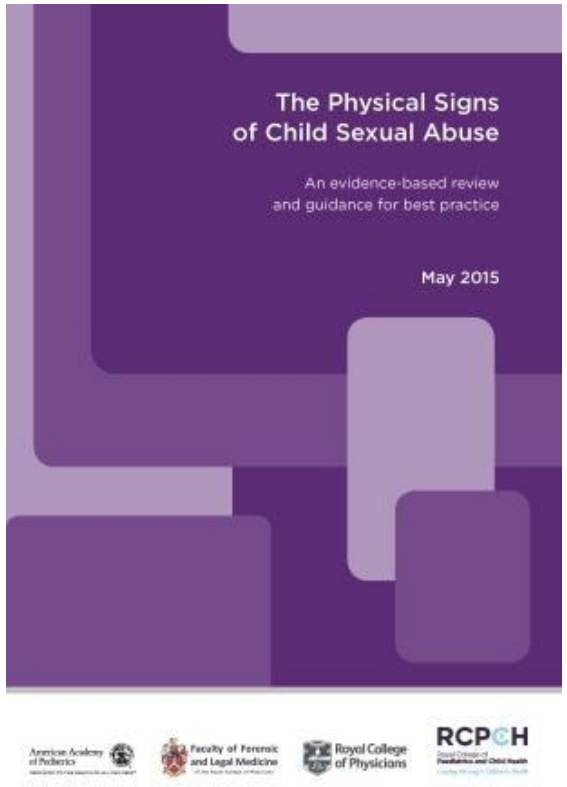
Undersøkelse av kroppsåpninger hos barn

Arne K. Myhre
Overlege / førsteamanuensis
BUK / St. Olavs hospital
NTNU

Sentral bakgrunnslitteratur

Prof. Joyce Adams at Chadwick Center



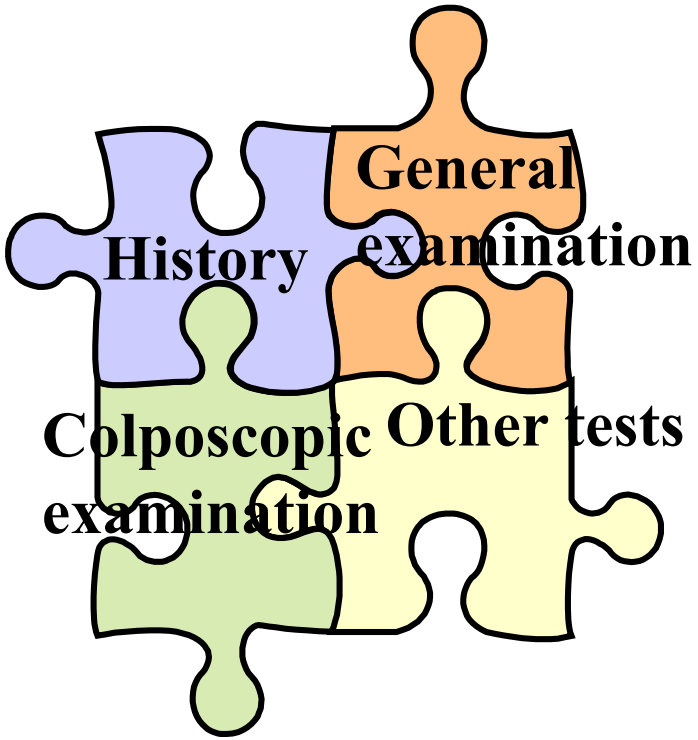
Adams 2018 Review and consensus

Systematic review

CSA må utredes bredt

Medisinsk undersøkelse:

- Fortelling
- Generell undersøkelse
- Anogenital undersøkelse
- Diverse tester (rettsmedisin, mikrobiologi etc)

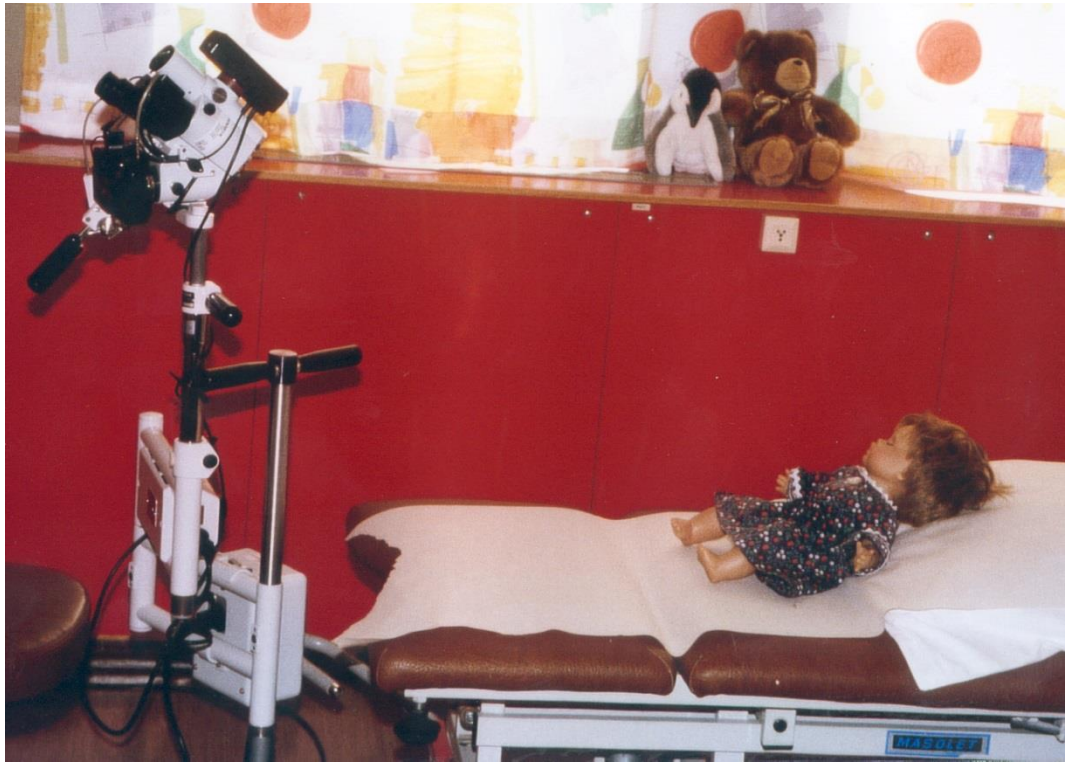


Man må vurdere alle **funnene samlet**.

Primum non nocere = Først og fremst ikke gjøre skade

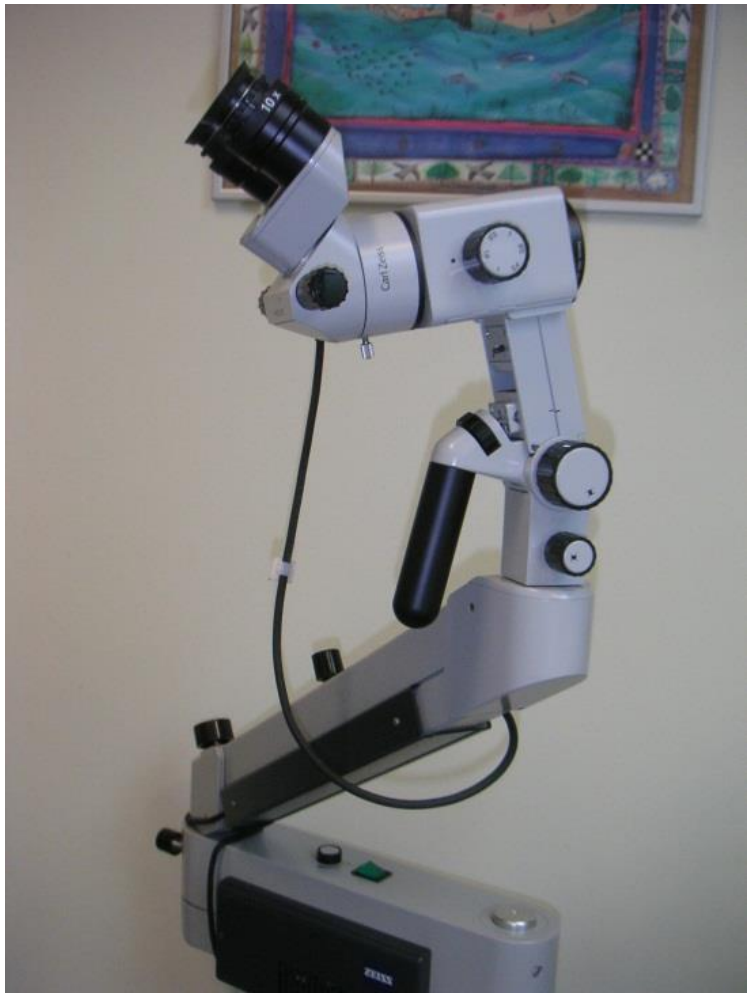
The physician must ... have two special objects in view with regard to disease, namely, to do good or ***to do no harm***

From the Hippocratic oath



Undersøkelsen må gjøres på en barnevennlig måte med god forberedelse.
La barnet bestemme.

Anogenitalområdet undersøkes med kolposkop



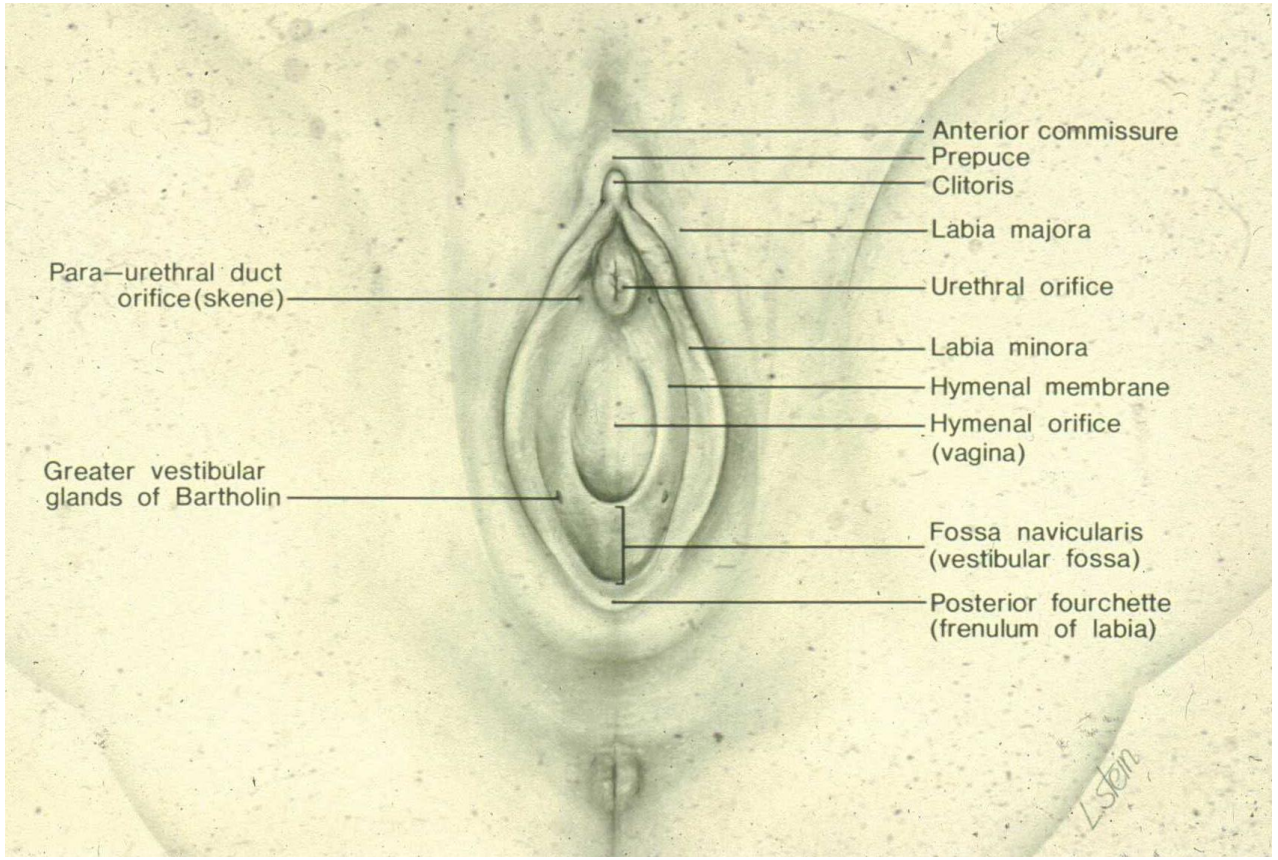
State of the art: Bruk høy kvalitet fotodokumentasjon!

Video eller still bilder?

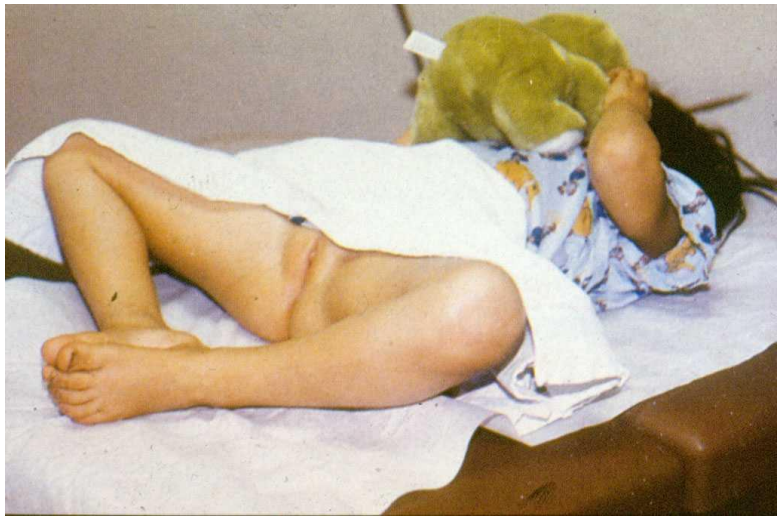
Bruk av video kan dokumentere funnene bedre.

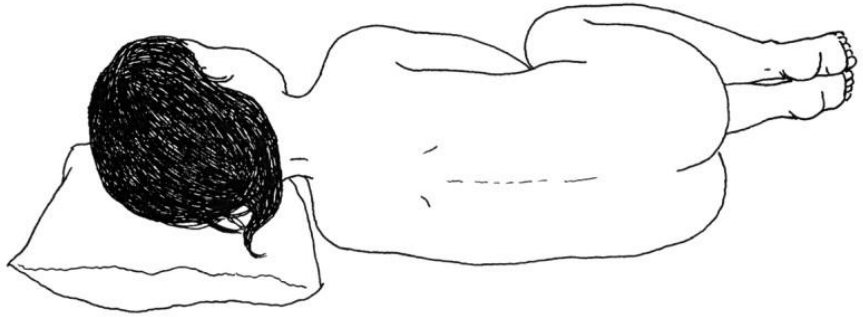
Killough, E et. al. 2016

Basal anatomi



Basisundersøkelsen av prepubertale jenter





Genital undersøkelse

Anal undersøkelse

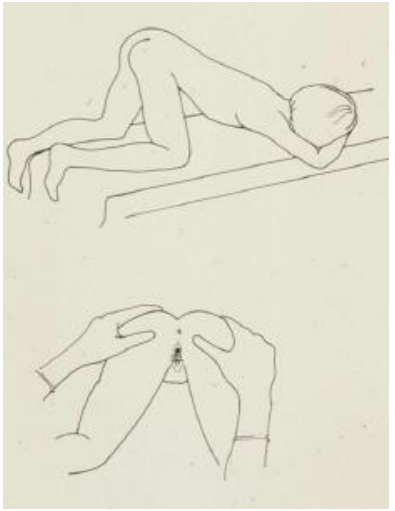
Stilling:	Ryggleie med froskestilling	Venstre sideleie
Teknikk:	Labial separasjon	Separering av seteballer (30 sec.)
	Labial traksjon	

Adams, 2016. Table 1

Supplementære teknikker brukes når noe "ser galt ut".

Saltvannsmetode hos prepubertale barn

Kne – brystleie
Både genitalt og analt
All aldersgrupper



Mikrobiologiske prøver

Prepubertale barn:

Anamnese eller funn som tyder på kontakt med overgripers genitalia.

Symptomer på inflammasjon (dysuri, utflod etc).

Postpubertale barn:

Tar mikrobiologi på alle.

Ellers ved bekymring for infeksjon, overgriper med risikofaktorer, andre søsken med kjønnssykdom osv.

Tilstreber å ta prøver fra munnhule, vulva/vagina og anus da det er vanlig at kun deler av historien fortelles ved første undersøkelse.

Mikrobiologi

- **Svelg**:
  Klamydia (PCR), gonore (PCR og dyrkning)
- **Vulva/vagina/Urin**
  Klamydia (PCR), gonore (PCR og dyrkning)
  Trikomonas (PCR, dyrkning) og
  mycoplasma genitalis (MG)
- **Anus**
  Klamydia (PCR), gonore (PCR og dyrkning)

MG: liten rettsmedisinsk betydning

Ved utflod og infeksjonssymptomer:

Aerob dyrkning, soppdyrkning

Ved sår/vesikler/svie: Herpes I og II

Andre prøver

Serologi: HIV, Hepatitt B, Hepatitt C, syfillis. Tidspunkt 0 og 3 mnd.

Ved dysuri/pollakisuri: Husk urin stix og dyrkning.

Gravitest

Rettstoksikologiske prøver med mistanke om rus/påført rus.

Orale funn

Sporsikring
Skader (leppe/tungebånd, tannfakturer, slimhinneblødninger)
Sykdom (karies, emaljeskader)

Review

Interpretation of Medical Findings in Suspected Child Sexual Abuse: An Update for 2018

Joyce A. Adams MD [1,*], Karen J. Farst MD [2], Nancy D. Kellogg MD [3]

Section 1: Physical findings

A. Findings documented in newborns or commonly seen in non-abused children

Normal variants

B. Findings commonly caused by medical conditions other than trauma or sexual contact

C. Findings due to other conditions, which can be mistaken for abuse

D. No expert consensus regarding degree of significance

E. Findings caused by trauma

Acute trauma to genital/anal tissues

Residual (healing) injuries to genital/anal tissues

Review

Interpretation of Medical Findings in Suspected Child Sexual Abuse: An Update for 2018

Joyce A. Adams MD [1,*], Karen J. Farst MD [2], Nancy D. Kellogg MD [3]

Section 2: Infections

A. Infections not related to sexual contact.

B. Infections that can be spread by both non-sexual and sexual transmission

C. Infections caused by sexual contact, if confirmed by appropriate testing and perinatal transmission has been ruled out

Section 3: Findings diagnostic of sexual contact.

Pregnancy

Semen identified in forensic specimens taken directly from a child's body

Physical findings

E. Findings caused by trauma

Acute trauma to genital/anal tissues. May be from unwitnessed accidental trauma or from physical or sexual abuse

Acute lacerations or bruising of labia, penis, scrotum or perineum.

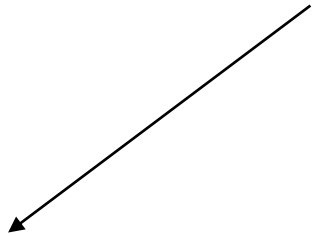
Acute laceration of posterior fourchette or vestibule, not involving the hymen

Accidental straddle injury
Follow up after 2 weeks

Boy, sexual abuse

Boy, physical abuse

Bruising, petechiae or abrasion on the hymen



Sexual abuse

Sexual abuse

Accident after sledge riding

Acute laceration of the hymen, of any depth, partial or complete
Vaginal lacerations

Girls examined few hours after sexual abuse with vaginal penetration

Perianal laceration with exposure of tissues below the dermis.

Boys, both sexual abuse with history of anal penetration (Myhre et al)

Physical findings

E. Findings caused by trauma

Residual (healing) injuries to genital/anal tissues

Perianal scar (a very rare finding that is difficult to diagnose unless an acute injury was previously documented at the same location).

Illustrations borrowed from J. Adams

Scare of posterior fourchette or fossa (a very rare finding that is difficult to diagnose unless an acute injury was previously documented at the same location)

Illustrations borrowed from J. Adams

Healed hymenal transection/complete hymen cleft – a defect in the hymen below the 3 to 9 location that extend **to or through the base of the hymen**, with no hymenal tissue discernible at that location.

These findings should be confirmed using additional examination positions and/or techniques

Girl, 12 years. Sexual abuse with vaginal penetration on several occations

Se stillbilde og film

14 år gammel jente undersøkt 2 – 3 dager etter seksuelt overgrep.

Undersøkt på nytt 1 år seinere i annen sak.

Signs of female genital mutilation (FGM) or cutting, such as loss of part of all of the prepuce (clitorial hood), clitoris, labia minora or labia majora, or vertical linear scar adajent to the clitoris (type 4 FGM)

FGM type III

FGM type II?
Mange former for FGM gir ikke synlige skader

Physical findings

D. No expert consensus regarding degree of significance

These physical findings have been associated with a history of sexual abuse in some studies, but at present, there is no expert consensus as to how much weight they should be given, with respect to abuse.

Genital findings should be confirmed using additional examination positions and/or techniques.

Complete anal dilatation with relaxation of both the internal and external anal sphincters, in the absence of other predisposing factors such as constipation, encopresis, sedation, anesthesia, and neuromuscular conditions

Associations with anal penetration:
Myhre 2013
Hobbs 2014

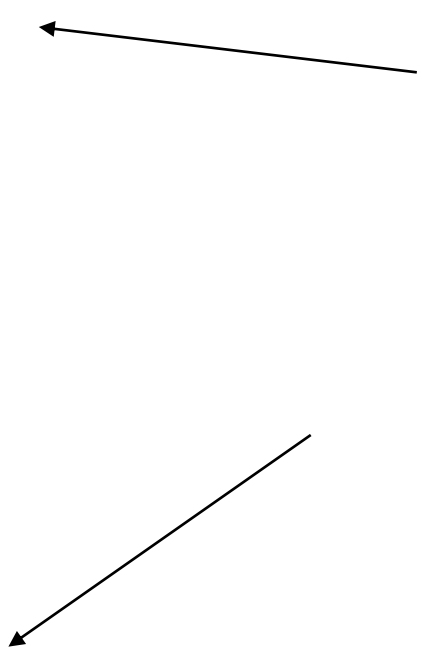
Complete anal dilatation in LLP and KCP.

Notch or cleft in the hymen rim, at or below the 3 and 9 o'clock location, which extends **nearly to the base of the hymen**, but is not a complete transection. (This is a very rare finding that should be interpreted with caution unless an acute injury was documented at the same location).

Complete cleft /transection to the base of the hymen at the 3 or 9 o'clock location.

12 year old girl. History of sexual abuse with genital penetration many years back. Deep notch at 5 o'clock? Transection?

Confirmed with cotton swab and KCP.



Section 2: Infections

C. Infections caused by sexual contact, if confirmed by appropriate testing and perinatal transmission has been ruled out

- Genital, rectal or pharyngeal *Neisseria gonorrhoea* infection
- Syphillis
- Genital, rectal or pharyngeal *Chlamydia trachomatis* infection
- *Trichomonas vaginalis* infection
- HIV, if transmission by blood contaminated needles has been ruled out

Infections

B. Infections that can be spread by both non-sexual and sexual transmission

Interpretation of these infections may require additional information, such as mothers gynecologic history (HPV) or child's history of oral lesions (HSV), or presence of lesions elsewhere of the body (molluscum) which may clarify likelihood of sexual transmission. After complete assessment, a report to CPS may be indicated in some cases.

Molluscum contagiosum in the genital or anal area. In young children, transmission is most likely non-sexual. Transmission from **intimate skin- to – skin contact in the adolescent population** has been described.

Condyloma acuminata (HPV) in the genital or anal area. Warts appearing for the first time after 5 years may be more likely to have been transmitted by sexual contact

Brother with chlamydia trachomatis

Sucpicion of SA

From study of normality

Herpes simplex type 1 or 2 infections in the oral, genital or anal area.

A genital or anal HSV 2 infection could be more suspicious for sexual transmission than a genital or anal infection due to HSV 1.

HSV serology is not recommended due to high false positive rate.

Original Study

Anogenital Findings in 3569 Pediatric Examinations for Sexual Abuse/Assault

Tanya D. Smith NP-Paediatrics, MN [1,2,*], Sudha R. Raman PhD [3], Sheri Madigan PhD [2,4], Judy Waldman MN [2], Michelle Shouldice MD [1,2]

Table 1
Anogenital Exam Findings Among 3569 Examinations

Category*	Exam Findings, n (%)
Normal/findings documented in newborns/nonabused children	3118 (87.4)
Indeterminate findings	247 (6.9)
Findings diagnostic of trauma due to accidental causes	33 (0.9)
Findings diagnostic of trauma and/or sexual contact	173 (4.8)

Significant association with diagnostic findings:

- Adolescent: OR 7,1(5,1 – d,8)
- Female: OR 4,1 (2,1 – 8,0)
- Acute examinations: OR 3,0 (2,1 – 4,3)

Table 4
Subcategories of Findings Diagnostic of Trauma and/or Sexual Contact (Excluding Accidental Injuries)

Sub-category of Findings Diagnostic of Trauma and/or Sexual contact*	n
Acute trauma to external tissue (lacerations/bruising to external anogenital tissue: labia, penis, scrotum, perianal tissues, posterior fourchette)	71
Residual (healing) injuries (perianal scar, scar of posterior fourchette or fossa)	1
Injuries indicative of blunt force penetrating trauma (lacerations/bruising to the hymen [n = 91], perianal laceration [n = 3], hymenal transection [n = 24], missing segment of hymenal tissue [n = 1])	119
Presence of infection (positive test for gonorrhea, chlamydia, trichomonas, syphilis, or HIV)	40
Sperm (identified in specimens taken directly from child's body)	1
Confirmed Pregnancy	7
Other (female genital mutilation)	11

* Total N = 173; categories are not mutually exclusive.

Acute findings hymen (91)
Acute findings external tissue (71)
Infections (40)
Hymenal transections (24)

Table 2
Subcategories of Indeterminate Findings

Subcategory of Indeterminate findings*	n
Deep notches/clefts in the posterior/inferior rim of hymen (>50% of width of hymen) in contrast to transection	30
Deep notches/complete clefts in the hymen at the 3 or 9 o'clock position in adolescent girls	20
Smooth, noninterrupted rim of hymen between 4 and 8 o'clock, which appears to be less than 1 mm wide, when examined in the prone knee-chest position	5
Wart like lesions in the genital/anal area	70
Vesicular lesions/ulcers in the genital/anal area	28
Marked anal dilation to a diameter of ≥2 cm, in the absence of other predisposing factors	2
Genital or anal condyloma accuminata	94
Herpes type 1 or 2 in genital/anal area with no other indicators of sexual abuse	15

* Total N = 247; categories are not mutually exclusive.

Anogenital condyloma (94)
Anogenital warts (70)
Deep notches (50)
Anogenital vesicular lesions/ulcers (38)
Anogenital herpes 1 and 2 (15)

Reviewer's Note:

Every now and then a scientific idea crosses a threshold where the idea is no longer a hypothesis or a theory. It becomes a fact. To cite three recent examples: the earth orbits the sun, the earth is spherical rather than flat, and no, the MMR vaccine does not cause autism. When an idea crosses that threshold, we can confidently stop studying it.

I propose that the idea "children presenting for sexual assault evaluation rarely, but only rarely, present with diagnostic genital injuries" has achieved the coveted status of scientific fact. In support of this I present the following partial list of published papers supporting the proposition

First Author	Year	N	Percent Diagnotic Finings
Adams[1]	1994	236	14%
Kellogg[2]	2004	36 (All Pregnant)	6%
Gallion[3]	2016	1500	7%
Modelli[4]	2011	3607	9.6%
Heger[5]	2002	2384	3.7%
Anderst[6]	2009	506 (All Reported Penetration)	11.1%
Al-Jilaihawi[7]	2017	249 (Prospective Study)	7%
Morgan[8]	2017	176	17%
Vrolijk-Bosschaart[9]	2017	56 (Photographed Abuse)	0%
Smith[10]	2017	3596	4.9%

I propose the idea that «children presenting for sexual assault evaluation rarely, but only rarely, present with diagnostic genital injuries» has achieved the coveted status of a scientific fact.

Dr. John Melville

Diagnostic interpretation of a “normal examination”

- It does not mean ”nothing happened” – Most perpetrators do not intend to physically harm the child while engaging in sexual acts and thus most examinations do not have acute or chronic residual.
- Rather than describing an examination without findings as “normal” a more accurate and informative conclusion is.. “**the physical examination does not demonstrate any acute or chronic residual to the contact nor would be anticipated to in light of the history provided.**”

Martin Finkel, DO, FAAP
Professor of Pediatrics
CARES Institute
University of Medicine & Dentistry of New Jersey

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