with ligase chain reaction (LCR) and polymerase chain reaction (PCR) testing available.[45,46]

Diagnosis of gonorrhea, syphilis, HIV, or *Chlamydia* if other modes of transmission have been excluded (i.e., perinatal or related to blood transfusion), is diagnostic of sexual abuse until proven otherwise.[3]

Adolescents

An initial examination should include the following procedures:

- Cultures for *N. gonorrhoeae* and *C. trachomatis* from specimens collected from any sites of penetration or attempted penetration
- If chlamydial culture is not available, nonculture tests, particularly the nucleic acid amplification tests, are an acceptable substitute. Nucleic acid amplification tests offer advantages of increased sensitivity if confirmation is available. If a nonculture test is used, a positive test result should be verified with a second test based on a different diagnostic principle. EIA and direct fluorescent antibody are not acceptable alternatives because false-negative test results occur more often with these nonculture tests, and false-positive test results may occur.
- Wet mount and/or culture of a vaginal swab specimen for *Trichomonas vaginalis* infection. If vaginal discharge or malodor is evident, the wet mount also should be examined for evidence of bacterial vaginosis and yeast infection.
- Collection of a serum sample for immediate evaluation for HIV, hepatitis B, and syphilis.

Although it is often difficult for people to comply with follow-up examinations weeks after an assault, such examinations are essential to: a) detect new infections acquired during or after the assault; b) complete hepatitis B immunization, if indicated; and c) complete counseling and treatment for other STDs. For these reasons, it is recommended that assault victims be reevaluated at follow-up examinations. This also allows for the incubation period to pass for some sexually transmitted infections, which then allows specimen collection.

Examination for STDs should be repeated 2 weeks after the assault. Because infectious agents acquired through assault may not have produced sufficient concentrations of organisms to result in positive test results at the initial examination, a culture (or cultures), a wet mount, and other tests should be repeated at the 2-week follow-up visit unless prophylactic treatment has already been provided. Serologic tests for syphilis and HIV infection should be repeated 6, 12, and 24 weeks after the assault if initial test results were negative.

Many experts recommend routine preventive therapy for adolescents after a sexual assault. Most patients probably benefit from prophylaxis because follow-up of patients who have been sexually assaulted can be difficult, and they may be reassured if offered treatment or prophylaxis for possible infection. The following prophylactic regimen is suggested as preventive therapy:[47]

- Postexposure hepatitis B vaccination (without HBIG) should adequately protect against HBV. Hepatitis B vaccine should be administered to victims of sexual assault at the time of the initial examination. Follow-up doses of vaccine should be administered from 1 to 2 months and from 4 to 6 months after the first dose.
- An empiric antimicrobial regimen for chlamydia, gonorrhea, trichomoniasis, and bacterial vaginosis should be administered.

The examining physician should not forget to test girls who have had menarche for pregnancy. The use of pregnancy prophylaxis may be discussed with the child/adolescent and her parents/caretakers (if appropriate).[3]

One cautionary note about *T. vaginalis* infections: *T. vaginalis* can be diagnosed only by wet prep or culture (if available). Occasionally a urine specimen from a child shows "*Trichomonas*" and this leads to suspicion of child sexual abuse. *Trichomonas hominis* lives in the gastrointestinal tract and can be found on urine specimens. *T. hominis* is not indicative of sexual abuse. Only positive wet preps or cultures can diagnose trichomoniasis relevant to child sexual abuse.

Vaginal Discharge

Vaginal discharge is a common complaint that can raise suspicion of child sexual abuse and may be a presenting symptom. However, there are many other etiologies of vaginal discharge (*see Table 2*). Shigella infection can cause a bloody vaginal discharge. Foreign bodies also may cause a discharge. A common foreign body is a small piece of toilet tissue that migrates up into the vagina. To help differentiate abuse from other causes, the child needs a good physical exam and laboratory studies as indicated. These could include genital cultures for gonorrhea and *Chlamydia* in addition to a routine culture and wet prep (in girls).

Children with Special Needs

In 1993, in response to a congressional mandate, the National Center on Child Abuse and Neglect issued a report that presented data showing that children with a variety of special needs were at approximately two times the risk for child maltreatment when compared with children without such disabilities (DHHS, 1993).[6] Specifically looking at child sexual abuse, the incidence for children with special needs was 3.5 per thousand children compared with an incidence rate of 2.1 per 1000 for all children and an incidence of 2.0 per 1000 for children without special needs. Using a nationally representative sample of children, this study validated what had long been a clinical observation that children with disabilities were at increased risk for child abuse and neglect, and sexual abuse in particular.[6] A number of reasons have been identified that may explain why children with a variety of developmental disabilities may be at increased risk for sexual maltreatment: a) cognitive impairments and limited capacity for judgment that may place the child with special needs in situations that have a high risk of inappropriate sexual activities; b) limited language and verbal abilities that may make disclosure more difficult; c) the likelihood of multiple caregivers throughout the day between home, school, health care setting, and transportation required to get to these settings; d) the possibility of residing in an institutional setting; e) a high degree of dependency around typically private behaviors, such as bathing and toileting; and f) physical impairments that may prevent escape from sexually inappropriate situations.[6] Performing the medical evaluation of children with special needs presents a number of unique challenges to the health care provider related to both the interview and the physical examination that require extra attention and additional training.

Conclusion

Child sexual abuse cases will present to physicians who care for children. It is important to remember to approach the case knowing that the history is the most important factor in determining if sexual abuse has likely occurred. Physical findings indicative of abuse are rare, but when present do aid in the prosecution of cases and protection of children. The child's developmental level should be considered when interviewing them about their symptoms and potential disclosure. Thorough documentation of the history and physical examination is of paramount importance in these cases.

Sexual abuse represents a violation of a child's trust and the imposition of age-inappropriate sexual activity upon a less powerful person by one in a position of authority over the child. The medical evaluation of children and adolescents who have been sexually victimized must not then become one more instance in which powerful adults impose their authority on the child's body and remove the child's control of events in his or her life. If not done in a knowledgeable and sensitive manner, the process of taking a complete history, performing a thorough physical exam-

ination, and obtaining the necessary laboratory tests can be invasive and threatening. Therefore, the health care professional and team can optimize this experience for the child or adolescent by conveying a gentle, concerned manner and by explaining to the child or adolescent what to expect during the evaluation. A calm, gentle, and unhurried approach will help tremendously to make the examination part of the recovery process rather than another form of assault. Awareness of the circumstances that these children and adolescents may have experienced, along with anticipating and addressing their fears, can help make a child more secure throughout the examination process and will enhance his or her cooperativeness. When the child is uncooperative, the health care provider should not resort to force to complete the examination but, rather, should address the underlying concerns of the child. This, coupled with efforts to demystify what the child will experience, will increase the chances of successfully completing an examination. The approach of the examining health care professional and the entire multidisciplinary team should be to complete the necessary medical evaluation in as nonthreatening and therapeutic a manner as possible.

A diagnosis of child sexual abuse may have many civil, criminal, physical and psychological sequelae.[3]

Summary of Key Points

- Accidental genital injuries rarely result in trauma to the hymen in girls.[51]
- Child sexual abuse rarely results in physical trauma.
- The history given by the child is vital in cases of child sexual abuse.
- Children may present with the chief complaint of suspected sexual abuse, based on a child's disclosure, observed behaviors, or specific/nonspecific signs and symptoms.
- Specific criteria exist for the emergent or deferred evaluations and referral of a child with possible sexual abuse.
- Medical evaluation involves history, physical examination, laboratory studies, and documentation.
- All genital symptoms are not due to abuse.
- Don't forget to assess the need for mental health referrals and treatment.
- A child with an STD should be evaluated for possible sexual abuse.
- Clear documentation of the child's statements and physical findings are an integral part of the sexual abuse evaluation.

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CE/CME Objectives

Upon completing this program, the participants will be able to:

a.) discuss conditions that should increase suspicion for traumatic injuries;
b.) describe the various modalities used to identify different traumatic conditions;
c.) cite methods of quickly stabilizing and managing patients; and
d.) identify possible complications that may occur with traumatic injuries.

CE/CME Instructions

Physicians and nurses participate in this continuing medical education/continuing education program by reading the article, using the provided references for further research, and studying the questions at the end of the article. Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. **After completing this activity, you must complete the evaluation form provided and return it in the reply envelope provided in order to receive a certificate of completion.** When your evaluation is received, a certificate will be mailed to you.

CE/CME Questions

1. The child sexual abuse accommodation syndrome includes all the following stages, *except*:
   A. conviction
   B. secrecy
   C. helplessness
   D. disclosure

2. Which one of the following conditions has *not* served as a barrier to the recognition of sexual abuse in children?
   A. Denial that sexual abuse of children occurs at all
   B. Lack of a specific laboratory test to document sexual abuse
   C. Lack of knowledge about the victimization of children
   D. Anxiety surrounding discussion of sexual topics

3. Which one of the following statements is *false*?
   A. Sexually abused children often do not present with significant and diagnostic injuries.
   B. The child's disclosure of sexual abuse often is delayed.
   C. The perpetrator in child sexual abuse is usually a stranger.
   D. Sexual abuse in children differs from adult sexual assault in several ways.

4. The diagnosis of child sexual abuse is based primarily on the history provided by the patient.
   A. True
   B. False

5. Which one of the following conditions is *not* considered a specific physical finding of child sexual abuse?
   A. Hymenal bruising or tears
   B. Genital bite marks
   C. Enlarged hymenal orifice
   D. Laceration of the hymen extending to the vaginal mucosa

6. A 4-year-old girl comes to the ED with her mom for allegations of sexual abuse. The child discloses to you, "*John put his sausage in my cake*." On exam, you find no acute or chronic findings. Your impression is:
   A. There are always findings in cases of sexual abuse, especially penetration, so the child must be making this up.
   B. Lack of physical findings does not rule out or confirm sexual abuse. Therefore, you must report these allegations to a child protective services agency for alleged sexual abuse.
   C. You can refer the child back to her physician who can deal with this later.
   D. No report regarding these allegations needs to be filed.

7. A 16-year-old girl comes to the ED for a psychiatric evaluation. She discloses to you that her mother's boyfriend has been sexually abusing her since age 11 years. She states the last incident of abuse was 2 weeks ago. Your plan is:
   A. No need to report; children always disclose abuse immediately.
   B. To continue with psychiatric evaluation and report to a local child protective services agency for investigation.
   C. To do rape kit immediately and report to law enforcement and a child protective services agency.
   D. Schedule an examination in the operating room.

8. An 11-year-old girl comes to the ED in active labor. She states that her stepfather is the father of the baby. Your plan is to:
   A. Send the patient to labor and delivery department and let them handle this.
   B. Ask the stepfather if he is the father while in patient's presence.
   C. Send the patient to labor and delivery department and make report to a local child protective services agency for investigation.
   D. No report needs to be filed in this situation.

9. Which of the following are essential components of the definition of child abuse?
   A. The child's developmental maturity
   B. The inability of the child to consent
   C. The perpetrator's betrayal of the child's trust
   D. All of the above

10. Statutory rape involves sexual penetration by a person 18 years or older of a person under the age of consent.
    A. True
    B. False

Answers:

1. A
2. B
3. C
4. A
5. C
6. B
7. B
8. C
9. D
10. A

In Future Issues:

Radiologic evaluation of head trauma

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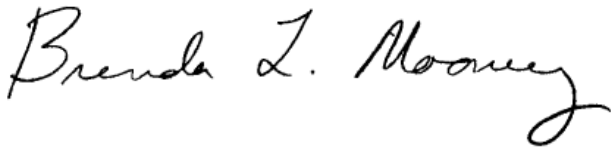

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