

# Medical Evaluation of Sexual Abuse in Children

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# Disclosures

- I have no commercial endorsements or financial conflicts.
- I will be discussing off label uses of NAAT tests for STI's.

# Objectives

- **Discuss medical & legal definitions & descriptive terminology of sexual abuse**
- **Review the incidence & prevalence estimates of sexual abuse**
- **Present current recommendations for medical evaluation**
- **Review STI's, identification & relevance**
- **Relate the importance of the medical exam to the overall investigation**

# Cases

- **18 month old male seen by PCP for a health supervision visit, is noted to have perianal warts.**
- **7 yo male & 6 yo female cousins are discovered checking out each other's genitals in a tree house.**
- **4 year old girl tells the daycare worker that her "hiney hurts" & daycare worker notices a green discharge in her panties.**
- **An 8 yo boy walks up to his teacher & grabs both of her breasts & says, "I want to f--- you, baby".**

# Sexual abuse definition

- **The involvement in sexual activities by a dominant or more powerful person of a dependent, developmentally immature child or adolescent for that person's own sexual stimulation, or for the gratification of other persons, as in child pornography or prostitution.**
- **Related terms: *sexual misuse, sexual maltreatment, sexual exploitation, sexual molestation***

# Types of child abuse

- **neglect**
  - physical, emotional, medical, educational, supervisory
- **physical abuse**
- **sexual abuse**
- **emotional abuse (psychological)**
  - rejection, isolation, terrorization, ignoring, corruption

# Legal definitions

- **Child.** A person under the age of 18 years.
- **Abuse.** Harm or threatened harm to a child's health or welfare. Harm or threatened harm to a child's health or welfare can occur through nonaccidental physical or mental injury, sexual abuse or attempted sexual abuse, or sexual exploitation or attempted sexual exploitation.
- **Neglect.** Negligent treatment or maltreatment of a child, including the failure to provide adequate food, medical treatment, supervision, clothing, or shelter.

# Legal definitions

- **Sexual abuse** includes the employment, use, persuasion, inducement, enticement, or coercion of any child to engage in, or having a child assist any other person to engage in, any sexually explicit conduct or any simulation of the conduct for the purpose of producing any visual depiction of the conduct; or the rape, molestation, prostitution, or other form of sexual exploitation of children, or incest with children as those acts are defined by Alabama law.
- **Sexual exploitation** includes allowing, permitting, or encouraging a child to engage in prostitution & allowing, permitting, encouraging, or engaging in the obscene or pornographic photographing, filming, or depicting of a child for commercial purposes.

# Types of sexual abuse

- **Actual or attempted intercourse**
- **Fondling**
- **Finger manipulation or penetration, or masturbation**
- **Exhibitionism (exposure)**
- **Exploitation**
  - (child pornography, prostitution, cyber-enticement, etc.)

# Epidemiology



# Child abuse incidence-2014

	<b>US</b>	<b>AL</b>	<b>MS</b>	<b>GA</b>	<b>TN</b>
Total # of children	74,356,370	<b>1,107,571</b>	731,269	2,493,282	1,494,526
# reports of abuse	2,152,000	<b>21,204</b>	27,967	137,222	94,657
# children involved	3,248,005	<b>29,342</b>	31,504	137,222	71,674
% substant/indic	18.5	<b>28.2</b>	23.8	14.0	10.1
# victims of abuse	702,208	<b>8,697</b>	8,435	22,163	11,695
Victim rate / 1000	9.4	<b>7.9</b>	11.5	8.9	7.8
Caseworkers	37,346	<b>512</b>	590	---	924

# Sources of reports

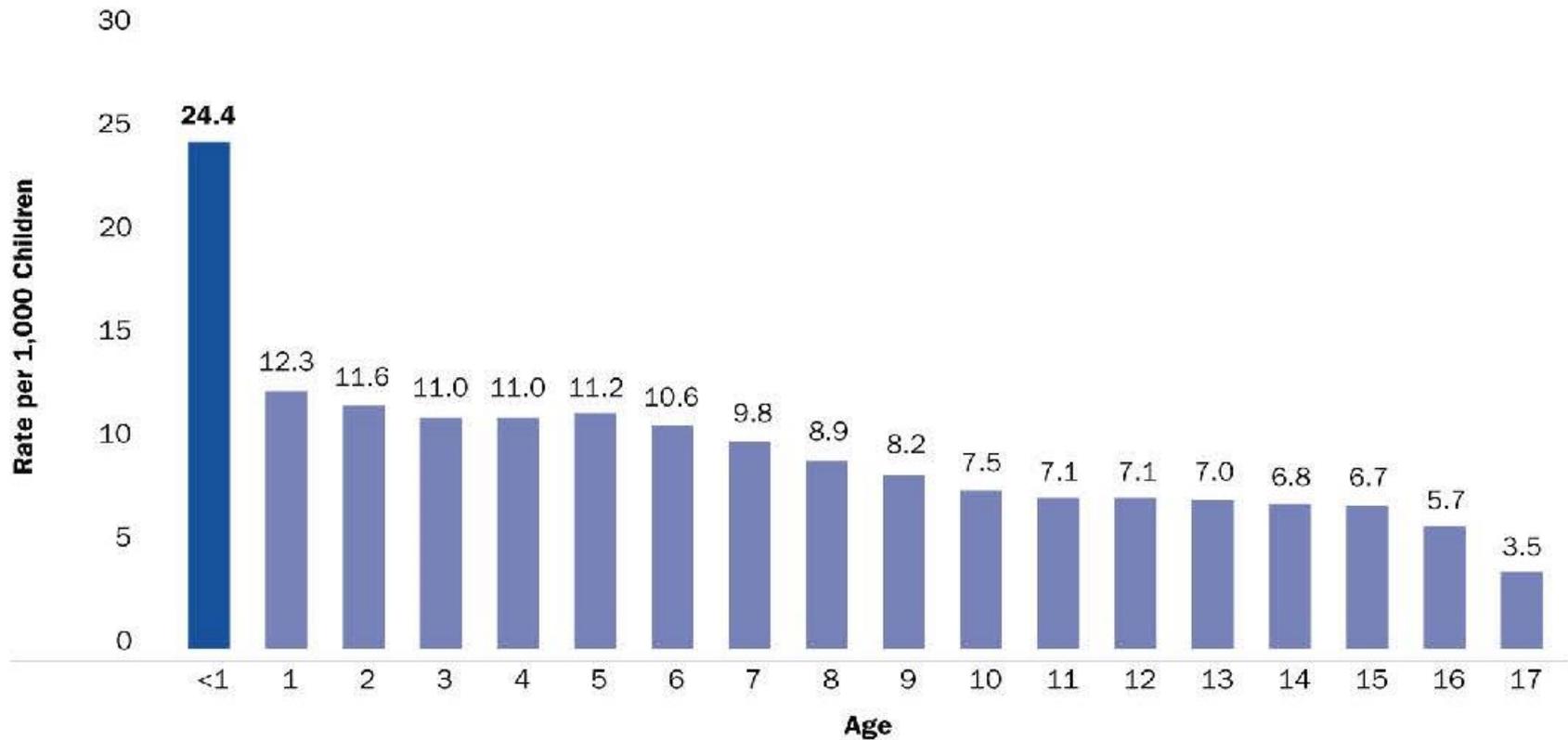
<b>Source</b>	<b>%</b>	<b>Source</b>	<b>%</b>
Education personnel	<b>17.7</b>	Other	<b>7.6</b>
Legal & Law enforcement	<b>18.1</b>	Parents	<b>6.8</b>
Social service	<b>11.0</b>	Alleged victims	<b>0.3</b>
Mental health	<b>5.6</b>	Child daycare providers	<b>0.7</b>
Medical personnel	<b>9.2</b>	Perpetrators	<b>0.1</b>
Other relatives	<b>7.0</b>	Friends & neighbors	<b>4.4</b>
Anonymous	<b>8.1</b>	Foster care	<b>0.5</b>

## Child abuse incidence by category

Type of Abuse	US	AL	MS	GA	TN
Neglect	75.0	40.1	71.4	70.3	69.1
Medical neglect	2.2	0.7	4.3	4.3	1.5
Physical abuse	17.0	47.3	17.5	10.1	11.6
Sexual abuse	8.3	20.3	11.8	3.0	23.2
Psychological	6.0	0.3	15.5	25.9	2.7
Other	6.8	---	0.3	---	---

**NCCAN 2014**

## Exhibit 3–G The youngest children were the most vulnerable to maltreatment



Based on data from [table 3-4](#).

**Child victims by age  
NCCAN 2014**

# General statements

- **National rate of victimization in 2014 was 9.4 per 1000 children (roughly 1.0% of all US kids)**
- **10% of all injuries to children < 5 yrs seen in ER**
- **1,580 deaths reported in US (2.13/100,000 children)**
- **17 deaths in Alabama (1.53/100,000, 2014)**
- **68% of all child maltreatment cases go unreported (estimated)**

# General statements

- **91.6% of cases involved 1 parent as a perpetrator**
- **2.9% were unmarried partner of parent**
- **an additional 3.7% were other relatives of the victim**
- **83% of perpetrators were between ages 18-44 yrs**
- **54.1% were female**
- **$\frac{3}{4}$ 's of neglect and medical neglect were associated with female perpetrators, while  $\frac{3}{4}$ 's of sexual abuse cases were associated with male perpetrators**

**NCCAN 2014**

# Perpetrators

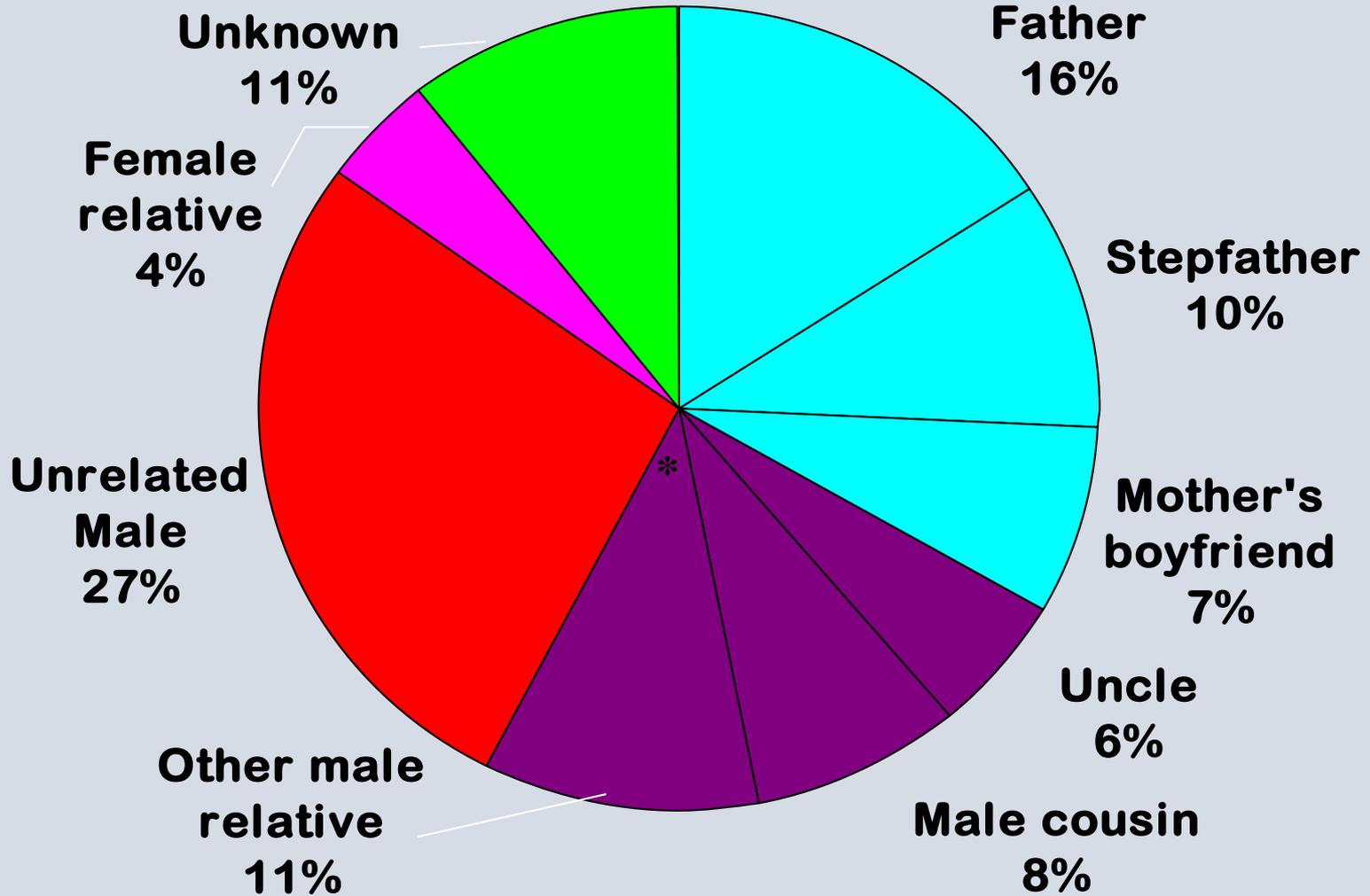
Relationship	All types*	Neglect**	Physical abuse**	Sexual abuse**
Parent	91.6	86.6	75.7	27.0
Other relative	3.7	4.6	6.9	29.3
Unmarried partner	2.9	3.3	6.1	8.8
Friends-neighbors	0.4	0.1	0.5	3.9
Substitute provider	0.6	0.1	0.5	3.9
Other	2.5	1.7	4.3	21.7
Unknown	3.5	2.4	4.4	6.3

**\*NCCAN 2014 - \*\*NCCAN 2012**

# **Sexual abuse in children**

- **Incidence: 300,000 reports annually in US, 100,000 confirmed**
- **Prevalence: 20% of females, 10% of males report having been sexually abused by age 18**
- **Sexual assault prevalence: females 3-16%; males 2-3%**
- **Mean age at time of onset of sexual abuse is 9-10 years.**
- **39% of males & 34% of females had onset of sexual abuse  $\geq$ 12 years of age.**
- **Girls are abused by older males, either related or known to the family**
- **Boys are abused by unrelated older males**

# Relationship of perpetrator to victim



# Perpetrators

- **1/3 have a history of being sexually abused as a child**
- **8% have a diagnosed mental health disorder**
- **14% have personality disorders**
- **94% deemed “fit to plead”**
- **Treatment recommended for 58%**
- **78% deemed high to extreme risk to reoffend**
- **32.5% known to have subsequently reoffended**
- **Most adult & teenage perpetrators were not sexually victimized as children.**
- **Teenage perpetrators were more often victims of physical abuse.**

# Risk Factors - General

- **Divorce**
- **Interpersonal violence in the home**
  - (domestic violence)
- **Parental substance abuse**
- **Unavailable parents**
- **Disability in the child**
  - (2 times greater risk; overall incidence 1.1:1,000, for disabled child it is 3.5:1,000)

# Risk Factors - females

- **The presence of an unrelated older male in the home**
- **Teenage mother with a history of sexual abuse**



# Outcomes in sexual abuse

## Immediate consequences

- Emotional stress, isolation, depression, anxiety
- Physical injuries
- Sexually transmitted infections
- Pregnancy
- Removal from family and friends, change in schools
- Death –
  - most common causes of death for prostituted youth are (1) murder and (2) HIV/AIDS
- **40% show no apparent symptoms**

# Outcomes in sexual abuse

## Long Term

- **Females have a greater risk for:**
  - STI's
  - teen pregnancy
  - multiple sexual partners
  - becoming repeat victims of abuse.
- **Sexually abused girls are 28 times more likely to be arrested for prostitution**
  - (as compared to nonabused children)
- **May be at risk for developing disorders of sexual adjustment later in adult life.**

# Outcomes in sexual abuse

## Long Term

- **Higher rates of dissatisfaction with adult sexual relationships:**
  - problems with intimacy, increased incidence of separations and divorce
  - 1/3 exhibit sexual behavior problems as adults.
- **Higher rates of depression, anxiety disorders, chronic and/or delayed PTSD, revictimization, suicidality, & substance abuse.**
- **Most child sex abuse victims do not become offenders**
  - (one study found 1/3 go on to become offenders)
- **Some increased risk of later development of adult criminal activity**
- **For those with PTSD:**
  - 40% have full blown PTSD
  - >50% with partial symptoms.

# Outcomes in sexual abuse

## Moderating factors

- **Parental response after disclosure**
- **Overall intelligence of child victim**
  - (IQ is best single marker for resiliency)
- **Social support**
- **Ability to create and/or find safety**
- **Talents & capabilities**
- **Psychological style**
- **Gender**
- **Age**

# Sexual abuse patterns

- **Perpetrator is someone the child knows & trusts**
  - (often the guardian knows the perpetrator also)
- **Five stages of child sexual abuse (Sgroi, et al)**
  - Engagement
  - Sexual interaction
  - Secrecy
  - Disclosure
  - Suppression (recantation)

# Disclosures of abuse

- **Usually occur in one of three ways: purposeful, accidental, or elicited**
- **Most children do not disclose immediately.**
- **Failure to report victimization, even when asked, is common.**
  - In one study of 529 children with gonorrhea, only 43% gave some indication of their sexual abuse.
- **Delayed disclosures are common**
  - in one study of 336 children aged 8-15 yrs, 75% failed to disclose their victimization within the year after it occurred.
- **In adult surveys, 2/3's of adults reporting sexual abuse as children had never reported the victimization to anyone prior to the survey.**
  - 82-90% had never reported the abuse to authorities.

# Disclosures of abuse

- **Children are more likely to report when asked if abuse has occurred.**
- **Retraction of the allegation (recantation) after the child begins to experience the consequences of disclosure is characteristic of the disclosure process. Recantation rates reported from 4-27%**
  - (mean is 23%)
- **HCP's should expect prepubertal children to not be forthcoming when asked about sexual abuse.**
- **False allegations of sexual abuse are uncommon.**
  - Rates range from 0-10% of reports made by children. Most are made by older children.



# **Medical evaluation Who should be examined?**

**A medical evaluation should be a part of the investigation of any child with a significant history of possible sexual abuse.**

# Medical evaluation

## Why should they be examined?

- To search for, identify, & treat any medical conditions: such as STI's, pregnancy, UTI's, vaginal infections, genital/anal injuries, & psychiatric problems
- To let the child know they are “medically okay” or “their body is okay” after all that has happened to them
- The medical examiner may be able to assist with the court proceedings, if any.

**The exam should not be to determine if any abuse has occurred, the history is far more important.**

# Medical evaluation

## When should they be examined?

There are certain criteria that warrant an urgent medical evaluation at the time of disclosure:

1. **history of age-inappropriate sexual contact < 72 hrs**
  - (in some states up to 5 days)
2. **history of acute vaginal bleeding, genital trauma, or anal injury**
3. **vaginal discharge & the possibility of a STI**
4. **when there is the possibility of pregnancy**
  - (female past menarche with penile-vaginal contact)

**Otherwise: wait until the child can be seen by an experienced examiner.**

# Behavioral indicators of sexual abuse

- Age-inappropriate knowledge of sex
  - (children do not fantasize about sex)
- Running away from home
- Attempted suicide
- Drug use
- Promiscuity, prostitution

# Signs & symptoms of sexual abuse

- **Rectal or genital pain, bleeding, or infection**
- **Sexually transmitted infections**
- **Developmentally precocious sexual behavior**
  - (sexualized behaviors)
- **Pregnancy or pregnancy scare in a young girl (<16 yrs)**

# Sexualized Behaviors

- **The most frequent symptom associated with history of sexual abuse**
- **Present in 35-40% of sexually abused children**
- **40% of children with sexualized behaviors are found to have been abused after investigation**

# Examples of Sexual Behaviors

## Children 2-6 yrs

Table 1: Pediatrics 2009;124:992-997

**Normal, common behaviors:**

- **Touching/masturbating genitals in public/private**
- **Viewing/touching peer or new sibling genitals**
- **Showing genitals to peers**
- **Standing/sitting too close**
- **Trying to view peer/adult nudity**
- **Behaviors are transient, few, & distractible**

# Examples of Sexual Behaviors Children 2-6 yrs

Table 1: Pediatrics 2009;124:992-997

## Less common normal behaviors:

- Rubbing body against others
- Trying to insert tongue in mouth while kissing
- Touching peer/adult genitals
- Crude mimicking of movements associated with sexual acts
- Sexual behaviors that are occasionally, but persistently, disruptive to others
- Behaviors are transient & moderately responsive to distraction

# Examples of Sexual Behaviors

## Children 2-6 yrs

Table 1: Pediatrics 2009;124:992-997

### Uncommon behaviors in normal children:

- Asking peer/adult to engage in specific sexual act(s)
- Inserting objects into genitals
- Explicitly imitating intercourse
- Touching animal genitals
- Sexual behaviors that are frequently disruptive to others
- Behaviors are persistent & resistant to parental distraction

# Examples of Sexual Behaviors

## Children 2-6 yrs

Table 1: Pediatrics 2009;124:992-997

### Rarely normal

- Any sexual behaviors that involve children who are 4 or more years apart
- A variety of sexual behaviors displayed on a daily basis
- Sexual behavior that results in emotional distress or physical pain
- Sexual behaviors associated with other physically aggressive behavior
- Sexual behaviors that involve coercion
- Behaviors are persistent & child becomes angry if distracted

# Taking the history

- **Obtain from all available parties**
  - (child, parent, social services, etc)
- **Have a professional support person present**
- **Be on an “eye level” with the child**
- **“Warm-up” to the child**
- **Assess the child’s developmental level**
- **Identify & use the child’s own language**

# Taking the history

- **Whenever possible, interview the child separately**
- **Be supportive, not judgmental**
- **Use open ended questions**
- **Use nonverbal aids (toys, dolls, drawings)**
- **Watch your reactions to child's statements**
- **Start & finish with pleasant conversation**
- **Give the child "permission" to tell others**
- **Record the child's statements verbatim**

# Specific items to be asked

- location
- timing of events
- identity of perp
- specific actions that occurred to child
- frequency of events
- details of all episodes
- pain & other symptoms
- threats (given or not)
- is the child afraid of the guardian or perpetrator
- let the child express their feelings

# Physical examination

- **Explain ahead of time what will happen**
- **Let child choose a support person,**
  - but not the alleged perpetrator, if known
- **Always have a professional assistant present, regardless of the gender of child**

# Physical examination

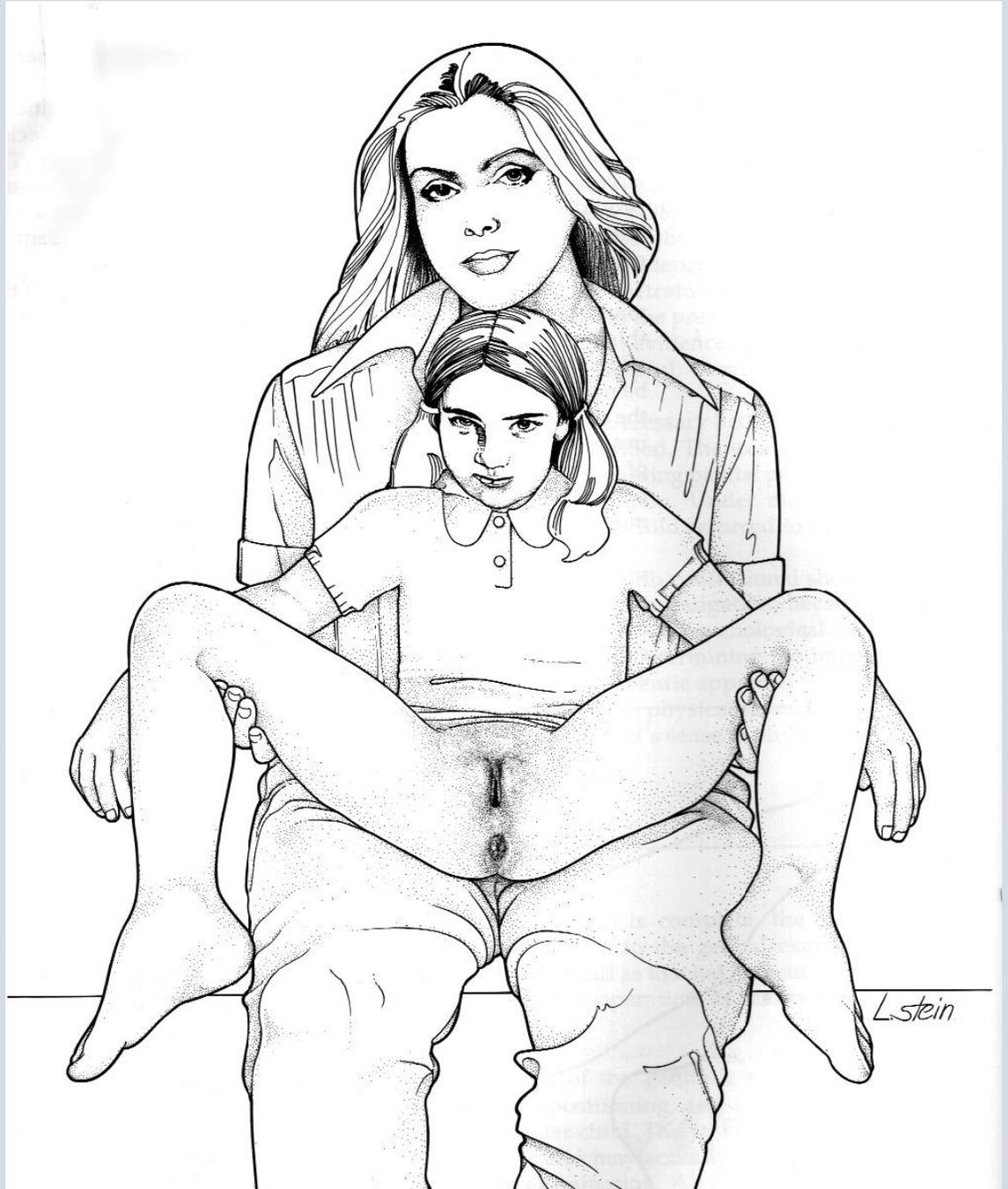
- **Do not assault the child again**
  - if anxious & need to examine, use sedation or anesthesia
- **If the sexual contact occurred within 72 hours of exam, send for a sexual assault kit (Rape Kit)**
  - Rare to get anything off of prepubertal child >24 hrs
  - Clothing & bedding can be several days
- **Do a complete exam, not a “bottom check”**

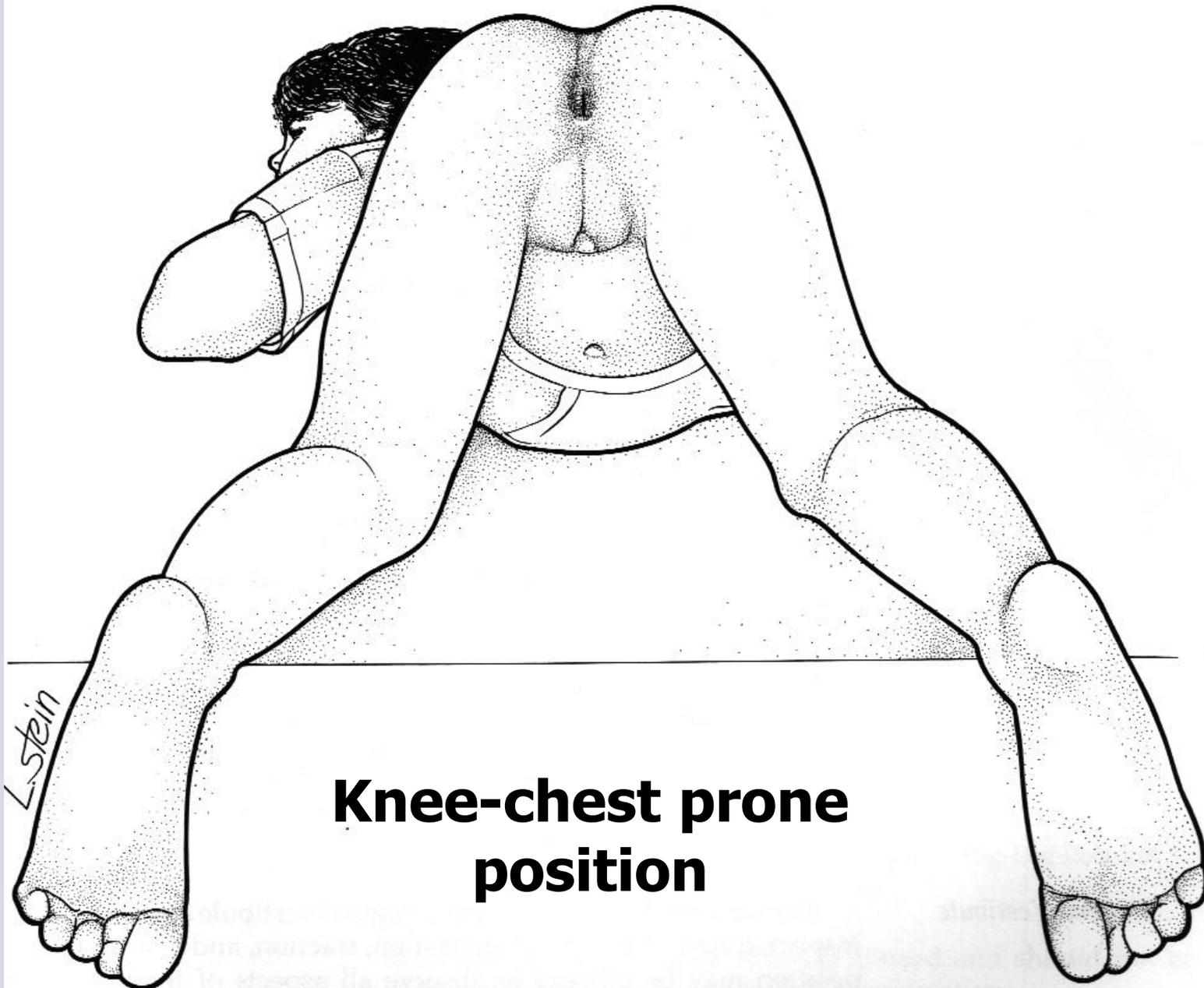
# Examination of the female child

## Positioning

- supine frogleg
- supine knee chest
- prone knee chest
- lateral recumbent

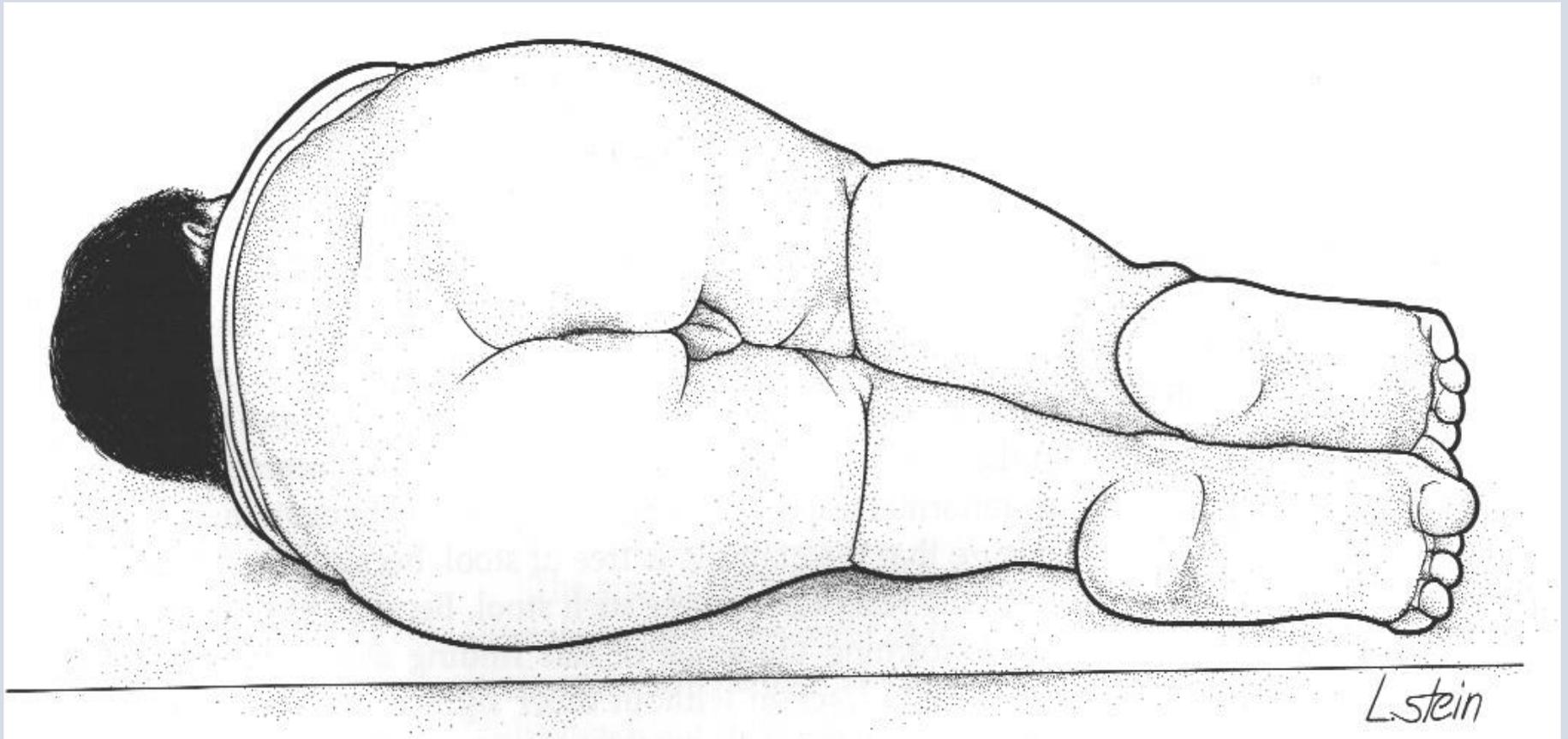
**Supine frog-leg  
position  
in mother's lap**





**Knee-chest prone  
position**

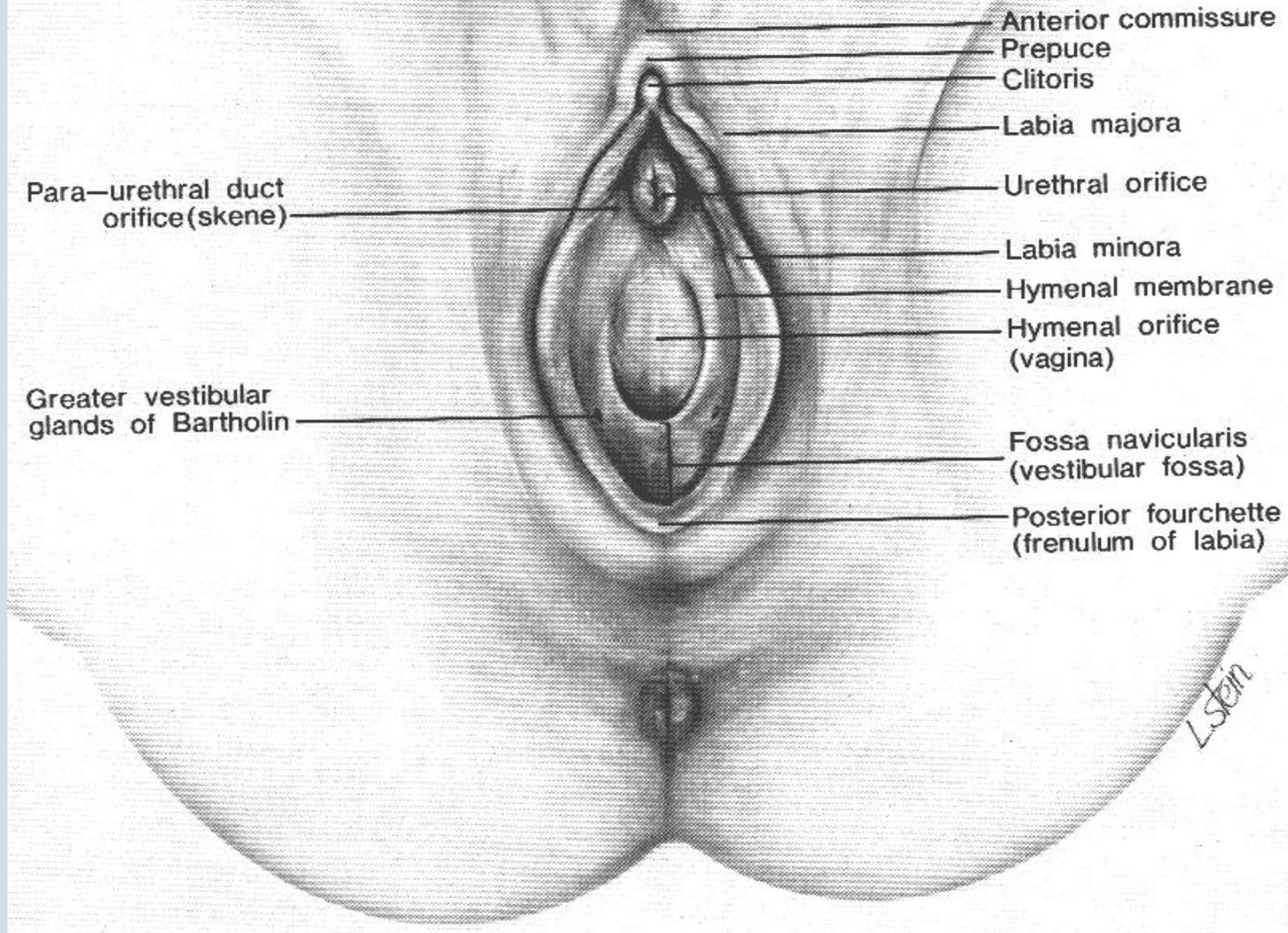
# Lateral recumbent position



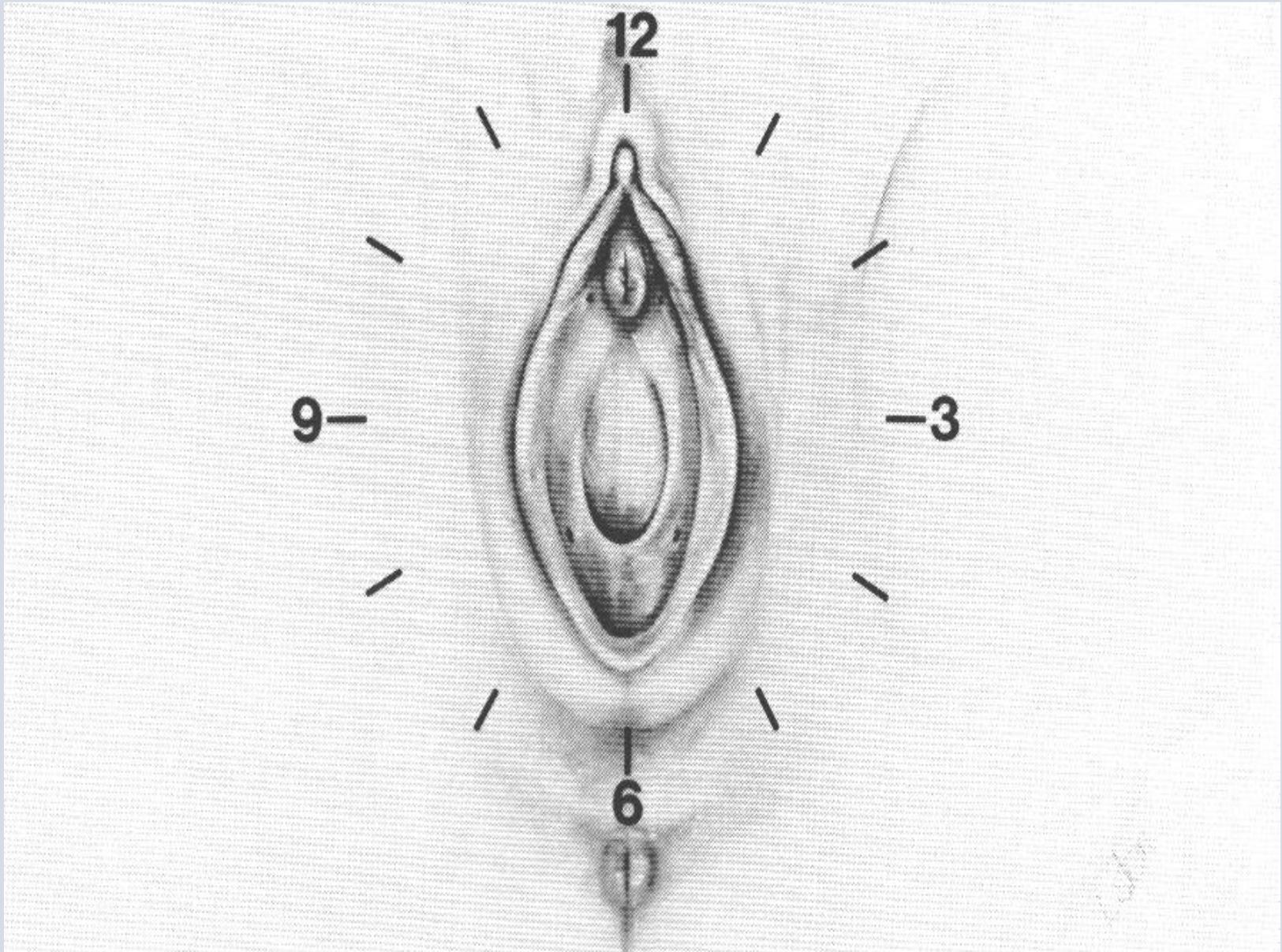
# Knee-chest supine position



# Normal Female Anatomy



# Face of Clock Orientation, child lying on back



# Examination of the male child

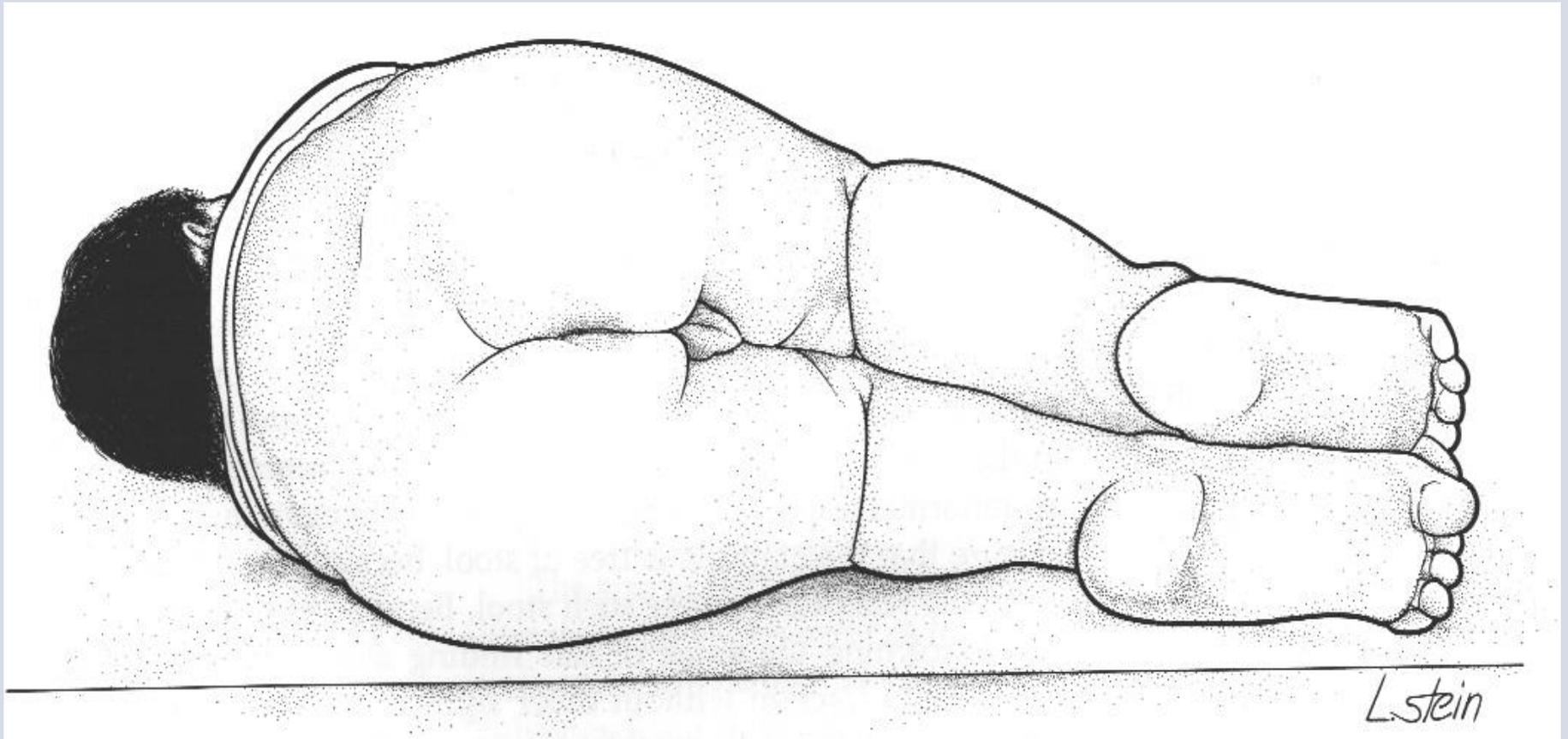
## Positioning

- lateral recumbent
- supine knee chest

**Usually do not examine males in knee-chest prone position**

- as they are often abused in this position

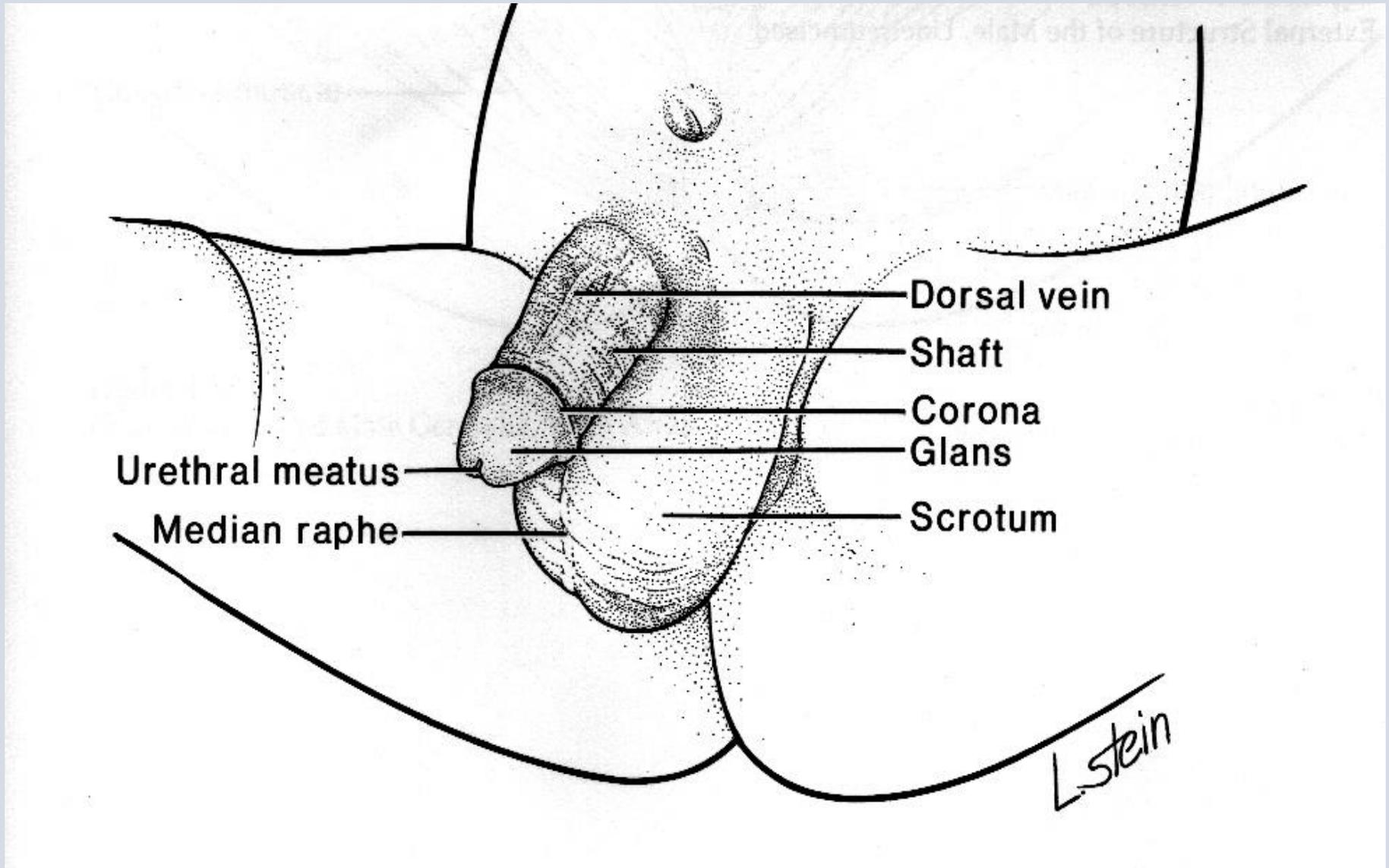
# Lateral recumbent position



# Knee-chest supine position



# Normal Male Anatomy



# Sexual Maturity Rating

- **AKA “Tanner Staging”**
- **A standardized system of assessing the degree of sexual maturity of teens by examination in place since the 1960’s.**
- **There are two areas assessed for each gender:**
  - Males: genitalia (G) & pubic hair (PH)
  - Females: breast (B) & pubic hair (PH)
- **Each area is rated from 1 to 5.**
- **1 is for prepubertal & 5 is for fully mature.**

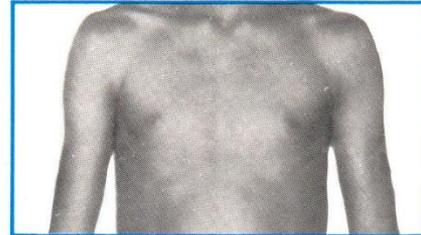
# Typical Progression of Female Pubertal Development

## SMR Female Breast

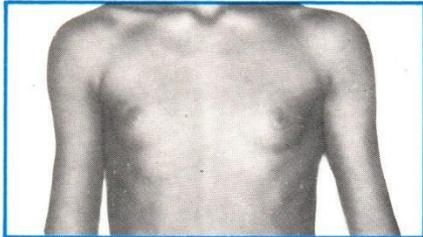
### Pubertal development in size of female breasts.



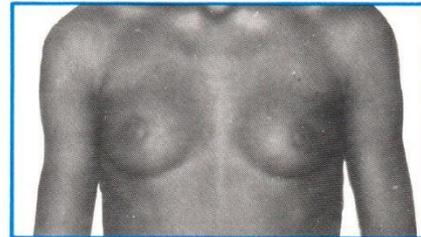
**Stage 1.** The breasts are preadolescent. There is elevation of the papilla only.



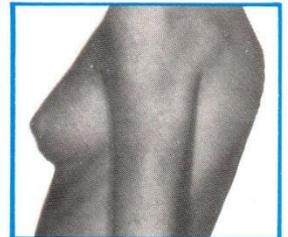
**Stage 2.** Breast bud stage. A small mound is formed by the elevation of the breast and papilla. The areolar diameter enlarges.



**Stage 3.** There is further enlargement of breasts and areola with no separation of their contours.



**Stage 4.** There is a projection of the areola and papilla to form a secondary mound above the level of the breast.



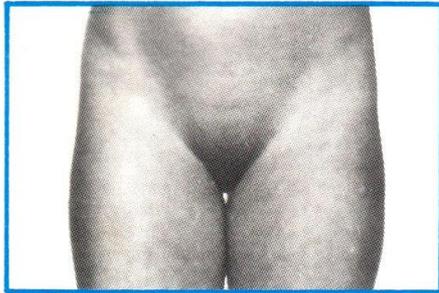
**Stage 5.** The breasts resemble those of a mature female as the areola has recessed to the general contour of the breast.



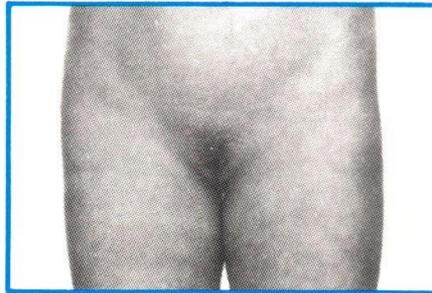
# Sexual maturity rating - female

## Pubertal development of female pubic hair.

Stage 1. There is no pubic hair.



**Stage 2.** There is sparse growth of long, slightly pigmented, downy hair, straight or only slightly curled, primarily along the labia.



**Stage 3.** The hair is considerably darker, coarser, and more curled. The hair spreads sparsely over the junction of the pubes.



**Stage 4.** The hair, now adult in type, covers a smaller area than in the adult and does not extend onto the thighs.



**Stage 5.** The hair is adult in quantity and type, with extension onto the thighs.

Adapted from Tanner JM: *Growth at Adolescence*, ed 2.  
Oxford: Blackwell Scientific Publications, 1962.

ROSS LABORATORIES  
COLUMBUS, OHIO 43216  
Division of Abbott Laboratories, USA



# Typical Progression of Male Pubertal Development

## SMR - Male

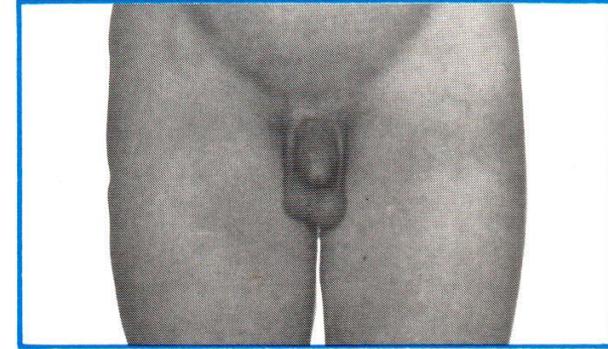
### Pubertal development in size of male genitalia.



**Stage 1.** The penis, testes, and scrotum are of childhood size.



**Stage 2.** There is enlargement of the scrotum and testes, but the penis usually does not enlarge. The scrotal skin reddens.



**Stage 3.** There is further growth of the testes and scrotum and enlargement of the penis, mainly in length.



**Stage 4.** There is still further growth of the testes and scrotum and increased size of the penis, especially in breadth.



**Stage 5.** The genitalia are adult in size and shape.



# STI's in abused children

- **reported frequency 5%**  
(range 2 to 45%)
- **all STI's seen in adults, have been identified in abused children**
- **may be asymptomatic**
- **long term consequences are unknown**

# Gonorrhea

- **Organism:** *Neisseria gonorrhoeae* (GC)
- **Transmission:** direct exposure of mucous membrane
- **Chance of fomite transmission:** extremely rare
- **Incubation:** males 2-5 days, females 3-7 days
- **Implications:** **diagnostic**
  - beyond newborn period
- **Prevalence in abused children:** **1-5% (3%)**
  - <2% prepubertal
  - 7% pubertal

# Gonorrhea

- **Asymptomatic patients varies w/age, gender**
  - Pubertal females 50%
  - Prepubertal females 5%
  - Males 5%
- **Symptoms can clear w/o treatment**
  - 4-6 weeks in females, unknown in males
  - Culture will still be positive for up to 6 months
- **If child or perpetrator Rx'd with an antibiotic, culture will be negative, NAAT negative in 2-3 weeks**
- **If one child in home positive, should test all other children & adults in the home**

# Chlamydia

- **Organism:** *Chlamydia trachomatis* (CT)
- **Transmission:** direct inoculation from infected mucous membrane sites to mucosal surfaces
- **Incubation period:** 7-14 days (1 to 3 wks)
- **Implications:** **diagnostic**
  - if not perinatally acquired (up to 3 yrs of age)
- **Prevalence in abused children: 1-2%**
  - Prepubertal 0.8%
  - Pubertal 7.0%

# Chlamydia

- **Asymptomatic patients with infection**
  - Females 75%
  - Males 50%
- **Symptoms clear w/o Rx in weeks for most**
- **Infection clears w/o Rx in most within months, but can persist up to 28 months**
- **If one child in home w/infection, should test all other children in home (and adults)**
- **Test sensitivities**
  - Culture 65% (50-80)
  - NAAT 95% (90-97)

# Trichomoniasis

- **Organism:** *Trichomonas vaginalis*
- **Transmission:** in adolescents/adults it is almost exclusively a STI; no documented cases of transmission through fomites
- **Incubation period:** 7 days (4-28 days)
- **Implications:** **highly suspicious**
  - beyond newborn period (1 mo vagina; 12 mos urethra)
- **Incidence in abused population:** unknown
- **Tests:** vaginal swab & urine for NAAT, wet prep, urinalysis, & vaginal swab for culture

# Trichomoniasis

- **Asymptomatic patients**

- Males 90%
- Females 50%

- **Fomite transmission unlikely, but thought to be possible**

- **Test sensitivities**

- Culture 90% (80-90)
- Wet prep 60% (50-75)
- NAAT 90% (specificity 97-98%)

# Bacterial vaginosis

- **Organism:** overgrowth of *Gardnerella vaginalis* & anaerobes
- **Implications:** **inconclusive**
  - should arouse suspicion
- **Symptoms:** infrequent prior to puberty, may be asymptomatic in adolescents & adults. May have itchy, thin, gray, & homogeneous vaginal d/c.

# Syphilis

- **Organism:** *Treponema pallidum*
- **Incubation Period:** 3 weeks
- **Implications for Sexual Abuse:** **diagnostic**
  - outside of newborn period
- **Prevalence in abused children:** <1%
  - (0-1.8%)
- **Tests:**
  - If use RPR, VDRL, Confirm positives w/ FTA-ABS or TP-PA (or other syphilis specific test)
  - Syphilis IgG

# Condylomata acuminata

- **Organism:** Human papilloma virus (HPV)
- **Transmission:** by direct contact with lesions
- **Incubation Period:** 3 to 20 months
  - Possibly up to several years
- **Implications for sexual abuse:** **suspicious**
  - if not perinatally acquired (onset  $\geq 2$  years of age)
- **DX:** by visual exam
  - Bx & HPV DNA rarely needed

# HPV Infections

- **Spontaneous remission is common in children**
  - up to 67%
- **Chance acquired by sexual contact (sexual abuse) increases with age of onset of lesions:**
  - <2 yrs: very unlikely
  - 2-4 yrs: 20%
  - 4-8 yrs: 37%
  - 8-12 yrs: 70%
  - $\geq 13$  yrs: >90%

# Herpes simplex

- **Organism:** Herpes simplex virus (HSV)
- **Transmission:** direct inoculation to mucous membrane or abraded skin area. Fomite transmission unlikely.
- **Incubation period:** 2 to 7 days (range 2-14 days)
- **Implications for sexual abuse: suspicious**
  - Type 1: **possible**, unless autoinoculation
  - Type 2: **probable**
- **Prevalence in sexually abused children: unknown (10% of adult population)**
- **Tests:** culture with typing

# HIV / AIDS

- Human immunodeficiency virus (HIV)
- Transmission: exposure to infected blood, semen, or body fluids to mucous membranes, broken skin surfaces, blood transfusion, or perinatally acquired
- Incubation period: variable, months to years
- Implications: **diagnostic**
  - if no clear history of neonatal or blood product exposure
- Prevalence in abused children: **rare**

# Molluscum contagiosum

- DNA containing poxvirus
- transmitted by direct contact
- incubation period: 1 week to 6 months
- implications: **doubtful**
- prevalence: unknown
- symptoms: pruritus
- duration: 2 mos per papule, up to 3 yrs

# Implications of STD's in prepubertal children

From: AAP Committee on Child Abuse & Neglect, 2005

<b>STD confirmed</b>	<b>Sexual abuse</b>	<b>Suggested action</b>
Gonorrhea	Diagnostic	Report
Syphilis	Diagnostic	Report
HIV	Diagnostic	Report
Chlamydia	Diagnostic	Report
Trichomonas	Highly suspicious	Report
Condyloma	Suspicious	Report
Herpes (genital)	Suspicious	Report
Bacterial vaginosis	Inconclusive	Medical f/u



# Laboratory Evaluation for STI's

## General Recommendations

- **Universal screening of postpubertal patients**
- **More selective screening of prepubertal patients**
- **Vaginal specimens are preferred over endocervical for all age groups (NAAT tests)**
- **For prepubertal patients, collect specimens, but do not treat until results are available**
  - **Exceptions include ASA HIV prophylaxis, symptomatic patients**

# Laboratory Evaluation for STD's

## CDC Recommendations

### Prepubertal Children Screening

- **Decision is made on an individual basis**
- **High risk situations**
  - Child has symptoms or signs of STD
  - Suspected assailant is known to have STD or high risk
  - Sibling or another child or adult in household with STD
  - Patient or parent requests testing
  - Evidence of genital, oral, or anal penetration or ejaculation is present

CDC. Sexually transmitted diseases treatment guidelines 2010. MMWR 2010;59 (no. RR-12)

# Concluding the examination

- Explain results to child & guardians separately
- Reassure children they are “okay”
- Give child “permission” to tell others
- Give child & guardians a chance to ask questions

# Classification of sex abuse findings

## Adams Classification Table 2015

### Normal variants

1. **Normal variations in appearance of hymen**
  - Annular: hymenal tissue present all around the vaginal opening including at the 12 o'clock location
  - Crescentic hymen: hymenal tissue is absent at some point above the 3-9 o'clock locations
  - Imperforate hymen: hymen with no opening
  - Microperforate hymen: hymen with one or more small openings
  - Septate hymen: hymen with one or more septae across the opening
  - Redundant hymen: hymen with multiple flaps, folding over each other
  - Hymen with tag of tissue on the rim
  - Hymen with mounds or bumps on the rim at any location
  - Any notch or cleft of the hymen (regardless of depth) above the 3 and 9 o'clock locations
  - Superficial notches of the hymen at or below the 3 and 9 o'clock locations
  - Smooth posterior rim of hymen that appears to be relatively narrow along the entire rim
2. **Periurethral or vestibular band(s)**
3. **Intravaginal ridge(s) or column(s)**
4. **External ridge on the hymen**
5. **Linea vestibularis (midline avascular area)**
6. **Diastasis ani (smooth area)**
7. **Perianal skin tag(s)**
8. **Hyperpigmentation of the skin of labia minora or perianal tissues in children of color**
9. **Dilation of the urethral opening with application of labial traction**

## **Adams Classification Table**

# **Conditions mistaken for abuse:**

- 19. Urethral prolapse**
- 20. Lichen sclerosus et atrophicus**
- 21. Vulvar ulcer(s)**
- 22. Erythema, inflammation, and fissuring of the perianal or vulvar tissues due to infection with bacteria, fungus, viruses, parasites, or other infections that are not sexually transmitted**
- 23. Failure of midline fusion, also called perineal groove**
- 24. Rectal prolapse**
- 25. Visualization of the pectinate/dentate line at the juncture of the anoderm and rectal mucosa**
- 26. Partial dilatation of the external anal sphincter, with the internal sphincter closed, causing the appearance of deep creases in the perianal skin**
- 27. Red/purple discoloration of the genital structures (including the hymen) from lividity post-mortem, confirmed by histological analysis.**

## **Adams Classification Table**

### **Findings with no expert consensus of interpretation with respect to sexual contact or trauma:**

- 28. 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**
- 29. Notch or cleft in the hymen rim, at or below the 3 or 9 o'clock location, which is deeper than a superficial notch and may extend nearly to the base of the hymen, but is not a complete transection. Complete clefts/transections at 3 or 9 o'clock are also finding with no expert consensus in interpretation.**
- 30. Genital or anal condyloma accuminatum in the absence of other indicators of abuse; lesions appearing for the first time in a child older than 5 years may be more likely to be the result of sexual transmission**
- 31. Herpes Type 1 or 2, confirmed by culture or PCR testing, in the genital or anal area in a child with no other indicators of sexual abuse.**

# **Adams Classification Table**

## **Findings Caused by Trauma &/or Sexual Contact**

**Acute trauma to external genital/anal tissues which could be accidental or inflicted**

- 32. Acute laceration(s) or bruising of labia, penis, scrotum, perianal tissues, or perineum**
- 33. Acute laceration of the posterior fourchette or vestibule, not involving the hymen.**

**Residual (healing) injuries to external genital/anal tissues (These rare findings are difficult to diagnose unless an acute injury was previously documented at the same location)**

- 34. Peri-anal scar**
- 35. Scar of posterior fourchette or fossa**

**Injuries indicative of acute or healed trauma to the genital/anal tissues**

- 36. Bruising, petechial, or abrasions on the hymen**
- 37. Acute laceration of the hymen, of any depth; partial or complete**
- 38. Vaginal laceration**
- 39. Peri-anal laceration with exposure of tissues below the dermis**
- 40. Healed hymenal transection/complete hymenal**
- 41. A defect in the posterior (inferior)half of the hymen wider than a transection with an absence of hymenal tissue extending to the base of the hymen.**

# **Adams Classification Table**

## **Findings Caused by Trauma &/or Sexual Contact**

**Infections transmitted by sexual contact, unless there is evidence of perinatal transmission or clearly, reasonably and independently documented but rare nonsexual transmission**

- 42. Genital, rectal or pharyngeal Neisseria gonorrhoeae infection**
- 43. Syphilis**
- 44. Genital or rectal Chlamydia trachomatis infection**
- 45. Trichomonas vaginalis infection**
- 46. HIV, if transmission by blood transfusion has been ruled out**

**Diagnostic of sexual contact**

- 47. Pregnancy**
- 48. Semen identified in forensic specimens taken directly from a child's body**



# Exam outcomes

## “It is normal to be normal”

Investigator	Orr	Teixeria	Rimsza	Cantwell	Emans	Dubowitz	Adams	Kellog	Palusci	Bowen	Pugno	Berenson
Year	1979	1981	1982	1983	1987	1992	1994	1998	1999	1999	1999	2000
<b>Number</b>	100	33	311	83	119	99	236	157	497	385	1058	192
Girls	86	33	268	83	119	82	215	151	388	325	1058	192
Boys	14	0	43	0	0	17	21	6	109	60	0	0
<b>Age (yrs)</b>	<16	<10	<18	<13	<15	<12	<17	<14	<17	<18	<11	<8
mean age	9.2		9.2		5.6	6	9	4.6	7.4	7.1		
<b>Findings %</b>												
Normal/nonspecific	77.0%	85.0%	39.0%	16.0%	70.0%	62.0%	77.0%	85.0%	83.0%	88.0%	65.0%	97.5%
Suspicious/abnormal	23.0%	15.0%	61.0%	84.0%	30.0%	38.0%	23.0%	15.0%	17.0%	8.3%	35.2%	2.5%
<b>Vaginal (total)</b>												
Normal/nonspecific	65.0%	85.0%	39.0%	16.0%	70.0%	62.0%	77.0%	85.0%	N/A	N/A	64.7%	97.5%
Suspicious/suggestive	55.0%		16.0%	84.0%		10.0%	9.0%	12.0%				
Definitive	35.0%	15.0%	48.0%	N/A	30.0%	28.0%	14.0%	3.0%	N/A	N/A	N/A	N/A
<b>Anal (total)</b>												
Normal/nonspecific		N/A				65.0%	93.0%	100.0%				
Suspicious/abnormal		N/A		5.4%		35.0%	7.0%	0.0%				
<b>STD's</b>	7.0%	N/A	11.5%	N/A	2.5%	N/A	N/A	3.1%	0.0%	0.7%	N/A	0.0%

# Exam Outcomes

- **Most sexually abused children will have a normal exam including lab tests.**
- **Abnormal exam frequencies vary widely between studies**
  - **Females 20%** (range 2.5% - 83%)
  - **Males 3%** (range 1-10%)
- **There are many factors that increase the risk for an abnormal exam**
  - Older age of victim (pubertal females)
  - Types & number of sexual contacts
  - Time since last sexual contact prior to exam

# Exam outcomes

## Pregnant Adolescent Study

- **Purpose:** to summarize findings of teens who were pregnant at exam or shortly before
- **Number of subjects:** 36
- **Age of subjects:** mean 15.1 (12.3 – 17.8)
- **Pregnancy confirmed at visit, pictures taken**
- **Reviewers blinded to history except pregnancy status**

Kellogg, et al. Pediatrics 2004;113:e67-e69

# Exam outcomes

## Pregnant Adolescent Study

• Normal examination	82%	(30)
• Suggestive	11%	(4)
• Definitive evidence	7%	(2)

Kellogg, et al. Pediatrics 2004;113:e67-e69

# Exam outcomes

## Pregnant Adolescent Study

Findings: **only 2 of 36 had definitive findings of penetration**

- For three with normal exams
  - **1 was pregnant w/second child (8 wks)**
  - **1 was 2 weeks s/p D&C for miscarriage**
  - **1 had an abortion 2 months prior to exam**
- **1 was 6 months pregnant at time of exam**

Kellogg, et al. Pediatrics 2004;113:e67-e69



# Treatment

If seen within 72 hours of a sexual assault, the most important considerations are:

- child's safety
- perpetrator will not have access to child
- child will receive emergency psychiatric therapy if needed
- any trauma or infection is noted & treated

# Treatment

- Determine if pregnant (pubertal/postpubertal)
- Help the family through the crisis
- Make a report to a child abuse authority
- Involve hospital social services
- Schedule child for appropriate medical follow up
- Counsel & offer prophylaxis for STI's & pregnancy prevention if pubertal/postpubertal

# Post assault STI prophylaxis

- **HBV vaccination**
  - start or complete series
- **Antimicrobial therapy: empiric treatment for chlamydial, gonorrhea, & trichomonal infections**
- **HIV prophylaxis**
- **HPV vaccination is recommended for female survivors aged 9-26 yrs & male survivors 9-21 yrs**

Ref: CDC. Sexually transmitted diseases treatment guidelines, 2015. MMWR 2015; 64(No. 5):1-137.

# Post assault STI prophylaxis

## Adolescents and postpubertal Children:

- Ceftriaxone 250 mg IM in a single dose

PLUS

- Azithromycin 1 g orally in single dose OR doxycycline 100 mg orally BID X 7 days

PLUS

- Metronidazole 2 g orally in single dose

OR

- Tinadazole 2 g orally in a single dose

# Post assault STI prophylaxis

**Prepubertal children:** prophylaxis is not recommended routinely, test for STIs & treat those that are positive.

Also, consider:

- **HBV vaccination (without HBIG) given at time of exam and 1-2 and 4-6 months after the first dose, if not already vaccinated.**
- **HPV vaccination is recommended for female & male survivors aged  $\geq 9$  yrs.**

# Post assault STI prophylaxis

**Prepubertal children:** if family requests prophylaxis or alleged offender is high risk

Children <45 kg and < 8 y of age

- Ceftriaxone (Rocephin<sup>R</sup>) 125 mg IM in a single dose

*PLUS*

- Erythromycin base or ethylsuccinate, 50 mg/kg/day orally QID for 14 days

Children ≥45 kg but < 8 y of age:

- Ceftriaxone (Rocephin<sup>R</sup>) 250 mg IM in a single dose (prevention of gonorrhea)

*PLUS*

- Azithromycin 1 g orally in a single dose

Children ≥45 kg and ≥ 8 y or age:

- Ceftriaxone (Rocephin<sup>R</sup>) 250 mg IM in a single dose

*PLUS EITHER*

- Azithromycin 1 g orally in a single dose *OR* Doxycycline 100 mg orally twice a day for 7 days

# Post assault pregnancy prevention

- Prophylaxis should be offered to post-menarchal nonpregnant adolescent patient if <120 hours from time of assault (5 days)
- The earlier the better, but may reduce risk of pregnancy up to 75% (from 8% to 2%)
- Risks are low to female & if unsuccessful, to the developing fetus
- Nausea is common, main contraindication is pregnancy
- There are several possible recommended medications for postcoital contraception, but Plan B is used the most.

# Emergency contraception\*

**Plan B® One-Step (levonorgestrel 1.5 mg), 1 tablet given orally**

**Or**

**Ulipristal acetate, 30 mg, orally, in a single dose**

**Or**

## **Oral contraceptive pills**

(each containing 20 or 30 µg of ethinyl estradiol plus 0.1 mg or 0.15 mg of levonorgestrel or 0.3 mg of norgestrel: each of 2 doses must be given 12 hours apart. Each dose must contain at least 100-120 µg of ethinyl estradiol & 0.5 to 0.6 mg levonorgestrel or 1 mg norgestrel.)

- **The patient should have a negative pregnancy test result before emergency contraception is given.**
- **Although levonorgestrel emergency contraception is most effective if taken within 72 hours of event, data suggest it is effective up to 120 hours.**
- **Ulipristel acetate is effective up to 120 hours after unprotected intercourse.**

\*Reference: AAP. Redbook Online: 2015 Report of the Committee on Infectious Diseases. Table 2.14  
Prophylaxis After Sexual Victimization: Postpubertal Adolescents

# Postcoital contraception

## Plan B One-Step<sup>®</sup>

- **Progestin-only contraceptive pill**
  - 1.5 mg levonorgestrel
- **Decreased nausea & vomiting**
- **Dose: 1 pill given as soon as possible**
- **Pregnancy test should be done prior to RX & at a 1-2 week follow-up visit**
- **Antinausea therapy optional with 1 dose RX**
- **OTC product, no prescription required, no age restrictions**

# HIV Prophylaxis

- **Consider if within 72 hrs of a sexual assault involving vaginal and/or anal intercourse**
- **Contact your Pediatric ID expert for dosage & Rx guidelines**
- **Risks/benefits must be reviewed**
- **Give enough medication for 3-7 days & see back in that time**
- **Do HIV Ab test at original assessment, then @ 6 wks, 12 wks, & 24 wks**
- **Continue Rx for 28 days**

## Transmission Risk by Type of Exposure to HIV-Infected Source\*

Type of HIV Exposure	Transmission Risk, per 100 events (%)
Blood transfusion	95
Perinatal exposure (untreated)	13-45
Receptive anal intercourse (unprotected)	0.5-3.2
Needle sharing (injection drug use)	0.67
Needlestick (healthcare)	0.32
Receptive vaginal intercourse (unprotected)	0.01-0.3
Insertive vaginal intercourse (unprotected)	0.03-0.09
Ingestion of human milk (single exposure)	0.001-0.004

\*Pediatrics 2003;111:1475-1489.

# HIV Prophylaxis – UAB & COA

## Eligibility Criteria to offer PEP

- Exposure occurred < 72 hours before first PEP dose would be given
- Substantial exposure to blood or genital secretions of a known HIV-infected person, or person at high risk of HIV-infection (hx incarceration, IV drug use, man who has sex with other men, promiscuity, other STIs)
- Victim has genital mucosal trauma, unprotected receptive anal sex occurred, or multiple assailants reported
- Patient must consent for baseline serologies (HIV Elisa)
- Patient must be able to receive the first dose of PEP as soon as possible after decision is made to treat (ie within hours)
- Patient must agree to close follow-up within 5-7 days
- Use of an FDA-approved rapid HIV test is preferred if available (results within an hour).
  - Patients who test HIV-positive should be excluded from PEP.

# HIV Prophylaxis –

## Patients <30 kg:

Zidovudine (Retrovir<sup>®</sup>) 10 mg/ml: \_\_\_\_\_ ml po q12 (240 mg/m<sup>2</sup>/dose, max 300 mg/dose)

Lamivudine (Epivir<sup>®</sup>) 10 mg/ml: \_\_\_\_\_ ml po q12 (4 mg/kg/dose, max 150 mg/dose)

Lopinavir/Ritonavir (Kaletra<sup>®</sup>) 80 mg/ml: \_\_\_\_\_ ml po q12 with food (250 mg/m<sup>2</sup>/dose, max 400 mg/dose)

Ondansetron (Zofran<sup>®</sup>) ODT: **(select one)**

8 – 15 kg: 2 mg (1/2 of 4 mg tablet) po BID

>15 – 30 kg: 4 mg tablet po BID

# HIV Prophylaxis –

## Patients $\geq 30$ - $< 40$ kg:

Ondansetron (Zofran<sup>®</sup>) ODT: 8 mg tablet po BID

Zidovudine 300 mg/Lamivudine 150 mg (Combivir<sup>®</sup>): 1 tablet po q12

Lopinavir/Ritonavir (Kaletra<sup>®</sup>): **(select one)**

$> 30$  - 35 kg: Three 100/25 mg tablets po q12 with food

$>35$  – 40 kg:  Two 200/50 mg tablets po q12 with food (adult size) **OR**  
 Four 100/25 mg tablets po q12 with food (pediatric size)

## Patients $> 40$ kg:

Ondansetron (Zofran<sup>®</sup>) ODT: 8 mg tablet po BID

Tenofovir 300 mg/Emtricitabine 200 mg (Truvada<sup>®</sup>): 1 tablet po daily

Lopinavir/Ritonavir (Kaletra<sup>®</sup>): **(select one)**  Two 200/50 mg tablets po q12 with food (adult size) **OR**  
 Four 100/25 mg tablets po q12 with food (pediatric size)

# Documentation of Evaluation

**Record each of the following:**

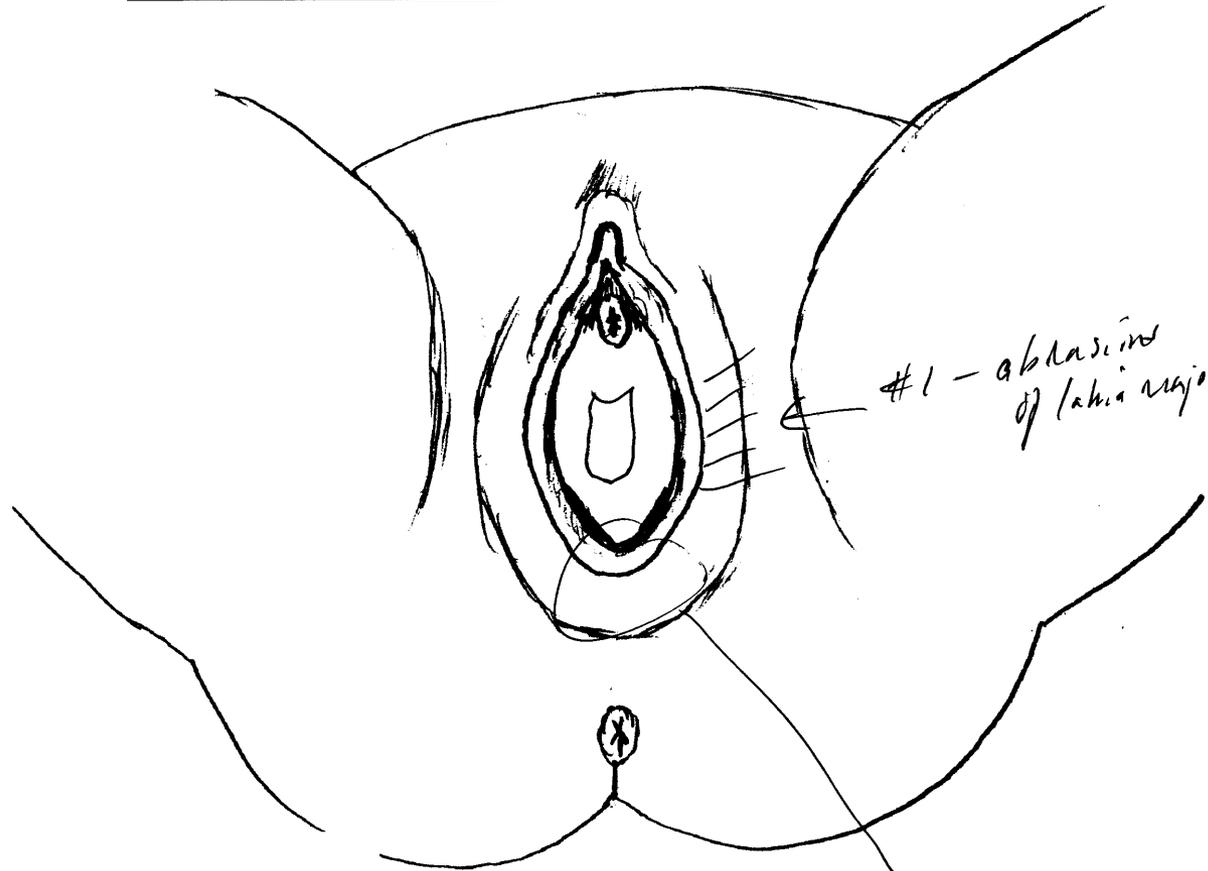
- **individual(s) who accompany the child**
- **persons in the room during the interview & examination**
- **location of evaluation**
- **date & time of evaluation**
- **use of any interview and/or exam tools**
  - (ie. dolls, colposcope, etc.)

**ANO-GENITAL EXAM FINDINGS  
FEMALE**

Patient label

Name: Jane Doe  
DOB: 01-01-1997 · Exam date: 9-2-02  
Examiner: Michael A. Taylor, MD

Use injury location drawings always, & photography when available & allowed by patient



**Female genitalia injury drawing**

Hymen Description:  crescent     annular     other \_\_\_\_\_  
Estrogenized:     Yes     No

Rectal Findings:     Normal     Abnormal  
If abnormal, description of findings:

Significant findings:

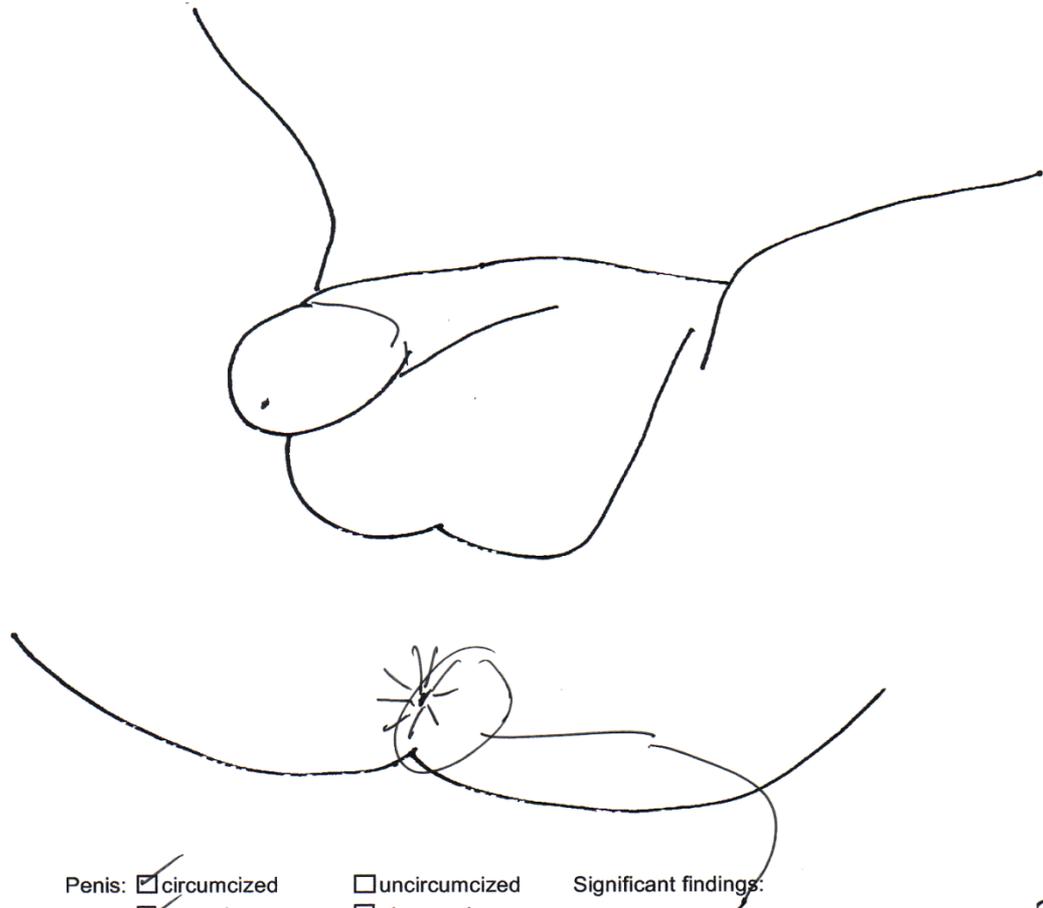
#2 Bruising of perineal Anuschette

**ANO-GENITAL EXAM FINDINGS**  
**MALE**

Patient label

Name: John Q. Doe  
DOB: 10-21-98 Exam date: 01-03-03  
Examiner: Michael A. Taylor, MD

**Male injury drawing**



Penis: circumcized uncircumcized  
normal abnormal

Rectal Findings:  
normal abnormal

Significant findings:

*Areas of abrasion with erythema  
and swelling of the anal mucosa  
from 2-5 o'clock*

# Mandated Reporters

- In the US, all 50 states & territories have mandated reporting laws since late 1960's.
- All healthcare providers are mandated reporters throughout the US.
- As a mandated reporter, you are required to report suspected child maltreatment:
  - **“when the child is known or suspected to be a victim of child abuse or neglect”**  
(Alabama Code Title 26-14-3)

# Mandated Reporters in Alabama

Reports are required from all of the following:

- **Healthcare workers & institutions**
  - Hospitals, clinics, sanitariums, **doctors, physicians, surgeons, medical examiners**, coroners, **dentists**, osteopaths, optometrists, chiropractors, podiatrists, pharmacists, physical therapists, and **nurses**
- Public and private K-12 employees, teachers, and school officials
- Peace officers and law enforcement officials
- Social workers
- Daycare workers or employees
- Mental health professionals
- Employees of public and private institutions of postsecondary and higher education
- Members of the clergy
- Any other person called upon to render aid or medical assistance to a child

**Ala. Code § 26-14-3**

# Reporting child abuse in Alabama

- report to a **“duly constituted authority”**:
  - DHR
  - Chief of police
  - Sheriff
- penalty for failure to report
  - **For mandated reporter: misdemeanor, not more than 6 months imprisonment or a fine of not more than \$500**
  - **For child: 50% will sustain continued abuse, 5% mortality in physical abuse**

# How to make the report

- “shall be required to report orally, either by telephone or direct communication immediately”
- “followed by a written report”
- “to a duly constituted authority.”

**Code of Alabama 1975, Section 26-14-1**

# Back to the Case Studies



# **Case 1: 18m male**

- **18 mo old male brought for check-up & noted to have several small warts on & around the anus. Rest of the exam is normal.**
- **Previously normal child, FT vaginal delivery, no problems since birth, fully vaccinated to date. Mother does not recall if she has been told of warts in past.**
- **Questions**
  - What evaluation is needed?
  - Should this be reported to CPS/LE?

# **Case 1: 18m male w/perianal warts**

**What evaluation is needed?**

- **A good history & exam**
- **Labwork: some would do nothing, others might do a bag urine & rectal swab for NAAT (GC/CT)**

**Should this be reported to CPS/LE?**

- **No**

## **Case 2: 2 children in a tree house**

- **Father discovers his 7 yo son with his 6 yo female cousin in the tree house in their backyard, both have their pants down & are looking at each other.**
- **No prior history of problems, exam of son is normal.**
- **Questions**
  - What evaluation is needed?
  - Should this be reported to CPS/LE?
  - What treatment should you recommend?

# Case 2: 2 children in a tree house

## What evaluation is needed?

- As always, a good Hx & PE, emphasis on the Hx
- Labwork: none, unless Hx & PE reveal problems

## Should this be reported to CPS/LE?

- No, not likely, unless problematic history

## What treatment should you recommend?

- Most likely reassurance to parents
- Possibly sexual behavior counseling for parents/children

## **Case 3: 4 yo with hiney hurting**

- **4 year old girl tells the daycare worker that her “hiney hurts”. The daycare worker helps her go to the bathroom & notices a green discharge in her panties.**
- **Daycare worker told mother about her vaginal DC.**
- **Mother brings child to the PCP (you) the next day c/o vaginal DC for a few days & c/o of sore bottom from the child.**

### **Questions:**

- **What evaluation is needed?**
- **Should you report to CPS/LE?**

# Case 3: 4 yo with hiney hurting

## What evaluation is needed?

- As always, a good Hx & PE, emphasis on the Hx
- Labwork: vaginal swab for KOH, wet prep, NAAT (GC/CT/Trich), separate swab for routine C&S; urine for UA (possibly NAAT, if unable to get vaginal swab).

## Should this be reported to CPS/LE?

- Lab tests: group A strep infection, no HX
- Lab tests: GC positive

## **Case 4: 8 year old boy**

- **An 8 yo boy walks up to his teacher & grabs both of her breasts & says, “I want to f--- you, baby”.**
- **Teacher reports as possible child abuse due to inappropriate sexualized behavior**
- **Investigation reveals TV in bedroom with cable TV subscription that includes Showtime® Late Night**
- **Family removes TV & cancels Showtime subscription**
- **Family referred to counseling for sexualized behaviors**

## Conclusion

# Take Home Points

- Sexual abuse cases are common in children
- The medical evaluation plays a small, but important role in the overall investigation of a child sexual abuse case
- If sexual abuse is believed to be a possibility, a medical evaluation should be obtained
- It is important to utilize experienced medical examiners whenever possible
- Only a small percentage of sexual abuse victims will have significant exam/lab findings
- **The medical evaluation can & should be therapeutic for many child sexual abuse victims & is the primary reason for obtaining the exam.**

Any Questions?

