Accident or Child Abuse? Ocular findings to help you decide

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Prevalence of Child abuse in the United States

Children, youth and teens experience high levels of victimization. Crimes against young people can range from abuse and neglect to assaultive violence and homicide.


Course Description

A review of the prevalence of child abuse, child neglect and the ocular conditions that may occur in abusive situations. Provide the doctor with clinical pearls to identify and manage ocular injuries. Discuss what traumas may be suspicious for abuse versus accidental occurrence. Case reports with examples of abuse and neglect will be discussed.

Course Objectives

To recognize signs and symptoms of child abuse and neglect.
To review the prevalence and common clinical presentation in the eye and adnexa of abuse.
To provide the doctor with skills to diagnose and manage ocular injuries that may occur from accident or abuse and how to tell the difference.

Child Maltreatment

There were 686,000 child maltreatment victims or 9.2 per 1000 children in 2012.

In 2012, just under one-half (44 percent) of all child maltreatment were white, 21 percent African American and 21.8 percent were Hispanic.

Of those children 36.6 percent the mother was the perpetrator, 18.7 percent the father was the perpetrator and 12.6 percent someone other than the parent was the perpetrator.


Types of Abuse Reported

78.3% neglect
18.3% physically abused
10.6% Other abuse or neglect
9.3% sexually abused
8.5% psychologically maltreated
2.3% medically neglected.

### Age of onset of abuse

Neglect (29.7%) and physical abuse (24.6%) have the highest percent of children two years old and younger. Teens ages twelve to fourteen have the highest risk of sexual abuse (26.3%).

### Gender risk for victimization

Girls are most often victims of abuse at a rate of 9.5 per 1,000 children.

Boys were victims of abuse at a rate of 8.7 per 1,000 children.

### Child abuse fatality facts

An estimated 1,593 children died as a result of maltreatment in 2012. Forty-four percent of these children were under a year old. Eighty percent of child fatalities were caused by the child’s parents. Twenty-seven percent of fatalities were caused by the mother alone.

### Fatal Violence facts

8.6% of all homicide victims were children and youth under the age of 18. Of that number 52.8% were 17-19 years old.

### Duty to Report

As a mid level health care provider you are obligated to report any suspected abuse or neglect. Abuse could be physical, verbal or neglect of needs.

As an eye doctor you will see bruises to eye and adnexa. History and observations will support your clinical decisions. A robust looking child wearing a dirty baseball uniform with a black eye who says he was hit with a baseball presents differently than a skinny kid who says they fell into a doorframe.

Other signs of physical abuse. Bruises of different ages. Naturally occurring bruises are on the knees, elbows, and bony extremities. Questionable bruises may show up as small finger size marks from squeezing too tight or larger marks from blows from a hand, fist or foot from being kicked.
**Ocular findings that suggest abuse**

- **Bruises** to orbital rim, eyelids and adnexa
  - Subconjunctival hemorrhages. May show up after choking episode. Could show up in a healthy child after a bout of coughing or vomiting.
  - Retinal hemorrhages. Key finding in shaken baby syndrome.
  - There are non-abusive findings for a retinal hemorrhage in a child. Leukemia, Sickle Cell disease and Diabetic retinopathy would be my first differentials.

**Non ocular findings that suggest abuse**

- **Cleanliness of child**
  - Face
  - Clothing
  - Hair, hands and fingernails
  - Weight and overall appearance. Child should look well-nourished and healthy.
  - Stories that don’t add up. I fell and hit my eye. May say later something different. May not tell truth with someone else in the room. May reveal what happened if abuser is not in room.

**Ocular Signs of Sexual Abuse**

- Pubic lice on the eyelashes and adnexa. May sleep in a “family bed” and not be a victim of abuse just in the wrong place at the right time.
- Sexually transmitted diseases like Chlamydia or Gonorrhea
- Sexual abuse for girls often takes place prior to puberty, the offender does not want to risk pregnancy.
- Stress’s syndrome may be a visually real phenomenon, that shows up when a child is being abused. Case history may lead you to report for investigation.
Treatment for louse infestation

- Manually remove lice from lashes.
- Treat with smothering Ophthalmic ointment like Bacitracin or Erythromycin b.i.d.
- Treat infested areas with commercially available products (shampoo, soap).
- Treat all household members.
- Avoid re-infestation.

Conjunctivitis from Sexually Transmitted Diseases

GONORRHEA

CHLAMYDIA

Treating Ocular STD

Chlamydia

Treatment

Because it is a systemic condition, treat patients whom you suspect have Adult inclusion conjunctivitis (AIC) with 100mg oral doxycycline b.i.d. Continue treatment until the follicles resolve, which may take several weeks.

A single 1g dose of azithromycin is an equally effective treatment, and might be indicated in many circumstances as in, pregnancy, in which doxycycline, the preferred drug, has been found to affect the infant's skeletal and dental development.

https://www.reviewofoptometry.com/article/take-chlamydia-seriously

Gonococcal Conjunctivitis

In the only published study (conducted in 1989) of the treatment of gonococcal conjunctivitis among adults, all 12 study participants responded to a single 1g IM injection of ceftriaxone (580). On the basis of experience with other microbes that have developed antimicrobial resistance, a theoretical basis exists for combination therapy using two antimicrobials with different mechanisms of action (e.g., a cephalosporin plus azithromycin) to improve treatment efficacy and potentially slow the emergence and spread of resistance to cephalosporins. Because gonococcal conjunctivitis is uncommon and data on treatment of gonococcal conjunctivitis in adults are limited, consultation with an infectious-disease specialist should be considered.

Recommended Regimen:

- Ceftriaxone 1 g IM in a single dose
- Azithromycin 1 g orally in a single dose

Consider one-time lavage of the infected eye with saline solution.

https://www.cdc.gov/std/tg2015/gonorrhea.htm

Streff’s Syndrome

The syndrome is characterized by reduced distance and near visual acuity, reduced stereopsis, emmetropia to low hyperopic refractive status and no change in distance acuity with corrective lenses. Some believe it’s an autonomic nervous system disorder caused by an accommodative response to close work; this is in contrast to hysterical amblyopia, which has a primarily psychological etiology.

While a psychological consultation is indicated for a patient with hysterical amblyopia, the application of low plus powered lenses, combined with vision training, is reported to be the most efficacious treatment for a patient with Streff syndrome.

Non Malingering Syndrome

Explanation

The Non-Malingering Syndrome is a classic problem of stress. A simple explanation revolves about the understanding of the fight or flight response. When confronted with a stressor, a living organism generally chooses either to fight (to stay involved in the event and to continue to deal with or confront the stressor), or to fly away from the stress to resolve the conflict.
### Non-Malingering Syndrome

The Non-Malingering Syndrome appears because the individual is conflicted about how to resolve the stress. The conflict in the visual process becomes all consuming and effectively creates a variable blockage in the neural systems that normally handle the processing of the detailed part of our central vision.

### Managing Streff's/Non Malingering

Nearly all cases resolve over a relatively short period of time back to completely normal eyesight, contrast sensitivity and total visual performance with appropriate treatment.

While different treatments may give temporary help, long term improvement and results are accomplished with the use of low powered plus lenses and optometric vision therapy.

These treatment lenses often do not improve visual acuity immediately. They act on the visual attention mechanism to help to relieve some of the visual stress involved with working at sustained near activities.

Over time, this reduction in stress in the visual attention mechanism allows the restoration of normal function.

http://paulharrisod.com/non-malingering-syndrome

### How to report child abuse or neglect

**At SCO report to your staff doctor.**

Staff doctor will form an opinion and report to chief of staff.

Chief of staff will contact authorities for further investigation.

### Reporting Abuse or Neglect

**What You Can Do As a health care provider:**

If you suspect that a child is being harmed, please report your concerns to the appropriate authorities. You may call your local child protective services (CPS) or the police department.

### Case reports

- The role of the physician includes preventing child abuse and detecting and treating victims of child physical abuse when it occurs.

- The physician's ability to recognize suspicious injuries, conduct a thorough physical examination, and evaluate the validity of the caregivers' explanation for the child's injuries is important in detecting child abuse.

- The American Academy of Pediatrics (AAP) recommends that physicians ensure that a patient who is a victim of child physical abuse receives proper medical assessment, stabilization, and referrals to investigative agencies and necessary follow-up services, which include patient and family referrals to appropriate psychological professionals.


- Child abuse does not respect race or socioeconomic status

- Better to be safe than sorry when reporting something suspicious

- Child abuse can be a life threatening event
Uncorrected refractive error

New year old boy presents to SCO clinic for back to school eye exam.
Entering VA is 20/800 OD, OS, OU
Today's refraction -9.00 OD, -8.50-0.50x180 OS
Mother reports eyeglasses were broken at the end of the school year and he has not had any to wear all summer.
What should be done?

Uncorrected Refractive Error

8 year old male presents for follow up exam
Last year’s Rx OD +4.00 OS +1.00. OD best corrected VA 20/80 at distance.
Today enters with no glasses, they were lost a week after he got them, he has failed the school screening.
Record review shows he was scheduled for a six week follow up appointment which was not kept.
Today’s findings, similar refraction, visual acuity unchanged
What should be done?

Two Black eyes

Eleven year old girl presents to clinic with two black eyes. Mother reports she ran into a glass door. No cuts or scratches are evident on the child’s face. The bruises under her eye do not appear recent. Discoloration is present, but no swelling. Child is underweight, wearing dirty jeans, shoes with holes in them, no socks, dirty hair and fingernails, smells like she had not had a recent bath. Small round bruises of different sizes and colors appear on her forearms, and bicep area.
Staff asked mother back to the front desk for an insurance issue. I asked the child what happened and she couldn’t remember.
What should be done?

Corneal burn

2 year old female enters clinic screaming bloody murder
Right cornea presents with 5mm round corneal burn
Mother states she walked into her lit cigarette
Tetracaine was instilled during the office visit, bacitracin ointment was placed in the eye and a patch was applied. Mother was instructed to bring the child back to the clinic first thing in the morning to remove the patch and assess the eye.
Follow up appointment is missed
What should be done?

Slapped during the exam

11 year old girl from Nigeria presents with her father, also Nigerian for routine exam.
Father calls her stupid and berates her
Doctor wants to dilate her, and child resists
Father takes dilating drops, slaps the child on the face and puts eyedrops in the child’s eyes
What should be done?

Foster child with poor vision

5 year old male presents with left exotropia.
Visual acuity OD 20/20, OS NLP
History of biological father punching him in the left eye repeatedly. Child was hospitalized from the beating with head injury. Traumatic cataract and complete retinal detachment of the left eye resulted from this beating. The father was convicted of child abuse and the child was removed to protective services.
What can be done?
Shaken baby goes to Kindergarten

Six year old male reports for pre kindergarten exam. Some trouble with letter reversals and attention were reported.

History of shaken baby syndrome at 3 months of age. He was hospitalized and survived his injuries. Mother was convicted of child abuse and subsequently gave birth to his sister who is eleven months younger than him while in prison. Both children are in the custody of the maternal grandmother who is trying to raise them as a single parent.

Visual acuity 20/20 OD, OS, OU

Binocular findings show reduced near point of convergence. Poor fixation on pursuits. Undershoots all meridians with head and body movement on saccades.

What can be done?

Munchausen by Proxy

Seven year old girl presents with left exotropia for vision therapy evaluation.

Mother has a 22 page print out from the internet about "mitochondrial disorder" that she believes her child suffers from.

Mother is vague about medical management and who is the primary care doctor for the child. Child is on Ritalin, Prozac, Keppra and Dilantin. Mother states the child has frequent seizures, migraine headaches and motion sickness.

Child is prescribed plus glasses and vision therapy. When positive progress is being made, glasses are mysteriously broken. Therapy sessions are well attended initially and then suddenly dropped. Records request for release to another provider indicate family has relocated to another area.

What are red flags in this case?

Streff’s/Non malingering syndrome

Twelve year old girl presents for annual exam

Visual acuity is 20/400 OD, OS and OU both distance and near. The patient rode to the office in a car, sat in the waiting room, watched the TV and walked to the exam room without assistance.

A male intern entered the room to continue the vision exam and the girl started screaming, moaning and crying.

Caregiver for the child reveals that she has been a victim of sexual abuse.

Female doctor completes vision exam with these findings: Distance retinoscopy +1.00 OU. Confrontation visual field, restricted in all meridians.

Cup to disc ratio of 0.2 OU, normal macula and internal findings.

Prescribed +0.50 OU and scheduled follow up in two weeks.

Corneal Abrasion and Hyphema

Seventeen year old white male presents to clinic with his mother holding a wet washcloth to his eye.

Visual acuity was reduced to 20/70 with 30 percent corneal abrasion and 25 percent hyphema.

Patient was "popped" in the eye by another student with a towel in the locker room.

Treatment was bed rest, 5% Homatropine bid, Pred Forte Q4h while awake. Complete resolution of the abrasion and hyphema occurred within 14 days.

This case is consistent with horseplay and bullying. A single incident may trigger suspicion but the story is plausible and there were no other incidents of injury for this youth.

Corneal Abrasion and Hyphema

Ten year old boy presents to clinic with painful left eye

Visual acuity OD 20/20 OS 20/80

Cornea 5mm abrasion

Anterior Chamber 2 percent hyphema

History of being shot with a nerf gun at close range by a playmate.

Management:

- 5% Homatropine, Maxitrol ophthalmic solution, Patch or no patch? Bed rest or Hospitalization?
- Accident versus Abuse. Would lack of eye protection constitute neglect?

Clinical Pearls

Develop your "spider sense" if you feel something is not right with a child or family be cautious.

Develop a relationship with school personnel. It may be easier to get a principal or school counselor to involve authorities. Your observations and input may be another piece of the puzzle.

Develop a relationship with police. I was fortunate enough to have a child abuse investigator as a patient. He was very respectful of my privacy and addressed my concerns thoroughly.
Conclusion

Child abuse and neglect is prevalent.

Ocular signs and symptoms may be managed and reported appropriately.

As primary care providers, we may be more accessible and available to help with referrals for mental health.