

**Trying a B1 Sexual Assault Case**  
**Syndrome Testimony & Credibility Issues**

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## **EXPERT TESTIMONY IN SEX OFFENSE CASES**

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The traditional methods of proving character and traits of character, for example, truthfulness, are governed by the 400 series of the Rules of Evidence and are fairly strictly limited. The limitations are based upon the fundamental premise that the credibility of any witness is solely the province of the jury. Thus, except in very limited circumstances, it is improper for one witness to comment upon or vouch for the credibility of another witness, and such testimony is inadmissible as it “invades the province of the jury.”

However, in sex offense cases, the testimony of expert witnesses often comes very close to being in conflict with the well-recognized principle that one witness may not comment upon the credibility or truthfulness of another witness. How does the thoughtful judge ensure that expert testimony offered in these cases is proper, and admissible?

Of course, one must start with Rule 702 of the Rules of Evidence, which was revised effective for actions commenced after October 1, 2011. The changes to Rule 702 seem to reflect a legislative intent more closely to mirror F.R.E. 702 and to adopt the standard for judging the admissibility of expert testimony as set out by the United States Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 US 579, 125 L. ed. 2d 469 (1993). Rule 702 reads as follows:

- (a) If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion, or otherwise, if all of the following apply:
  - (1) The testimony is based upon sufficient facts or data.
  - (2) The testimony is the product of reliable principles and methods.
  - (3) The witness has applied the principles and methods reliably to the facts of the case.

One of the reasons that our North Carolina Supreme Court may have initially rejected the *Daubert* standard in *Howerton v. Aria Helmet, Ltd.* 358 NC 440, 597 S.E. 2d 674 (2004) is that our Supreme Court worried that State Court trial judges did not have the resources available to them to carry out such rigorous scientific evaluations as have become the practice in the federal courts after *Daubert*. Indeed, this is a challenge for us and may become an even greater challenge for a thoughtful judge if the parties are not well-prepared and well-versed on what are the parameters of proper expert testimony in both adult sex offense cases and child sex offense cases.

Let us look at each of these types of cases separately. First,

### **The Adult Sex Offense Case**

Burgess and Holmstorm coined the phrase Rape Trauma Syndrome in 1974 to describe the behavioral, somatic, and psychological reactions of rape and attempted rape victims. RTS was later included in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM 4<sup>th</sup> ed. 1994). Critics have questioned the scientific bases for RTS evidence in court, arguing that research on the rape trauma syndrome is not probative on issues of prior consent, prior trauma, nor the cause of a complainant's current behavior. There is a danger that expert testimony may be offered which is unsupported by research. Well-known researchers Frazier and Borgida expressed their conclusions regarding court testimony.

“In sum, experts in recent cases have described a broad range of symptoms and behaviors as consistent with RTS, some of which do not appear to be based on research. Testimony that is not research based often seems to be prompted by a defendant's claims that a complainant's behavior was inconsistent with having been raped. If virtually any victim behavior is described as consistent with RTS, the term will soon have little meaning. Indeed, some critics have argued that this is already the case . . . .” Frazier and Borgida, Rape Trauma Syndrome: A Review of the Case Law and Psychological Research, 16 Law and Human Behavior 293 (1992).

In looking at courts around the country, it appears that the prosecution may offer RTS evidence for two purposes: (1) to prove lack of consent by the alleged victim or (2) to explain post-incident conduct by a victim that jurors might perceive as inconsistent with a rape claim. Courts are widely divided over the first use but generally accept the second. North Carolina appellate cases appear to follow this pattern (even though these are cases of child victims).

**State v. Hall**, 330 N.C. 808, 412 S.E.2d 883 (1992) (an expert may testify that a

victim suffers from post-traumatic stress disorder for corroborative purposes and to assist the trier of fact to understand the behavior of a sexual assault victim).

*State v. Gamez*, 228 N.C. App. 329, 745 S.E.2d 876 (2013) (by precedent, an expert may testify that a victim suffers from post-traumatic stress disorder for corroborative purposes and to assist the trier of fact to understand the behavior of a sexual assault victim).

If one looks at *Gamez* closely, the prudent trial judge might proceed cautiously. Even though the Court of Appeals found no error in a child sex offense case when the trial court admitted an expert's opinion that the alleged victim suffered from post-traumatic stress disorder (PTSD), the Court noted that it was deciding the issue based upon the version of Rule 702 as it existed before the 2011 revision. Moreover, the Court decided the case under an abuse-of-discretion standard and according to Howerton. Query is the result different under revised Rule 702 and the Daubert standard rather than the Howerton standard?

Perhaps even more important in *Gamez* is that the Court notes that the testimony of such an expert must be limited to corroboration of the alleged victim and may not be admitted to prove that a rape or sexual abuse has in fact occurred. However, the Court noted that a special instruction limiting the admissibility of testimony solely for corroboration is proper and must be given upon request, but in this case defendant did not make such a request for a limiting instruction of the trial judge. In light of this ruling, it may be wise for the trial court to give such an instruction even absent a request.

The other area of expert testimony that often arises is testimony concerning genital injuries offered by the prosecution to show that a sexual assault has in fact occurred. The trial court should be very cautious in admitting such testimony under revised Rule 702 and Daubert. The most compelling reason for caution is that (perhaps counter intuitively), genital injuries can be observed after both consensual and nonconsensual sexual activity. The research in this area is ongoing, and there is no generally-accepted scientific consensus. There is research to show that both consensual and nonconsensual sex may result in lacerations or tears in the genital area.

What is important is accurate documentation of any medical findings to demonstrate the basis for the expert's opinion. The U.S. Department of Justice Office on Violence Against Women has published a helpful guideline in its National Protocol for Sexual Assault Medical Forensic Examinations – Adults/Adolescents (2013). The protocol contains recommendations regarding the use of a forensic scale or ruler, up-to-date photography, and accurate labeling and identification of photos. The full 145-page Protocol is available online at <https://www.ncjrs.gov/pdffiles1/ovw/241903.pdf>; a summary is attached as Exhibit A to this paper.



## The Child Sex Offense Case

The child sex offense case presents even more complex questions concerning proffered expert testimony than the adult sex offense case. This is true for a variety of reasons but particularly because there has been such a wealth of misinformation and misconceptions about these cases. For example, there has long been the adage about children not lying in these cases; for anyone who uses common sense and their own experiences with children, one will conclude that this is clearly a myth. Another example is the adage that a child would not know enough about sexual activity to make up a false allegation, but again this ignores different cultures and socio-economic norms which are not often recognized nor understood. Finally, there is the issue of susceptibility of children to suggestion which is peculiarly problematic in the case of warring parents and particularly of concern when the war of the parents pre-dates an allegation of a child sex offense committed by one of the parents.

Perhaps the most useful information to use in understanding the issue of whether a particular medical finding is indicative of sexual contact or whether it is seen in children who have not been sexually abused is the widely-accepted and widely-used by child medical evaluators, "Medical Evaluation of Suspected Child Sexual Abuse: 2011 Update," Adams, JA, Journal of Child Sexual Abuse (2011) (Attached as Exhibit B). The table included in the document as Appendix A is very enlightening it covers a chart of findings that are commonly seen in non-abused children, findings in which there is no consensus as to being caused by trauma or sexual contact.

Assessing the accuracy of a child forensic interview is extremely difficult due to the fact of scientific consensus as to the suggestibility of child witnesses and the disparity in training and techniques of forensic interviewers. Also, unlike the adult diagnosis of a recognized psychiatric disorder, children can exhibit a broad range of behaviors that may be associated with personality differences, family stability or lack thereof, and a parent's response to disclosure.

The psychological evidence of sexual abuse must be distinguished from medical evidence of abuse. As stated in United States v. Whitted, 11F.3d 782 (8<sup>th</sup> Cir. 1993):

"A doctor can . . . summarize the medical evidence and express an opinion that the evidence is consistent or inconsistent with the victim's allegations of sexual abuse . . . . [H]owever, a doctor's opinion that sexual abuse has in fact occurred is ordinarily neither useful to the jury nor admissible . . . A doctor also cannot pass judgment on the alleged victim's truthfulness in the guise of a medical opinion, because it is the jury's function to decide credibility. (785-786).

Expert testimony that the absence of physical trauma may be consistent with sexual assault may be admissible, so long as the expert does not offer any opinion as to whether the child is telling the truth about being sexually abused. Moreover, a cautious expert will testify that his physical findings are inconclusive as to whether any abuse has even occurred.

In cases where there is no independent evidence of abuse, the credibility of the child complainant becomes of utmost importance. In these types of cases, prosecutors have sought other types of evidence to substantiate a claim of sexual abuse. The “Child Sexual Abuse Accommodation Syndrome” (CSAAS), first coined by Dr. Roland Summit in 1983, is an example of this type of evidence. Dr. Summit described five factors typical of child sexual abuse: (1) Secrecy, (2) Helplessness, (3) Entrapment and Accommodation, (4) Delayed, Conflicting and Unconvincing Disclosure and (5) Retraction. The syndrome was developed as a tool to assist professionals in treating sexually abused children; the syndrome is not a diagnostic tool. In other words, the syndrome does not detect sexual abuse; it assumes abuse and attempts to explain a child’s reaction to it. Therefore, the use of this syndrome and testimony about it should be avoided.

The black letter law in North Carolina cases is basically that an expert may give opinion testimony as to the credibility of a child in a sexual offense prosecution only where the physical evidence supports a diagnosis of abuse. See, for example, *State v. Davis*, 191 NC App 535, 664 S.E.2d 21 (2008). However, there are some cases in which the black letter law is violated where the Court of Appeals has declined to reverse. See, for example, *State v. Treadway*, 208 NC App 286, 702 S.E.2d 335 (2010), in which the admission of clearly improper opinion testimony as to child abuse in the absence of physical evidence was held not to be plain error, in light of other evidence in the case.

One has to read the cases very carefully before ruling on an issue at the trial level. There are very thin lines that may not be crossed. For example, even when there is physical evidence of actual sexual abuse, an expert may not testify that the defendant caused the abuse. *State v. Streater*, 197 NC App 632, 678 S.E.2d 367 (2009).

*State v. Frady*, 228 NC App 682, 747 S.E. 2d 164 (2013) is another interesting case which illustrates how difficult it may be for a trial court to determine the proper limits of expert testimony. In its rebuttal evidence, the State introduced expert testimony to rebut the defendant’s testimony that no sexual assault occurred. The expert testified that the child’s disclosure was consistent with sexual abuse. The expert answered that her opinion was based upon:

“The consistency of her [the child’s] statements over time, the fact that she could give sensory details of the event which include being made wet and

the tickling sensation . . . [a]nd her knowledge of the sexual act that is beyond her developmental level.”

The Court of Appeals found reversible error here, noting that while the expert did not diagnose the child as having been sexually abuse, “ she essentially expressed her opinion that [the child] is credible.” The Court continued:

“We see no appreciable difference between this statement and a statement that [the child] is believable. The testimony neither addressed the characteristics of sexually abused children nor spoke to whether [the child] exhibited symptoms consistent with those characteristics.”

Contrast *Fradly* with the result reached in *State v. Pierce*, NC App, 767 S.E.2d 860 (2014). The court found error when a pediatric nurse practitioner testified to the opinion that her medical findings were consistent with the victim’s allegation of sexual abuse. The nurse performed a physical examination of the victim. She testified that in girls who are going through puberty, it is very rare to discover findings of sexual penetration. She testified that “the research, and, . . . this is thousands of studies, indicates that it’s five percent or less of the time that you would have findings in a case of sexual abuse—confirmed sexual abuse.” With respect to the victim, the expert testified that her genital findings were normal and that such findings “would be still consistent with the possibility of sexual abuse.” The prosecutor then asked: “Were your medical findings consistent with her disclosure in the interview?” She answered that they were. The defendant argued that the expert’s opinion that her medical findings were consistent with the victim’s allegations impermissibly vouched for the victim’s credibility. The court noted that the expert “did not testify as to whether [the victim’s] account of what happened to her was true,” that she was believable or that she had in fact been sexually abused. “Rather, she merely testified that the lack of physical findings was consistent with, and did not contradict, [the victim’s] account.”

However, the Supreme Court did find plain error in *State v. Towe*, 366 NC 56, 732 S.E.2d 564 (2012). Here, an eminently qualified physician “well-versed and experienced in the field of child sexual abuse” was allowed to go too far in her testimony by the trial judge, even when no objection was made by the defendant.

Although most of Dr. Everett’s testimony as admissible, her direct examination by the state concluded with the following exchange:

Q Dr. Everett, do you have an opinion, ma’am satisfactory to yourself and based upon your knowledge, training and experience, as to whether lack of physical findings in [the victim’s] examination in inconsistent with having been sexually abused?

A Yes.

Q What is that opinion?

A The lack of any findings would not be inconsistent with sexual abuse.

Q Have you done research, or read treatises, or otherwise studied physical findings in children that claim sexual abuse?

A Yes. There have been articles in the literature.

Q And do you have an opinion, ma'am, based upon your knowledge, experience and training, and the articles that you have read in your professional capacity as to the percentage of children who report sexual abuse who exhibit no physical findings of abuse?

A I would say approximately 70 to 75 percent of the children who have been sexually abused have no abnormal findings, meaning that the exams are either completely normal or very non-specific findings such as redness.

Q And that's the category that you would place [the victim] in; is that correct?

A Yes, correct.

The Court basically determined that the expert had testified that the victim was sexually abused but was in the category of sexually abused children who do not exhibit physical signs of such abuse. The Court went on to hold that "the trial court's failure to intervene sua sponte in the face of such erroneous testimony" constituted plain error.

It is clear that the trial judge as the gatekeeper under *Daubert* must be knowledgeable about the parameters of expert testimony in sex offense cases in order not to fall into the trap of committing plain error. It is also clear that the number of these types of cases decided under the plain error standard indicate that in many cases defense counsel do not bring the issue clearly in focus by way of a timely and well-presented objection. In light of these concerns, the prudent trial judge may be well-advised to conduct a voir dire of any proposed expert outside the presence of the jury, even if this is not requested by defense counsel. This may be the best way for the judge not only to educate herself about what the prosecution is proposing to ask of the expert but also to reflect upon and research the issue in a thoughtful way.

# Exhibit A

## Recommendations at a Glance: A National Protocol for Sexual Assault Medical Forensic Examinations

*The National Protocol for Sexual Assault Medical Forensic Examinations* offers guidance to jurisdictions in creating and implementing their own protocols, as well as recommending specific procedures related to the exam process. *Recommendations at a Glance* highlights key points discussed in the protocol, but it is not designed to be a stand-alone checklist on exam procedures or responsibilities of each involved responder. The protocol should be read to understand and respond to the complex issues presented during the exam process. See the protocol introduction for an explanation of select terms used in this chapter and the protocol.

### Goal of the Protocol

A timely, high-quality medical forensic examination can potentially validate and address sexual assault patients<sup>7</sup> concerns, minimize the trauma they may experience, and promote their healing. At the same time, it can increase the likelihood that evidence collected will aid in criminal case investigation, resulting in perpetrators being held accountable and further sexual violence prevented.

The examination and the related responsibilities of health care personnel are the focus of this protocol. Recognizing that multidisciplinary coordination is vital to the success of the exam, the protocol also discusses the responses of other professionals, as they relate to the exam process.

### A. Overarching Issues

1. Coordinated approach: A coordinated, multidisciplinary approach to conducting the exam provides victims<sup>8</sup> with access to comprehensive immediate care, helps minimize trauma they may experience, and encourages their use of community resources. Such a response can also enhance public safety by facilitating investigation and prosecution, which increases the likelihood that offenders will be held accountable for their actions. Raising public awareness about the existence and benefits of a coordinated response to sexual assault may lead more victims to disclose the assault and seek help. (SEE PAGES 23–29)

Recommendations for jurisdictions to facilitate a coordinated approach to the exam process:

- Understand that the purposes of the exam process are to address patients' health care needs and collect evidence suitable for possible use by the criminal justice system.
- Identify key responders and their roles.
- Develop quality assurance measures to ensure effective response during the exam process.

2. Victim-centered care: Victim-centered care is paramount to the success of the exam process. Response to victims should be timely, appropriate, sensitive, and respectful. (SEE PAGES 30-45)

Recommendations for health care providers and other responders to facilitate victim-centered care:

- Give sexual assault patients priority as emergency cases.
- Provide the necessary means to ensure patient privacy.
- Adapt the exam process as needed to address the unique needs and circumstances of each patient.

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<sup>7</sup> Sexual assault patients are also referred to as victims, depending on which responders are primarily being discussed. The term "patients" is generally used by health care professionals.

<sup>8</sup> The term "victim" is not used in a strictly criminal justice context. The use of "victim" simply acknowledges that persons who disclose that they have been sexually assaulted should have access to certain services.



- Develop culturally responsive care and be aware of issues commonly faced by victims from specific populations.
- Recognize the importance of victim services within the exam process.
- Accommodate patients' requests to have a relative, friend, or other personal support person (e.g., religious and spiritual counselor/advisor/healer) present during the exam, unless considered harmful by responders.
- Accommodate patients' requests for responders of a specific gender throughout the exam as much as possible.
- Prior to starting the exam and conducting each procedure, explain to patients in a language they understand what is entailed and its purpose.
- Assess and respect patients' priorities.
- Integrate medical and evidentiary procedures where possible.
- Address patients' safety during the exam.
- Provide information that is easy for patients to understand, in the patient's language, and that can be reviewed at their convenience.
- Address physical comfort needs of patients prior to discharge.

3. Informed consent: Patients should understand the full nature of their consent to each exam procedure. By presenting them with relevant information, in a language they understand, patients are in a position to make an informed decision about whether to accept or decline a procedure. However, they should be aware of the potential impact of declining a particular procedure, as it may negatively affect the quality of care, the usefulness of evidence collection, and, ultimately, any criminal investigation and/or prosecution. They should understand that declining a particular procedure might also be used against them in any justice system proceeding. If a procedure is declined, reasons why should be documented if the patient provides such information. (SEE PAGES 47-49)

Recommendations for health care providers and other responders to request patients' consent during the exam process:

- Seek the informed consent of patients as appropriate throughout the exam process.
- Make sure policies exist to guide the process of seeking informed consent from specific populations.

4. Confidentiality: Involved responders must be aware of the scope and limitations of confidentiality related to information gathered during the exam process. Confidentiality is intricately linked to the scope of patients' consent. Members of a sexual assault response team (SART) or other collaborating responders should inform victims of the scope of confidentiality with each responder and be cautious not to exceed the limits of victim consent to share information in each case. (SEE PAGES 51-53)

Recommendations that jurisdictions may take to maintain confidentiality of patients:

- Be sure jurisdictional policies address the scope and limitations of confidentiality as it relates to the exam process and with whom information can be legally and ethically shared.
- Increase the understanding of relevant confidentiality issues.
- Consider the impact of the federal privacy laws regarding health information on victims of sexual assault.
- Strive to resolve intrajurisdictional conflicts.

5. Reporting to law enforcement: Reporting the crime provides the criminal justice system with the opportunity to offer immediate protection to victims, collect evidence from all crime scenes, investigate cases, prosecute if there is sufficient evidence, and hold offenders accountable for crimes committed. Given the danger that sex offenders pose to the community, reporting can serve as a first step in efforts to stop them from reoffending. Equally important, reporting gives the justice system the chance to help victims address their needs, identify patterns of sexual violence in the jurisdiction, and educate the public about such patterns. Service providers should discuss all reporting options with victims in a language they understand

and the pros and cons of each, including the fact that delayed reporting may be detrimental to the prosecution of an offender. Even if a victim does not get a forensic medical exam, the victim can still report the crime at a later time. However, it will be much more difficult for criminal justice personnel to investigate and prosecute the crime if evidence was not collected.

Reporting requirements in sexual assault cases vary from one jurisdiction to another. Every effort should be made to facilitate treatment and evidence collection (if the patient agrees), regardless of whether the decision to report has been made at the time of the exam. Victims who are undecided about reporting who receive respectful and appropriate care and advocacy at the time of their exam are more likely to assist law enforcement and prosecution. Because immigrant victims may be more reticent to report crimes, they need to be aware of crime victim protections for immigrants. Access to immigration relief for crime victims will enhance the ability of law enforcement to detect, investigate, and prosecute crimes. (SEE PAGES 55-59)

Recommendations for jurisdictions and responders to facilitate victim-centered reporting practices:

- Except in situations covered by mandatory reporting laws, patients, not health care workers, make the decision to report a sexual assault to law enforcement.
- Inform patients about reporting consequences.
- As a result of VAWA 2005, many jurisdictions have implemented alternatives to standard reporting procedures.
- Promote a victim-centered reporting process.

6. Payment for the examination under VAWA: Under the Violence Against Women Act (VAWA),<sup>9</sup> a state, territory, or the District of Columbia is entitled to funds under the STOP Violence Against Women Formula Grant Program only if it, or another governmental entity, incurs the full out-of-pocket cost of medical forensic exams for victims of sexual assault. "Full out-of-pocket costs" means any expense that may be charged to a victim in connection with the exam for the purpose of gathering evidence of a sexual assault.<sup>10</sup> In addition, under the Violence Against Women Act of 2005, states may not require victims to participate in the criminal justice system or cooperate with law enforcement in order to receive a forensic medical exam.<sup>11</sup> (SEE PAGES 61-62)

Recommendations for jurisdictions to facilitate payment for the sexual assault medical forensic exam:

- Understand the scope of the VAWA provisions related to exam payment.
- Notify victims of exam facility and jurisdictional policies regarding payment for medical care and the medical forensic exam.

## **B. Operational Issues**

1. Sexual Assault Forensic Examiners: These are the health care professionals who conduct the examination. It is critical that all examiners, regardless of their discipline, are committed to providing compassionate and quality care for patients disclosing sexual assault, performing the physical examination, collecting evidence competently, documenting all findings, and testifying in court as needed. (SEE PAGES 65-67)

Recommendations for jurisdictions to build the capacity of examiners performing these exams:

- Encourage the development of specific knowledge, skills, and victim-centered approaches in examiners.
- Encourage advanced education and supervised clinical practice of examiners, as well as certification for all examiners.

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<sup>9</sup> 42 U.S.C. § 3796gg-4.

<sup>10</sup> 28 C.F.R. § 90.14(a).

<sup>11</sup> 42 U.S.C. 3796gg-4(d).



- Provide access to experts on anti-sexual assault initiatives who can participate in sexual assault examiner training, mentoring, proctoring, case review, photograph review, and quality assurance.

2. Facilities: Health care facilities have an obligation to provide services to sexual assault patients. Designated exam facilities or sites served by specially educated and clinically prepared examiners increase the likelihood of a state-of-the-art exam, enhance coordination, encourage quality control, and increase quality of care for patients. (SEE PAGES 71-74)

Recommendations for jurisdictions to build capacity of health care facilities to respond to sexual assault cases:

- Recognize the obligation of health care facilities to serve sexual assault patients in a culturally and linguistically appropriate manner.
- Ensure that exams are conducted at sites served by examiners with advanced education and clinical experience, if possible.
- Explore possibilities for optimal site locations.
- Communities may wish to consider developing basic requirements for designated exam sites.
- If a transfer from one health care facility to a designated exam site is necessary, use a protocol that minimizes time delays and loss of evidence and addresses patients' needs.

3. Equipment and supplies: Certain equipment and supplies are essential to the exam process (although they may not be used in every case). These include a copy of the most current exam protocol used by the jurisdiction, standard exam room equipment and supplies, comfort supplies for patients (e.g., changes of clothes, food, and water), sexual assault evidence collection kits, an evidence drying device/method, a forensic imaging system, testing and treatment supplies, a purified water source, an alternate light source, an anoscope, and written materials for patients. A microscope and/or toluidine blue dye may be required, depending on jurisdictional policy. A colposcope or other magnifying instrument may also be used. Some jurisdictions are also beginning to use advanced technology (telemedicine), which allows examiners offsite consultation with medical experts by using computers, software programs, and the Internet. Jurisdictions using such technology should be careful to protect patient confidentiality. (SEE PAGES 75-77)

Recommendations for jurisdictions and responders to ensure that proper equipment and supplies are available for examinations:

- Consider what equipment and supplies are necessary to conduct a medical forensic exam.
- Address cost barriers to obtaining necessary equipment and supplies.

4. Sexual assault evidence collection kit (for evidence from victims): Most jurisdictions have developed their own sexual assault evidence collection kits or purchased premade kits through commercial vendors. Kits often vary from one jurisdiction to another. Despite variations, however, it is critical that every kit meets or exceeds minimum guidelines for contents: broadly including a kit container, instruction sheet and/or checklist, forms, and materials for collecting and preserving all evidence required by the applicable crime laboratory. Evidence that may be collected includes, but is not limited to, clothing, foreign materials on the body, hair (including head and pubic hair samples and combings), oral and anogenital swabs and smears, body swabs, blood and urine samples for possible alcohol and/or toxicology testing, and a blood or saliva sample for DNA analysis and comparison. The instruction sheet and/or checklist should guide examiners on maintaining the chain of custody for evidence collected. (SEE PAGES 79-80)

Recommendations for jurisdictions and responders when developing/customizing kits:

- Use kits that meet or exceed minimum guidelines for contents.
- Work to standardize sexual assault evidence collection kits within a jurisdiction and across a state or territory, or for federal cases.

5. Timing considerations for collecting evidence: Although many jurisdictions have traditionally used 72 hours after the assault as the standard cutoff time for collecting evidence, a large number of jurisdictions have



moved toward longer time frames as cut off points. Many jurisdictions have now extended the standard cutoff time (e.g., to 5 days or 1 week). The use of such timeframes is supported by empirical evidence. Advancing DNA technologies continue to extend time limits because of the stability of DNA and sensitivity of testing. These technologies are even enabling forensic scientists to analyze evidence that was previously unusable when it was collected years ago. Thus, it is critical that in every case where patients are willing, examiners obtain the pertinent medical forensic history, examine patients, and document findings. Not only can the information gained from the relevant history and exam help health care providers address patients' medical needs, but it can guide examiners in determining whether there is evidence to collect and, if so, what to collect. (SEE PAGES 81-82)

Recommendations for health care providers and other responders to maximize evidence collection:

- Recognize the importance of gathering information for the medical forensic history, examining patients, and documenting exam findings, separate from collecting evidence.
- Examine patients promptly to minimize loss of evidence and identify medical needs and concerns.
- Make decisions about whether to collect evidence and what to collect on a case-by-case basis, guided by knowledge that outside time limits for obtaining evidence vary due to factors such as the location of the evidence or type of sample collected.
- Responders, examiners, and law enforcement representatives should seek education and resources to aid them in making well-informed decisions about evidence collection.

6. Evidence integrity: Properly collecting, preserving, and maintaining the chain of custody of evidence is critical to its subsequent use in criminal justice proceedings. (SEE PAGES 83-84)

Recommendations for health care providers and other responders to maintain evidence integrity:

- Follow jurisdictional policies for drying, packaging, labeling, and sealing evidence.
- Make sure transfer policies maximize evidence preservation.
- Make sure storage policies maximize evidence preservation.
- Document the handling, transfer, and storage of evidence.

## C. The Examination Process

1. Initial contact: Some sexual assault patients may initially present at a designated exam facility, but most who receive immediate medical care initially contact a law enforcement or advocacy agency for help. If 911 is called, law enforcement or emergency medical services (EMS) may be the first to provide assistance to victims. Communities need to have procedures in place to promptly respond to disclosures/reports of sexual assault in a standardized and victim-centered manner. (SEE PAGES 87-90)

Recommendations for jurisdictions and responders to facilitate initial contact with victims:

- Build consensus among involved agencies regarding procedures for a coordinated initial response when a recent sexual assault is disclosed or reported. Educate responders to follow procedures
- Recognize essential elements of initial response.

2. Triage and intake: Once patients arrive at the exam site, health care personnel must evaluate, stabilize, and treat for life-threatening and serious injuries according to facility policy. Standardized procedures for response in these cases should be followed, while respecting patients and maximizing evidence preservation. (SEE PAGES 91-92)

Recommendations for health care providers to facilitate triage and intake that addresses patients' needs:

- Consider sexual assault patients a priority.

- First perform a prompt, competent medical assessment. Then respond to acute injury, the need for trauma care, and safety needs of patients before collecting evidence.
- Alert examiners of the need for their services.
- Contact victim advocates so they can offer services to patients, if not already done.
- Assess and respond to safety concerns upon arrival of patients at the exam site, such as threats to patients or staff.
- Assess patients' needs for immediate medical or mental health intervention prior to the evidentiary exam, following facility policy.

3. Documentation by health care personnel: Examiners document exam findings, the medical forensic history, and evidence collected in the medical forensic report. (SEE PAGE 93-94)

Recommendations for health care providers to complete needed documentation:

- Ensure completion of all appropriate documentation.
- Educate examiners on proper documentation.
- Ensure the accuracy and objectivity of medical forensic reports.

4. The medical forensic history: Examiners ask the patient questions in a language the patient understands to obtain this history. This information guides them in examining the patient and collecting evidence. (SEE PAGES 95-98)

Recommendations for health care providers to facilitate gathering information from patients:

- Coordinate medical forensic history taking and investigative interviewing.
- Advocates should be able to provide support and advocacy during the history, if desired by patients.
- Consider patients' needs prior to and during information gathering.
- Obtain the medical forensic history.

5. Photography: Photographic documentation of injury or other visible evidence on the patient's body can supplement the medical forensic history and the written documentation of physical findings and evidence. (SEE PAGES 99-102)

Recommendations for health care providers and other responders to photograph documentation:

- Consider the extent of forensic photography necessary.
- Consider the equipment.
- Consider patient comfort and privacy.
- Explain forensic photography procedures to patients.
- Take initial and follow-up photographs as appropriate, according to jurisdictional policy.

6. Exam and evidence collection procedures: Examiners examine patients and collect evidence according to jurisdictional policy. Findings from the exam and collected evidence often help reconstruct the events in question in a scientific and objective manner. (SEE PAGES 103-113)

Recommendations for health care providers to conduct the exam and facilitate evidence collection:

- Recognize the evidentiary purpose of the exam.
- Strive to collect as much evidence from patients as possible, guided by the scope of informed consent, the medical forensic history, exam findings, and instructions in the evidence collection kit.
- Be aware of and document evidence and injuries that may be pertinent to the issue of whether the patient consented to the sexual contact with the suspect.
- Understand how biological evidence is tested.



- Prevent exposure to infectious materials and risk of contamination of evidence.
- Understand the implications of the presence or absence of seminal evidence.
- Modify the exam and evidence collection to address the specific needs and concerns of patients.
- Explain exam and evidence collection procedures to patients.
- Conduct the general physical and anogenital exam and document findings on body diagram forms.
- Collect evidence to submit to the crime lab for analysis, according to jurisdictional policy.
- Collect other evidence.
- Keep medical specimens separate from evidentiary specimens collected during the exam.

7. Alcohol and drug-facilitated sexual assault: Responders must consider the possibility that drugs and/or alcohol may have been used to facilitate an assault. They must know how to screen for suspected alcohol and drug-facilitated sexual assault, obtain informed consent of patients for testing, and collect toxicology samples when appropriate. (SEE PAGES 114-118)

Recommendations for jurisdictions and responders to facilitate response in suspected alcohol- or drug-facilitated sexual assault:

- Promote training and develop jurisdictional policies.
- Plan response to voluntary use of drugs and/or alcohol by patients.
- Be clear about the circumstances in which toxicology testing may be indicated. Routine testing is not recommended.
- Toxicology testing procedures should be explained to patients.
- Toxicology samples should be collected as soon as possible after a suspected drug-facilitated case is identified and informed consent is obtained, even if patients are undecided about reporting to law enforcement.
- Identify toxicology laboratories.
- Preserve evidence and maintain the chain of custody.

8. Sexually transmitted infection (STI) evaluation and care: Because contracting an STI from an assailant is of significant concern to patients, it should be addressed during the exam. (SEE PAGES 119-124)

Recommendations for health care providers to facilitate STI evaluation and care:

- Offer patients information in a language they understand.
- Consider the need for STI testing on an individual basis.
- Encourage patients to accept prophylaxis against STIs if indicated.
- Encourage follow-up STI exams, testing, immunizations, counseling, and treatment as directed.
- Address concerns about HIV infection.

9. Pregnancy risk evaluation and care: Patients may fear becoming pregnant as a result of an assault. Health care providers must address this issue according to facility and jurisdictional policy. (SEE PAGES 125-126)

Recommendations for health care providers to facilitate pregnancy evaluation and care:

- Discuss the probability of pregnancy with patients who have reproductive capability.
- Administer a pregnancy test for all patients with reproductive capability (with their consent).
- Discuss treatment options with patients in their preferred language.

A victim of sexual assault should be offered prophylaxis for pregnancy, subject to informed consent and consistent with current treatment guidelines. Conscience statutes will continue to protect health care providers who have moral or religious objections to providing certain forms of contraception. In a case in which a provider refuses to offer certain forms of contraception for moral or religious reasons, victims of sexual assault must receive information on how to access these services in a timely fashion.

10. Discharge and follow-up: Health care personnel have specific tasks to accomplish before discharging patients, as do advocates and law enforcement representatives (if involved). Responders should coordinate discharge and follow-up activities as much as possible to reduce repetition and avoid overwhelming patients. (SEE PAGES 129-131)

Recommendations to facilitate discharge and follow-up:

- Address issues related to medical discharge and follow-up care.
- Advocates, law enforcement representatives, and other involved responders can coordinate with health care providers to discuss a range of other issues with patients prior to discharge.

11. Examiner court appearances: Health care providers conducting the exam should expect to be called on to testify in court as fact and/or expert witnesses. (SEE PAGES 133-135)

Recommendations for jurisdictions to maximize the usefulness of examiner testimony in court:

- Encourage broad education for examiners on testifying in court.
- Promote prompt notification of examiners if there is a need for them to testify in court.
- Encourage pretrial preparation of examiners.
- Encourage examiners to seek feedback on testimony to improve effectiveness of future court appearances.

## Medical Evaluation of Suspected Child Sexual Abuse: 2011 Update

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*The medical evaluation of children with suspected sexual abuse includes more than just the physical examination of the child. The importance of taking a detailed medical history from the parents and a history from the child about physical sensations following sexual contact has been emphasized in other articles in the medical literature. The examination is important, however, and medical providers who examine children need to be aware of published research on findings in nonabused children, studies of healing of injuries, and studies documenting the association between sexual contact and the diagnosis of sexually transmissible infections in children. This article reviews the current approach to interpreting findings in children who may have been sexually abused and why additional research is needed.*

**KEYWORDS** *child sexual abuse, medical findings, interpretation of significance*

When child sexual abuse is suspected, a medical examination is often one part of the overall evaluation. A suspicion of sexual abuse may result when a child has disclosed such abuse, has developed behaviors suggestive of sexual abuse, is diagnosed with a sexually transmissible infection, is found to have suggestive medical or laboratory findings, or because the abuse has been witnessed by others or documented by photographs or videotapes.

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Healthcare providers responsible for performing medical examinations in these situations are often asked by parents, caregivers, social service workers, or law enforcement officers whether or not any “evidence” of sexual abuse was found.

During the past 20 years, many changes have occurred in the way medical professionals perform evaluations of children suspected of having been sexually abused and in how physical and laboratory findings are interpreted (Adams, 2011). During the early 1990s, research studies documented genital and anal findings in children who were not suspected of having been sexually abused, which provided medical practitioners with a better understanding of the range of normal variations in the appearance of these tissues (Berenson, Heger, & Andrews, 1991; Berenson, Heger, Hayes, Bailey, & Emans, 1992; McCann, Voris, Simon, & Wells, 1989; McCann, Wells, Simon, & Voris, 1990).

A comprehensive listing of findings in nonabused children and medical and laboratory findings associated with suspected child sexual abuse was first published as a table in an article by Adams, Harper, and Knudson (1992). This listing of findings, sometimes referred to as the Adams Classification System, had been developed using published data on both abused and nonabused children. It was intended to assist team members to arrive at sound conclusions from medical evaluations of children suspected of having been sexually abused and to help achieve some consistency among these providers in interpreting their medical findings.

The table, listing physical and laboratory findings, has been modified multiple times since 1992 in response to newly published research findings in order to refine the characterization of listed medical findings not supported by research data. The most recent set of revisions was begun in January 2003, when groups of interested physicians were convened at the San Diego Child Maltreatment Conference and at annual meetings of the Ray Helfer Society. Participating physicians were asked to review the most recently published version of the document, to reassess the listings of medical and laboratory findings and to attempt to reach consensus on how to define and interpret those medical findings. In January 2004, under the sponsorship of the American Professional Society on the Abuse of Children, a group of 18 physicians, met to further discuss proposed changes.

These physicians achieved consensus on most of the findings to be included in the document, including those findings that should be listed for newborns and nonabused children as well as findings thought to be diagnostic of trauma or sexual contact. The document was then circulated via e-mail to 46 physicians in the United States and Canada who had expressed interest in being involved in the revision process.

The document produced as a result of these reviews is included in Appendix A. It has received support from the majority of physicians who participated in the review process. The publications used to develop

this list of medical findings include: (a) studies of children selected for nonabuse (Berenson et al., 1991, 1992, 2002; Berenson & Grady, 2002; Berenson, Somma-Garcia, & Barnett, 1993; Gardner, 1992; Heger et al., 2002; Kellogg & Parra, 1991; McCann et al., 1989; McCann et al., 1990; Myhre, Berntzen, & Bratlid, 2001; Myhre, Berntzen, & Bratlid, 2003), (b) case series (Adams, Botash, & Kellogg, 2004; Adams, Harper, Knudson, & Revilla, 1994; Emans, Woods, Allred, & Grace, 1994; Heger, Ticson, Velasquez, & Bernier, 2002; Jones et al., 2003; Kellogg, Menard, & Santos, 2004), and (c) studies describing injuries from sexual abuse or accidental trauma (Boos, 1999; Boos, Rossas, Boyle, & McCann, 2003; Dowel, Fitzmaurice, Knapp, & Mooney, 1994; Finkel, 1989; Heppenstall-Heger et al., 2003; Hermann & Crawford, 2002; McCann & Voris, 1993; McCann, Voris, & Simon, 1992; McCann, Miyamoto, Boyle, & Rogers, 2007a; McCann, Miyamoto, Boyle, & Rogers, 2007b).

The tables in the article published by the author in 2001 continued to incorporate a section titled "Overall Assessment of the Likelihood of Sexual Abuse." The rating categories in the overall assessment table were *no evidence of abuse*, *possible abuse*, *probable abuse*, and *definitive evidence of penetrating injury or sexual contact*. Rating of the the first three categories required heavy reliance on historical information from the child and other professionals, behavior changes observed in the child, and direct observations from witnesses, in addition to medical and laboratory findings. It became clear that the overall assessment section was being inappropriately used by some programs as a checklist approach to the diagnosis of child sexual abuse, a use for which it was never intended. It was also believed that inexperienced medical providers were using the tables as a substitute for a more thorough clinical assessment and determination of the likelihood of sexual abuse.

In response, the author solicited input from medical colleagues to refine and clarify the instrument's purpose and content and to redesign it accordingly. All participants agreed that the revised document should be used solely as a tool to assist medical providers in making clinical determinations of the possible significance of medical findings in children they evaluated for suspected sexual abuse. The tool was also intended to provide guidelines for teaching physicians and nurses to demonstrate what is known and what is not known about physical findings in abused and nonabused children. Subsequent to these decisions, the overall assessment table, which was present in previous versions, was removed.

There is not complete agreement regarding this listing of findings and its guidelines for interpretation among physicians with expertise in the medical evaluation of suspected child sexual abuse. Several contributors still believe strongly that findings such as deep notches in the hymen and a marked narrowing of the rim of the hymen should be listed as more significant than "indeterminate." The majority of participants, however, do agree that these findings should not be considered diagnostic of trauma,



because at present, data from published research are insufficient to justify that conclusion. Pragmatically, it is also problematic to rely on measurements as small as one millimeter or to determine whether a notch is through 50% or more than 50% of the width of the hymen. Medical or laboratory findings of indeterminate significance could raise the suspicion of sexual abuse, even in the absence of a history from the child. In those cases, a report to child protective services for further investigation is appropriate.

Other participants are skeptical of an approach that does not emphasize the importance of the child's statement in the overall medical evaluation, which of necessity must include more than just a physical examination. It is clear that the history from the child is the most important part of any evaluation for suspected child sexual abuse. Furthermore, unless the physical examination is performed within a very short time after an assault that causes injury, the physical exam will likely show no signs of either acute or healed trauma.

We also know that injuries to the genital and anal tissues heal rapidly and often completely, and that many types of sexual contact do not cause apparent physical injury (see Berkowitz, this issue, for a review of how anogenital injuries heal). As reported in studies since 2000, the percentage of children giving a history of abuse who have abnormal physical examination findings is about 4% to 5% (Berenson et al., 2000; Heger et al., 2002) in most clinical settings.

An article providing guidelines on medical evaluation, including a table describing an approach to interpretation of medical findings, was published in 2007 after a process of consensus development (Adams et al., 2007). Another article (Adams, 2008) describes new studies published since the 2007 paper was submitted, describes recently completed systematic reviews of older studies and makes suggestions for updating the approach-to-interpretation table. The following review is adapted from an article that was published in 2010 in the APSAC Advisor (Adams, 2010).

#### HEALING OF ACUTE TRAUMA IN PREPUBERTAL GIRLS

McCann, Miyamoto, Boyle, and Rogers (2007a) reported on a review of 113 cases of prepubertal girls who had photo documentation of acute trauma to the genital tissues and who had at least one follow-up examination to determine healing. The cases were gathered from multiple sites in a retrospective manner, preventing any standardization of examination method, photo-documentation methods, or the number and timing of follow-up examinations.

In the review of photographs, the authors identified and classified 40 lacerations of the hymen among the prepubertal girls, and 35 (88%) were in the posterior/inferior location below the 3 o'clock–9 o'clock line. At the time of the follow-up examination, it was found that 75% of the acute, partial



tears through more than 50% of the width of the hymen had healed to be notches extending through 50% or more of the width of the hymen.

When the hymen tear was classified as being a tear all the way through the hymen and into the fossa (transection with extension), 74% of these tears at the follow-up examinations were complete clefts/transections after healing. Of note, none of the hymen injuries resulted in scars at the follow-up examinations.

In another paper, McCann, Miyamoto, Boyle, and Rogers (2007b) reported that deep lacerations of the posterior fourchette or perineum in prepubertal girls took two to three weeks to heal, but the majority of abrasions, contusions, and submucosal hemorrhages of the genital tissues healed within days.

An important finding, reported in both of the previously referenced papers, is that many injuries to the hymen and to other genital tissues had healed completely at the time of follow-up examination, leaving no sign of the previous injury. In a few cases, even significant hymen lacerations healed to leave no clear sign of injury. Therefore, in cases where an examination is conducted several days, weeks, or months after the suspected episode of sexual abuse and no clear sign of injury to the genital tissues is evident, the possibility of previous injury cannot be ruled out (see Stewart, this issue).

Therefore, if a child describes an incident of abuse that caused pain, bleeding, or both, an examination done weeks later could very well be normal. However, the fact that injuries can heal completely, or heal as superficial or deep notches in the hymen, does not allow one to conclude that all notches in the hymen were caused by penetration.

### IMPORTANCE OF CHILD'S HISTORY

Although the approach-to-interpretation table focuses on medical examination findings and laboratory test results, it is widely accepted that in most cases of suspected sexual abuse, there will not be signs of significant injury, healed trauma, or sexually transmitted infections. The child's medical history is key in helping to determine if a child had specific symptoms around the time of the episode of alleged abuse that could help validate the child's description of the abuse experience.

DeLago, Deblinger, Shroeder, and Finkel (2008) reviewed the medical records of 161 girls ages three to 18 years who were evaluated for suspected abuse and who had disclosed specific types of genital contact. All patients were asked open-ended, nonleading questions about body sensations during the history obtained by the medical provider. If a child disclosed genital contact, she was asked, "How did that feel?" If necessary, the doctor would ask follow-up questions such as, "Did it bother your body, your feelings, or both?"

Genital symptoms were reported by 60% of the girls, and the symptoms of dysuria and genital pain were significantly more common in girls reporting genital-to-genital contact compared with other types of genital contact, when controlling for age. This study highlights the importance of a complete medical history and review of systems when children are evaluated for suspected sexual abuse (see Finkel & Alexander, this issue). Even if someone else takes the detailed history of the episode of possible abuse, the medical provider needs to ask the child directly about how his or her body felt during and after the abusive episode. Although there may not be any signs of injury on examination, the medical provider can correlate the child's description of symptoms to the description of the acts the child experienced and can testify to that in court.

### EVALUATING THE DATA FROM RESEARCH STUDIES

A systematic review by Berkoff and colleagues (2008) of more than 1,500 published articles and book chapters identified 10 research studies of prepubertal children selected for nonabuse and one case control study of girls ages three to eight years with and without a history of vaginal penetration. The review was conducted as an attempt to determine the utility of the genital examination in prepubertal girls in identifying nonacute sexual abuse. The criteria for inclusion in the systematic review were that studies had to contain data on pubertal status or age or both, have sufficient data for statistical analysis, use a well-described or reproducible examination technique, and include a reference standard to determine whether the child had or had not been sexually abused.

The findings of a deep notch in the inferior hymen, transection of the hymen, and perforation of the hymen were not found in the studies of nonabused children and were specific for a history of sexual abuse in the case-control study. None of these findings had high sensitivity to detect abuse, however, because they were rare in children who gave a history of penetration. The authors concluded that these three findings "suggest genital trauma from sexual abuse" (p. 2790).

Comparable systematic reviews are needed of published research studies reporting medical examination findings in other types of patients. What is the positive predictive value of the finding of a deep hymen notch in an adolescent, or the finding of anal dilation in a child examined acutely or nonacutely following alleged anal penetration? Additional research is needed to answer both of these questions, but a careful review of published papers could help provide a more evidence-based approach to interpreting medical examination findings. The results of such a systematic review might indicate that the approach to interpreting some of the findings cited in the table should be reassessed.



## CONDITIONS MISTAKEN FOR ABUSE

Many conditions such as labial adhesions, vaginal discharge, genital bumps and ulcers, skin conditions such as lichen sclerosus, unusual conditions such as urethral prolapse, perineal groove/failure of midline fusion, and others can be mistaken for signs of trauma or infection. In a study of pattern recognition (Muram & Simmons, 2008) among residents and faculty in pediatrics, family medicine, emergency medicine, and gynecology at a major teaching hospital, color photographs of common pediatric gynecologic conditions were shown to residents and faculty physicians. The mean correct response rate was 42% for residents and 58% for faculty. Photographs of urethral prolapse, labial adhesion, and uncomplicated vulvovaginitis were often incorrectly identified as being signs of suspected abuse.

It is clear that physicians who are asked to examine a child's genitalia for routine care or to evaluate complaints or symptoms must have basic knowledge of normal anatomy and common and uncommon conditions that may affect the appearance of the genital or anal tissues. A specific category of conditions commonly mistaken for signs of abuse has been added to the approach-to-interpretation table to increase awareness in healthcare professionals who examine children for possible abuse.

## HERPES SIMPLEX VIRUS TYPE 1 AND 2 (HSV-1, HSV-2)

In an article published in 2008, the author reviewed studies related to herpes simplex infections in children and the seroprevalence of HSV-1 and HSV-2 in children of different ages. There are no case control studies of genital herpes or positive antibodies for HSV-2 in children with and without concerns for sexual abuse. In the reviewed studies, investigators typically reported histories of sexual abuse most commonly in children who were five years of age or older who had HSV-2 cultured from genital lesions and who did not have oral lesions (Adams, 2008). The suggestions for interpreting genital herpes infections have been changed slightly from the version of the approach-to-interpretation table that was published in 2007 (Adams et al., 2007), as documented in Appendix A.

## GENITAL WARTS

Genital warts in children represent infections that could have been transmitted by sexual contact. Multiple studies of newborn infants, mothers and fathers, and children without a concern of abuse have shown evidence of human papilloma virus (HPV) DNA on the skin, mucous membranes, or both (Shapiro & Makoroff, 2006). It is likely that the virus itself can be spread

by caretaking activities and perinatal exposure, and this could result in the development of warts in the genital or anal area in infants and young children. Children with anogenital warts who are outside the age range where someone is assisting them with toileting hygiene and who do not have warts on other parts of their bodies deserve a very careful evaluation for suspected sexual abuse. While each case should be evaluated on its own merits, it is reasonable to recommend reporting to child protective services if lesions of HPV are found in an older child, even if the child denies a history of sexual abuse.

### THE IMPORTANCE OF ACCURATE INTERPRETATION OF MEDICAL FINDINGS

Most examinations for signs of sexual abuse are done some time after the last incident of abuse, and this is one of the main reasons why abnormal genital findings are rare. Because most examinations are normal or show signs that could have explanations other than abuse, many physicians and nurses who provide sexual abuse medical evaluations may have limited experience with cases of acute trauma. The National Children's Alliance (NCA) has published revised medical standards for members who work in accredited facilities, which recommend photo documentation as the standard of care (National Children's Alliance, 2008). One of the standards listed, on page 23, states: "Photo-documented examinations are reviewed with advanced medical consultants. Review of all exams with positive findings is strongly encouraged." Medical providers at these accredited facilities and in other settings now have the opportunity to obtain timely, anonymous expert review of sexual abuse medical findings via a new Web-based system (TeleHealth Institute for Child Maltreatment [THICM]; [www.thicm.org](http://www.thicm.org)).

Digital images of examination findings in either photographs or video clips can be uploaded to the Web site along with the medical history and the examiner's interpretation of the findings. When a case is posted, a physician from a panel of national experts will be notified to review the case anonymously and will send a response within 48 hours. The expert will provide an opinion as to whether or not he or she agrees with the examiner's interpretation of the medical findings or may recommend that additional photo documentation is necessary in order to provide a review. There is a minimal \$25 per case charge to the examiners who want to take advantage of this resource as part of quality improvement activities for child sexual abuse medical evaluations.

The purpose of the THICM is to make child sexual abuse expert review available to all child advocacy center medical providers and to other providers who perform child sexual abuse medical evaluations throughout the United States, regardless of location. However, it must be cautioned that



the service is designed solely to provide reviews by an expert for educational and quality improvement purposes. It is not intended for initial diagnostic or treatment purposes or to serve as a second opinion for a specific case. This service is not a replacement for a consultation or meant to address issues related to a specific patient.

### HOW WELL DO EXPERTS AGREE?

As a follow-up to an online survey assessing agreement on medical findings conducted in 2007, the author recently sent a 12-question survey through the listserv of the Ray Helfer Society, a group of physician experts in child abuse evaluation. One hundred members responded to all items. The results are shown in Appendix B. Since the listing of findings in Appendix A includes those findings for which there is no consensus among experts as to their interpretation with respect to trauma or abuse, it appears that all findings listed there currently should still be considered indeterminate.

The results of the SurveyMonkey survey conducted in 2007 were reported at the Pediatric Academic Societies' annual meeting in Denver, Colorado, on April 30, 2011 (Adams et al., 2011). The survey consisted of questions on identification and interpretation of medical findings in cases with photographic images and case information and questions assessing knowledge of findings from research studies. Correct answers were the consensus answer of at least six of seven expert physicians, with a total possible score of 41.

Among those respondents who self-identified as child abuse pediatricians, the mean score was significantly higher than the mean score of pediatricians, advanced practice nurses and sexual assault nurse examiners. Except for child abuse pediatricians, participants who examined fewer than five children monthly for suspected sexual abuse answered fewer than 70% of the questions correctly. Multiple regression analysis showed that in addition to being a child abuse pediatrician, having cases reviewed at least quarterly by a recognized expert in child sexual abuse evaluation and reading *The Quarterly Update*, a newsletter with summaries and critique of published literature in child abuse medicine, were significantly associated with higher score on the survey. A complete discussion of the study and the results has been submitted for publication elsewhere.

### CONCLUSION

A systematic review of published research and expert opinion is still needed to help determine the diagnostic significance of specific acute genital and anal injuries, nonacute findings in adolescents, anal findings in both children and adolescents, and specific sexually transmitted infections. These

reviews may provide evidence suggesting that some of the findings listed in Appendix A should be interpreted differently.

Medical providers and other members of multidisciplinary teams working with children who may have been sexually abused are advised to remember that medical findings are rarely the most important part of an evaluation for suspected sexual abuse. The absence of signs of injury in a child who gives a clear disclosure of sexual abuse, even if the contact involved vaginal or anal penetration and resulted in symptoms of pain, bleeding, or both, does not mean that the child was not abused in the manner he or she described. Studies have documented rapid and complete healing of both major and minor genital and anal injuries following sexual assault (McCann et al., 2007a; McCann et al., 2007b). If medical findings are identified that are felt to be signs of trauma or sexually transmitted infections, it is advisable for providers to either seek a second opinion from an expert consultant or utilize the anonymous expert review services through the Web-based TICM as a method of continuing quality improvement.

Further revisions of the approach-to-interpretation table may be necessary as researchers conduct new studies and publish systematic reviews of previously published literature. Medical providers are invited to contact Dr. Adams with comments and suggestions at jadams@ucsd.edu.

## REFERENCES

- Adams, J. (2005). Approach to the interpretation of medical and laboratory findings in suspected child sexual abuse: A 2005 revision. *APSAC Advisor*, 17(3), 7–13.
- Adams, J. (2008). Guidelines for medical care of children evaluated for suspected sexual abuse: An update for 2008. *Current Opinions in Obstetrics and Gynecology*, 20(5), 435–441.
- Adams, J. A. (2010). Medical evaluation of suspected child sexual abuse: 2009 Update. *APSAC Advisor*, 22(1), 2–7.
- Adams, J. A. (2011). Interpretation of genital and anal findings in children and adolescents with suspected sexual abuse: State of the science. In R. Kaplan, J. A. Adams, S. P. Starling, & A. P. Giardino (Eds.), *Medical response to child sexual abuse: A resource for professionals working with children and families* (pp. 117–144). St. Louis, MO: STM Learning.
- Adams, J. A., Botash, A. S., & Kellogg, N. (2004). Differences in hymenal morphology between adolescent girls with and without a history of consensual sexual intercourse. *Archives of Pediatrics & Adolescent Medicine*, 158(3), 280–285.
- Adams, J. A., Starling, S. P., Frasier, L. D., Palusci, V., Shapiro, R., Kellogg, N. (2011, April). *Interpretation of medical findings in suspected child sexual abuse: Experience matters*. Paper presented at the meeting of Pediatric Academic Societies, Denver, CO.
- Adams, J., Harper, K., & Knudson, S. (1992). A proposed system for the classification of anogenital findings in children with suspected sexual abuse. *Journal of Pediatric and Adolescent Gynecology*, 5, 73–75.



- Adams, J., Harper, K., Knudson, S., & Revilla, J. (1994). Examination findings in legally confirmed child sexual abuse: It's normal to be normal. *Pediatrics*, *94*(3), 310–317.
- Adams, J., Kaplan, R., Starling, S., Mehta, N., Finkel, M., Botash, A., et al. (2007). Guidelines for medical care of children who may have been sexually abused. *Journal of Pediatric & Adolescent Gynecology*, *20*(3), 163–172.
- Berenson, A., Heger, A., & Andrews, S. (1991). Appearance of the hymen in newborns. *Pediatrics*, *87*(4), 458–465.
- Berenson, A. B., Chacko, M. R., Wiemann, C. M., Mishaw, C. O., Friedrich, W. N., & Grady, J. J. (2000). A case-control study of anatomic changes resulting from sexual abuse. *American Journal of Obstetrics & Gynecology*, *182*(4), 820–834.
- Berenson, A. B., Chacko, M. R., Wiemann, C. M., Mishaw, C. O., Friedrich, W. N., Grady, J. J. (2002). Use of hymenal measurements in the diagnosis of previous penetration. *Pediatrics*, *109*(2), 228–235.
- Berenson, A. B., & Grady, J. J. (2002). A longitudinal study of hymenal development from 3 to 9 years of age. *Journal of Pediatrics*, *140*(5), 600–607.
- Berenson, A. B., Heger, A. H., Hayes, J. M., Bailey, R. K., & Emans, S. J. (1992). Appearance of the hymen in prepubertal girls. *Pediatrics*, *89*(3), 387–394.
- Berenson, A. B., Somma-Garcia, A., & Barnett, S. (1993). Perianal findings in infants 18 months of age or younger. *Pediatrics*, *91*(4), 838–840.
- Berkoff, M., Zolotar, A., Makoroff, K., Thackeray, J., Shapiro, R., & Runyan, D. (2008). Has this prepubertal girl been sexually abused? *Journal of the American Medical Association*, *300*(23), 2779–2792. Retrieved from <http://jama.ama-assn.org/cgi/content/full/300/23/2779>
- Boos, S. C. (1999). Accidental hymenal injury mimicking sexual trauma. *Pediatrics*, *103*(6), 1287–1289.
- Boos, S. C., Rosas, A. J., Boyle, C., & McCann, J. (2003). Anogenital injuries in child pedestrians run over by low-speed motor vehicles: Four cases with findings that mimic child sexual abuse. *Pediatrics*, *112*(1), 77–84. Retrieved from <http://www.pediatrics.org/cgi/content/full/112/1/e77>
- DeLago, C., Deblinger, E., Schroeder, C., & Finkel, M. (2008). Girls who disclose sexual abuse: Urogenital symptoms and signs after genital contact. *Pediatrics*, *122*(2), 281–286. Retrieved from <http://www.pediatrics.org/cgi/content/full/122/e281>
- Dowd, M., Fitzmaurice, L., Knapp, J. F., & Mooney, D. (1994). The interpretation of urogenital findings in children with straddle injuries. *Journal of Pediatric Surgery*, *29*(1), 7–10.
- Emans, S. J., Woods, E. R., Allred, E. N., & Grace, E. (1994). Hymenal findings in adolescent women: Impact of tampon use and consensual sexual activity. *Journal of Pediatrics*, *125*(1), 153–160.
- Finkel, M. A. (1989). Anogenital trauma in sexually abused children. *Pediatrics*, *84*(2), 317–322.
- Gardner, J. J. (1992). Descriptive study of genital variation in healthy, nonabused premenarchal girls. *Journal of Pediatrics*, *120*(2), 258–260.
- Heger, A. H., Tison, L., Guerra, L., Lister, J., Zaragoza, T., & McConnell, G., (2002). Appearance of the genitalia in girls selected for nonabuse: Review of hymenal morphology and non-specific findings. *Journal of Pediatric Adolescent Gynecology*, *15*(1), 27–35.

- Heger, A., Ticson, L., Velasquez, O., & Bernier, R. (2002). Children referred for possible sexual abuse: Medical findings in 2384 children. *Child Abuse & Neglect*, 26(6-7), 645-659.
- Heppenstall-Heger, A., McConnell, G., Ticson, L., Guerra, L., Lister, J., & Zaragoza, T. (2003). Healing patterns in anogenital injuries: A longitudinal study of injuries associated with sexual abuse, accidental injuries, or genital surgery in the preadolescent child. *Pediatrics*, 112(4), 829-837.
- Herrmann, B., & Crawford, J. (2002). Genital injuries in prepubertal girls from inline skating accidents. *Pediatrics*, 110(2), 16. Retrieved from <http://www.pediatrics.org/cgi/content/full/110/2/e16>
- Jones, J. S., Rossman, L., Hartman, M., & Alexander, C. C. (2003). Anogenital injuries in adolescents after consensual sexual intercourse. *Academic Emergency Medicine*, 10(12), 1378-1383.
- Kellogg, N. D., Menard, S. W., & Santos, A. (2004). Genital anatomy in pregnant adolescents: "Normal" doesn't mean "nothing happened." *Pediatrics*, 113(1), 67-69. Retrieved from <http://www.pediatrics.org/cgi/content/full/113/1/e67>
- Kellogg, N. D., & Parra, J. M. (1991). Linea vestibularis: A previously undescribed normal genital structure in female neonates. *Pediatrics*, 87(6), 926-929.
- McCann, J., Miyamoto, S., Boyle, C., & Rogers, K. (2007a). Healing of hymenal injuries in prepubertal and adolescent girls: A descriptive study. *Pediatrics*, 119(5), 1094-1106. Retrieved from <http://www.pediatrics.org/cgi/content/full/119/5/e1094>
- McCann, J., Miyamoto, S., Boyle, C., & Rogers, K. (2007b). Healing of nonhymenal genital injuries in prepubertal and adolescent girls: A descriptive study. *Pediatrics*, 120(5), 1000-1011. Retrieved from <http://www.pediatrics.org/cgi/content/full/112/1/e77>
- McCann, J., & Voris, J. (1993). Perianal injuries resulting from sexual abuse: A longitudinal study. *Pediatrics*, 91(2), 390-397.
- McCann, J., Voris, J., & Simon, M. (1992). Genital injuries resulting from sexual abuse: A longitudinal study. *Pediatrics*, 89(2), 307-317.
- McCann, J., Voris, J., Simon, M., & Wells, R. (1989). Perianal findings in prepubertal children selected for non-abuse: A descriptive study. *Child Abuse & Neglect*, 13(2), 179-193.
- McCann, J., Wells, R., Simon, M., & Voris, J. (1990). Genital findings in prepubertal girls selected for non-abuse: A descriptive study. *Pediatrics*, 86(3), 428-439.
- Muram, D., & Simmons, K. (2008). Pattern recognition in pediatric and adolescent gynecology: A case for formal education. *Journal of Pediatric and Adolescent Gynecology*, 21(2), 103-108.
- Myhre, A. K., Berntzen, K., & Bratlid, D. (2001). Perianal anatomy in non-abused preschool children. *Acta Paediatrica*, 90(11), 1321-1328.
- Myhre, A. K., Berntzen, K., & Bratlid, D. (2003). Genital anatomy in non-abused preschool girls. *Acta Paediatrica*, 92(12), 1453-1462.
- National Children's Alliance. (2008) *Standards for accredited members, revised 2008*. Retrieved from <http://www.nationalchildrensalliance.org/index.php?s=76>
- Shapiro, R., & Makoroff, K. (2006). Sexually transmitted diseases in sexually abused girls and adolescents. *Current Opinions in Obstetrics and Gynecology*, 18(5), 492-497.



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## APPENDIX A

Approach To Interpretation Of Medical Findings In Suspected Child Sexual Abuse: 2009

This table lists medical and laboratory findings; however, most children who are evaluated for suspected sexual abuse will not have signs of injury or infection. The child's description of what happened to him or her and the child's report of specific symptoms in relationship to the events described is an essential part of the full medical evaluation.

Findings Documented in Newborns or Commonly Seen in Nonabused 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
2. Intravaginal ridges or columns
3. Hymenal bumps or mounds
4. Hymenal tags or septal remnants
5. Linea vestibularis (midline avascular area)
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 with patient supine
7. Shallow/superficial notch or cleft in inferior rim of hymen below 3 o'clock–9 o'clock line
8. External hymenal ridge
9. Congenital variants in appearance of hymen, including crescentic, annular, redundant, septate cribiform, microperforate, and imperforate
10. Diastasis ani (smooth area)
11. Perianal skin tag
12. Hyperpigmentation of the skin of labia minora or perianal tissues in children of color, such as Mexican-American and African-American children

13. Dilation of the urethral opening with application of labial traction
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.)

#### Findings Commonly Caused by Other Medical Conditions

15. Erythema (redness) of the genital tissues (May be due to irritants, infection, or dermatitis.)
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.)
17. Labial adhesion (May be due to irritation or rubbing.)
18. Vaginal discharge (There are many infectious and noninfectious causes. Cultures must be taken to confirm if caused by sexually transmitted organisms or other infections.)
19. Friability of the posterior fourchette or commissure (May be due to irritation, infection, or an examiner's traction on the labia majora.)
20. Anal fissures (Usually due to constipation, perianal irritation.)
21. Venous congestion or venous pooling in the perianal area (Usually due to positioning of child. Also seen with constipation.)

#### Conditions Mistaken for Abuse

22. Urethral prolapse\*
23. Lichen sclerosus et atrophicus\*
24. Vulvar ulcers (May be caused by many types of viral infections, including Epstein-Barr virus [EBV] and influenza, or by conditions such as Behcet's disease or Crohn's disease.)\*
25. Failure of midline fusion, also called perineal groove\*
26. Rectal prolapse (Often caused by infection, such as *Shigella* sp.)\*
27. Complete dilation of the internal and external anal sphincters, less than 2 centimeters in AP diameter, revealing the pectinate line\*
28. Partial dilation of the external anal sphincter, with the internal sphincter closed, causing the appearance of deep folds in the perianal skin that can be mistaken for signs of injury\*
29. Marked erythema, inflammation, and fissuring of the perianal or vulvar tissues due to infection with Group A beta hemolytic streptococci\*

#### **INDETERMINATE FINDINGS: INSUFFICIENT OR CONFLICTING DATA FROM RESEARCH STUDIES, OR NO EXPERT CONSENSUS**

(These physical and 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. Report to child protective services may be indicated in some cases.)

30. Deep notches or clefts in the posterior/inferior rim of hymen that extend through more than 50% of the width of the hymen
31. Deep notches or complete clefts in the hymen at the 3 o'clock or 9 o'clock location in adolescent girls
32. Marked, immediate anal dilation to an AP diameter of 2 cm or more, in the absence of other predisposing factors such as chronic constipation, sedation, anesthesia, and neuromuscular conditions
33. Genital or anal condyloma accuminata in child, in the absence of other indicators of abuse. Lesions appearing for the first time in a child older than 5–8 years may be more suspicious for sexual transmission.\*
34. Herpes Type 1 or 2 in the genital or anal area in a child with no other indicators of sexual abuse. Isolated genital lesions caused by HSV-2 in a child older than 4–5 years may be more suspicious for sexual transmission.\*

#### 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 a clear, timely, plausible description of accidental injury is provided by the child and/or caretaker. Photographs or video recordings of these findings should be reviewed by an expert in sexual abuse evaluation for a second opinion to assure accurate diagnosis.\*)

#### ACUTE TRAUMA TO EXTERNAL GENITAL/ANAL TISSUES

35. 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.)
36. Fresh laceration of the posterior fourchette, not involving the hymen (Must be differentiated from dehiscence of labial adhesion or failure of mid-line fusion; see #25. Posterior fourchette lacerations may also be caused by accidental injury or by consensual sexual intercourse in adolescents.)

#### RESIDUAL (HEALING) INJURIES

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

37. Perianal scar (May be due to other medical conditions such as Crohn's disease, accidental injuries, or previous medical procedures.)



38. Scar of posterior fourchette or fossa (Pale areas in the midline may also be due to linea vestibularis or labial adhesions.)

INJURIES INDICATIVE OF BLUNT FORCE PENETRATING TRAUMA (OR FROM ABDOMINAL/PELVIC COMPRESSION INJURY IF SUCH HISTORY IS GIVEN)

39. Extensive bruising on the hymen
40. Laceration (tear, partial or complete) of the hymen (acute)
41. Perianal lacerations extending deep to the external anal sphincter (Not to be confused with partial failure of midline fusion.)
42. Hymenal transection (healed): An area between 4 o'clock 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. This finding has also been referred to as a "complete cleft" in sexually active adolescents and young adult women.
43. 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 or methods.

PRESENCE OF INFECTION CONFIRMS MUCOSAL CONTACT WITH INFECTED AND INFECTIVE BODILY SECRETIONS; CONTACT MOST LIKELY TO HAVE BEEN SEXUAL IN NATURE

44. Positive confirmed culture for gonorrhea, from genital area, anus, or throat, in a child outside the neonatal period
45. Confirmed diagnosis of syphilis, if perinatal transmission is ruled out
46. Trichomonas vaginalis infection in a child older than 1 year of age, with organisms identified by culture or, in vaginal secretions, by wet mount examination
47. Positive culture from genital or anal tissues for chlamydia, if child is older than 3 years at time of diagnosis and if specimen was tested using cell culture or comparable method approved by the Centers for Disease Control
48. Positive serology for HIV if perinatal transmission, transmission from blood products, and needle contamination have been ruled out

DIAGNOSTIC OF SEXUAL CONTACT

49. Pregnancy
50. Sperm identified in specimens taken directly from a child's body

\*Changed from the version published in 2007. Adapted from Adams et al. (2007, pp. 163–172).

APPENDIX B  
Results of an Online Survey of 100 Members of the Ray E. Helfer  
Society, Spring 2009

Experience level:

a. Conduct more than 20 evaluations per month	32
b. Conduct 10 to 20 evaluations per month	35
c. Conduct less than 10 evaluations per month	25
d. Not currently clinically active	8

Supervise or review others cases?

a. No	13
b. Fewer than 10 cases per month	38
c. Review 10 to 20 cases per month	35
d. Review more than 20 cases per month	14

Familiar with the Approach to Interpretation Table published in 2007?

a. Yes	96
b. No or unsure	4

Should the table be updated based on research findings?

a. Yes	16
b. No	23
c. Possibly	36
d. Unsure	25

Agree with "indeterminate" for deep notch in posterior hymen, prepubertal girl?

a. Yes	53
b. No	40
c. Unsure	7

If you don't agree, how should it be interpreted?

a. I do agree	50
b. Should be considered more normal	3
c. Should be considered suspicious for trauma	32
d. Should be considered suggestive of trauma	11
e. Other	4

Agree with “indeterminate” for deep notch in posterior hymen, adolescent girl?

- a. Yes 66
- b. No 26
- c. Unsure 8

If you don't agree, how should it be interpreted?

- a. I do agree 65
- b. Should be considered more normal 8
- c. Should be considered suspicious for trauma 14
- d. Should be considered suggestive of trauma 8
- e. Other 5

How should condyloma accuminata in a child be interpreted?

- a. Indeterminate for sexual transmission, regardless of age of the child 20
- b. Indeterminate, less worrisome if < 2yrs old 33
- c. Indeterminate, more concerning if child older than 5–8 years 49
- d. Other 6

How should genital herpes simplex infection in a child be interpreted?

- a. Indeterminate for both HSV-1 and HSV-2 41
- b. Genital HSV-2 more suspicious for sexual transmission 18
- c. Both HSV-1 and HSV-2 more suspicious if child is outside age range where caretaker is performing genital hygiene on child 40
- d. Other 7