Recognition and Prevention of Communicable Diseases in Children

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Communicable Diseases

• Definition- An infectious disease or infestation that is transmitted from one person or animal to another, directly or indirectly.

• Manifestations- Variation in signs and symptoms are common, however each disease has its own specific grouping of symptoms. Skin rash, poor appetite, nausea, vomiting, diarrhea, malaise, fever and body aches are common examples.
Fifth Disease
(Erythema infectiosum)

- Caused by the Human parvovirus B19
- More often seen in winter and spring
- Transmitted by respiratory secretions and blood
- Incubation period 4-14 days
- Period of communicability is greatest before onset of symptoms and usually not contagious after rash appears
- Prevention—avoid contact with infected persons early in disease
Fifth Disease cont.

- Begins by exhibiting flu-like illness (headache, nausea, body ache)
- Within one week red raised rash appears on cheeks resembling “slapped face” effect accompanied with oral paleness
- Within 2-4 days a lace-like rash spreads outward from trunk and limbs lasting 1-3 weeks
Fifth Disease cont.

- There is no specific treatment and recovery is spontaneous
- Supportive Care may include: use of Acetaminophen, oatmeal-based preparations to relieve any itching related to rash & rest
- Children with certain blood disorders may be at greater risk of complications
- Women attempting to conceive and those who are pregnant should abstain from interaction with infected persons related to high incidence of fetal infection resulting in spontaneous abortion
Fifth Disease
Roseola (Exanthum subitum)

- Caused by Herpes virus type 6
- Occurs primarily in children 6-24 months of age during the spring and summer months
- Transmission mode is unknown
- Communicability is unknown but child is likely to most contagious during fever phase
- Prevention- avoid contact with infected persons in fever and pre rash phase
Roseola cont...

- Symptoms include an elevated temperature up to 105°F (45°C) for 3-8 days where the child does not appear consumed by the elevated temperature.
- Fever is followed by a red raised rash starting on the trunk spreading to the face, neck and extremities lasting for 1-2 days.
- Appetite may remain unchanged.
- Serious complications include febrile seizures.
Roseola cont...

• Roseola is self-limiting.
• There is no treatment other than supportive care (keeping fever down using non-aspirin over-the-counter medications such as Acetaminophen (Tylenol), monitor for seizure activity & encourage fluids)
Roseola
Impetigo

- Highly contagious, superficial infection of the skin caused by streptococci, staphylococci, or both
- Common sites are the face, hands, neck, and extremities
- This is the most common bacterial skin condition in children
Impetigo cont...

- Lesions begin as a vesicle or pustule that are swollen and red
- Person may complain of itching and burning at lesion site
- Lesion progresses to a crusting stage
- The initially clear fluid filled vesicles become cloudy and rupture leaving a honey colored crust scab in an ulcerated area
Impetigo cont...

- Infections is greatest among children in close physical contact with each other (such as child-care facilities and preschools)
- Infection is communicable for 48 hours after treatment with antibiotic ointment is initiated
- Prevention—children’s nails should be kept short, known infected persons should avoid close physical contact with others or with objects shared with others
Impetigo
Chicken Pox
(Varicella)

• Caused by Varicella zoster, human herpes virus 3
• Peak occurrence is in the late fall, winter and spring
• Transmission is by direct contact with lesions or airborne spread secretions
• Incubation period: 14-21 days
• Communicability: As much as 5 days before onset of rash to all vesicles have crusted over (This period may be increased for immunodeficient children)
Chicken Pox cont...

- Characterized by the onset of mild fever, malaise and irritability before eruption of first vesicle
- Begins as a red base and progresses to red raised area, then fluid filled vesicles and finally pustules that eventually crust over
- Prevention: vaccine available for children greater than 12 months and is required in New York State for child care facilities and educational institutions (Separate infected children from others)
- Treatment: Reduce fever using Acetaminophen, decrease itching through use of oatmeal based bath preparations and encourage fluid intake
Chicken Pox
Pink Eye
(Acute Bacterial Conjunctivitis)

- An infection that results in eye irritation, redness, swelling and weeping from the lacrimal ducts
- Infectious organisms are known to be Haemophilus aegyptius, Staphylococcus aureus and Streptococcus pneumoniae
- Extremely Contagious
Pink Eye cont...

- Transmitted through human contact of discharge from the eye and upper respiratory tract
- May last as little as 2 days or as long as 2-3 weeks
- Antibiotic eye ointment or drops are used if infection is suspected
- Not likely to be infectious after 24 hours of treatment with antibiotics
- Prevent spread of infection to others by good hand washing and infection control measures; do not allow children to share personal objects or toys used by infected child
Pink Eye
Source: St. Luke’s Cataract and Laser Institute, 2003
“Strep” Throat (Acute Pharyngitis)

• A contagious infection that normally affects the pharynx, including the tonsils
• Commonly seen in children 4-7
• Rare in children under 12 months
• Caused by bacteria, most often are caused by a Streptococcus
• Spread through direct contact with respiratory droplets of infected person
Strep Throat cont...

• Common signs & symptoms involve sore throat, redness, swelling, exudate, “patchy” tonsils and fever

• Children with this (mild or severe) should see a practitioner for culture

• Usually not contagious after 24 hours of antibiotic treatment

• Prevent spreading by limiting direct contact of infected person with others
Acute Tonsillitis

Swollen uvula

White follicles on tonsils

“Strep” Throat
Source: Hardin MD, 2003
Communicable Disease Prevention

• Hand washing is the number one method to decrease the spread of infectious organisms
• Encourage staff and children alike to participate in proper hand washing activities
• Use approved anti-microbial solutions for cleaning as appropriate
• Make sure all participants in child care programs have up to date immunizations as required by New York State Department of Health
• Isolate or send children home if they show signs of illness (temp., rash, N&V) per policy
Dermatitis

• A condition in which changes occur in the skin in response to stimuli
• Common dermatitis seen within the childcare and preschool setting are contact and diaper dermatitis
• These are not infectious conditions
Contact Dermatitis

- Occurs in response to skin contact with an allergen or irritant
- Common allergens: poison ivy, poison oak, rubber, leather, and nickel
- Common irritants: soaps, detergents, bleaches, cleaning solutions, lotions, urine and stool
- The best prevention is knowing what children are allergic or sensitive to and avoiding contact with the object
Contact Dermatitis cont...

- Appears as a red, swollen, oozing rash in area of contact that will eventually crust over
- May develop up to 18 hours after contact and last up to 72 hours
- Remove causative stimulus (clothing, lotion or soap)
- Apply calamine lotion or hydrocortisone cream per institution policy
Contact Dermatitis
Diaper Dermatitis

• Is a type of contact dermatitis that is caused by a reaction to urine, feces, moisture or rubbing of diaper

• The rash is characterized by redness, swelling, vesicles, papules and scaling in areas of direct contact with diaper
Diaper Dermatitis cont...

- Zinc oxide ointment is usually the choice for treatment of a simple diaper rash.
- Diaper dermatitis, a more advanced rash, may require attention from a medical practitioner.
- Diaper rashes are easily prevented through use of absorbent diapers, routine diaper changing schedule (every 2 hours while awake), barrier creams (zinc oxide, A&D ointment, Bag Balm) and proper cleansing of perineal/perianal area with each diaper change.
Diaper Dermatitis
Head Lice
(Pediculosis capitis)

• Infestation of hair and scalp
• Live and reproduce on humans
• Do not fly or jump, but crawl quickly
• Transmitted through direct or indirect sharing of hats, combs/brushes, towels and linens
• Occurs at all socio-economic levels
Head lice cont...

- The nit or egg look like silvery-white “teardrop” dandruff that clings to the hair shaft
- Commonly found: at the crown, at the nape and behind ears
- The actual “bugs” are rarely seen
- Children suspected of having lice should be isolated with their personal belongings from others and be effectively treated and inspected before returning to childcare settings
Head Lice
Scabies  
(Sarcoptes scabiei)

• Highly contagious infestation by a type of mite
• Symptoms include rash with varying lesions, itchiness that worsens at night and restlessness
• Usual infestation sites are in the: web of fingers, underarms, palms, wrists, neck, head, legs, thigh folds, buttocks, soles, chest and abdomen
Scabies cont...

- Appearance of lesions are usually linear grey threadlike patterns (actually marks from mites burrowing) that may end in a vesicle
- Affects both genders and all ages
- Isolate suspected child from others including personal objects
- Medical intervention is needed to successfully treat and prevent recurrence
- Avoid interaction with the infected person until after completion of treatment
Scabies
Source: Centers for Disease Control, 2002.
Prevention: Know the Children

• Be aware and keep readily available emergency information regarding medical conditions of children

• Know the onset of symptoms for these conditions so that appropriate intervention can be initiated

• Have methods available to treat those children (asthma-inhalers, allergies-benadryl or epi-pens)
References


Questions?