Physical forensic signs of sexual torture in children

A guideline for non specialized medical examiners

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Abstract

Proper forensic documentation of sexual torture in children is crucial. Informed consent for examination and documentation must be sought from the child/accompanying person and the examination conducted in a sensitive and respectful manner. Time should be given to the child to relate the history of torture and the examiner should start with open ended questions. The history of torture should be recorded verbatim as much as possible.

The words used to describe the anatomy and the forensic findings have to be precisely defined.

The child should be examined from head to toe and should be left partially clothed.

Penile, digital or object penetration of the vagina does not always lead to injuries even if the child is seen very soon after the abuse. Genital injuries heal rapidly and can leave no scars.

Penile, digital or object penetration of the anus does not always lead to injuries even if the child is seen very soon after the abuse.

Sexual torture cannot be disproved by the absence of injuries or scars.

Keywords: sexual torture, forensic examination, children, hymen injuries, anal injuries

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Primum non nocere: first do not harm. The principle of avoiding to do harm (non maleficence) is one of the principal precepts of medicine. It is better to do nothing than to do something that risks causing more harm than good. Physical forensic examination of sexually tortured children should be conducted with extreme care by experienced health care professionals in order to avoid retraumatization of the child. However, medical personnel not specialized in forensic medicine could, due to their work, be expected to carry on examinations on sexually abused and tortured children. This article is intended to be a guideline to carry out examinations in this situation

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Torture, in the context of human rights law, is the deliberate infliction of physical or psychological pain in custody or under the control of a state agent, or by a non state agent acting in an organized group (such as a rebel group), including organized violence which the state is either unwilling or unable to control.[1] Torture is used to discourage dissent and to demonstrate power. This is particularly true of sexual torture. The purpose of sexual torture is to humiliate the victim and intimidate others. Sexual torture encompasses any unwanted sexual activity as

well as deliberate infliction of physical pain to the genitals. Sexual tactics used by female interrogators towards male detainees have been described also as sexual torture, for example in Guantanamo,[2] as well as the severe sexual humiliations of detainees in places like Abu Graib.[3]

Despite all the complications children face before coming forward with complaints, many reports of sexual torture, from countries all over the world, have reached the international community in the past decade. Unfortunately, the children were able to prove their case in only a few instances.[4]

The knowledge of what physical signs can be expected in child victims of sexual assault and proper forensic documentation are crucial. Even if physical signs of sexual torture are rare in children and adults, it is essential to be able to document them properly.

In this article a child will be defined as "every human being below the age of 18 unless under the law applicable to the child, majority is attained earlier" according to the Convention on the Rights of the Child.[5]

It is essential that the examination is carried out in a sensitive way. The process should be carefully planned, conducted by someone with expertise and directed at healing.[6]

Respect/confidentiality/consent

The child and the person accompanying the child (if there is any) must be treated at all times with empathy. The examiner should keep in mind that the examination might be felt as extremely embarrassing and should do his best to put the child and the accompanying person at ease. If an interpreter is necessary, it should ideally be an authorized interpreter who is conscious that this kind of examination is very difficult and sensitive. In any case, the interpreter should be briefed before the examination to make sure he/she understands the situation and his/her role. Take into account the fact that the interpreter and the victim could have different cultural attitudes towards sexuality and sexual abuse than yours. The examination shouldn't be done in a rush and should be conducted in a place where no one can enter without the permission of the examiner.

The examiner should express himself/herself in a language understandable by lay people and when addressing the child should do so in a language appropriate to the age of the child.

The utmost respect should be demonstrated to the child and accompanying person, which means also that the decisions of the child and/or accompanying person should be respected. The child should never be forced to undergo an examination.

The forensic examiner must first introduce himself or herself and explain clearly what is the purpose of the examination, and what could be the possible advantages and the possible disadvantages of the examination. The issue of confidentiality should also be explained clearly. As a forensic examination is part of an investigation or might contribute later on to a court case, it is important that the accompanying person and the child (depending on its age) are informed of what use might be made of the notes, or of the eventual body diagrams or photographs taken during the examination.

It is essential that the child (depending on his age) and /or the accompanying person give his/her informed consent to the examination.

Valid consent is a consent that is freely given, without fear, duress, or fraud and is appropriately informed. The child/accompanying person needs to be competent to receive information about the examination and

able to weigh that information and come to a rational decision.

Note that acquiescence in circumstances where the person does not know what the intervention entails is not the same as consent.[7]

Taking the history

Interview of children about sexual assault is a task for highly specialized professionals and is usually videotaped in developed countries.

A history from the child should be taken through free recall without prompts or direct questions and with a non judgmental approach.[8] Time must be given to the child to express what has happened to him/her. Remember that children might not know their body well, especially the genitalia. Most prepubertal children don't know or have no clear idea about what is a sexual act; they can for instance mistake touching or attempted penetration with penetration. Younger children often describe ejaculate as pee. It can be very difficult for a child to describe exactly what happened. Sexually inexperienced teenagers might also be unsure if penetration happened.

Children can feel guilty or ashamed about the abuse, it is important that the examiner stresses that other children too have difficulties to talk about what happened to them.

It is important to remember that if the child is questioned repeatedly the examination's validity deteriorates.

Important points for interviewing children.

- Interview the child alone (if age permits) in a safe environment, comfortable for the child.
- Establish rapport with the child (ask name, age, name of siblings …).
- Show a diagram to the child and ask to identify body parts: hair, eyes, nose, private parts, anus …
- Use the words used by the child for the body parts (for example penis can be named as "pee pee" by a child).
- Start with open ended questions: did something happen to you?
- Avoid questions that contain the answer in the question.
- Avoid questions that can be answered by yes or no.
- Use more focused questions if needed: did someone touch your private parts?
- Where were you?
- Who did it?
- Did the assailant say anything?
- How did you feel? (it is important to record also the emotional feeling of the child, for instance: "dirty, ashamed …")
- How did your private parts feel? (it is important to know about bleeding, soreness …).
- How did it feel after: ask about dysuria, constipation, possible signs of sexually transmitted infections (ulcers, warts, discharge ...).
- Depending on assault: ask about the penis of the assailant: where did it go? Anything came out of it? Who cleaned it up? With what? How was the taste of the semen?
- How many times did it happen? Was it always the same assailant? Was a condom used, any lubricant (saliva, cream, gel …)? Was an object used?
- Any witness?
- What were you wearing?

Make sure that the child understands each question and can give consistent answers to similar questions posed in different ways.

Obtain menstrual history, obstetric history. For older children ask if they are sexually active, if they use tampons.[9]

Document thoroughly the history, verbatim (i.e. in precisely the same words than the speaker) as much as possible.

If another child or other children are involved, interview them *separately.*

Examination

The child should be examined from head to toe progressively. Ask the child or the accompanying person (depending on the age of the child) to undress the upper body, then once the upper body has been examined, the child can put its top back on and the examination can proceed with the lower body.

It is important to reassure the child and tell him/her that part of the examination is to make sure that he/she is alright "down below".

Record the stage of development of the child using the Tanner scale (a stage of puberty based on the growth of pubic hair in both sexes, the development of the genitalia in boys, and the development of the breasts in girls).

All injuries (recent or old) should be clearly recorded on a body diagram, and described by their localization, symmetry, shape, size, color and surface (e.g. scaly, crusty, ulcerating) as well as their demarcation and level in relation to the surrounding skin. Sexual torture is not only about penetration but is also about violence, kicking, burning etc. Photography is essential whenever possible.[10] If photographs are taken, remember to use a scale. If a colposcope is available and the examiner is competent in the use of a colposcope, it can be used to take pictures or videos of the external genitalia.

It is important that the examiner is clear about the definition of the terms he/she uses.

Definition of terms

- *Erythema:* abnormal redness of the skin resulting from dilation of blood vessels (as in sunburn or inflammation).
- *Oedema:* swelling from excessive accumulation of watery fluid in cells, tissues, or serous cavities.[11]
- *Bruise:* discoloration of the skin due to an extravasation of blood into the underlying tissues.

  To be noted: Ageing of the bruises: scientific evidence concludes that we cannot accurately age a bruise from clinical assessment or from a photograph. Any clinician who offers a definitive estimate of the age of a bruise in a child by assessment with the naked eye is doing so without adequate published evidence.[12]
- *Abrasion:* an abrasion is a superficial injury to the skin or mucous membranes. In lay terms an abrasion is known as a "scratch" or a "graze".
- *Laceration:* in a laceration the full thickness of the skin is penetrated. It is known as a "tear". A laceration is caused by blunt impact in opposition to incisions that are caused by sharp objects (see below). In general, lacerations will occur following application of force to skin overlying a firm base.[13] However, if the force is great, such as may occur from a fall from a great height, then any skin may tear. Overstretching of the genital and anal skin/mucosa may also produce a laceration.

  The characteristic features of a laceration are ragged wound edges, irregular, bruised and abraded wound margins, and tissue bridges within the wound bruising to the skin margins as well as some abrasion (nerves or blood vessels that have not been transected). Where the skin is hairy then hair may be present within the wound. Skin flaps may also have

been formed. It should be noted that genital and anal lacerations caused by overstretching usually do not have these characteristic features.

– *Incised wounds:* These are caused by sharp cutting instruments such as knives, glass and scissors. They differ from lacerations in that the edges are cleanly divided and bleeding is often profuse. The skin margins are usually unbruised and free of damage. Cut hairs may be visible. There are two types of incised wound:
  Slash wound – this is defined as an incised wound that is longer than it is deep. It may be deeper at its entry point and the wound edges may gape.
  Stab wound – this is defined as an incised wound that is deeper than it is wide. It may be extremely difficult for the examiner to determine how deep a stab wound is.[14]

The clinician should remember that *the examination of most children with substantial sexual abuse is normal.*

Abnormal examinations are more likely if bleeding or pain occurred during the assault. It is important to exclude other causes of bleeding like menstruation.

1. Hymenal and other female genital injuries

The positions used for examining a girl are: the supine position with separation technique and traction technique and the knee chest position.

– In the supine position the child is lying on her back with her knees bent, it could be described as doing the "frog" to children.
– In the supine separation technique, the labia are separated with the tips of the fingers in a lateral and downward position until the vestibule and hymen are exposed.
– The supine traction technique is useful if the edge of the hymen cannot be seen well in the supine separation technique. In the supine traction technique, the examiner grasps the lower portion of the labia majora between the thumb and index finger and gently but firmly pulls outward and slightly upward.
– The knee chest position: the child rests her head on her folded arms, her abdomen is sagging downward, and her knees are bent 15 to 20 cm apart with her buttocks in the air. It could be described as "doing the rabbit" to children. The examiner then presses a thumb outward on the leading edge of the gluteus maximus.15
  Access to a good light source is essential.

Proper anatomical terms must be used to record the findings

See adult sexually active genitalia, Figure 1.

• Vulva – the external portion of the female genital organs. It includes labia majora, labia minora, vestibule, clitoris, urethral opening, vaginal opening, fossa navicularis and fourchette.

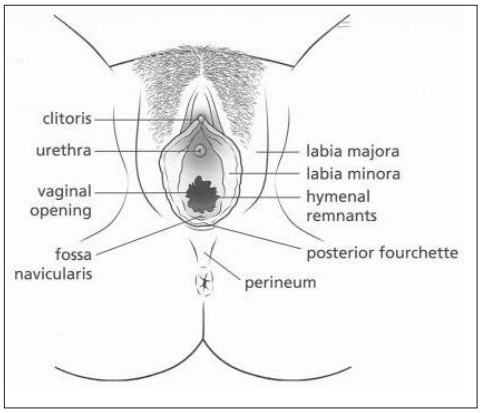

Figure 1. *Adult/sexually active external genetialia.*

- Labia Majorae – the two large, hair bearing, fleshy lips or folds of skin that form the outer boundaries of the vulva.
- Labia Minorae – the two thinner non-hair bearing folds of skin or small lips that lie inside the labia majorae and surround the vestibule.
- Clitoris – the small protrusion enclosed by the labia minorae, which is erectile and sensitive to stimulation.
- Vestibule – the cleft between the labia minora that contains the opening of the vagina and the urethra.
- Fossa Navicularis – the shallow depression in the vestibule between the vaginal orifice and the posterior vaginal fourchette.
- Fourchette (Posterior) – the area beneath the vaginal opening where the labia minorae meet.
- Hymen: collar of tissue around the vaginal orifice
- Urethra – the connecting tube to the bladder.
- Mons pubis: the fatty tissue lying above the pubic bone of adult women, anterior to the symphysis pubis.

Hymenal injuries

The 3 most common hymen configurations are (see Figures):

– crescentic hymen, see Figure 2
– annular hymen, see Figure 3
– redundant = fimbriated hymen, see Figure 4.

Less frequent configurations are sleeve like hymen, microperfortae hymen, imperforate hymen.

Adult sexually active women will have hymenal remnants (see Figure 1).

Again, it is very important to be very precise in the description of the hymen, this

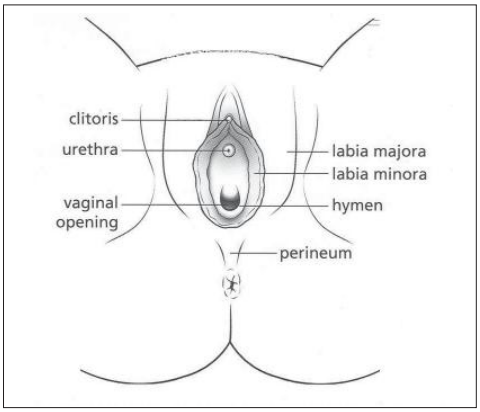

Figure 2. *Crescentic hymen.*

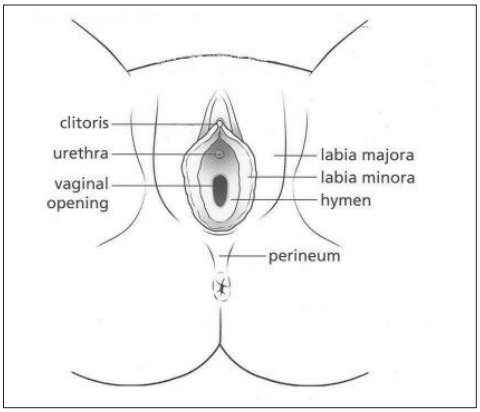

Figure 3. *Annular hymen.*

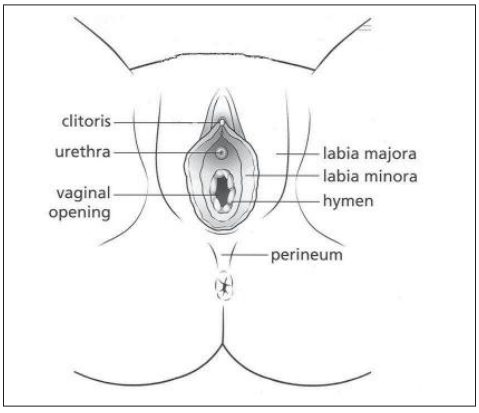

Figure 4. *Fimbriated (redundant) hymen.*

is why using clearly defined terms is very helpful. Definition of terms:

- A partial disruption of the hymen (not complete to the base of the hymen) is called a laceration if acute and a notch if non acute.
- A complete disruption of the hymen (to the base of the hymen) is called a laceration if acute and a transection if non acute.

It is usual to refer to an imaginary clock face when describing the findings on the hymen. The 12 o' clock position is always located immediately under the mons pubis and the 6 o'clock position is towards the coccyx regardless whether the child is lying on her back or on her front.[16]

- *Hymenal transection* are seen in a small proportion of prepubertal and pubertal girls with alleged vaginal penetration. To be noted: the absence of hymenal transection, even soon after the event, is not a proof that that penetrative abuse (including penile penetration) did not happen.
- *Notches on the hymen.* Where deep notches can be clearly visualized, penetrative injuries should be considered. Bumps, superficial notches are seen in newborns and non abused girls, suggesting that they are normal variants.
- *Posterior hymenal rim:* an absent or "narrow" posterior hymenal rim should be confirmed in the knee chest position in the prepubertal girl. Penetrative abuse must be considered in a prepubertal girl if there is complete absence or almost complete abscence of posterior hymenal tissue.
- *Size of the hymenal orifice.* Measurement of the hymenal orifice is not recommended. The diameter of the hymenal orifice is not a reliable marker of sexual abuse in prepubertal and pubertal girls.

To be noted: hymenal injuries heal rapidly and except for extensive injuries can leave no trace.

Lacerations to the posterior fourchette/ fossa navicularis

- Laceration to the posterior fourchette or fossa navicularis (see Figure 1 for anatomy).
- Posterior fourchette/fossa navicularis lacerations have been reported in prepubertal girls with a history of vaginal penetration, they have not been reported in girls selected for non-abuse.
- In pubertal girls, posterior fourchette/ fossa navicularis lacerations are seen in a large proportion of girls alleging penile penetration if examined within 72 hours after the abuse. Laceration of the posterior fourchette have been reported more frequently than laceration to the hymen.

To be noted: the absence of laceration to the posterior fourchette/fossa navicularis is not a proof that the alleged abuse did not take place.

Scars

Scars from hymenal transection, lacerations and tears to the posterior fourchette can persist but may be difficult to detect. Be careful not to mistake linea vestibularis for scar tissue (linea vestibularis is a white *linear* structure in the mid-posterior vestibule and is a normal anatomic variant).[17]

Genital abrasions and bruising

Genital abrasions and bruising have been reported in sexually abused girls soon after the event but can have many other causes or be absent even soon after the event.

Genital injuries tend to heal very quickly and often without leaving any trace or scarring.

The absence of genital abrasions and bruising doesn't disprove the allegation of sexual abuse in pre pubertal or pubertal girls.

Medical conditions

Lichen sclerosus, vulvitis and the use of steroid creams can be the cause of slight bleeding or superficial breakdown of the skin. Behcet disease could be responsible for genital ulcerations. Genital discoloration can be due to vitiligo. Cyst, tumors can also be present in the genital area.

Clinicians should note any predisposing conditions of the skin.

2. Anal injuries

The anus is examined with the child in lateral recumbent position/left lateral position (child lying on the left side with the right thigh and knee drawn up) or supine (holding knees to the abdomen/chest).[18] The imaginary clock face (see above) will be used to record the position of the injuries.

Anal fissures

Anal fissure can be the seen in anal assault, but it is important to exclude other causes of anal fissures such as passage of a large hard stool or constipation.

Anal lacerations

Definition of anal laceration: fissure more than 1cm in length migrating further from the anal margin.

Anal lacerations are associated with acute anal assault.

Anal skin tags

Anal skin tags have been seen in non abused children, but only in the midline.

Anal skin tags both in the midline and outside the midline have been reported in cases of anal abuse.

Anal scars

Good evidence suggest that anal scars are associated with anal abuse.[19]

Reflex Anal Dilation (RAD)

The examiner gently separate the buttocks and determine the degree of anal dilation. RAD refers to the dynamic action of the opening of the anus due to the relaxation of the external and internal sphincter muscles with the application of minimal buttock traction.[20] The anus is usually closed initially then opens, then closes again over a period of several seconds. Observation of the anus should be maintained for 30 seconds.

The examiner approximates the maximum diameter in the transverse plan, records if the rectum is visible, is there presence of stool or not, and records also the examination position and the duration of the examination.[18]

The presence or absence of stool in the rectum is not known to affect the significance of the finding of RAD.

If RAD is seen, sexual abuse should always be considered.

Anal laxity or reduced anal tone

Anal laxity is different from RAD. The anus dilates with the application of minimal buttock traction and stays dilated.

The diameter of the opening doesn't change during inspection. Possible causes include neuropathic bowel problems and myotonic dystrophy.

Anal laxity has been described in anally abused children but has also been reported in other circumstances.

Anal gaping

Anal gaping is different from RAD. The anus

is open on separation of the buttocks such that a view into the anal canal or rectum is possible and remains so for the duration of the examination in a fixed or constant way. Anal gaping may be seen in general anesthesia, with the use of relaxant drugs and is a post mortem finding.

The anus can be open to a variable degree due to severe or chronic constipation.

Anal/perianal bruising

Anal/perianal bruising has been reported following anal abuse. There are many other causes of bruising which should also be considered.[19]

The absence of anal injuries is no proof that anal assault (even penile penetrative assault) did not take place.

3. Testing

Forensic samples

The collection of forensic samples to search for cellular material or semen from which the DNA of the perpetrator(s) can be extracted should be considered if such facilities exist.

The persistence of semen or other cellular material is:

- Up to 48 hours on the skin or hair.
- Up to 48 hours in the mouth.
- Up to 72 hours in the vagina of a prepubertal girl.
- Up to 7 days in a pubertal girl.
- Up to 72 hours in the anal canal.

Sexually Transmitted Infections (STI) testing

Always consider testing for sexually transmitted diseases, no matter how long after the alleged assault. Depending on the cases:

- Culture for *Neissera gonorrhoeae* (vulval, vaginal, meatal, urethral, rectal, pharyngeal swabs depending on case).
- Nucleid acid amplification tests (NAATs) for *Chlamydia trachomatis* (vulval, vaginal, rectal, pharyngeal swabs or urine sample depending on case).
- In case of genital ulcer or blister:
  - swab for herpes simplex virus culture or PCR
  - dark ground microscopy for *Treponema pallidum*
  - swab for bacterial culture.
- If vaginal discharge: microscopy/culture for *Trichomonas vaginalis,* Candida, bacterial vaginosis
- Blood testing for HIV, hepatitis B and C, syphilis.

If the STI testing is done as a part of medico-legal proceedings, there should be a chain of evidence for the samples taken.

Conclusion

Thorough, patient and considerate examination is a requirement for proper forensic documentation of sexual torture in children. Acute signs of trauma may disappear quickly.

The absence of genital or anal signs does not exclude the possibility that penile, digital or object penetration did occur.

The drawings are published with courtesy of the Haven Paddington in London, UK

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