



Gelareh kiani MD

Pediatrician

Assicant professor of ISF university of medicine

NELSON Text book of Pediatrics ۲۰۲۰

Uptodate ۲۰۲۰

- The **abuse** and **neglect (maltreatment)** of children are pervasive problems worldwide.



- ▶ Child abuse and neglect are not rare .WHO has estimated that 18% of girls and 8% of boys experience sexual abuse , 23% of children report being physically abused.
- ▶ in the Middle East reported that 30% of children had been beaten by parents, and in a survey in a Southeast Asian country, 30% of mothers reported having hit their child with an object in the past 6 mo.

- **child abuse** as “any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse, or an act or failure to act which presents an imminent risk of serious harm.”





- ▶ **Physical abuse** includes beating, shaking, and burning.
- ▶ If parents spank a child, it should be limited to the buttocks, should occur over clothing, and should never involve the head and neck.
- ▶ When parents use objects other than a hand, the potential for serious harm increases.
- ▶ **Psychological abuse** includes verbal abuse and humiliation and acts that scare a child.

- **Sexual abuse** has been defined as “the involvement of dependent, developmentally immature children and adolescents in sexual activities which they do not fully comprehend, to which they are unable to give consent.”



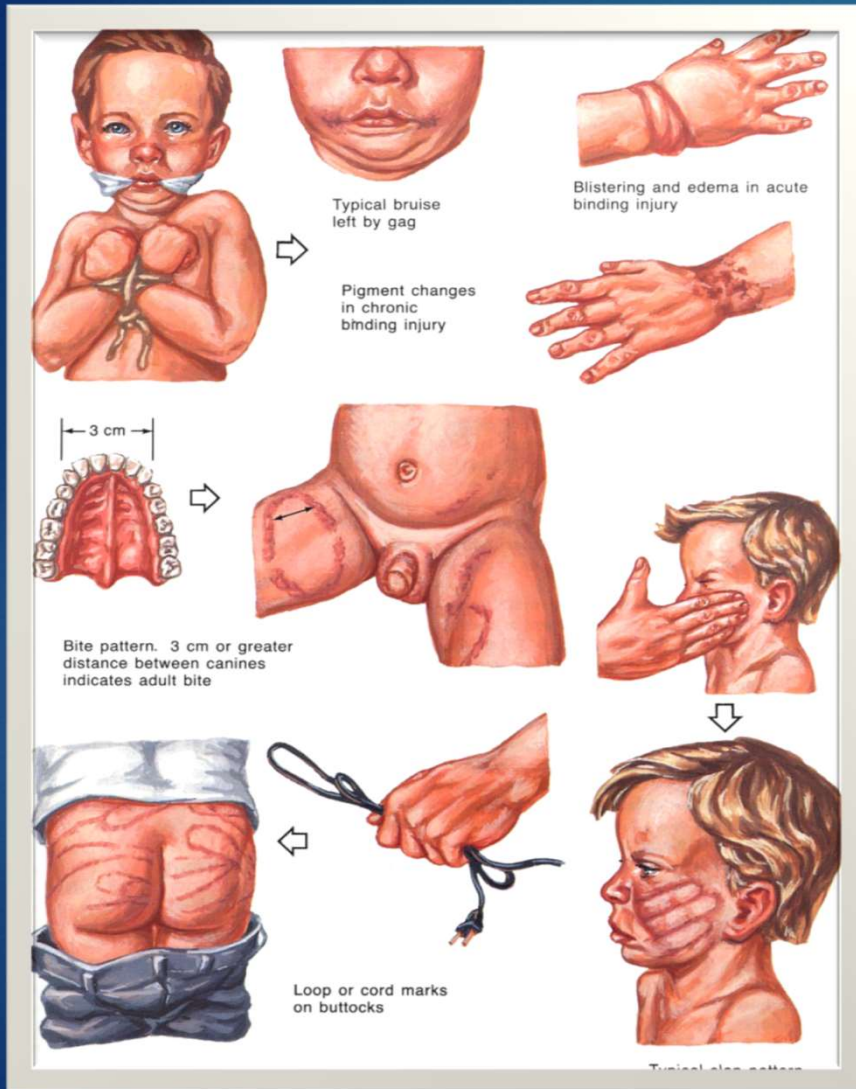


- ▶ **Neglect** refers to omissions in care, resulting in actual or potential harm ; include inadequate healthcare, education, protection from hazards in the environment, and physical needs (e.g., clothing, food) and emotional support.



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Clinical Manifestations



- ▶ A critical element of physical abuse is the lack of a plausible history other than inflicted trauma.
- ▶ The onus is on the clinician to carefully consider the differential diagnosis and not jump to conclusions.

- ▶ **Bruises** are the most common manifestation of physical abuse.
- ▶ Features include:
 - (١) bruising in a **preambulatory infant**
 - (٢) bruising of less exposed areas (**buttocks, genitalia**)
 - (٣) shape of an **object** or **ligatures** around the wrists
 - (٤) multiple bruises, **different ages**

MARKS from INSTRUMENTS

Belt buckle



Belt



Looped cord



Stick/whip



Fly swatter



Coat hanger



Board or spatula



Hand/knuckles



Bite



Sauce pan



Paddles



Hair brush



Spoon

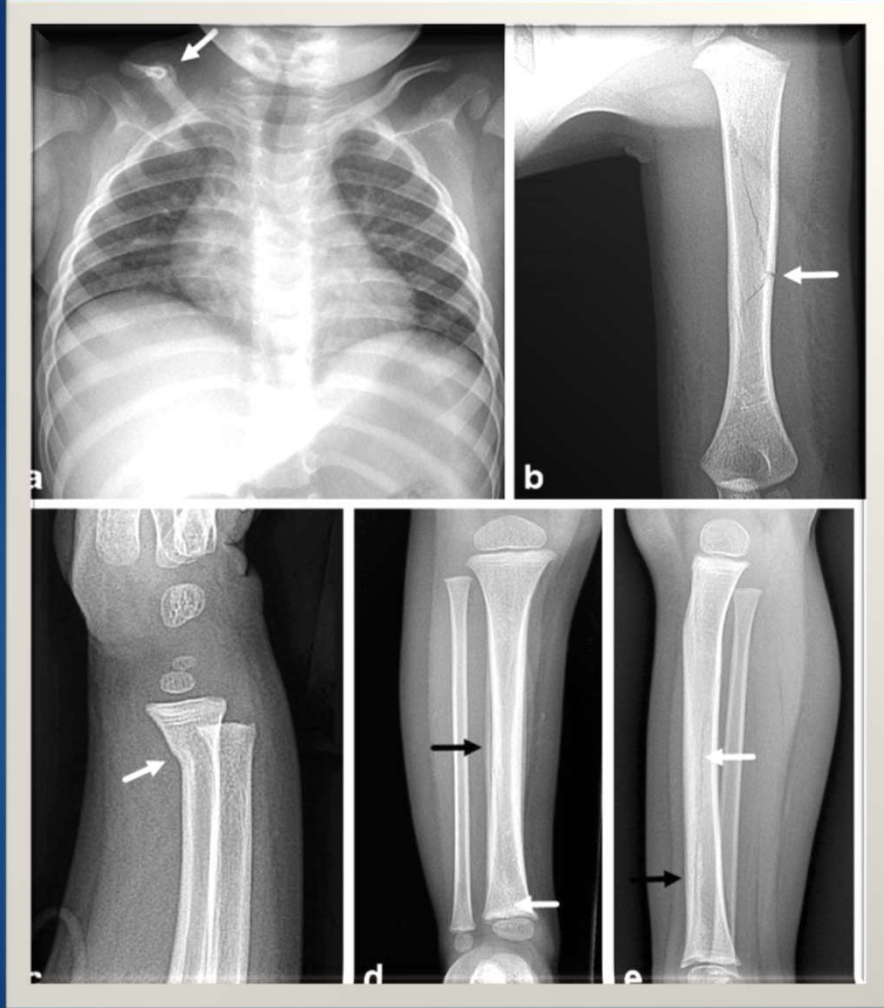


- ▶ **Bites** have a characteristic pattern of \ or ʹ opposing arches.
- ▶ **Burns** may be caused by inadequate supervision.
- ▶ *Immersion burns* show clear delineation between the burned and healthy skin and uniform depth. They may have a sock or glove distribution.
- ▶ Symmetric burns are suggestive of abuse burns buttocks & perineum.
- ▶ Burns from hot objects such as radiators, metal grids, hot knives, and cigarettes (ddx : Impetigo) leave patterns of the objects.



- ▶ **Fractures** suggest abuse include metaphyseal lesions , posterior rib fractures, scapula, sternum, and spinous processes that require more force than a minor fall or routine handling .
- ▶ In abused infants **rib , metaphyseal , and skull fractures** are most common .
- ▶ **Femoral and humeral fractures** in non ambulatory infants are very worrisome.

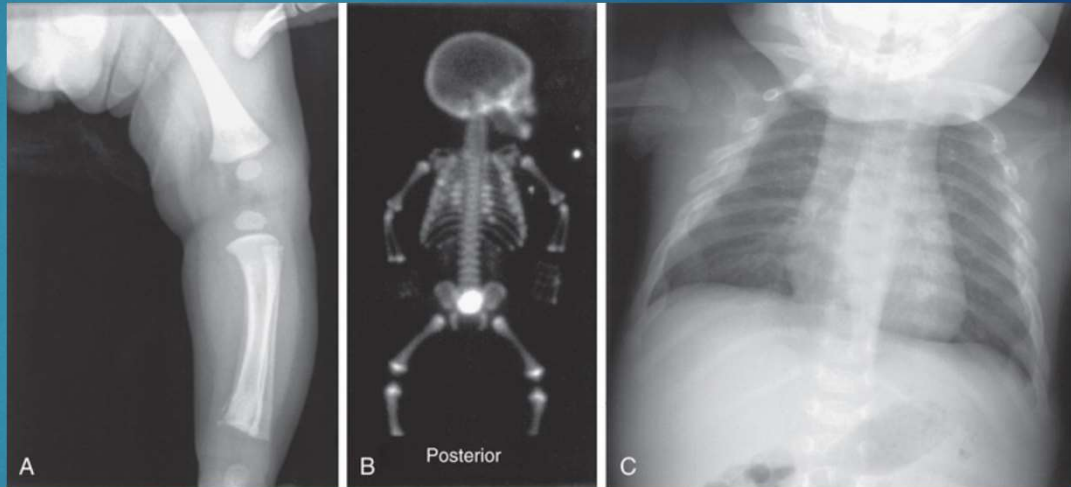
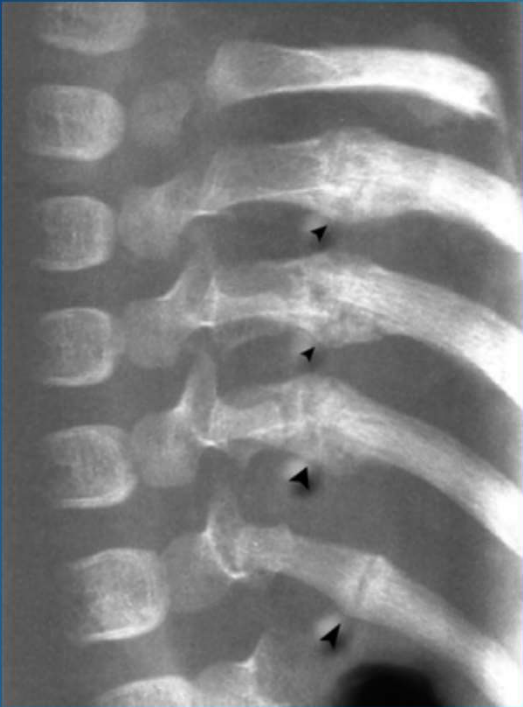
- ▶ With increasing mobility , toddlers can fall with enough force for a spiral, femoral fracture. **Multiple fractures in various stages of healing** are suggestive of abuse.
- ▶ Clavicular, femoral, supracondylar humeral, and distal extremity **fractures** in children older than ۲ yr are most likely **noninflicted** unless they are **multiple or accompanied by other signs of abuse**.



Radiologic Findings

High Specificity:

- ▶ Classic metaphyseal lesions
- ▶ Rib fractures, especially posteromedial
- ▶ Scapular fractures
- ▶ Spinous process fractures
- ▶ Sternal fractures

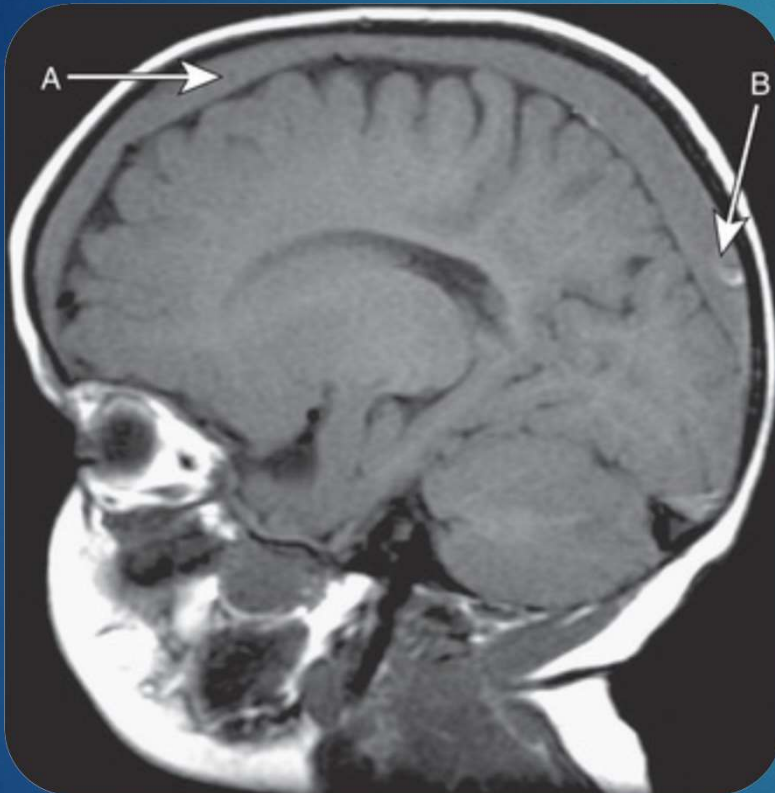


- ▶ The evaluation of a fracture should include a skeletal radiologic survey in children <۲ yr old .
- ▶ If the survey is normal, but concern for an occult injury remains, a radionucleotide bone scan should be performed. Follow-up films after ۲ wk reveal fractures.

- ▶ In corroborating the history and the injury, the age of a fracture can be estimated :
- ▶ Soft tissue swelling subsides in ۲-۲۱ d. Subperiosteal new bone is visible in ۶-۲۱ d. Loss of the fracture line occurs in ۱۰-۲۱ d. Soft callus can be visible after ۹ d and hard callus at ۱۴-۹۰ d.
- ▶ These are shorter in infancy and longer in FTT or chronic disease. Fractures of flat bones (skull) do not form callus and cannot be aged, but soft tissue swelling indicates recency (the prior week).

Abusive head trauma (AHT)

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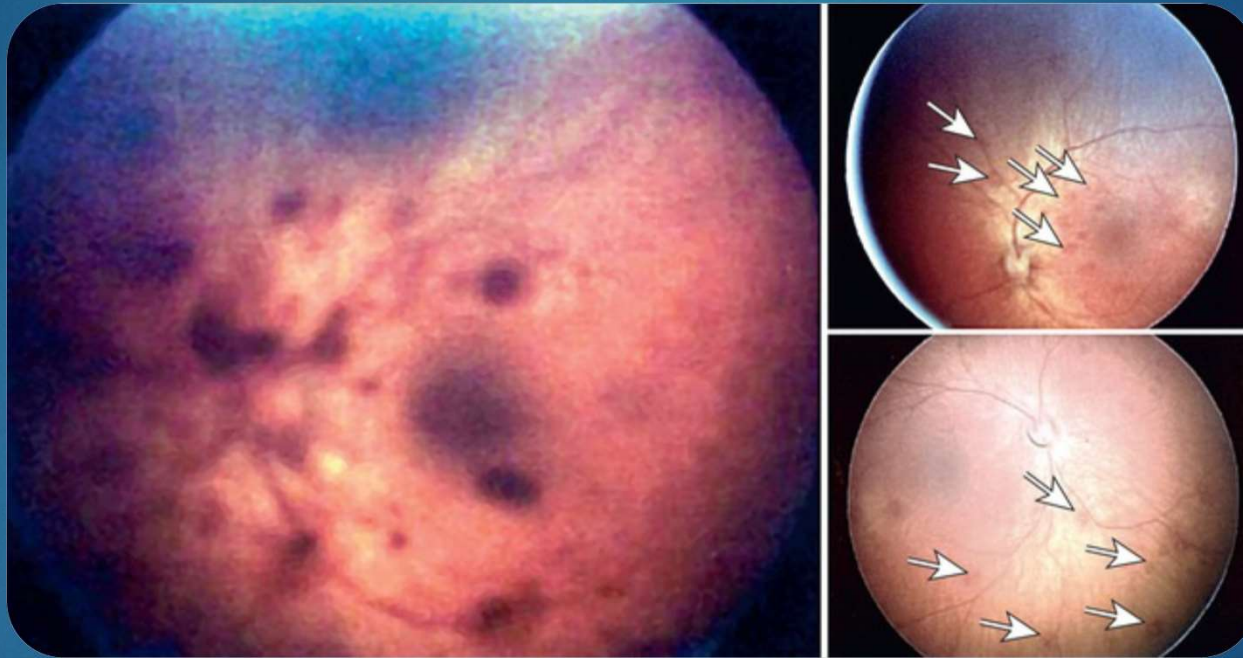


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- ▶ **Abusive head trauma (AHT)** may be caused by direct impact, asphyxia, or shaking.
- ▶ Subdural hematomas , retinal hemorrhages, and diffuse axonal injury suggest AHT, especially when they occur together .
- ▶ Signs and symptoms may be nonspecific : lethargy, vomiting (without diarrhea), changing neurologic status or seizures, & coma.

- ▶ AHT is best evaluated by **initial** and **follow-up brain CT**.
- ▶ **MRI** is best obtained **Δ-۷ days** after an acute injury.
- ▶ When AHT is suspected, injuries elsewhere (skeletal & abdominal) should be ruled out.
- ▶ **Retinal hemorrhages** are an important marker of AHT.
- ▶ Hemorrhages that are **multiple**, involve **>۱ layer** of the retina, extend to the **periphery** are suspicious for abuse.
- ▶ The mechanism is repeated acceleration-deceleration from shaking.

Retinal hemorrhages



- ▶ **Abdominal trauma** accounts for morbidity and mortality in abused children.
- ▶ A forceful kick can cause hematomas of solid organs (**liver, spleen, kidney**) from compression against the spine.
- ▶ Intraabdominal bleeding may result from trauma to an organ or from shearing of **a vessel**.

- ▶ The manifestations of abdominal trauma are **subtle**. Bruising of the abdominal wall is unusual.
- ▶ Delayed perforation may occur days after the injury; bowel strictures or a pancreatic pseudocyst may occur weeks later.
- ▶ Screening should include liver and pancreatic enzyme levels, and testing urine for blood. Children with lab results indicating injury should have abdominal CT performed.

- **Oral lesions** may present as bruised lips, bleeding, torn frenulum, and dental trauma or caries (neglect).



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- ▶ Neglect is the most prevalent form of child maltreatment. It may manifest in many ways, depending on which needs are not adequately met.
- ▶ Inadequate food
- ▶ Poor hygiene
- ▶ Inadequate supervision
- ▶ Educational needs

Assessment of possible Abuse & Neglect

- ▶ Consultation with **a physician expert in child abuse** .
- ▶ A **thorough history** should be obtained from the parents via separate interviews.

- ▶ Verbal children should be interviewed separately.
- ▶ **Open-ended questions** (Tell me what happened?) are best. Some children need more directed questioning (How did you get that bruise?). **Leading questions must be avoided** (Did your daddy hit you?).
- ▶ A **thorough physical examination** is necessary. **Careful documentation** is essential.

- ▶ **For abuse** : What is the evidence for concluding abuse? Have other diagnoses been ruled out? What is the mechanism of the injury? When did the injury occur?
- ▶ **For neglect** : Do the circumstances indicate that the child's needs have not been met? Is there evidence of actual harm? Is there evidence of potential harm?

- ▶ A **child's safety** is a main concern.
- ▶ What is contributing to the maltreatment?
- ▶ What **interventions** have been tried, with what results?
- ▶ What is the **prognosis** ?
- ▶ Is the family **motivated** to improve the circumstances?
- ▶ Are there **other children** in the home who should be assessed for maltreatment?

Sexual Abuse



► In the United States : females: ١٨% & males: ٧%

► **Pediatricians may play roles :**

identification , reporting to child protective services (CPS), testing for and treating STDs , reassurance to children and families, the prevention of sexual abuse by advising parents & children about ways keep safe from sexual abuse.

► Definition

Sexual abuse may be defined as any sexual behavior or action toward a child that is unwanted or exploitative.

► Presentation of Sexual Abuse

Often the signs of sexual abuse are **subtle**. **behavioral changes** are the first sign. **Social withdrawal, increased clinginess or fearfulness, learning difficulties**

Management of Sexual Abuse

- ▶ Rule out any medical problems can be confused with abuse .
- ▶ **prepubertal child** (if abuse has occurred in **previous ۷۲ hr**) : forensic evidence collection (vaginal, anal, and oral swabs)
- ▶ **postpubertal females** : forensic evidence collection up to **۱۲۰ hr** following the abuse. (because semen can remain in the postpubertal vagina for **>۷۲ hr**)
- ▶ If the exam is not urgent, waiting until the next morning (a child is not tired and cranky).

STIs Screening

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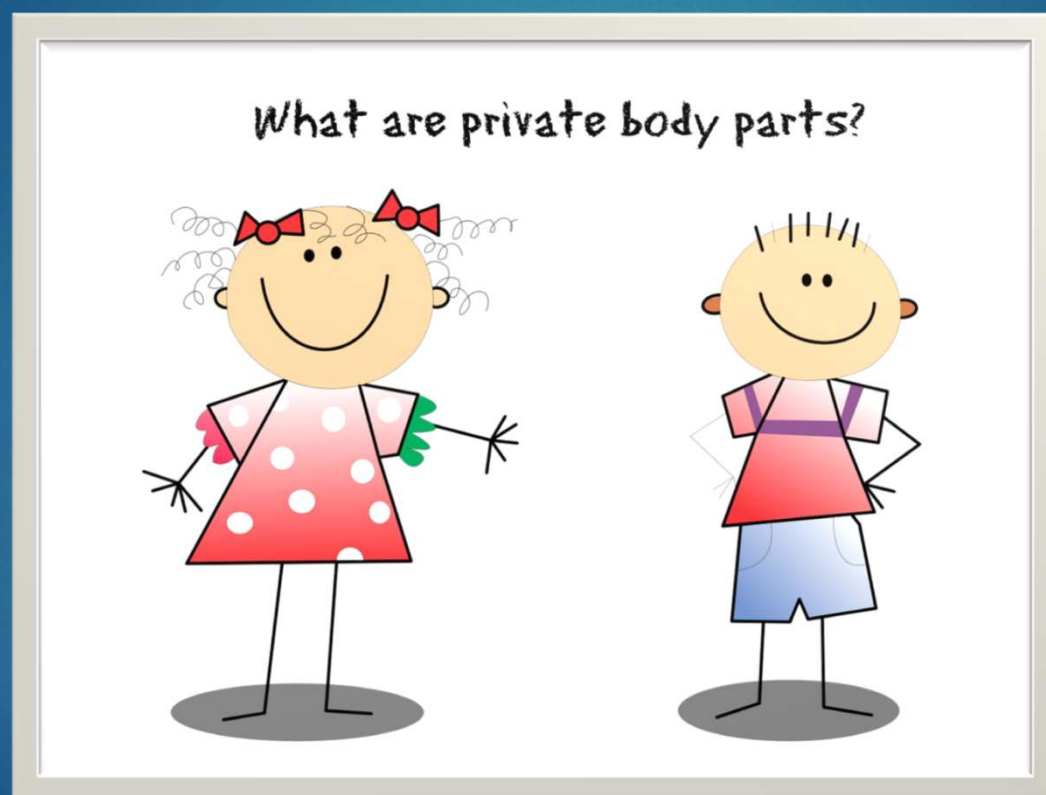


- ▶ ۱. Evidence of recent injury to the genitals, anus, or oropharynx.
- ▶ ۲. Abusing by a person with a STI or at high risk (IV drug abusers, men have sex with men, multiple sexual partners).
- ▶ ۳. A sibling, or another person in the household with an STI.
- ▶ ۴. Living in an area with a high rate of STIs.
- ▶ ۵. Signs or symptoms of STIs (vaginal discharge or pain, genital itching or odor, urinary symptoms, genital lesions or ulcers).

- ▶ **HIV testing** take months for seroconversion : repeat testing at ۹ wk and ۳ mo after the suspected exposure is indicated.
- ▶ Repeat testing for **syphilis** is also recommended.
- ▶ **Hepatitis B** and **HPV** vaccination (for children ≥ 9 yr) should be given(if the child has not been previously vaccinated or vaccination is incomplete).



Sexual Abuse Prevention



- ▶ Pediatricians can play a role by educating parents and children about sexual safety.
- ▶ During the genital exam the pediatrician can inform the child that only the doctor and select adult caregivers should be permitted to see their private parts, and that a trusted adult should be told if anyone else attempts to do so.

- ▶ Pediatricians can help children about what to do in a potentially abusive situation. Some examples include say “no,” to leave, and to tell a parent and/or another adult.
- ▶ Lastly, pediatricians can provide parents with suggestions about how to maintain open communication with their children.

