Pink Eye in School Children

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PINK EYE

- What is it?
- What causes it?
- Is it Contageous?
- How long does it last?
- What is the treatment?
- When should a child be excluded from school?
- When can a child return to school?
- When is it not just Pink Eye?
Pink Eye

- Pink Eye = Conjunctivitis
- Inflammation of the Conjunctiva
- The conjunctiva is a thin transparent mucous membrane
Bulbar & Palpebral Conjunctiva

Covers the external globe and the inner surface of the lids
Conjunctiva

- Contains:
  - Epithelial Cells
  - Blood Vessels (RED EYE)
  - Lymphatic Channels
  - Lymphocytes (INFLAMMATION)
  - Melanocytes
  - Goblet Cells (Mucous)
  - Accessory Lacrimal Glands

- Function:
  - Protective Covering
  - Helps Lubricate the Eye
Conjunctivitis

- Three Types of Conjunctivitis:
  - Bacterial
  - Viral
  - Allergic

- All three have Redness, Inflammation & Discharge
- Diagnosis and Treatment based on the Clinical Signs and Symptoms
Bacterial Conjunctivitis

- Caused by bacterial organisms
  - Staphylococcus aureus and Staphylococcus epidermidis.
  - In children more common caused by Haemophilus influenzae & Streptococcus pneumoniae
Bacterial Conjunctivitis

Symptoms

- Eyelids stuck together upon waking
- Starts in one eye and may spread to other eye within 1-2 days
- No Pain
- Discomfort or FBS
Bacterial Conjunctivitis Signs

- Redness / Injection
- Discharge
- Papillae
Bacterial Conjunctivitis Signs

- Redness/Injection
  - Usually more towards corners of eye and more redness in the unexposed conjunctiva
Bacterial Signs

- Muco-purulent Discharge
- Yellowish-White, Less Translucent, Sticky Discharge
Bacterial Conjunctivitis
Papillary Reaction
Course and Treatment of Bacterial Conjunctivitis

- 7-10 Days
- Self Limiting and can resolve without treatment
- Treatment shown to decrease the course
- Treatment shown to decrease symptoms within 24 hours

One Study Recommends not treating for 2-3 days, if persistent symptoms then treat
Treatment / Antibiotics

- 3-4 Times a Day for 7 days
- Pediatricians Favor Using:
  - Erythromycin, Gentamycin or Tobramycin
- Other Antibiotics
  - Polytrim Ophthalmic Solution
  - Polysporin Ophthalmic Ointment
  - Vigamox (Fluoroquinolone) Ophthalmic Solution
- Precautionary Measures: Wash Hands, Not Sharing Towels or personal items
Instilling Eye Drops
Viral Conjunctivitis

- Most common virus strain is the Adenovirus
- Two Types of Adenoviral Conjunctivitis
  - Epidemic Keratoconjunctivitis (EKC)
  - Pharyngoconjunctival Fever (PCF)
    - *PFC More Common in Children and occurs with a history of upper respiratory infection
Viral Conjunctivitis Symptoms

- Starts in one eye and may spread to other in several days
- Tearing
- FBS
- Light Sensitivity
- Crusting of the Eyelids in morning
Viral Conjunctivitis Signs

- Diffuse Redness
- Watery-Mucoid Discharge
- Follicular Reaction
- Recent Upper Respiratory Infection
- Possible Fever
- May have Pre-Auricular Adenopathy
- Possible Lid Swelling
Viral Signs

- Diffuse Redness
- Watery Mucoid Discharge
Viral Signs

- Crusting of the Lashes
Viral Follicular Reaction
Viral Conjunctivitis

Pre-Auricular Adenopathy
Viral Signs

- Lid Swelling
Viral Conjunctivitis

- Corneal Involvement
Viral Conjunctivitis Course

- Incubation period of 5-12 days
- Self Limiting (14 to 21 days)
Treatment

- There is no anti-viral drop or medication for Viral Conjunctivitis
- Supportive Treatment: To decrease symptoms
  - Cool Compress
  - Artificial Tears
- Steroid Treatment in some cases and if corneal involvement
- Ophthalmic Iodine Eye Wash: Shorten the course of the infection and contagiousness. This has not been well studied yet, and no conclusive evidence of the success and not FDA approved
- Highly Infectious
  - Infection Control, hygiene, wash hands, do not share towels or other personal items
Bacterial versus Viral

- **Bacterial:**
  - Mucoid Discharge
  - Can have Sectoral Redness
  - Bilateral
  - Otitis Media
  - No Adenopathy
  - Lids Stick Together in Morning

- **Viral:**
  - Watery Discharge
  - Diffuse Redness
  - Bilateral or Unilateral
  - Upper Respiratory Infection
  - Adenopathy
  - Lids Crusty in the Morning
Allergic Conjunctivitis

- May be due to
  - Seasonal Allergies (pollen)
  - Perennial Allergies (Pet Dander, dust mites or other offending agent)
  - Atopic Disease
  - Vernal Keratoconjunctivitis

- HALLMARK SIGN: ITCHING
Allergic Conjunctivitis

**Signs:**
- Watery Discharge
- Chemosis (Conjunctival Edema)
- Mild to Moderate Conjunctival Redness
- Papillary Response
- Lid Swelling

**Symptoms:**
- Itching (Hallmark Sign)
- Constant Eye Rubbing
Allergic Conjunctivitis
Allergic Conjunctivitis Course

- Seasonal
- Perennial: Avoid and Remove the offending agent and treatment for the acute inflammation
- Atopic is Chronic, controlled with treatment
- Vernal: Chronic Treatment with Steroids and usually grows out of it
Allergic Conjunctivitis

- Treatment
  - Artificial Tears
  - Cool Compress
  - Antihistamine Eye Drops
  - Severe Cases: Steroids
Other Considerations Besides Pink Eye

IF RED EYE NOT GETTING BETTER CONSIDER:

- Herpes Virus (Pain)
- Uveitis / Iritis (Underlying Medical Condition)
  - Boys: Anklosing Spondylitis
  - Girls: Juvenile Rheumatoid Arthritis
- Chlamydia / Gonorrhea
  - Sexually Active Teens / Younger consider Child Abuse
- Corneal Abrasion / Trauma (Pain)
Pink Eye Treatment Goals

- Decrease Symptoms and Duration of Infection
- Decrease Risk of Spread of Infection

Treatment Goal: Get Child back to school!!!!!!
Treatment Options

1. Not treat and let run course / Self Limiting
2. Treat the known infection
3. Treat without knowing the type of conjunctivitis
   - Sometimes signs and symptoms overlap and look similar; treat as bacterial but it's viral
4. Treat Viral Conjunctivitis with Antibiotic
   - MOM EXPECTS ANTI Biotic

Get Child Back to School / School Policies
When to be Excluded from or Return to School?

- Varied Opinions and Attitudes by Doctors
- Varying School/State DOH Policies
  - Most policies state to return to school after 24 hours of treatment
  - Some policies do not differentiate between Bacterial and Viral Conjunctivitis, and if Viral is still contagious even with treatment

SO WHEN SHOULD A CHILD BE EXCLUDED FROM SCHOOL??
“Except when viral or bacterial conjunctivitis is accompanied by systemic signs of illness, infected children should be allowed to remain in school once any indicated therapy is implemented, unless their behavior is such that close contact with other students cannot be avoided.”
Study in 2007, asked all State DOH what is policy of excluding children from school of which 43 States Responded

- 7 allow children to remain in school
- 12 allow return to school after 24 hours on antibiotic
- 16 require physicians approval to return to school
- Only 3 States defined the difference between viral and bacterial conjunctivitis
- 12 States no official policy
- Florida had no official policy
CONJUNCTIVITIS (PINK EYE)

Conjunctivitis is the inflammation of the lining of the eyelid. It can be caused by bacteria, viruses, or allergy.

Students should be sent home at once.

Students need to be excluded from school until the day after medical treatment has begun.

A student may need to be reevaluated if symptoms persist.
School in St. Johns County

- May return 24 hours after treatment begins.
- If your help provider decides not to treat your child, a note is needed.
Clay County

- Children with pinkeye should not attend daycare or school until they have been seen by a healthcare provider
• Conjunctivitis (pink eye)
  - Individuals should be excluded from school until 24 hours after therapy.

• Viral Conjunctivitis (pink eye)
  - Infections may be transmittable for 4 - 14 days after onset.
  - Infection may result in exclusion while the disease is active or until the symptoms are resolved.
Conjunctivitis in Children:
Challenges and Choices

- Monthly Prescriber Reference, August 2010

- Recommendation is to return the child to school "once asymptomatic" rather than "after 24 hours on antibiotics"

- Children who have bacterial conjunctivitis on an antibiotic are often symptom-free in less than 24 hours.

- Children using an ineffective antibiotics remain contagious after 24 hours of treatment.

- Viral conjunctivitis remains contagious despite antibiotic treatment, and thus should not return to school until all symptoms have resolved.
Hand-Washing / Prevention of Spread of Infection

- All County DOH Sites discuss the importance of hand-washing.

- Studies have shown that hand washing may significantly reduce the contagion of both viral and bacterial disease

- 2011: Intensive hand hygiene campaign at Schools in Egypt decreased absenteeism due to conjunctivitis by 67%
Handwashing / Prevention of Spread and Epidemics

- 2002 Dartmouth College Bacterial Conjunctivitis Epidemic, even with handwashing the number of new cases did not significantly decrease until the students returned from spring break.

- Another Epidemic in 2002 at a Maine elementary school, found handwashing was disruptive to classes and ineffective; the epidemic lasted from late September until the Thanksgiving recess.
Other Epidemics of Note

- Key West, FL
- From August 22 to November 6, 1981
- 989 cases of viral conjunctivitis were identified
- The outbreak probably began when an infected 12-year-old Key West resident returned from the Bahamas and transmitted the illness to several neighborhood playmates.
Other Epidemics of Note

- In 2006 Viral Conjunctivitis epidemic occurred in Brazil and over 200,000 people were affected.
What Now?

- **Personal Opinion:**
  - I give merit to waiting until symptoms resolve
  - No more discharge, decrease chances of infecting others
  - Stops doctors from treating just to treat

- Follow your County DOH guidelines

- Know when to identify a worse situation and other potential causes of a Red Eye
THANK YOU!!