

“Doctor, was there penetration?” Why we usually can’t tell by looking.

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Disclosures

- I have no Industry support to disclose
- I receive honoraria for lecturing at conferences
- I have a business as a consultant in Pediatrics, providing services for which I am paid.

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Objectives:

- Know how often abnormal genital findings are seen in pre-pubertal children who describe being sexually abused
- List three reasons why a child’s examination can be without signs of injury even if the child states that something “went inside” his or her genital or anal area
- List three medical examination findings that are considered signs of penetrating injury

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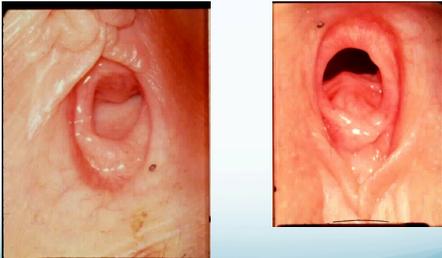
Case 1:

- A 4 year old girl complains to her mother that her “pee pee” hurts. Mother asks: “Did something happen to hurt your pee pee?”
- Child says: “Uncle Billy hurt it. He put the big thing he pees with inside my pee pee.”
- After Mom calls police, the child is brought for an examination.

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Case 1



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The medical evaluation:

- In a forensic interview, the child in Case 1 gives a very clear, detailed account of being sexually abused involving penile-genital contact/penetration
- The child cooperates with a genital examination, swabs are taken, clothing is collected.
- The doctor tells the officer that the child has no signs of recent or old injury to her genital or anal area.
- Mother is relieved, thinking nothing happened
- The police officer asks: How could there be no findings if penile penetration occurred?

Reasons why the examination would be “normal”

- #1: No abuse occurred
- #2: The child was abused, but the contact did not cause any injuries
- #3: The child was abused and injuries occurred but healed completely by the time the child was brought for an examination

#1 No abuse occurred

- This possibility must always be considered, even in cases where the child has injuries or an “abnormal” examination.
- Redness, bleeding, signs of infection, bruising, even lacerations (tears) of genital or anal tissues can have causes other than abuse

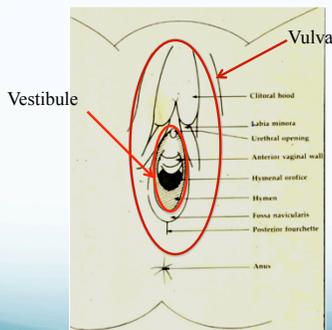
#2: The contact caused no injuries

- “It went inside my vagina” There may have been penetration beyond the labia but not into the vagina itself
- A young girl’s understanding of “inside” is usually not the same as an adult’s; and often is very difficult to ascertain
- Both the hymen of a pubertal girl and the anus of a child can stretch to allow penetration without causing tears

The problem of terminology:

- Parents may teach their daughters that the name for their external genitalia is “vagina”
- Therefore, if someone puts a finger or penis or object past the labia majora, to the child, that means it went in her vagina
- Most adults, including those in law enforcement, social services and the legal system, also think that “vagina” refers to the female genitalia, not just the anatomic vagina.

An anatomy lesson:



The myth (s) of the hymen

- Myth #1: The hymen always tears the first time something is inserted into the vagina
- Myth #2: The doctor can tell if the child/adolescent has been penetrated (because of myth #1)
- Myth #3: If the hymen is "intact" there was no penetration (because of myth #1)

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Facts about the hymen:

- The hymen is a remnant of tissue that forms when the vagina changes from a solid mass into a cavity during embryological development
- The hymen is recessed approximately ½ to 1 inch deep to the outer labia
- In infants and at the start of puberty, the hymen becomes thicker, more pale in color, and more distensible (stretchy)

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Facts, continued

- A finger or other object can penetrate beyond the outer labia (lips) of the vulva without touching, and therefore without injuring, the hymen
- In girls who have gone through puberty, the hymen can stretch to allow full penile-vaginal penetration without causing any injury.

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Research base for these facts?

- Studies reporting physical findings in children with probable abuse (guilty plea, confession)
- One case control study of 3-8 year old girls with and without a history of vaginal penetration
- One retrospective study of hymen appearance in pre-pubertal girls describing multiple episodes of penetration
- One study of the appearance of the hymen in pregnant adolescents

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Frequency of Abnormal examination findings:

- Berenson et al, 2000: Less than 5% of 3-8 year old girls describing vaginal penetration had abnormal findings.
- Heger et al, 2002: Of 2,384 children with suspected sexual abuse, only 4% had abnormal examination findings.
- Kellogg, et al, 2005: Of 36 pregnant adolescent girls examined using colposcopy, only 2 had definitive findings of vaginal penetration
- Anderst, et al, 2008: 74 girls <10 yrs of age described vaginal penetration, from 1 to >10 times. None had hymen transections

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#3: The abuse caused injuries that healed completely:

- Heppenstall-Heger, et al, 2003: 94 pre-pubertal children with anal or genital injury, followed to healing. Hymen lacerations healed as transections, without surgery.
- McCann, et al, 2007: Multi-site study of photographs showing acute genital injuries and photos from at least one follow-up examination
 - Most minor injuries healed quickly and completely
 - Hymen tears usually healed with irregularities of the rim (notches/clefts)

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**McCann, et al 2007
hymen lacerations in prepubertal girls**

- 40 lacerations, 75% in midline of posterior rim
- At follow-up, 5 of 21 deep lacerations healed to superficial or intermediate notches, 13 healed to deep notches, 2 healed as transections
- 3 of 7 acute transections healed to transections
- 23 of 31 transections with extension healed to transections or transection with extension
- 15 of 18 who had superficial, intermediate or deep lacerations healed to have "smooth and continuous appearing hymen rims"

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What does healing look like after acute genital trauma?

- Sometimes "it went inside my vagina" does mean something went inside the anatomic vagina
- Published case series of 3 pre-pubertal girls with genital trauma from sexual assault
- Two cases of girls, both 9 years old, followed for one year following a sexual assault causing hymen and posterior fourchette lacerations (not published in a journal)

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9 year old girl, abducted and raped 3 days prior (From McCann, et al paper)



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10 days post assault.



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7 months post-assault. Pt. Now Tanner 2

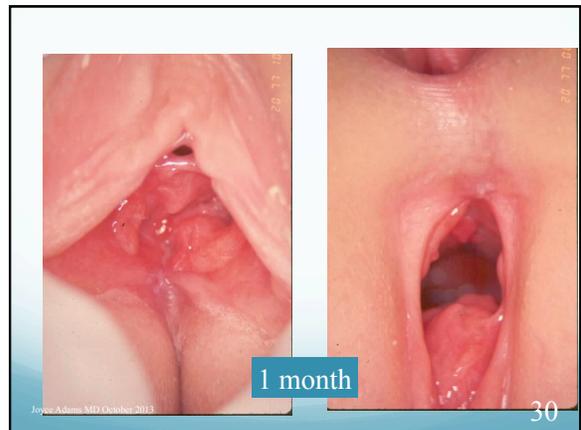
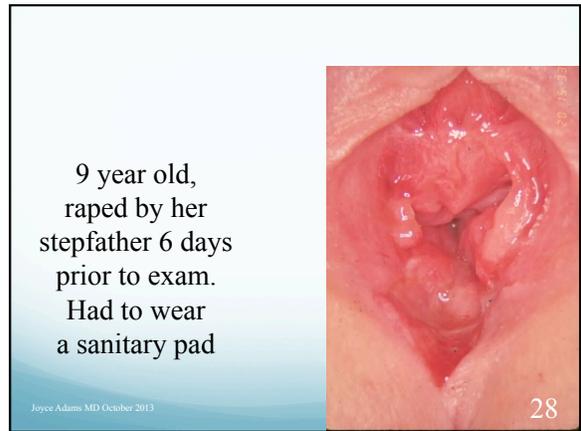
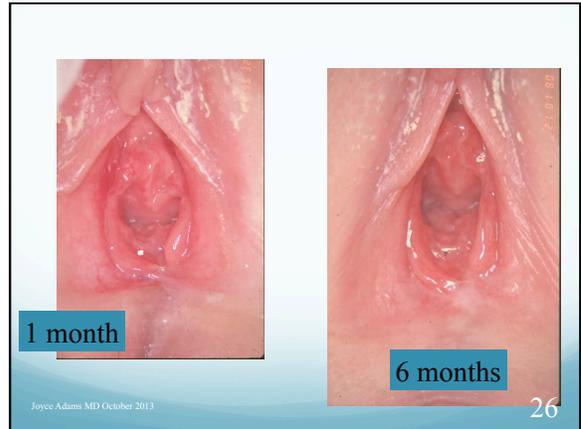


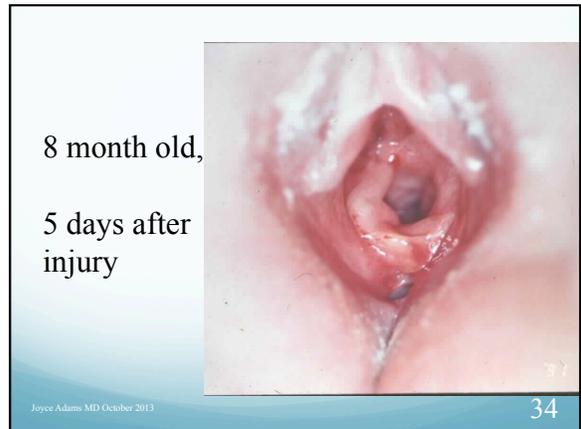
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9 YEAR OLD, RAPED BY STRANGER. 72 HOURS POST-REPAIR



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MM, age 7 Referred after giving history of foreign object
Inserted into her vagina with pain and bleeding.



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Change in appearance between age 3 and 7 years



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What about injuries after anal penetration?

- Retrospective chart review of 1,115 children referred for sexual abuse evaluation (Myhre, et al, 2013)
- Compared findings in children with (n=198) and without (917) probable anal penetration
- Penetration “probable” if child gave a disclosure, if anal STI was found, if sperm was found, if perpetrator confessed

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Significant differences in prevalence of findings, penetration probable and not

- Anal soiling: 24% v. 18% p=0.046
- Anal fissures: 10.7% v. 2.8% p=0.000
- Anal laceration: 4.6% v. 0.3% p=0.000
- External anal dilation: 15.2% v. 10.3% p=0.050
- Total anal dilation: 12.1% v. 3.6% p=0.000

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Findings not significantly different penetration v. not

- Erythema (12.6% v. 13.2%)
- Venous pooling (35.4% v. 34.3%)
- Bruising (2.0% v. 1.1%)
- Anal tags (6.6% v. 5.9%)

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Result of additional analysis:

- Total anal dilation still significantly associated with anal penetration in girls, but not boys and only when exam done in PKC position. Whether exam was acute or non-acute did not effect association with anal penetration
- Soiling, anal fissures, anal lacerations and total anal dilation not significantly associated with anal penetration in children with anal symptoms, only those without anal symptoms
- Anal fissures and anal lacerations only associated with anal penetration in cases where exam was done within 72 hours of abuse event

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An argument you may run across:

- A pre-pubertal girl usually has a hymen opening less than 10 mm in diameter (true)
- An adult male penis usually has a diameter of 30 to 40 mm (true)
- Therefore, unless a pre-pubertal girl has evidence of hymen transection, penile-vaginal penetration could not have occurred (not true)

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It all comes back to definitions, again:

- Penetration doesn't have to be past the hymen and all the way into the anatomic vagina for a child to describe the experience as "it went inside my vagina"
- In most states, sexual assault is defined as penetration of the female genitalia, however slight
- So, does it really matter if the penetration "only" went between the labia majora?

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In Conclusion: What do we Know?

- 1) Most pre-pubertal girls who say something went "in" their "vagina" do not have signs of injury, especially when seen non-acutely.
- 2) Partial tears of the hymen can heal to show a relatively smooth hymen rim or a notch, findings that are indistinguishable from normal
- 3) Complete tears through the hymen don't always heal as transections
- 4) Anal lacerations can heal completely, without scarring, sometimes within 10 days

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What don't we know?

- 1) We don't know exactly what a young child might have experienced when she says "his thing went inside my private"
- 2) We don't know how much the hymen can stretch in a pre-pubertal girl
- 3) We don't have enough data on how fast genital trauma in pre-pubertal girls heals, when the type and timing of the examination and photo-documentation is standardized.

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What now?

- Let's keep listening to children and go into the examination room expecting the examination to show minimal or no signs of trauma
- Remember it is always a good idea to get a second opinion when an examination finding is thought to be a sign of recent or healed injury.
- Expect to be challenged when testifying in cases of child sexual abuse when the child has disclosed penetration and the medical findings are normal or non-specific.
- Be familiar with the data from research studies and use it in your role as an educator of the judge and jury when testifying on the medical examination finding, whether normal or not.

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- Hariton TN. Sexual assault in prepubertal girls: "It is normal to be normal", or is it? Evidence of vaginal penetration in prepubertal girls. Viewpoint article in *Medical Science and the Law*, 2012: 1-5.
- Adams J, et al. Examination findings in legally confirmed cases of child sexual abuse: "It's normal to be normal". *Pediatrics* 1994;94:310-317

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Additional resources

- Textbook/atlas
 - Finkel MA, Giardino AP. *Medical Evaluation of Child Sexual Abuse: A Practical Guide*, 3rd edition, 2009, American Academy of Pediatrics
 - Kaplan R, Adams JA, Starling SP, Giardino AP. *Medical Response to Child Sexual Abuse: A Resource for Professionals Working with Children and Families*. 2011, STM Learning (contains a CD with additional photos and video clips of examination findings)

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Questions?

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