CONTINUING MEDICAL EDUCATION

Physical Examination in Child Sexual Abuse

Approaches and Current Evidence

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SUMMARY

Background: The worldwide prevalence of child sexual abuse is 12–13% (18% of girls, and just under 8% of boys). Many doctors are nevertheless unsure of the proper procedures to follow and the scientific basis of the physical findings that are associated with sexual abuse. This article is focused on the physical findings of abuse, rather than its emotional and psychiatric consequences.

Method: This article is based on a selective review of pertinent literature retrieved from various databases, including PubMed and the overall index of the Quarterly Update.

Results: The great majority of sexually abused children do not have any abnormal physical findings. The proper determination and documentation of physical findings and their interpretation based on current scientific knowledge are essential for the protection of abused children.

Conclusion: Sexually abused children can only receive proper medical care if the involved physicians have the requisite knowledge in the areas of child and adolescent gynecology and forensic medicine, are aware of the limited informative value of the physical findings, and are able to apply the pertinent recommendations, guidelines, and classifications that are currently in effect. Although physical examination is important, the diagnosis of child sexual abuse is generally based on the affected child's statements, which should be obtained according to the proper procedure. All physicians should know that the physical findings are normal in more than 90% of cases and understand why this is so. Physical examination can have the benefit of restoring the child's bodily self-image from a pathological to a normal state by confirming physical normality and integrity.

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“Child sexual abuse is more common than childhood cancer, juvenile diabetes, and congenital heart disease combined...” (1).

The combined data of 39 prevalence studies from 28 countries covering the years 1994–2007 reveal that 10–20% of girls and 5–10% of boys are victims of child sexual abuse. These figures accord with those of earlier studies (2, e1). In a meta-analysis of 323 studies from around the world, involving a total of 9.9 million affected children, the worldwide prevalence was found to be 12.7% (18.0% for girls, 7.6% for boys) (3). In the USA, where the reporting of child abuse is mandatory, 60 000 to 80 000 confirmed cases are reported annually, with a downward trend (4). The available data from Germany are sparse, and it is assumed that many cases go unreported; reliable data on the frequency of subtypes of sexual abuse are sparse as well. The literature documents a lifelong association between sexual victimization in childhood and adolescence and chronic mental and physical illness in adulthood (e2). Only in recent years has the medical profession's involvement in this area resulted in evidence-based research and consensus-based determination of best clinical practice (5, e3–e6), with increasing acceptance in Germany as in other countries (6, 7, e7, e8). This is also true of the psychiatric and psychosomatic aspects of child sexual abuse (e9).

The learning objectives of this article are:

- a greater appreciation of the value of medical diagnosis and of the obligatory multiprofessional approach to child sexual abuse, which comprises the requisite provision of comprehensive medical care to the affected child;
- an understanding of the utility of the physical examination and its potential benefit for the

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Prevalence

A meta-analysis of 323 studies from around the world, involving a total of 9.9 million affected children, revealed an overall prevalence of 12.7% (18.0% for girls, 7.6% for boys). Hardly any data from Germany are available.

affected child, even though positive findings that definitively indicate diagnosis are rare;

- an improved ability to assess medical findings in the light of their varying informativeness and the limitations of the evidence that they provide.

Definition

Child sexual abuse is the involvement of children and adolescents in sexual activities that they cannot fully comprehend and to which they cannot consent as a fully equal, self-determining participant, because of their early stage of development. Social taboos are violated, and the offending adults exploit the difference of age and power through verbal persuasion and/or physical compulsion. The intent, on the part of adults, to use children for their own sexual stimulation and satisfaction is the central feature of child sexual abuse. The spectrum ranges from noninvasive activities that do not involve any touching of the child (hands-off contacts) all the way to rape. Sexual abuse is usually a chronic, complex, and often markedly traumatizing occurrence for the victim, frequently perpetrated by family members or other trusted persons in the setting of relationship dependence and strong authority relationships (e10). The abuse is frightening and deeply emotionally disturbing for the victim and brings about a fundamental disturbance of sexual development. It can give rise to profound feelings of guilt and shame, as well as low self-esteem and familial and social isolation (e11). It has a marked, albeit variable, effect on the victim's mental, emotional, and physical health (5, e7).

Dealing with suspected sexual abuse

Dealing with children who may be victims of sexual abuse requires time, training, and commitment. The physician must be sympathetic but must also proceed in a rational, scientifically well-founded manner ("cool science for a hot topic"). A basic requirement is, of course, that the problem of potential child abuse must be recognized as such: this demands attentiveness on the physician's part as well as a familiarity with the relevant historical, physical, and mental clues to abuse. Even though more than 90% of abused children have no abnormal findings on physical examination (8, 9), the forensic diagnostic aspect of the examination must not be neglected, because the absence of positive findings can also be forensically relevant. In most cases, the diagnosis is based on the statements of the child, obtained

BOX 1

Normal variants of genital anatomy in girls

- Variants in the configuration of the hymen: hymen altus, septated hymen, microperforate hymen
- Anterior or superior notch of the hymenal edge
- External hymenal ridges
- Longitudinally coursing intravaginal mucosal folds ("longitudinal ridges" (Figure 2))
- Bumps or mounds on the hymenal edge
- Polyp-like hymenal tags
- Periurethral and vestibular bands
- Erythema of the vestibule
- Congenital pigmentation
- Urethral dilatation on labial traction (Figure 2)
- The so-called linea vestibularis, an avascular bright line in the midline of the fossa navicularis

through sympathetic and non-suggestive questioning by a physician or other forensic expert who is qualified to do this. Although many types of mental disturbance and behavioral anomaly can be consequences of sexual abuse, a single such abnormality or even multiple ones in combination cannot reliably establish the diagnosis. Nonetheless, the proper determination, documentation, and interpretation of the findings on the basis of the current recommendations, guidelines, and classifications can have major implications for the protection of the victims. The evaluating physician must have the requisite knowledge in the area of child and adolescent gynecology; moreover, the involvement of persons from multiple professions is essential—the relevant medical specialties, the governmental child-protection authorities, and other groups (5, 10, 11, e8, e12). The treatment of the medical consequences of abuse (injuries, infections) and the prevention of sexually transmitted disease and pregnancy are further medical aspects. The confirmation of bodily normality, integrity, and health by the physician, in his or her role as an expert on the human body, can serve as a

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Recognizing the problem

Although many types of mental disturbance and behavioral anomaly can be consequences of sexual abuse, a single such abnormality or even multiple ones in combination cannot reliably establish the diagnosis.

BOX 2

Normal perianal findings that do not constitute evidence of sexual abuse

- Erythema
- Increased pigmentation
- Venous engorgement (which may be circular)
- Polyp-like tags
- Smooth, wedge-shaped areas in the midline ("diastasis ani") caused by variant crossing of the underlying sphincter muscle fibers

primary therapeutic goal of the examination, with the aim of correcting the pathological body image from which many victims suffer. This, in turn, can set the stage for the victim's ongoing coping with the psychological trauma of abuse, often aided by psychotherapy. Thus, it is important that the physical examination should be considered as the provision of all-around medical care to a patient in need, and not merely as an information-gathering assignment.

Medical history

The general and pediatric-gynecological history should cover all relevant aspects of the patient's physical, emotional, and social condition. Although it is usually not necessary to inquire (again) about all details of the abuse while examining the patient, a knowledge of what happened is important so that the physical findings can be properly assessed. If possible, the facts should first be obtained from another informant. Sometimes, the trusting nature of the doctor-patient relationship enables the child to divulge something that would otherwise be held back: "I can tell you, because you are a doctor" (8, 12, e13). Thus, separate history-taking from the child is advisable. One may begin by asking the child whether she or he knows why the examination is being performed, or whether there is anything the child is worried or unhappy about. The history should be taken in calm surroundings, and the examiner's attitude should be friendly, open, accepting, and non-judgmental. The questions should be simple

and neither leading nor suggestive; the answers should be documented verbatim, if possible. The child's emotional reaction to the history and physical examination will be determined partly by the quality of these procedures themselves and by the empathy shown by the examiner, and largely by pre-existing factors such as general anxiety, previous experiences with doctors, age, developmental stage, and the type of abuse that was suffered. In general, children tolerate the examination well as long as it is gently conducted, rather than forcibly imposed (13). History-taking and the verbal preparation of the child for physical examination take much more time than the physical examination itself, which usually requires no more than a few minutes. 30–45 minutes will be needed overall.

Physical examination

The physical examination should only be performed after thorough explanation and with the child's permission. Its main purpose is the assessment of the anogenital area. Because the tissues in this area are capable of rapid and usually complete regeneration, physical injuries caused by abuse become less evident over time; this accounts for the rarity of positive findings. The time elapsed between the abusive event and the physical examination is an important piece of the history. The examination is often delayed, and, therefore, most of the injuries that are initially present have healed by the time the patient is seen. Children who may have been abused should be examined by a physician at once for forensic reasons so that biological evidence (sperm) of recent abuse can be successfully secured (abuse within the past 24 hours if before puberty, within the past 72 hours in pubertal girls), and for medical reasons if there is any bleeding (e14). If the abuse is already several days old, the child should be seen by a physician soon, but not as an emergency. Sedation or general anesthesia is only indicated if there is acute bleeding; otherwise, the child should not be deprived of the opportunity to cope actively with the situation and to receive an emotionally beneficial confirmation of bodily integrity. Instrument-assisted vaginal examination is not indicated in prepubertal girls; though possible for adolescent girls, it is usually not indicated merely because abuse is suspected. Anal or vaginal palpation is contraindicated. Physical examination of the entire body is obligatory so that a psychologically excessive focusing on the anogenital region can be

History

The general and pediatric-gynecological history should cover all relevant aspects of the patient's physical, emotional, and social condition.

Physical examination

The main reasons for the rarity of positive findings are the frequently long temporal interval between the abuse and the physical examination and the fact that abuse often does not cause any injury.

avoided and, not least, so that extragenital injuries will not be overlooked (8, 14, 15).

In essence, the physical examination in cases of suspected sexual abuse consists of inspection of the anogenital region through a variety of examining methods and techniques while the child is suitably positioned: supine, in the knee-chest position, and in the lateral decubitus position (5, 10, e6, e15). A combination of three standard techniques—labial separation, labial traction, and knee-chest position—increases the yield of positive findings and is also required by the current Adams classification for a finding to be designated as definitive evidence of abuse (11, 16) (*Figure 1*). All injuries should be meticulously documented (17). The use of a colposcope is now standard, as it combines the advantages of excellent lighting, magnification, and high-quality documentation. This also aids in the checking of definitive findings and their confirmation by a second examiner (as currently required) and obviates the need for further, repetitive follow-up examinations, which may be emotionally traumatizing (8, 10, 11, 14–16, 18, e16).

Anogenital findings

Normal findings

The appearance of the external genitalia, and of the hymen in particular, depends on age and on constitutional and hormonal factors and varies across the different phases of life. In the neonatal and early postnatal period, the hymen is bright pink and bulging, because of the effect of estrogen; as this effect declines, the hymen changes from an annular to a characteristic semilunar (half-moon) configuration in the hormonal resting phase (*Figure 2*), which it retains until evidence of estrogenization reappears as the first sign of puberty. The normal anatomical variants of the genital region (in girls) and the perianal region are listed in *Box 1* and *Box 2* and correspond to class 1 findings in the Adams classification (*Box 3*) (11).

Many findings that were once misinterpreted as evidence of abuse are now considered normal findings and variants. In particular, the width of the hymenal opening is of no informative value whatsoever. Tampons can widen the hymenal opening, but do not cause injury. Gymnastics, running, jumping, stretching, and “splits” do not injure the hymen; nor does masturbation (e6, e11, e17–e24).

Normal findings despite penetration

The medically documented fact that penetrating abuse may not be associated with any subsequently abnormal physical findings must be known and understood by the

BOX 3

Simplified version of the Adams classification*

- Adams I: normal findings or findings with a medical explanation other than abuse
- Adams II: findings of unclear significance that arouse the suspicion of sexual abuse
- Adams III: findings of injury that establish the diagnosis of sexual abuse

*from: Herrmann B: Übersetzte und kommentierte Adams-Klassifikation 2008–11. Info KIM 2014; 4: 2–4 (e26).

treating personnel and the government authorities (police, prosecutors), so that the credibility of the victims will not be unjustly put in doubt. The technical term “virgo intacta” falsely suggests to non-physicians (particularly lawyers) the notion of “intact virginity,” above and beyond the mere anatomical finding. The highly questionable utility of this term in the context of potential sexual abuse is highlighted by a study in which only 2 (6%) of 36 pregnant teenagers manifested clear evidence of a prior penetration injury, and only 4 (11%) had suspicious, though not definitive, findings: “‘Normal’ does not mean ‘nothing happened’” (19). Normal findings are the rule, not the exception, in victims of child sexual abuse, with or without penetration, whether chronic or acute. Thus, the use of the term “virgo intacta” in the context of sexual abuse is obsolete (9, 20–22).

Anogenital findings in abused children

The anogenital findings in child sexual abuse are highly variable and depend on the type and frequency of the abuse. They are influenced by the objects used (if any), the degree of force that was applied, the age of the victim, and the intensity of self-defense (e25). The only factors that are significantly correlated with the diagnosis of findings associated with child abuse are

- reported pain
- vaginal bleeding
- elapsed time since the last traumatic event (1).

The classification of findings is helpful for their assessment, understanding, and interpretation. The three-level

Normal anogenital findings

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Factors that are significantly correlated with findings associated with abuse

- Reported pain,
- Vaginal bleeding,
- Elapsed time since the last traumatic event

Figure 1:

Physical examination: a) supine position, b) knee-chest position, c) lateral decubitus position, d) labial traction, e) labial separation (reprinted from Herrmann et al. 2010 with the kind permission of Springer Verlag) (5)

Adams classification has met with widespread acceptance and is now the main guideline for the assessment of anogenital findings in the context of suspected child abuse. In the past decade, this classification has been consensus-based and continually updated and further developed, most recently in 2011 (*Box 3*) (11, e26).

Findings of genital injury in sexually abused girls

The spectrum of findings ranges from nonspecific erythema and abrasions to severe penetrating injury. Most findings that are due to abuse are found in the posterior area of the hymen and introitus. Interruption of the peripheral edge of the hymen between the 3 and 9 o'clock positions with the patient in the supine position is caused by (penile or other) penetration and can often be seen most clearly in the knee-chest position. As a consequence of such trauma, a V-shaped notch (*Figure 3*) or cleft appears, which, in its further course, can assume the shape of

a U and is then called a "concavity." Hymenal tears, even in the prepubertal hymen, can heal fully (23, 24).

Findings of genital injury in sexually abused boys

Findings of genital injury are rare in sexually abused girls (5–10% [1, 22]) and even rarer in sexually abused boys (ca. 1–3%). In boys, they take the form of fissures, abrasions (epidermal or cuticular detachment) of the penile shaft or glans penis, tears of the frenulum of the glans penis, petechiae, or marks due to biting or sucking (25, e27, e28).

Injuries of the anal region due to sexual abuse

Acute and massive injuries of the anal region, such as deep perianal tears and hematomas, are immediately evident consequences of acute anal penetration. Internal injuries can be diagnosed by anoscopy, which can also serve for the securing of biological

Findings of genital injury in sexually abused girls

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Findings of genital injury in sexually abused boys

The injuries that are found include fissures, abrasions of the penile shaft or glans penis, tears of the frenulum of the glans penis, petechiae, or marks due to biting or sucking.

evidence. The significance of chronic changes in the anal region is controversial, particularly the finding called “reflex anal dilatation,” which constitutes potential (but not definitive) evidence of abuse only if the anal opening widens to more than 2 cm in the absence of stool in the ampulla. Anal fissures may be, but are not necessarily, due to anal penetration. Though often ascribed to constipation, they are not commonly found in constipated individuals (11, 26, 27).

Definitive findings

Pregnancy, Adams class III findings, and the demonstration of the abuser’s DNA (see “The securing of evidence,” below) are considered definitive evidence that sexual intercourse has taken place (11).

Problems of scientific method regarding the evidence for child sexual abuse

A basic problem that besets evidence in the area of medical child protection is the lack of a gold standard. The information obtained from the child can be assessed psychologically for its plausibility and credibility, but a definitive test of its veracity is generally not possible.

As a result, child sexual abuse is often diagnosed on the basis of:

- information obtained from the child,
- previously specified criteria,
- and assessment by a multiprofessional child-protection team.

Among other risks, this process is vulnerable to contamination by circular reasoning: a diagnosis made on the basis of currently accepted criteria leads to a judicial finding that abuse has taken place, which, in turn, is taken to imply that the diagnosis is correct and that the diagnostic criteria that led to it are valid (20). A further methodological difficulty arises from the need to correlate the child’s subjective perceptions (e.g., “He stuck a knife in there”) with the actual course of events, and to match the history with the physical findings. There are no available studies to tell us in which developmental stage children become able to distinguish, e.g., the concepts of “there” and “in there.”

In view of the obvious ethical impossibility of randomized trials, the assessment of medical findings in suspected child abuse can only be based on so-called lower-level evidence from case-control

studies, cohort studies, and case series. High-level evidence, according to the classic criteria, remains unavailable. It is a misunderstanding, however, to suppose that evidence-based medicine (EBM) is uniquely based on randomized, controlled trials. When justly considered, EBM simply means the conscious, explicit, and well-thought-out use of the best available evidence as an aid to decision-making in the care of the individual patient. As long as its limitations are kept in mind, EBM can indeed be applied to the diagnosis of sexual abuse (28, 29). A number of current publications on this topic address the fundamental considerations and contain a critical overview of the present state of the evidence (15, 30, 31, e12).

The state of the evidence regarding the sexual abuse of children and adolescents

In a review of the literature on evidence-based research up to 2008, Pillai discussed 10 studies of normal anogenital anatomy (including a total of just under 1000 children), 6 case-control studies comparing abused and non-abused children, and 6 studies on the course of healing (30). The evidence was considered to be limited; the data originated nearly exclusively in the USA. The main conclusions of the review were as follows:

- A large majority of child and adolescent victims of sexual abuse have no positive physical findings.
- A peripheral posterior margin measuring at least 1 mm is nearly always present except for single cases of abused girls, but its evaluation is methodologically problematic.
- Genital measurements are generally unsuitable for determining whether abuse has occurred.
- Genital injuries usually heal rapidly and completely, including superficial and intermediate-grade hymenal tears. Complete hymenal tears, in contrast, usually persist.
- Scarring was never seen after hymenal injury.

Berkoff et al., in their systematic review of the literature on sexual abuse of prepubertal girls, published in 2008, found only 11 articles that were suitable for inclusion (31). Their conclusions were as follows:

- The anogenital findings, taken in isolation, are generally too imprecise and unreliable to permit a definitive conclusion that sexual abuse has taken place.

Methodological problems of evidence

The information obtained from the child can be assessed psychologically for its plausibility and credibility, but a definitive test of its veracity is generally not possible.

The state of the scientific evidence

The assessment of medical findings in suspected child abuse is based on so-called lower-level evidence from case-control studies, cohort studies, and case series.

Figure 2:

Normal finding – a semilunar hymen with intravaginally visible longitudinal ridges and mild periurethral dilatation.

- Deep or complete interruption of the hymenal edge between the 4 and 8 o'clock positions strongly suggests sexual abuse.

Heppenstall-Heger et al. (2003) prospectively studied 94 cases of sexual abuse of girls involving penetration over a period of 10 years and found hymenal injuries in 37 cases (32). 15 complete hymenal tears were still demonstrable on follow-up examination. In contrast, partial tears, hematomas, and abrasions healed fully, without exception. Anal injuries healed fully in 29 of 31 cases; scarring was seen in only 2 cases. In a case-control study by Benson et al. (2000), involving 192 3- to 8-year-old

sexually abused girls and a carefully selected control group, only minor differences in the anogenital findings were seen; 5% had suggestive evidence of abuse, and 2.5% had definitive evidence of abuse (33). The types of definitive evidence include deep or complete posterior notching of the hymen, perforations, acute tears of the vulva, and ecchymoses. Superficial hymenal notching was seen in both groups (34).

The largest multicenter study to date is that of McCann et al. (2007), with two relevant publications concerning hymenal and extrahymenal findings of acute anogenital injury, in a total of 239 cases (23, 24). The study group consisted of 113 prepubertal and 126 adolescent girls. With the exception of deep, complete hymenal tears, all injuries healed completely:

- abrasions and small hematomas in 3–4 days,
- petechiae in 48 hours (prepubertal) and 72 hours (pubertal),
- larger hematomas in 11–15 days,
- bullous raised lesions on the skin with blood-tinged contents were seen for up to 34 days,
- many hymenal tears (superficial and deep) healed without any further consequences (prepubertal 15/18, pubertal 30/34), and scarring was not seen in any case.

Sexually transmitted diseases

Sexually transmitted diseases are rare (1–4%), but they are, in some cases, the only medical evidence of sexual abuse. Screening is generally not indicated in the absence of a vaginal discharge, specific lesions, or a history of mucosal contact (34). The demonstration of HIV, syphilis, or gonorrhea is considered definitive evidence of sexual contact if perinatal infection or, in case of HIV, acquisition from a blood transfusion can be ruled out (8, 11, 14, e29–e32). Anogenital warts (condylomata acuminata), though not in themselves evidence of sexual abuse, should prompt a search for associated findings and for concomitant sexually transmitted disease. Lesions after the age of 6 to 8 years may be more highly suspect (e33, e34). The demonstration of trichomonas should also arouse suspicion of sexual abuse.

Differential diagnosis

Accidental anogenital injury is among the more common differential diagnoses (35, e35). Typical hallmarks of accidental injury are listed in Box 4.

Figure 3:

Complete notching at 6 o'clock (arrow) – an Adams class III finding (reprinted from Herrmann et al. 2010 with the kind permission of Springer Verlag)

Key conclusions from the scientific evidence

- Genital measurements are generally unsuitable for determining whether abuse has occurred.
- Many hymenal tears heal completely without scarring.

Sexually transmitted diseases

The demonstration of HIV, syphilis, or gonorrhea is considered definitive evidence of sexual contact if perinatal infection or acquisition from a blood transfusion can be ruled out

Further differential diagnoses include various dermatologic diseases and infections, e.g., with group A β -hemolytic streptococcus. Irritation (and potential misdiagnosis) can also be caused by an anogenital lichen sclerosus et atrophicus (e36); this entity causes skin atrophy and sometimes marked subcutaneous hematoma formation in the genital area (Figure 4). Vaginal bleeding is most commonly due to infection (in about 70% of cases), with less common causes including foreign bodies, hemangioma, and precocious puberty. Sarcoma botryoides can only be ruled out by vaginoscopy. The major differential diagnoses of anal abuse include fissures that may, occasionally, arise in chronic constipation or Crohn's disease, rectal prolapse, or proctitis due to CMV infection (35).

The securing of evidence

The forensic demonstration of the abuser's DNA is possible only in exceptional cases, because, typically, days to weeks elapse between the last abuse and the physical examination. If the victim comes to medical attention right after the event, the chance of demonstrating the abuser's DNA is much higher (a specimen is taken on a dry cotton swab which is left to dry in the air, or else it is smeared onto another carrier surface and then left to dry). DNA traces are rarely found in prepubertal victims, and only in exceptional cases more than 24 hours after the event; more forensic attention should be directed to the victim's clothing and bedclothes (35–37, e34–36).

If the securing of evidence is indicated after an acute event, it should be recalled that multiple studies have not shown any correlation between the

Figure 4: Lichen sclerosus et atrophicus with perivaginal and perianal lightening of the skin ("hourglass" appearance) and cutaneous hematoma formation

demonstration of the abuser's DNA on the one hand, and the victim's description of the abuse or the detection of injuries by physical examination on the other (e37–e39). Specimens to be used as legal evidence should be taken by an experienced physician as part of the physical examination. The swab should be unequivocally labeled, as directed by the forensic authorities, and it should be sealed and stored in a dry place. The German Society of Legal Medicine (*Deutsche Gesellschaft für Rechtsmedizin*) has published recommendations for what should be done in cases where child sexual abuse is suspected (38).

BOX 4

Accidental anogenital injuries

- These are typically anterior, exterior, unilateral, usually mild, and generally superficial injuries of the external genitalia, most commonly the labia majora, labia minora, and clitoris (usually bruises with hematoma, more rarely cutaneous tears, very rarely deep, penetrating injury)
- Invasive and penetrating injuries are rare
- The history of accidental causation is usually given spontaneously by the patient and is acute, dramatic, and consistent
- Medical attention is usually rapidly sought

Securing evidence for forensic purposes

The forensic demonstration of the abuser's DNA is possible only in exceptional cases, because, typically, days to weeks elapse between the last abuse and the physical examination.

The legal framework in Germany

The provisions of § 34 StGB ("justifying emergency") and the new Child Protection Act (empowerment to release information) enable physicians to breach patient confidentiality (§ 203 StGB) to protect victims of abuse, after careful consideration.

BOX 5

Summary of the stepwise procedure to be followed if child abuse is suspected, according to the German Federal Child-Protection Act (BKISchG)

- First step (§ 4 Abs. 1 BKISchG): Discussion of the situation with the affected child or adolescent and his/her parent or guardian, and obtaining of any help necessary to ensure the protection of the child.
- Second step (§ 4 Abs. 2 BKISchG): Persons dealing with cases of child abuse may request consultation from an expert with experience in such cases in order to assess the danger to the child. It is permitted for them to report all of the information that is necessary for this purpose to the Youth Welfare Office in pseudonymized fashion.
- Third step (§ 4 Abs. 3 BKISchG): The reporting of information including the name of the child to the Youth Welfare Office is permitted if the first and second steps described above do not eliminate the danger to the child and the intervention of the Youth Welfare Office is necessary for this purpose. The involved persons should be informed of this step in advance, unless doing so would compromise the efficacy of child protection.

The legal framework of medical intervention

According to German law, the confidentiality of the physician-patient relationship is a binding duty in the case of treatment of a sexually abused child (§ 203 StGB), and it can only be abrogated if there is a legally recognized justification for doing so. If the consent of a parent or legal guardian cannot be obtained as such a justification, then a legal empowerment to release information may need to be obtained, e.g., under the provision of a so-called justifying emergency (*rechtfertigender Notstand*) according to § 34 StGB. The new Federal Child-Protection Act (*Bundeskinderschutzgesetz*, BKISchG), which went into effect on 1 January 2012, basically allows the release of information to the Youth Welfare Office (*Jugendamt*) as long as the prescribed stepwise procedure is followed (§ 4, see Box 5).

Thus, the new BKISchG has made it permissible, though by no means obligatory, to report suspected child abuse, without abrogating the physician's duty of confidentiality. Further help can be obtained from the guidelines of the Federal Ministry of Justice concerning the activation of the criminal prosecution authorities in the pursuit of sex crimes (39).

Conclusions

The suspicion of child sexual abuse calls for a time-consuming diagnostic evaluation that is performed with all due care and with the requisite medical ex-

pertise. The physician carrying out this evaluation should be experienced both in child and adolescent gynecology and in forensic medicine. If biological evidence needs to be secured, advice should be sought from the responsible forensic medical authorities. The examiner should know the current state of the evidence regarding the medical findings of child sexual abuse as well as their current classification. Such examinations reveal only normal findings in 90–95% of cases and therefore only exceptionally lead to a definitive diagnosis or legal determination. The diagnosis of sexual abuse is usually based on a statement from the child, obtained in the correct way through sympathetic but not suggestive questioning.

Leading questions should be avoided, and the patient's answers should be documented verbatim, by persons trained in the psychology of legal testimony whenever possible. The physical examination can have a beneficial therapeutic effect by confirming the bodily integrity and normality of the child, as long as it is carried out without any compulsion or pressure. In some cases, preventive measures may need to be taken against sexually transmitted disease or pregnancy. The German Federal Child-Protection Act specifies the circumstances in which the physician can breach the child's confidentiality to give important information to the Youth Welfare Office.

The German Federal Child-Protection Act

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Conclusion

The examining physician in cases of suspected child sexual abuse should be experienced both in child and adolescent gynecology and in forensic medicine.

Conflict of interest statement

Dr. Herrmann, Dr. Banaschak, and Prof. Dettmeyer receive royalties from Springer Verlag for their textbook "Kindesmisshandlung" (Child Abuse). PD Dr. Csorba and Dr. Navratil state that they have no conflict of interest.

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Question 1

What is the worldwide prevalence of sexual abuse of children (boys and girls combined), according to a recent meta-analysis?

- a) 6–7%; b) 8–9%; c) 10–11%; d) 12–13%; e) 14–15%

Question 2

Which of the following findings is a sign of anogenital injury in a sexually abused girl?

- a) A polyp-like hymenal tag
- b) A complete, V-shaped notch in the peripheral edge of the hymen
- c) Bumps on the hymenal edge
- d) Congenital pigmentation
- e) External hymenal ridges

Question 3

Which of the following is an obligatory component of the physical examination of a child who may have been sexually abused?

- a) Instrument-assisted vaginal examination of a prepubertal girl
- b) Anal palpation
- c) Physical examination of the entire body
- d) Vaginal palpation
- e) Prior sedation

Question 4

Which of the following factors is significantly correlated with the diagnosis of findings associated with abuse?

- a) The child's complaint of pain
- b) The diameter of the hymenal opening
- c) Urinary disturbances
- d) Acute candidiasis of the genital area
- e) A toddler's description of the event

Question 5

According to the current classification of Adams, what procedure must be followed in the physical examination in cases of suspected sexual abuse if the pathological findings are to be classified as definitive?

- a) A combination of three standard techniques—labial separation, labial traction, and knee-chest position
- b) Repeated examinations with a speculum for confirmation of findings
- c) Photographic documentation of the size of the hymenal opening
- d) Screening for, and demonstration of, bacterial infections
- e) The detection of sperm 104 hours after the event

Question 6

What is the best way for the examiner to proceed and to establish communication with the patient when a three-year old child is undergoing examination for suspected sexual abuse?

- a) The child should be allowed to determine the course of the examination to the fullest possible extent.
- b) Anything the child says about the abuse during the examination should be mentioned with commentary in the examiner's notes.
- c) Suggestive questioning is needed in order to bring out the facts.
- d) The child should be told very clearly before the examination begins that he or she must tell the truth at all times.
- e) The history should optimally be taken in a one-on-one conversation with the child, with no other persons present.

Question 7

What communicable disease constitutes evidence of sexual abuse, once its acquisition by perinatal infection or blood transfusion has been ruled out?

- a) Hepatitis A
- b) Gonorrhea
- c) Herpes zoster
- d) Varicella-zoster
- e) Rubella

Question 8

Sexually abused boys can have positive physical findings in rare cases. Which of the following is most likely to constitute evidence of sexual abuse?

- a) Partial thrombosis of a corpus spongiosum
- b) Scrotal hematoma
- c) Lichen sclerosus
- d) Skin abrasions
- e) Phimosis

Question 9

Which of the following findings is most suggestive of anal sexual abuse of a child or adolescent and is most consistent with this diagnosis?

- a) A circular perianal hematoma
- b) One or more fissures coursing radially toward the internal anal ring
- c) Anal dilatation to a diameter greater than 2 cm without visible stool in the ampulla
- d) CMV proctitis
- e) Nonspecific complaints regarding defecation

Question 10

According to the Federal Child-Protection Act (BKisSchG) that is now in effect in Germany, suspected child abuse or child sexual abuse may be reported to the Youth Welfare Office. What must the treating physician keep in mind when doing so?

- a) The reporting of child abuse in general is permitted but optional, while the reporting of sexual abuse is mandatory.
- b) The law states that the physician has a duty to report only the sexual abuse of a child, i.e., up to the victim's 14th birthday.
- c) The law allows the reporting of information including the victim's name to the Youth Welfare Office under certain conditions, but there is no duty to report.
- d) A physician suspecting child abuse can fulfill his or her duty to report by giving pseudonymized information about the victim to the Youth Welfare Office.
- e) If the suspicion of child sexual abuse has been communicated to the Youth Welfare Office along with the victim's personal data, this information can only be passed on to the police with the explicit permission of the treating physicians.

CONTINUING MEDICAL EDUCATION

Physical Examination in Child Sexual Abuse

Approaches and current evidence

Bernd Herrmann, Sibylle Banaschak, Roland Csorba, Francesca Navratil, Reinhard Dettmeyer

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