

## Original Studies

# Guidelines for Medical Care of Children Who May Have Been Sexually Abused

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**Abstract.** *Background:* Children who may have been sexually abused are examined in many different settings by medical providers with variable levels of education and experience in this special area of practice. Therefore, there is a need for a consistent evidence-based approach that is agreed upon by medical experts.

*Objectives:* To develop and provide guidelines and recommendations for performing and interpreting findings of the medical evaluation of children referred for sexual abuse medical evaluations, and to provide guidelines for the education, oversight, and peer review process for clinicians who provide assessments for suspected child sexual abuse.

*Methods:* Participation from medical providers was solicited through postings on the Internet listserves administered by Cornell University (Special Interest Group in Child Abuse), and by the Ray E. Helfer Society, an honorary society for physician specialists in child abuse diagnosis and treatment. The guidelines were developed through review and critique of published research studies, discussions in focus group meetings at child abuse medical conferences, and ongoing communication leading to revision of draft documents.

*Results:* Groups of 10 to 40 physician experts met at child abuse conferences between January 2002 and January 2005 to revise the table summarizing the interpretation of physical and laboratory findings in suspected child sexual abuse and to develop guidelines for medical care for sexually abused children. Between January and December 2005, the guidelines were expanded and revised.

*Conclusions:* The guidelines presented here reflect the current knowledge, recommended clinical approaches, and required competencies in the field of child sexual abuse medical evaluation.

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**Key Words.** Child sexual abuse—medical evaluation—guidelines

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## Introduction

Child sexual abuse is a common problem in our society. A recent study by Finkelhor and associates, using telephone surveys of a nationally representative sample of households in the United States, found prevalence rates for sexual victimization in the past year of 96/1000 for girls, and 67/1000 for boys between the ages of 2 and 17 years.<sup>1</sup> Because of the high prevalence and the potential for short and long-term adverse medical outcomes, all medical providers who care for children and adolescents must be familiar with the problem of sexual abuse and with the type of evaluation needed for these children.

A comprehensive medical evaluation of a child who may have been sexually abused requires a specific set of skills and body of knowledge. The recent publication by the Committee on Child Abuse and Neglect of the American Academy of Pediatrics,<sup>2</sup> a clinical report on the evaluation of sexual abuse of children, reviews the definition and presentation of child sexual abuse and offers an outline of suggestions for taking a history from the child and caretakers, performing the physical examination, and obtaining laboratory specimens as indicated. It also lists guidelines for making the decision to report suspected cases of sexual abuse to child protective services agencies and broadly reviews treatment, follow-up and legal issues.

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The report does provide general recommendations on the medical evaluation, but does not list the specific competencies required for specialist medical providers who perform these evaluations and interpret the medical findings. This project was undertaken in order to clarify the type of specific training, oversight, peer review and ongoing education necessary for an individual to attain and maintain expertise as a specialist in the medical evaluation of suspected child and adolescent sexual abuse.

## Methods

The following guidelines were developed by a group of physician experts who have met at conferences yearly since 2002. The initial work group was established through the Ray E. Helfer Society, an honorary society for physicians who devote a significant portion of their clinical and research efforts to improving the evaluation and treatment of abused children. Members of the Society were invited, through postings on the group's listserv, to participate in the process of developing guidelines, and met in small groups at the Society's annual meeting in 2002 and 2003 to review the listing of medical and laboratory findings, discuss changes in the document, and discuss the process of developing guidelines for medical evaluation. Another invitation was sent out through the listserv for individuals willing to attend an all-day workgroup meeting at the San Diego conference on Child Maltreatment to continue the process of guideline development. A group of 35 physicians responding to this invitation met in San Diego in January of 2004 and focused on revising the interpretation of findings table published by Adams in 2001.<sup>3</sup>

The group reached consensus on the interpretation of most of the medical and laboratory findings presented in Table 1. Further literature review was done by work group members to identify publications addressing the significance of sexually transmissible infections, searching Medline and other databases, and reviewing citations in recommendations from the Center for Disease Control STD Treatment Guidelines.<sup>4</sup> The updated listing of medical and laboratory findings was also posted on the listserv through Cornell University (Special Interest Group on Child Abuse), which has a more diverse membership of physicians, nurse practitioners, and nurses who are involved in examining and treating abused children. Changes were incorporated if they were supported by research studies or recommendations from professional organizations.

Portions of this document were developed as a consensus statement by 14 physician leaders from the Midwest region of the National Children's Alliance at the Regional Provider's Conference in Ely,

Minnesota, in September 2004. This document was then revised through an ongoing process of communication and collaboration among a core group of physicians who are experts in the medical evaluation of suspected child sexual abuse.

## Results and Guidelines

### The Medical Evaluation

All children who are suspected victims of child sexual abuse should be offered a medical evaluation. The timing and detail of the examination should be based on specific screening criteria developed by qualified medical providers or by local multidisciplinary teams, which include qualified medical representation. (See The Child Sexual Abuse Medical Provider or Nurse Examiner)

The goals of the medical evaluation are:

- To obtain the history from the child and/or guardian
- To consider alternative explanations for a concerning sign or symptom
- To identify and document evidence of injury or infection
- To diagnose and treat medical conditions resulting from abuse
- To identify and treat medical conditions unrelated to abuse
- To assess the child for any developmental, emotional, or behavioral problems needing further evaluation and treatment and make referrals as necessary
- To assess the child's safety and make a report to child protective services if needed
- To reassure the child and family, as appropriate
- To document findings in such a way that information can be effectively and accurately presented, if requested by a social service or law enforcement agency
- To help to ensure the well being of the child

### The Medical History

The history taken from possible sexual abuse victims is often the most important part of the overall evaluation. While there is no clearly superior model for obtaining the history, there are certain principles and competencies that must be acknowledged.

For the purpose of diagnosis and treatment, any medical evaluation for suspected child sexual abuse should involve obtaining a medical history. The first principle is that information needs to be gathered from the parent or other caretakers as well as from the child, regarding past medical history and signs or symptoms that may be relevant to the medical assessment. Specific questions include past history of injury or surgery involving the genital or anal

**Table 1.** Approach to Interpreting Physical and Laboratory Findings in Suspected Child Sexual Abuse: December 2006

A Product of an ongoing collaborative process by child maltreatment physician specialists, under the leadership of Joyce A. Adams, MD (Numbering of findings is for ease of reference only and does not imply increasing significance)

**Findings documented in newborns or commonly seen in non-abused children:**

(The presence of these findings generally neither confirms nor discounts a child's clear disclosure of sexual abuse)

**Normal variants**

1. Periurethral or vestibular bands<sup>6,9,11-13</sup>
2. Intravaginal ridges or columns<sup>9,11-13</sup>
3. Hymenal bumps or mounds<sup>6,9,11-13</sup>
4. Hymenal tags or septal remnants<sup>9,11-13</sup>
5. Linea vestibularis (midline avascular area)<sup>6,9,10</sup>
6. Hymenal notch/cleft in the anterior (superior) half of the hymenal rim (prepubertal girls), on or above the 3 o'clock — 9 o'clock line, patient supine<sup>9,12,13,18</sup>
7. Shallow/superficial notch or cleft in inferior rim of hymen (below 3 o'clock — 9 o'clock line)<sup>17,18</sup>
8. External hymenal ridge<sup>6,9,12,13</sup>
9. Congenital variants in appearance of hymen, including: crescentic, annular, redundant, septate,<sup>6,9,12,13</sup> cribriform, microperforate, imperforate<sup>31</sup>
10. Diastasis ani (smooth area)<sup>14-16</sup>
11. Perianal skin tag<sup>14-16</sup>
12. Hyperpigmentation of the skin of labia minora or perianal tissues in children of color, such as Mexican-American and African-American children<sup>14,15</sup>
13. Dilation of the urethral opening with application of labial traction<sup>31</sup>
14. "Thickened" hymen (May be due to estrogen effect, folded edge of hymen, swelling from infection, or swelling from trauma. The latter is difficult to assess unless follow-up examination is done)<sup>6,9,11,12,13,17</sup>

**Findings commonly caused by other medical conditions:**

15. Erythema (redness) of the vestibule, penis, scrotum or perianal tissues. (May be due to irritants, infection or trauma\*)<sup>17,18,31</sup>
16. Increased vascularity ("Dilatation of existing blood vessels") of vestibule and hymen. (May be due to local irritants, or normal pattern in the non estrogenized state)<sup>6,11,17,18,31</sup>
17. Labial adhesions. (May be due to irritation or rubbing)<sup>6,18,31</sup>
18. Vaginal discharge. (Many infectious and non-infectious causes, cultures must be taken to confirm if it is caused by sexually transmitted organisms or other infections.)<sup>6,11,18</sup>
19. Friability of the posterior fourchette or commissure (May be due to irritation, infection, or may be caused by examiner's traction on the labia majora)<sup>6,18</sup>
20. Excoriations/bleeding/vascular lesions. These findings can be due to conditions such as lichen sclerosus, eczema or seborrhea, vaginal/perianal Group A Streptococcus, urethral prolapse, hemangiomas)<sup>31,34</sup>
21. Perineal groove (failure of midline fusion), partial or complete<sup>31</sup>
22. Anal fissures (Usually due to constipation, perianal irritation)<sup>14-16,31</sup>
23. Venous congestion, or venous pooling in the perianal area. (Usually due to positioning of child, also seen with constipation)<sup>14-16,31</sup>
24. Flattened anal folds (May be due to relaxation of the external sphincter or to swelling of the perianal tissues due to infection or trauma\*)<sup>14-16,31</sup>
25. Partial or complete anal dilatation to less than 2 cm (anterior-posterior dimension), with or without stool visible. (May be a normal reflex, or may have other causes, such as severe constipation or encopresis, sedation, anesthesia, neuromuscular conditions.)<sup>14-16,31</sup>

**INDETERMINATE Findings: Insufficient or conflicting data from research studies:** (May require additional studies/evaluation to determine significance. These physical/laboratory findings may support a child's clear disclosure of sexual abuse, if one is given, but should be interpreted with caution if the child gives no disclosure. In some cases, a report to child protective services may be indicated to further evaluate possible sexual abuse.)

**Physical Examination Findings**

26. Deep notches or clefts in the posterior/inferior rim of hymen in pre-pubertal girls, located between 4 and 8 o'clock, in contrast to transections (see 41)<sup>17,18,25,27,30</sup>
27. Deep notches or complete clefts in the hymen at 3 or 9 o'clock in adolescent girls.<sup>29,30</sup>
28. Smooth, non-interrupted rim of hymen between 4 and 8 o'clock, which appears to be less than 1 millimeter wide, when examined in the prone knee-chest position, or using water to "float" the edge of the hymen when the child is in the supine position.<sup>13,17,32</sup>
29. Wart-like lesions in the genital or anal area.<sup>2,4,16,31,35,36</sup> (Biopsy and viral typing may be indicated in some cases if appearance is not typical of Condyloma accuminata)
30. Vesicular lesions or ulcers in the genital or anal area (viral and/or bacterial cultures, or nucleic acid amplification tests may be needed for diagnosis)<sup>2,4,31,35,37</sup>
31. Marked, immediate anal dilation to an anterior-posterior diameter of 2 cm or more, in the absence of other predisposing factors<sup>14,31</sup>

**Lesions with etiology confirmed: Indeterminate specificity for sexual transmission** (Report to protective services recommended by AAP Guidelines<sup>2</sup> unless perinatal or horizontal transmission is considered likely)

31. Genital or anal Condyloma accuminata in child, in the absence of other indicators of abuse.<sup>2,4,35,36</sup>
32. Herpes Type 1 or 2 in the genital or anal area in a child with no other indicators of sexual abuse.<sup>2,4,35</sup>

**Findings Diagnostic of Trauma and/or Sexual contact** (The following findings support a disclosure of sexual abuse, if one is given, and are highly suggestive of abuse even in the absence of a disclosure, unless the child and/or caretaker provide a clear, timely, plausible description of accidental injury. (It is recommended that diagnostic quality photo-documentation of the examination findings be obtained and reviewed by an experienced medical provider, before concluding that they represent acute or healed trauma. Follow-up examinations are also recommended.)

(Continued)

**Table 1.** Continued**Acute trauma to external genital/anal tissues**

33. Acute lacerations or extensive bruising of labia, penis, scrotum, perianal tissues, or perineum (May be from unwitnessed accidental trauma, or from physical or sexual abuse)<sup>19–25</sup>
34. Fresh laceration of the posterior fourchette, not involving the hymen.<sup>20–23,25,31</sup> (Must be differentiated from dehiscence of labial adhesion or failure of midline fusion.<sup>31</sup> May also be caused by accidental injury<sup>22–24</sup> or consensual sexual intercourse in adolescents<sup>28</sup>)

**Residual (healing) injuries**

(These findings are difficult to assess unless an acute injury was previously documented at the same location)

36. Perianal scar (Rare, may be due to other medical conditions such as Crohn's Disease, accidental injuries, or previous medical procedures)<sup>20,25,31</sup>
37. Scar of posterior fourchette or fossa. (Pale areas in the midline may also be due to linea vestibularis or labial adhesions)<sup>20–25,31</sup>

**Injuries indicative of blunt force penetrating trauma (or from abdominal/pelvic compression injury if such history is given)**

38. Laceration (tear, partial or complete) of the hymen, acute.<sup>20–25</sup>
39. Ecchymosis (bruising) on the hymen (in the absence of a known infectious process or coagulopathy).<sup>20–25</sup>
40. Perianal lacerations extending deep to the external anal sphincter (not to be confused with partial failure of midline fusion)<sup>19–21,24,25,27</sup>
41. Hymenal transection (healed). An area between 4 and 8 o'clock on the rim of the hymen where it appears to have been torn through, to or nearly to the base, so there appears to be virtually no hymenal tissue remaining at that location.<sup>20,25–27</sup> This must be confirmed using additional examination techniques such as a swab, prone knee-chest position or Foley catheter balloon (in adolescents), or prone-knee chest position or water to float the edge of the hymen (in prepubertal girls). This finding has also been referred to as a "complete cleft" in sexually active adolescents and young adult women.<sup>30,33</sup>
42. Missing segment of hymenal tissue. Area in the posterior (inferior) half of the hymen, wider than a transection, with an absence of hymenal tissue extending to the base of the hymen, which is confirmed using additional positions/methods as described above.<sup>27,31</sup>

**Presence of infection confirms mucosal contact with infected and infective bodily secretions, contact most likely to have been sexual in nature:**

43. Positive confirmed culture for gonorrhea, from genital area, anus, throat, in a child outside the neonatal period.<sup>2,4</sup>
44. Confirmed diagnosis of syphilis, if perinatal transmission is ruled out.<sup>2,4</sup>
45. Trichomonas vaginalis infection in a child older than 1 year of age, with organisms identified by culture or in vaginal secretions by wet mounts examination.<sup>2,4</sup> (by an experienced technician or clinician)
46. Positive culture from genital or anal tissues for Chlamydia, if child is older than 3 years at time of diagnosis, and specimen was tested using cell culture or comparable method approved by the Centers for Disease Control.<sup>2,4</sup>
47. Positive serology for HIV, if perinatal transmission, transmission from blood products, and needle contamination has been ruled out.<sup>2,4</sup>

**Diagnostic of sexual contact**

48. Pregnancy<sup>2</sup>
49. Sperm identified in specimens taken directly from a child's body.<sup>2</sup>

\*Follow-up examination is necessary before attributing these findings to trauma

tissues, past episodes of physical or sexual abuse, recent or current symptoms of anogenital pain, bleeding, itching or discharge; symptoms of dysuria, painful urination, pain with bowel movements, constipation, and any recent medical treatment of anogenital conditions. Adolescents need to be asked about past consensual as well as forced sexual intercourse, and the timing of the last contact.

It is important to determine the type of contact the child has described and how recently this may have occurred, if known. Statements made by the child to the medical provider during the examination might be introduced into a legal proceeding, and the provider must show competency in the documentation of this information in the medical record.

A review of information from investigative agencies, such as law enforcement or child protective services, may sometimes add to the physician's overall knowledge of the child and approach to the examination. Medical providers who have a relationship with these agencies may offer enhanced communication for better information sharing. A review of previous medical records may be necessary in some cases.

There are several acceptable models that can be used to obtain a more detailed history of the abuse allegations. Child protection and law enforcement

professionals, when obtaining information regarding the allegation of sexual abuse, will interview children and other parties as appropriate to the concerns at hand. As a general rule there should be an attempt to minimize the number of times the child must recount the details of their experience.

The health professional obtains a medical history from the child using non-leading questions and techniques specific for the child's cultural background and level of language development. Community child abuse professionals who are charged with the investigation of child abuse cases may be part of a multidisciplinary team that works together to evaluate children's cases. If the child interview is conducted by a non-medical team member, according to local protocols, the health care provider should still be able to obtain the medical history from the child and family, for purposes of diagnosis and treatment. The medical professionals' diagnosis may incorporate the history from the child's caretakers (if available), the history given by the child, the medical examination findings, and the results of laboratory tests, if these have been done.

The second principle is that any statements made by the child to the healthcare provider must be recorded in detail, because careful documentation

has the potential to obviate the need for multiple interviews. While video or audio recording of the child's interview is the practice in many locations when child protective services or law enforcement personnel conduct the interview, this is not the usual practice in a medical setting. The medical chart should contain documentation of the specific wording of the key questions asked of the child, and his/her verbatim responses to the question asked, usually enclosed in quotation marks. Documentation of who was in the room at the time of the questioning is also important.

### Timing of the Examination

The timing, location, and provider of the medical examination should be chosen so that a skilled evaluation is conducted, acute injuries and/or other physical findings are documented, and biologic trace materials are preserved. A medically based screening process can determine the need for an emergency evaluation and where or when non-emergency examinations should be conducted. Medical providers should all develop competency in the ability to triage a child who presents with a complaint of child sexual abuse. However, not every provider will be competent in performing and documenting a comprehensive examination.

The rationale for an emergency examination rests on the possible need for timely medical intervention for treatment of infections, documentation and treatment of injuries, the need to ensure the safety of the child, and on the likelihood of recovery of biologic trace material.

Reasons for emergency examinations include, but are not limited to:

- The child complains of pain in the genital or anal area
- There is evidence or complaint of anogenital bleeding or injury
- The alleged assault may have occurred within the previous 72 hours (or other state mandated time interval) and the transfer of biological material may have occurred which will be collected for later forensic analysis
- Medical intervention is needed emergently to assure the health and safety of the child
- Child is experiencing significant behavioral or emotional problems and needs evaluation for possible suicidal ideation/plan

The presence of biologic transfer material may have diagnostic significance and can be critical in the formulation of a treatment plan. The pubertal status of the child has an impact on the strategy for recovering the material. For pre-pubertal children without evidence of recent penetrating trauma (see Table 1), swabs taken from the external genital and

other body surfaces are usually sufficient. In some cases, if there is a reasonable likelihood of recovering biological trace material from the vaginal or anal orifice of a pre-pubertal child, collection of internal samples may be indicated as well. For most children evaluated within a short time of the alleged assault, timely crime scene investigations are also encouraged, as one study has shown that forensic evidence is more likely to be recovered from clothing, towels, and bedding than from the victim's body.<sup>5</sup> The medical provider can suggest to the law enforcement team which materials need to be collected, based on the child's statement of where the contact took place and the clothing worn at the time of the incident.

### Documentation

As with the medical history, physical examination findings must be carefully and thoroughly documented in the medical record. Photographic still and/or video documentation of examination findings is strongly encouraged, and is particularly important if the examination findings are thought to be abnormal. Photographic documentation allows for peer review, for obtaining an expert or second opinion, and may also obviate the need for a repeat examination of the child. Peer review, using diagnostic-quality photographic documentation, enables an objective assessment by another expert clinician, which is important for both experienced and inexperienced clinicians in cases where findings are felt to be abnormal. Video photographic documentation often can augment still photo documentation and is recommended by some experts in this field.

### Examination Techniques

Providers should demonstrate competency in appropriate and minimally invasive examination techniques. The use of conscious sedation is rarely indicated and should be used only when the medical benefits clearly outweigh the potential risks. When examination findings noted in the supine position are of concern, or when the supine position does not allow sufficient visualization of the hymen, the prone knee-chest position or other supplemental techniques should be used. For adolescent patients, a cotton swab or Foley catheter can be used to stretch out the edge of the hymen to look for signs of injury. In pre-pubertal girls, the prone knee chest position is often useful; however, swabs are not recommended as the hymen is usually too sensitive to touch. Small amounts of warm water or saline may be dropped within the vestibule, when the child is in the supine position, to cause the edge of the hymen to unfold or to float.<sup>6</sup>

A speculum examination of the vagina is not indicated during the sexual abuse examination of the pre-pubertal child. When indicated for patients with

suspected intravaginal injuries or active bleeding, the internal vaginal examination should only be performed using general anesthesia, and often requires consultation with a surgeon who has expertise in examining and treating children.

### **Sexually Transmitted Infections**

Accurate diagnosis and treatment of sexually transmitted infections is dependent upon the clinician's up-to-date understanding of the testing and treatment options recommended by organizations such as the American Academy of Pediatrics and the Centers for Disease Control and Prevention.

Medical providers should be competent in the ability to determine the need for sexually transmitted infection (STI) testing in children referred for suspected sexual abuse. Recognizing that many tests and testing methodologies are available, that some methodologies have a higher sensitivity than others, that some methodologies have higher specificity than others, that the prevalence of sexually transmitted infections in this population is low, and that testing can be expensive, the medical provider should order/perform tests, which will:

- Provide appropriate and sensitive screening for sexually transmitted infections, and
- Minimize the risk of false positive test results

Indications for STI treatment vary according to the patient's age and other circumstances. While in some centers adults and older adolescent victims are presumptively treated, this is not the standard for children. Presumptive treatment of sexually transmitted infections in pre-pubertal children is generally discouraged because of the low prevalence of infection in this group and because of the legal ramifications of confirmed infections.<sup>2,4</sup>

Unless medically indicated, treatment of suspected genital infections in pre-pubertal children should be delayed until samples for confirmatory tests, when needed, have been obtained. Post-exposure prophylaxis for HIV in children evaluated with a certain number of hours after an alleged sexual assault is recommended in some communities. The efficacy of these recommendations in sexually abused children has not been reported.

### **Interpretation of Physical and Laboratory Findings**

The interpretation of physical and laboratory findings in children and adolescents referred for suspected sexual abuse requires the medical provider to be familiar with the results of research studies of abused and non-abused children. The table included here as [Table 1](#), with references, represents an analysis of published

studies and recommendations. It has been subjected to peer review and ongoing revision by physician experts, and represents current knowledge at the time this article was submitted for publication. An earlier version of the Table was published in a review article in the *Journal of Pediatric and Adolescent Gynecology*,<sup>7</sup> and in the newsletter of the American Professional Society on the Abuse of Children.<sup>8</sup> Terminology used in the Table is taken from *Practice Guidelines: Descriptive Terminology in Child Sexual Abuse Medical Evaluations*, published by the American Professional Society on the Abuse of Children, 1995, and available through [www.apsac.org](http://www.apsac.org).

The Table lists physical examination findings that have been documented in newborn infants,<sup>9,10</sup> children screened and selected for non-abuse,<sup>11-17</sup> one case control study of girls with a history of penetration compared to age-matched non-abused girls,<sup>18</sup> girls who have experienced acute genital and anal injuries with follow-up examinations demonstrating healing,<sup>19-25</sup> children referred for examination for suspected sexual abuse,<sup>26,27</sup> and findings from two studies comparing the appearance of the hymen in adolescent girls with and without a history of consensual intercourse.<sup>28,29</sup> Recommendations from the American Academy of Pediatrics Committee on Child Abuse and Neglect dealing with the interpretation of various laboratory findings such as confirmed sexually transmitted infections and the presence of sperm on a child's body<sup>2</sup> are incorporated.

Recent studies have demonstrated that only a small percentage of children evaluated for suspected sexual abuse have signs of genital or anal injury upon examination.<sup>18,26</sup> The three most common reasons for the absence of acute injuries are that no injury was sustained due to the nature of the physical contact (touching, fondling, oral-genital contact), the contact involved penetration of tissues that stretched without being injured, or the contact resulted in injuries that healed by the time the child was examined. Medical providers who examine children can use this Table as a guide to assist in the interpretation of physical and laboratory findings, recognizing that as research studies continue to be published, these guidelines may be updated again. This Table may also be helpful in summarizing and teaching what are known, and not known, about findings in children with and without a history of sexual abuse.

The findings listed under the heading "Indeterminate" include those specific medical and laboratory findings that may or may not be due to trauma or abuse, but for which the data from studies of abused and non-abused children was felt by the participants to be insufficient to conclude that the presence of these findings should always raise the suspicion of abuse. For example, notches or clefts in the

posterior/inferior rim of hymen, between 4 and 8 o'clock, may develop following a partial tear of the hymen,<sup>2</sup> but may also be seen in children who have not been abused.<sup>18</sup>

The case-control study<sup>18</sup> found notches through more than 50% of the width of the posterior hymen only in prepubertal girls who described digital or penile-vaginal penetration, however, this was seen in only 2/192 girls between the ages of 3 and 8 years alleging penetration. Notches though less than or equal to 50% of the width of the hymen were not significantly more common in girls alleging penetration compared to girls who denied any abuse. In a study of the appearance of the hymen in adolescent girls admitting consensual intercourse compared to girls who denied such contact, there was not a statistically significant difference in the frequency of deep notches in the posterior rim of hymen.<sup>29</sup> Distinguishing between superficial notches (through 50% or less of the width of the hymen) and deep notches (through more than 50% of the width of the hymen) can be extremely difficult.

In the adolescent study,<sup>29</sup> the finding of deep notches and complete clefts in the hymen at 3 and 9 o'clock was significantly higher in girls admitting vaginal intercourse than in girls who denied intercourse (26% vs. 5%,  $P < 0.01$  for each), but each type of finding was also seen in 5 of 58 subjects denying intercourse.

The finding of a posterior rim of hymen measuring less than 1 millimeter in width was not found in girls selected for non-abuse in four separate studies.<sup>6,11,12,32</sup> However, a rim estimated to be less than 1–2 millimeters was found in 22% of girls selected in another study<sup>17</sup> who were determined not to have been abused. Most experts acknowledge that it is very difficult to accurately measure the posterior rim of hymen in many cases. ("Width" of the posterior rim of hymen is defined as the hymenal membrane viewed in the coronal plane, from the inner edge of the hymen to the muscular portion of the vaginal introitus.) The hymen may appear very narrow in the posterior/inferior rim in children when it has folded out or folded inwards. This phenomenon was documented in a study of non-abused girls in Norway,<sup>6</sup> in which the use of water instilled during the examination of the child in the supine position caused the rim to "float" up and be seen more clearly. The difference between one millimeter of hymen and less than one millimeter of hymen is so small as to be within the margin of error, even using measurements from magnified photographs.

Warts, vesicles, and ulcers in the genital or anal area may cause concern for the possible sexual transmission of infections such as *Condyloma accuminata*, *Herpes simplex*, or *syphilis*. Wart-like lesions in the genital or anal area may be skin tags or warts not of

the genital type, or they may be *Condyloma accuminata* which was acquired from perinatal transmission or other non-sexual transmission)<sup>2,4,34,35</sup> While genital warts can also be transmitted by sexual contact, it is difficult to determine whether or not sexual abuse should be suspected in a child who is too young to give a history or who has denied that they have experienced any type of sexual abuse. As more studies are published demonstrating the widespread prevalence of Human Papilloma Virus on the skin of children and adults using DNA analysis, the finding of *Condyloma accuminata* in a child will likely be considered less specific for sexual transmission.<sup>36</sup>

Vesicular lesions or ulcers in the genital or anal area can have infectious and non-infectious causes, including: *Herpes*, *syphilis*, *Varicella* or other viruses, *Behcet's Disease*, *Crohn's disease*, or they may have idiopathic causes.<sup>2,4,31,34,35</sup> Viral cultures or PCR analysis<sup>37</sup> are needed to diagnose *Herpes* infections, and serologic tests must be done to diagnose *syphilis*. It is recommended to perform these tests and await the results before reporting possible sexual abuse unless a child has given a disclosure of abuse.

The finding of marked, immediate anal dilation to an anterior-posterior diameter of 2 centimeters or more, in the absence of other predisposing factors, is a rare finding in both abused<sup>19,27</sup> and non-abused children.<sup>14–16</sup> Anal dilation can be caused by chronic constipation, sedation, anesthesia, neuromuscular conditions, and can be seen at autopsy.<sup>31</sup> No consensus exists currently among experts as to how this finding should be interpreted in the absence of a history of anal penetration given by the child.

### **The Child Sexual Abuse Medical Provider or Nurse Examiner**

The provision of medical care to victims of child sexual abuse is becoming increasingly specialized, and fellowships for training these specialists are growing in number. The need for special techniques and competencies is clear. A long-term goal is the development of standards for this specialty practice. While it is unrealistic to assume that all communities will have direct access to a medical sub-specialist, this document proposes baseline standards and activities for the medical practitioner performing these examinations.

### **Medical Providers**

The child sexual abuse medical provider who is responsible for the interpretation of findings, diagnosis and treatment of alleged sexual abuse should have relevant training and clinical experience as listed below:

1. The qualified child sexual abuse medical provider can be a physician, nurse practitioner, or physician

assistant, in pediatric medicine, pediatric emergency medicine, pediatric gynecology, or family medicine.

2. The provider should have formal medical training in the medical evaluation of suspected child sexual abuse, including didactic education, practical experience conducting evaluations, and mentoring, as needed, by an established expert in the field.
3. The provider should be familiar and keep up to date with published research studies on findings in abused and non-abused children, specificity for sexual transmission of infections in children, and guidelines and recommendations from the American Academy of Pediatrics Committee on Child Abuse and Neglect<sup>2</sup> and the Centers for Disease Control.<sup>4</sup>
4. The provider should be able to demonstrate substantial experience and proficiency in the child sexual abuse medical evaluation, and have a clear understanding of the differential diagnosis of physical findings that could be mistaken for abuse. (See Table 1)
5. The provider should have a system in place so that consultation with an established expert or experts in sexual abuse medical evaluation is available when a second opinion is needed regarding a case in which physical or laboratory findings are felt to be abnormal. An established expert is generally accepted to be a physician who has considerable experience in the medical evaluation of children using a colposcope for magnification and photo-documentation, is involved in academic pursuits in the field such as conducting research studies, publishing books or book chapters on the topic, and is speaking regularly at national conferences on topics of medical evaluation of children with suspected sexual abuse. The Ray E. Helfer Society and the Section on Child Abuse and Neglect of the American Academy of Pediatrics can both be helpful in identifying such experts for providers needing a consultation.

The qualified provider is encouraged to participate in:

- Ongoing educational activities, including regular attendance at conferences at which presentations and updates are given on the specific topic of medical evaluation of suspected child sexual abuse
- Ongoing peer review, at a regional or national level if not available locally
- Quality assurance activities
- Collaboration with a multidisciplinary team
- The child sexual abuse medical provider should be regularly available to testify in court
- The child sexual abuse medical provider is encouraged to have an active role in the community response to child sexual abuse

### **Nurse Examiners**

There is an ongoing national discussion regarding the role of sexual assault nurse examiners (SANEs) in the care of children who may have been sexually abused. There is a need to clearly define the SANE role along the continuum of care for pediatric patients, to assure quality and to utilize available resources. Because the scope of practice differs between medical providers and nurse examiners with respect to the assessment of children for suspected sexual abuse, each discipline has different parameters for training and for clinical practice. Pediatric SANE is a developing field for which curriculum and competencies should be developed and reviewed by a multidisciplinary team that includes physician experts.

In communities where nurses are being utilized to perform forensic medical examinations of children and collect forensic evidence, including photo-documentation of physical examination findings, systems must be in place to facilitate the timely referral of all children to a primary care or specialist medical provider for diagnostic testing, if needed, comprehensive medical care, medical treatment, and follow-up. In cases where the examining nurse believes the child's examination shows signs of recent trauma or residua of trauma, we recommend that the photographic record be reviewed by a qualified medical provider, as defined above, before conclusions are transmitted to the family or to the social service or law enforcement representative who requested the examination.

### **Medical Testimony**

Providers of medical services to children alleged to have been sexually abused will, in some cases, be called upon to provide testimony by either the prosecution or the defense. It is the obligation of the health care provider to formulate an opinion that is supported by science, with an understanding of the limitations of what can and cannot be said with certainty. In the courtroom, the health care provider's role is to clearly explain and articulate the clinical and scientific issues involved in a given case, and provide medical testimony that is accurate and objective.

### **Conclusions**

These guidelines are presented with the recommendation that they be utilized by organizations, communities, and individuals who are responsible for the provision and oversight of medical care provided to children presenting with a complaint of suspected sexual abuse. They may also be utilized as a basis for educational programs for the professional development of child abuse medical experts. The medical

assessment of children who may have been sexually abused is important and addresses many issues related to their health and well being; the results of the evaluation may or may not have medical-legal significance. The skilled health care provider who examines the child, or who reviews the photographic documentation obtained by others, must interpret the examination findings in light of the best scientific knowledge available, but the final determination as to whether an allegation of sexual abuse has been substantiated is usually made by law enforcement, social service agencies, or the courts.

The medical component is only one part of the overall assessment, and in most cases it is the quality, clarity, and consistency of the child's statement that represents the strongest evidence that abuse has occurred. A comprehensive medical evaluation conducted by a skilled provider can provide important reassurance to the child and family that may assist in the child's recovery. In other cases, the evaluation can be instrumental in establishing that a worrisome physical sign or symptom was in fact caused by something other than abuse.

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