CONTROL OF COMMUNICABLE DISEASE IN THE SCHOOL SETTING

GUIDELINES

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
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Albany, New York 12234
Updated August 2005

THE UNIVERSITY OF THE STATE OF NEW YORK

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I. INTRODUCTION

Prevention and control of communicable diseases are a shared responsibility of schools, health care providers, parents, students, local and state health departments, and others in the community. The school environment is conducive to the acquisition, transmission, and prevention of communicable disease. As part of maintaining a safe and healthy environment for the school community, certain general and disease specific infection control procedures need to be instituted to minimize the inherent risks. Frequent hand washing is MOST important for preventing the transmission of disease.

In order to deal effectively with a communicable disease event, a school district should establish policies and procedures in advance. This will allow for a logical, rational plan of action, should an outbreak occur.

The New York State Department of Health and the State Education Department place a high priority on the need to prevent the spread of infectious disease in the school setting. The development and implementation of an infection control program to be developed by a health services planning team including but not limited to professional school nurse(s), the school physician and others is appropriate. Consistent use by school staff and health personnel of the information and procedures described in this document should contribute to the maintenance and/or improvement of student/staff health and school attendance, therefore contributing to the attainment of optimal achievement and potential for learning.

As knowledge evolves, treatment methods improve, vaccines become available, and incidence changes, certain diseases receive new emphasis. Due to the incidence of transmission of bloodborne infection (hepatitis B and C, and the human immunodeficiency virus), the Centers for Disease Control and Prevention has published detailed guidelines for management of exposure to bloodborne pathogens. In 1991 the Occupational Safety and Health Administration (OSHA) established the Bloodborne Pathogen Standard. The latest Red Book: Report of the Committee on Infectious Diseases, American Academy of Pediatrics, is another authoritative reference.

These guidelines have been developed to provide a practical reference for school health professionals and administrators in the care of children in the school setting. School health professionals and administrators must regularly consult medical literature and specifically follow updated recommendations of the American Academy of Pediatrics, the Center for Disease Control and Prevention, New York State Department of Health and other organizations. In the event of individual cases or outbreaks of reportable diseases, schools are urged to consult with their local health departments for specific measures to be used.

II. LEGISLATIVE BACKGROUND

A. Requirements

Regulations of the Commissioner of Health require school authorities to report known or suspected cases of those communicable diseases deemed reportable by the Commissioner of Health to local public health authorities (Appendix B).

Education Law Section 901 and Commissioner's Regulation 136.2 indicate that schools are responsible to provide medical examinations, one purpose of which is to determine the presence of disease. Education Law, Section 906 gives districts the authority to exclude those students showing symptoms of a communicable disease and reexamine students returning to school following such illness. In addition, Section 906 provides that "medical inspectors may make such examinations of teachers, janitors, other school employees... as in their opinion the protection of health of the pupils and teacher may require."

Public Health Law, Section 2100 gives the health officer authority to take whatever action he/she deems necessary to control or eliminate the spread of communicable diseases. This could include:

- closing the affected schools,
- closing other schools within their jurisdiction,
- causing the cessation of selected school activities or functions, and/or
- excluding any students, staff or volunteers who are infected with or deemed susceptible to the disease.

Public Health Law, Section 2164 defines the immunization requirements regarding diphtheria, pertussis, tetanus, polio, measles, mumps, rubella, varicella, Haemophilus influenza type B and Hepatitis B for all children attending a school, day care center or nursery program.

Rules of the Board of Regents, Section 29.2 (13), state licensed health professionals must use scientifically accepted infection preventive techniques. Failing to use such scientifically accepted techniques is considered unprofessional conduct for licensed professionals.

B. Confidentiality/Discrimination

The issue of confidentiality with regard to medical conditions in the school environment includes infectious disease. Licensed school health personnel are bound to protect the confidentiality of students/staff in most situations. Failure to do so is considered an act of professional misconduct for licensed professionals under Section 29.1 of the Rules of the Board of Regents and according to the Education Law Section 6511, penalties may be imposed.

The fifth and fourteenth Amendments to the Constitution of the United States of America determine one's implicit right to privacy, equal protection and prohibit unreasonable government searches and seizures.

The Rehabilitation Act of 1973, Section 504, has been interpreted to prohibit discrimination against individuals who have handicaps, including persons with HIV infection and AIDS.

The Americans with Disabilities Act of 1990 (ADA) protects people with disabilities from discrimination in private settings, such as employment, education and business services.

New York State Public Health Law, Article 27F, the Confidentiality Law for HIV (1988), requires strict confidentiality related to HIV. It provides specific requirements regarding disclosure of HIV-related information.

All NYS schools are required to have a policy regarding students and staff who have HIV infection or who are living with AIDS, reflecting these Federal and State statues. The CDC and the American Academy of Pediatrics have issued statements that children with HIV infection should be able to participate, unrestricted, in all school activities to the extent that their health permits, with the same considerations as other children.

When indicated, each individual's medical, educational and employment status should be evaluated and periodically reevaluated on a case-by-case basis, with ongoing communication among the family, health care providers and school personnel as permitted by the person with AIDS and/or with the parent/guardian involved.

C. OSHA Standards

The Federal Occupational Safety and Health Administration (OSHA) established the Bloodborne Pathogens Standard in December 1991 to limit occupational exposure to blood and other potentially infectious body fluids since exposure could result in transmission of bloodborne pathogens. The scope of the standard covers all employees who could reasonably anticipate, as a result of performing their job duties, facing contact with blood or potentially infectious materials. New York State Department of Labor, Public Employee Safety and Health Division (PESH), enforces the OSHA Bloodborne Pathogen Standard for NYS employees.

New York State Human Rights Law prohibits discrimination against individuals who have or are perceived as having HIV and applies to both public and private agencies.

III. DEFINITION OF TERMS

ADENITIS: Inflammation of lymph nodes or a gland.

ALOPECIA: Loss of hair.

ANTIGEN: A substance that induces the body to form antibodies that interact specifically with it.

ANTISEPTIC: Any substance that inhibits the growth of bacteria.

ARTHROPOD: Organism with a hard-jointed exoskeleton and paired jointed legs, which may act as a vector capable of transmitting disease (i.e. mosquitoes, lice).

ASYMPTOMATIC: Having a disease-causing organism in the body but showing no outward signs of illness.

BARRIER EQUIPMENT: Protective equipment (such as gloves, protective eyewear goggles, masks, gowns) to be used by employees to avoid contact of skin or mucous membranes with potentially infectious blood/body fluids and other potentially infectious materials.

BLOODBORNE PATHOGENS: Microorganisms that may be present in human blood and can infect and cause disease in humans. These pathogens include but are not limited to human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV).

CARRIER: A person who appears healthy but who is harboring a disease-causing organism that can be transmitted to another person.

CATARRHAL: Having inflammation of mucous membranes, especially head and throat.

COMMUNICABLE DISEASE: An illness, which is caused by a specific infectious agent or its toxic product through transmission of that agent or its product from a reservoir to a susceptible host.

CORYZA: An acute inflammation of the nasal mucous membrane accompanied by profuse nasal discharge.

DECONTAMINATION: The use of physical or chemical means to remove, inactivate or destroy microorganisms on a surface or item, making it incapable of transmitting infectious particles and therefore safe for handling, use or disposal.

DISINFECTANT: A chemical that destroys infection-producing organisms, except bacterial spores. Disinfectants are usually applied to inanimate objects since they are often too strong to be used on the skin.

ENDEMIC: A disease which is present more or less continuously in a common unit, but has low mortality.

EPIDEMIC: The occurrence of cases similar in nature in populations in a particular geographic area, in excess of the usual incidence.

EPIDEMIOLOGY: Scientific study of factors that influence the incidence, frequency and distribution of a disease in populations.

ERYTHEMATOUS: Red coloration of skin caused by capillary congestion.

EXPOSURE: The act or condition of coming in contact with but not necessarily being infected by a disease-causing organism.

EXPOSURE CONTROL PLAN: Document required of employers which must identify in writing, tasks and procedures, including job classifications where occupational exposure to blood may occur and specify a plan to minimize or eliminate employee exposure to bloodborne pathogens.

EXPOSURE INCIDENT: A specific eye, mouth, other mucous membrane, non-intact skin (chapped, abraded or affected with dermatitis) or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties.

EXUDATE: Accumulation of a fluid in a cavity or matter that penetrates through vessel walls into adjoining tissue; production of pus or serum.

FOMITES: Inanimate objects or materials on which disease-causing organisms may be conveyed.

GERMICIDE: A chemical that destroys microorganisms.

HOST: A living organism that provides subsistence or lodging, under natural conditions, for an infectious agent.

INCUBATION PERIOD: The time interval between exposure to a disease-causing organism and the appearance of the first signs and symptoms of the disease in question.

INFECTION: A condition or state of the body in which a disease-causing organism has entered it and produces injurious effects.

INFECTION CONTROL: Formalized plan of measures and procedures to prevent and/or decrease the likelihood of an individual's exposure to potentially communicable disease.

INFECTIOUS DISEASE: Any disease caused by growth of pathogenic microorganisms in the body. May or may not be communicable.

INFESTATION: A lodgment, development and reproduction of arthropods on the surface of the body or in clothing.

MALAISE: Discomfort, uneasiness or indisposition, often indicative of infection.

MODE OF TRANSMISSION: Mechanism by which an infectious agent is transported from reservoir to host, e.g. cough, hand to hand, and hand to mouth.

MUCOUS MEMBRANE: Tissue lining passages and cavities of the body, i.e., mouth, nose, eyes, vagina, anus.

OPPORTUNISTIC INFECTIONS: An infection caused by organisms, mostly viruses, fungi and parasites, that are ordinarily harmless, but become disease-causing when the immune system is not functioning properly.

PANDEMIC: Disease affecting the majority of the population of a large region, or a disease that is epidemic at the same time in many parts of the world.

PATHOGEN: Microorganism capable of producing disease.

PERIOD OF COMMUNICABILITY: The time interval during which an infectious organism may be transferred directly or indirectly from an infected person to another person.

PERSONAL PROTECTIVE EQUIPMENT: Specialized barrier clothing or equipment worn for protection against a hazard.

POTENTIALLY INFECTIOUS MATERIALS: Body fluids that may or may not contain bloodborne pathogens. They include amniotic fluid, blood, cerebrospinal fluid, pericardial fluid, peritoneal fluid, pleural fluid, semen, synovial fluid, vaginal secretions, saliva (blood-tinged) in dental procedures, and any other body fluid in which blood is visibly present.

PRODROMAL PERIOD: Interval between early manifestations of disease and overt clinical syndrome.

PRURITUS: Severe itching.

PURULENT: Forming or containing pus.

REGULATED WASTE: (Infectious/medical) Liquid or semiliquid blood or other potentially infected material (OPIM), contaminated items that would release blood or OPIM in a liquid or semiliquid state if compressed (squeezed); items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or OPIM.

REPORTABLE DISEASES: See Appendix B of this document.

RESERVOIR: Any source (host) in which an infectious organism lives and multiplies.

SEQUELA: A condition following and resulting from a disease.

SUBCLINICAL: Pertaining to a period before appearance of typical symptoms of a disease or to a disease or condition that does not present clinical symptoms. (Some infections may not produce characteristic symptoms but can be demonstrated in lab tests by antigenic reactions.

SUSCEPTIBLE HOST: A person lacking sufficient resistance to a particular pathogenic organism to prevent disease when exposed.

TRANSMISSION: The direct or indirect transfer of an infectious organism from a reservoir (host) to a susceptible host.

UNIVERSAL PRECAUTIONS: Precautions designed for the care of all persons regardless of their presumed infection status, intended to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infections. ALL body fluids listed under "Potentially Infectious Material" FROM ANYONE should always be considered potentially infectious.

IV. OVERVIEW OF A COMMUNICABLE DISEASE PROGRAM

The rationale for a communicable disease program in the school environment is based on principles of cleanliness and routine procedures of sanitation and hygiene for preventing the transmission of infectious diseases. ALL school staff using procedures of effective infection control helps prevent the transmission of infectious disease. In the school environment, the risk of exposure can be unpredictable; thus control measures that are simple and uniform across all situations have the greatest likelihood of compliance and success.

Local Boards of Education are legally responsible for the formulation and adoption of all school policies. The following guidelines are intended to provide local school authorities with a framework for developing or evaluating policies and procedures related to communicable disease control in the school setting.

A. GUIDELINES:

1. Written policy should ensure the following:
   a. General infection control/universal precaution procedures are in place and implemented.
   b. The required Exposure Control Plan is implemented and updated at least yearly as required by OSHA Bloodborne Pathogen Standard 29CR1910.10.
   c. Education/instruction content exists for the general school community as well as that required in Exposure Control Plan.
   d. All education/training uses professional materials that are appropriate in content and vocabulary to the educational level, literacy and language background of participants.
   e. All the materials necessary to ensure employee/student compliance with hand washing practice are provided.
   f. Continuing education/training for staff responsible for presenting programs.
   h. A process is in place for reviewing the infection control program, training, standard operating procedures, management and implementation on an annual basis.
   i. District policies ensure that all school staff is instructed regarding the hygienic procedures necessary to maintain a safe, clean school environment.

2. A team approach to the planning and management of the infectious disease program is optimal. This should include administrators, school health personnel, parents, students and other school personnel as appropriate.

3. All employees, including those with infectious diseases, have a right to confidentiality and access to employment as well as other rights, privileges and services as provided by federal and state statutes.

4. All children, including those with infectious diseases, have a right to a free and appropriate public education. Students with chronic infectious disease are eligible for all rights, privileges and services provided by law.

5. Extreme measures to isolate students, particularly those with chronic infectious disease are usually not necessary. Many irrational fears can be mitigated through planned health education programs for school staff, students and parents. The educational program should include information regarding the mode of transmission and the methods of preventing the transmission of infectious diseases.

6. The school should respect the right to privacy of the individual. If a student has an infectious disease, such knowledge should be confined to those persons with direct need to know such as the school nurse or school physician. Those persons who are informed of the identity of an infected child should be made aware of confidentiality requirements. Except as required by law, for reporting purposes, the identity of an individual with an infectious disease shall NOT be revealed. Health records shall be confidential.

7. In some instances, students who have an immunodeficiency may need to be removed from the classroom for their own protection, e.g., if there is an outbreak of a communicable disease. (A student should never be discriminated against because of an infectious disease.) The decision to remove the student from school should be made by the student's physician and parent/guardian in consultation with the professional school health personnel and local Department of Health.

8. If a student will be out of the school setting due to an infectious disease, a reasonable accommodation for a home or hospital tutoring program may be appropriate. The school district must do everything possible to ensure that the student's educational progress is maintained.

9. In the event of an outbreak of a vaccine-preventable disease, in cooperation with the local Department of Health, all susceptible students (i.e., students with medical or religious exemption from immunization) must be excluded. Depending on the disease outbreak, some individuals may need to be reimmunized.

10. The professional school health staff should routinely assess all students identified as having an infectious disease.

a. Students in school should be assessed in order to determine if their medical condition has altered in such a way as to affect the transmission status.

b. Students with chronic infectious diseases (for example, Hepatitis C) must be educated in the least restrictive environment. Those children whose behavior or physical condition precludes school attendance must be routinely evaluated for return to the classroom.

B. COMPONENTS:

1. Prevention:
   a. Maintenance of routine hygienic procedures, including hand washing, to assure a clean, safe, healthy school environment.
   b. Infection control procedures, including the use of universal precautions when handling blood/body fluids and contaminated materials/ surfaces.
   c. A health education and health counseling program to educate school personnel, students and parents.
   d. Immunization against preventable diseases and post exposure; passive immunization where appropriate.

2. Identification:
   a. Classroom teachers are in an excellent position to detect early physical and behavioral changes by recognizing changes in the usual pattern for a given student.
   b. Individuals with signs and symptoms of an infectious disease should be assessed by school health professionals and/or examined by an appropriate health care provider.
   c. Contacts of individuals with symptoms of infectious disease should be screened, as appropriate, to contain the spread of infection; referrals should be made to the parents or guardian as necessary.

3. Management:
   a. An individual with a suspected case of an infectious disease should be referred to a health care provider for diagnosis and treatment.
   b. If it is determined by the professional school health personnel that an individual's physical condition endangers the health or safety of the individual or others, that individual may be excluded from school until appropriate treatment is obtained or professional school health personnel determine that the individual is not a risk to others.
   c. The school district will help the individual comply with the treatment regimen in cooperation with the health care provider and encourage medical follow-up.

d. Documentation regarding infectious disease that impacts on the student's education will be recorded on the confidential cumulative health record (CHR). Any available documentation should also be retained. A serial record of communicable disease outbreaks may be maintained in order to provide data for an epidemiological study if necessary.
e. School health personnel must notify the local Department of Health when any reportable disease occurs.

4. Staff Development:
   a. The professional school health personnel should be encouraged and supported in participating in continuing education activities to attain current knowledge and skill level.
   b. Appropriate educational programs should be provided to meet the current and anticipated needs of other school personnel, i.e., General Infection Control Standards and the OSHA Bloodborne Pathogen Standard.

C. EFFECTIVE MANAGEMENT OF THE COMMUNICABLE DISEASE PROGRAM

An effective program requires the full participation and support of all school staff, local health department officials, community health care providers, parents and students. Professional school health personnel are the most appropriate persons to coordinate the school's infectious disease program. Professional school health personnel, in cooperation with the local health department, are responsible for instituting measures to prevent or control the spread of communicable disease. Their knowledge and judgment are essential for the collection and interpretation of data related to communicable disease.

Professional school health personnel should:

1. Participate in the development of infectious disease policies and procedures, development and review of Exposure Control Plan, and consult with local or state health department personnel as needed.

2. Interpret infectious disease policies and procedures to school personnel, parents and students.

3. Provide health information, health counseling and in-service programs regarding infectious diseases and control measures to school personnel, parents and students.

4. Promote positive health practices for the school community.

5. Develop individual health care plans for students with infectious diseases.

6. Recommend modification of the school program for infected students as needed.

7. Monitor and assess students with infectious diseases.

8. Monitor and assess school environment for infection control standards.

9. Make recommendations for proper equipment and supplies.

10. Serve as an advocate for students with infectious diseases.

11. Act as the liaison between the school, home, community health agencies and the private medical sector.

12. Maintain a current level of knowledge and information, rules and regulations, policies and procedures related to infectious disease.

13. Maintain current reference/resource information in health office.

14. Ensure that records of immunizations for vaccine-preventable diseases are in compliance with Department of Health regulations for all children.

V. THE BLOODBORNE PATHOGENS STANDARD

The Federal Register, December 6, 1991.
Part II, pages 64175-64182.
Department of Labor, Occupational & Health Administration.
29 CFR Part 11910.1030.
Occupational Exposure to Bloodborne Pathogens; Final Rule
(Appendix O).

The following are areas the Public Employee Safety and Health (PESH), New York State Department of Labor inspector may assess when conducting an inspection.

A. Written Exposure Control Plan Must:

1. Identify employees having reasonably anticipated occupational exposure to blood and OPIM that may result from the performance of their duties.

2. Identify employee job classification, positions, tasks and procedures identified with occupational exposure.

3. Identify who will receive education/training, personal protective equipment and vaccination (HBV).

4. State procedures for evaluation of exposure incidents.

5. Identify methods for communication of hazards to employees: materials, labels, signs and training.

6. Identify the process of education/training, record keeping, hepatitis B vaccination status, medical evaluation, treatment and surveillance for an incident of exposure and accident/exposure incident report.

7. Identify methods for compliance with standards of universal precautions and methods of engineering controls and work practices to reduce the risk of exposures.

8. Identify procedures for management of regulated medical waste.

9. Identify the process for implementation of the standard requirements for existing employees and for new employees.

10. Be reviewed and updated at least annually or whenever there are new tasks and procedures that affect potential for occupational exposure.

11. Be available to employees and to the PESH compliance officer.

B. Housekeeping:

The Standard requires the employer to ensure that the work site is maintained in a clean and sanitary condition. The employer must determine and implement a written schedule for cleaning and a method of decontamination. This applies to work areas of any employee identified under the standard (see items A, 1 and 2) and other work area sites where occupational exposure may exist (i.e., clean up of blood spills, contaminated materials or environmental surfaces).

C. Other Considerations:

1. Has a training and information program been established for employees actually or potentially exposed to blood and/or body fluids?

2. How often is training provided, and does it cover:
   a. epidemiology, transmission and prevention of bloodborne pathogens?
   b. universal precautions?
   c. personal protective equipment?
   d. workplace practices (including handling of sharps, room cleaning, laundry handling and clean up of blood spills)?
   e. exposure incident procedures?
   f. hepatitis B vaccination?
   g. Post exposure, HIV prophylaxis?

3. Does new employee orientation cover infection control procedures?

4. Does the employer evaluate the effectiveness of the training program through monitoring of employee compliance with the guidelines?

5. Is personal protective equipment available to covered employees? In all appropriate locations? (Specifically, gloves, mask, eye protection, gowns as appropriate).

6. Does training identify the specific procedures implemented by the employer to provide protection, such as proper use and disposal of personal protective equipment?

7. Are facilities/supplies available to comply with workplace practices such as hand washing sinks, sharps containers, detergents and EPA approved disinfectants to clean up spills?

8. Are employees aware of specific workplace practices to follow when appropriate? Specifically,
   a. hand washing,
   b. handling sharp instruments,
   c. routine examinations,
   d. blood spills,
   f. disposal of contaminated material (regulated waste),
   g. reusable equipment.

9. Are workers aware of procedures to follow after a needle stick or blood exposure? Have they had such experiences and are the guidelines followed?

10. Is there a system for documenting incidents of exposure, follow-up and HBV vaccine?

It is recommended that ALL staff, regardless of perceived potential for exposure, be provided an initial infection control awareness program, including many of the bloodborne pathogen standard elements and procedures. Such program should be provided on an annual basis.

APPENDIX A

DISEASE SPECIFIC INFORMATION

The following pages include information on infectious diseases that has specific implications for school health personnel working with school-age children. This list is by no means complete but includes diseases, which are known to be transmitted, or have the potential of being transmitted, in a school setting. The information presented will enable school health personnel to begin the process of assessing illness, referring for treatment, and providing follow-up upon return to school. In-depth infectious/communicable disease information is available and should be included as part of the school health reference library. See Appendix M for some useful references.

1. CHICKEN POX/HERPES ZOSTER (SHINGLES)

Definition: Acute viral disease characterized by fever and macular, papular and/or vesicular rash and crusting.

Etiology: Varicella-Zoster virus (VZV),

Clinical Manifestations: Chicken Pox (Varicella): Generalized pruritic (itchy), papular, vesicular rash occurring in successive crops with a fever up to 102 degrees, and sometimes systemic complaints of malaise and respiratory symptoms. The rash may originate on the scalp, but usually originates on the trunk and spreads distally. Lesions exist in several stages of development, last several days, then dry and crust.

Shingles (herpes zoster): VZV persists in a latent form after primary infection with chicken pox. Reactivation results in zoster or shingles. Lesions appear in the distribution of one to three sensory dermatomes (on one side of the body or the other). Often accompanied by mild to severe pain localized to the affected area.

Complications:

1. Superimposed bacterial infection, dehydration, pneumonia (rare in children), and central nervous system manifestations are the most common complications. Reye's syndrome can follow some cases, especially when aspirin has been used for symptomatic treatment.
2. Immunocompromised individuals have more severe cases that may be prolonged with weeks to months of lesions and generalized symptoms.
3. Adults are at increased risk for complications.

Mode of Transmission: Direct contact with varicella or zoster lesions or by contaminated airborne droplets.

Incubation: Usually 14-16 days; may occur as early as 10 or as late as 21 days after exposure.

Period of Communicability: For most, one to two days **before** and 4-5 days after the onset of the rash, or until all the rash lesions have formed crusts.

Reporting Requirements: Only for cluster or outbreak of cases.

Management:

1. Children with uncomplicated chicken pox may return to school on the sixth day after onset of the rash or after all lesions have dried and crusted. In mild cases with only a few lesions and rapid resolution, children may return sooner if all lesions are crusted. In cases of shingles, individuals with lesions, which cannot be covered, should be excluded until after lesions have crusted. Lesions that are covered appear to pose little risk. Hand washing is important if one has touched potentially infectious lesions.
2. Notify parents of students known to be at high risk. Susceptible immunocompromised individuals, including those who are receiving chemotherapy, should be referred to their physician if exposed. Within 96 hours of exposure, children at high risk can be given Varicella-Zoster immune globulin (VZIG).
3. Vaccine: Live-attenuated varicella vaccine. Trade name: Varivax.
   - Children > 12 months and < 13 years of age require 1 dose of vaccine
   - $\geq$13 years of age - 2 doses, 4-8 weeks apart.
   - Can prevent or modify the severity of illness if given within 3 days and possibly up to 5 days after exposure.
   - Vaccinated children can get varicella disease, though it is usually significantly milder.
     - ♦ **As of 2003, varicella immunity is required for kindergarten entry.**

Future Prevention/Education Needs:

Education strategies should include the following information:

1. The relationship of Reye's syndrome to salicylate (aspirin) ingestion during a viral illness.
2. The need to keep skin clean (bathing and wearing clean underclothes) during stages when lesions are present.

2. CONJUNCTIVITIS

Definition: Conjunctivitis is an inflammation of the mucous membrane that lines the eyelids and extends over the sclera, commonly called pinkeye,

Etiology: Bacteria, virus, allergy, chemical or other irritants. Purulent conjunctivitis is defined as pink or red conjunctiva with white or yellow eye discharge, matted eyelids after sleep, and eye pain or redness of the eyelids or skin surrounding the eye.

Clinical Manifestations:
Bacterial: Sclera red or pink, lining of eyelid inflamed in one or both eyes, photophobia, tearing, minimal itching, blurred vision that clears with blinking, purulent discharge, dried discharge on awakening, and/or swollen eyelids.

Viral: Minimal itching, sudden onset, initially only one eye, photophobia, sclera red or pink, lining of eyelid inflamed in one or both eyes, profuse tearing, preauricular node enlargement.

Allergic: Red conjunctiva, swollen mucosa, profuse tearing which can become purulent, intense itching, burning, rubbing, nasal mucosa swollen and pale, usually both eyes involved.

Complications

Mode of Transmission: Bacterial or viral conjunctivitis is transmitted by contact with discharge from conjunctiva or upper respiratory tract of infected persons or by contaminated fingers, clothing or other articles.

Incubation Period: Bacterial usually 24-72 hours; viral usually 5-12 days.

Period of Communicability: Bacterial or viral conjunctivitis is communicable any time during active infection.

Reporting Requirements: Not reportable unless an outbreak occurs.

Management: Good hand washing techniques. Cool compresses for comfort. Follow treatment prescribed by appropriate health care provider.

School Considerations: With symptoms of purulent conjunctivitis, exclude student until symptoms have resolved or written release to return to school is provided by student's health care provider. Refer student for diagnosis and treatment. Maintain appropriate hygienic procedures. Observe for outbreaks. Notify parents by letter if ongoing transmission occurs.

Future Prevention/Educational Needs: Staff, parents and students require education about the various agents that cause conjunctivitis as well as the varying degrees of communicability. Parents should be instructed to thoroughly wash in hot water all clothes, towels and bed linens used by infected individuals.

3. CYTOMEGALOVIRUS (CMV)

Definition: Viral infection which can occur congenitally, post-natally or at any age, and ranges in severity from asymptomatic to serious disease manifested by fever, hepatitis, pneumonitis and (in neonates) brain damage, stillbirth or perinatal death.

Etiology: Human CMV, a member of the herpes virus group.

Clinical Manifestations: The signs and symptoms will vary with age and immunocompetence of the individual. Asymptomatic infections are most common, especially in children.

1. Liver and spleen enlargement may occur when the disease is acquired in childhood.
2. An infectious mononucleosis-like syndrome may occur in adults.
3. Pneumonia and retinitis are common in immunocompromised individuals.

Congenital infections: Usually asymptomatic but some infants, asymptomatic at birth, later demonstrate a hearing loss, vision impairment, varying degrees of mental retardation, or coordination problems.

About 5%-10% of those infants infected in-utero may develop severe disease including intrauterine growth retardation, neonatal jaundice, purpura, hepatosplenomegaly, microcephaly, brain damage, intracerebral calcification or chorioretinitis. Fetal risks are greatest in the first half of gestation.

Mode of Transmission: Direct person to person contact with secretions that contain the virus (primarily saliva, but also infected urine, semen, blood, tears, breast milk and vaginal secretions). The virus is not considered highly contagious but transmission in households and day care centers has been documented.

Virus is also found in white blood cells and has, therefore, been transmitted via blood transfusion. Transmission can occur from mother to child in utero, during delivery or post-natally through the ingestion of CMV positive human milk. Breast milk may not cause apparent illness since the milk contains maternal antibodies. The most severe form of disease occurs in the perinatal period. Fetal death may occur.

Incubation Period: Unknown in cases of household transmission; 3-8 weeks following blood transfusion.

Period of Communicability: Virus is secreted in urine and saliva for many months, and may persist for several years following primary infection.

Reporting Requirements: Not reportable.

Management: Exclusion of children with congenital infection from schools or institutions is not justified since asymptomatic infection is common in newborn infants and during infancy and early childhood.

The child with congenital CMV infections should not be singled out for exclusion or special handling. Hand washing, particularly after assisting with toileting or diapering or when exposed to saliva, is advised in caring for all children,.

Pregnant or immunocompromised students and/or personnel who may be in contact with CMV infected individuals should be counseled about the potential risk. It should be

remembered that many exposed adults and children are already immune but may not be aware of this since most infections are asymptomatic. Referral to primary health care provider is essential if the students/personnel have specific questions, concerns and or issues.

A vaccine has not yet been developed. All personnel should be reminded of the importance of good hand washing, especially when assistance has been given for feeding and/or toileting.

4. ERYTHEMA INFECTIOSUM (FIFTH DISEASE)

Definition: Acute viral disease characterized by mild fever, lethargy and a blotchy maculopapular rash which begins on the cheeks and spreads to exposed areas of the extremities.

Etiology: Human Parvovirus B19.

Clinical Manifestations: Mild systemic symptoms, fever in 15-30% of individuals with a distinctive rash.

Stage 1: On the face, this rash is intensely red with "slapped cheek" appearance and circumoral pallor.

Stage 2: A symmetric maculopapular, lace-like rash on arms, trunk, buttocks and thighs.

Stage 3: The rash can recur and fluctuate in intensity with environmental changes for weeks, sometimes months. Arthralgia and arthritis occur infrequently in children but commonly in women. Chronic anemia in persons with immunodeficiency. Aplastic crisis lasting 7 - 10 days in people with chronic hemolytic anemia (e.g. sickle cell disease).

Mode of Transmission: Primarily through contact with airborne droplets from nose and throat. Mother to fetus.

Incubation Period: 4-14 days, up to 20 days.

Period of Communicability: Most infectious before onset of rash and unlikely to be infectious after the rash appears.

Reporting Regulations: Check with local Department of Health for definition of outbreak. Report outbreaks to local Department of Health.

Management: Outbreaks frequently occur in spring months. In the absence of findings other than the characteristic rash, these children need not be excluded from school.
There is a slight risk of fetal death during the first trimester of pregnancy if the disease is contracted during that time. Congenital abnormalities have not been reported. Pregnant school employees, students and individuals that are immunodeficient or have red blood

cell disorders should consult their primary health care provider for advice if exposed. Notify parent/faculty by letter when an outbreak occurs.

5. GASTROENTERITIS

Definition: Bacterial or viral infections characterized by upper GI symptoms, diarrhea and abdominal discomfort.

Etiology: Can be caused by viral, bacterial or parasitic species. Usual species include campylobacter, salmonella, shigella and E. coli.

Clinical Manifestations: Gastrointestinal symptoms (nausea, vomiting, diarrhea, abdominal cramps). Traces of blood may occasionally be present in the stool. Some people may not show any symptoms.

Different organisms may cause other symptoms. Infectious disease references should be consulted for specific information.

Mode of Transmission: Fecal-oral: Enteropathogens are spread by eating or drinking contaminated food or water or by contact with infected people or animals.

Incubation Period: Varies depending upon organism. Usually eight hours to several days. Infectious disease references should be consulted for specific information. Salmonellosis symptoms usually appear in less than 24 hours but may develop up to three days following exposure.

Period of Communicability: Consult infectious disease references. Most people pass shigellosis in their feces for 1-2 weeks. Generally limited to diarrheal phase. Shigellosis is highly communicable from person to person. Campylobacter is minimally communicable.

Reporting Requirements: Reportable if causative agent is salmonella, shigella, E. coli or campylobacter.

Management: Children should be excluded during the diarrheal phase only. If a child has diarrhea or frequent stools combined with vomiting, fever, lethargy or other illness, they should be referred to their primary health care provider.

When there is an outbreak of gastroenteritis in schools, a food borne epidemic should be considered. The professional school health personnel should assess this possibility and plan accordingly.
All personnel should be reminded of the importance of good hand washing, especially when assistance has been given for feeding and/or toileting.

When shigellosis is occurring in an elementary school setting, supervised hand washing upon arrival in the morning and after toileting are important parts of the control strategy.

Future Prevention/Educational Needs:
The following procedures may be considered to reduce the incidence of illness:

1. Staff should review and be aware of procedures on food handling, refrigeration and cooking.
2. When serving food, tongs or other appropriate utensils should be used whenever possible. When the use of utensils is not feasible, a barrier should be created through the use of deli paper, napkins or disposable gloves.
3. Food should be served in individual portions. Avoid the use of large shared bowls from which each child serves him/herself.
4. Consider bringing in only commercially prepared foods to school for shared consumption.
5. Food prepared in the classroom should be stored at a temperature adequate to prevent bacterial contamination. When heated, care should be taken to ensure that minimum temperatures are achieved and maintained.
6. All sports teams should be advised to supply adequate hydration during activity through means other than shared drinking vessels.
7. Records should be maintained of educational programs for staff involved in food handling and use of infection control methods to prevent outbreaks.
8. Tables used for changing of diapers should be thoroughly washed before and following use and should be located separate from food preparation areas.
9. Hands should be washed prior to all food preparation and distribution. The importance of proper hand washing technique should be emphasized in health education at all levels.
10. Caution should be used when handling eggs for cooking or for chick incubation since there is evidence that salmonella may be transmitted through ingestion of uncooked or under-cooked eggs, even when the shells are intact. Emphasis should be placed on hand washing and gloves should be worn when handling incubating eggs.

6. HAND, FOOT, and MOUTH DISEASE (Coxsackie virus)

Definition: A viral infection involving hands, feet and mouth. The illness is typically mild; complications are rare.

Etiology: Usually caused by the Coxsackie virus A16, although other types of enterovirus can be involved.

Clinical Manifestations: Brief history of malaise, low-grade fever, sore mouth and loss of appetite. One to two days after this prodromal phase, vesicular oral lesions appear, followed by erythematous macules on hands, fingers, feet, toes and interdigital surfaces. Ninety percent have oral lesions; two thirds have the classic exanthem. Peak incidence is late summer and early fall.

Mode of Transmission: Spread by direct contact with nose and throat discharges and feces of infected people. Attack rates are highest in children under age 10.

Incubation Period: Usually 3 - 6 days.

Period of Communicability: During the acute stage of illness and perhaps longer, since these viruses persist in stool for several weeks after the acute infection.

Reporting requirements: Report clusters.

Management:

1. Exclude only if student too ill to participate in school activities.
2. Treatment is symptomatic: acetaminophen, warm saline rinses, tepid baths, encourage fluids.
3. Emphasize proper hand washing after toilet use and need to avoid contact with nose and throat discharge.
4. Notification of parents is not necessary, with the exception of those of any immune-compromised students who are at risk of exposure.
5. There is debate as to whether any congenital disorders are related to Coxsackie viral infections and pregnancy. Pregnant women should consult their health care provider for further information.

7. HEPATITIS A (INFECTIOUS HEPATITIS, HAV, HEP A)

Definition: Hepatitis A is more communicable and more common than other infectious diseases of the liver. It is often endemic in developing nations.

Etiology: Hepatitis A virus (HAV).

Clinical Manifestations:

Onset of clinical disease is usually abrupt with fever, malaise, anorexia, nausea and abdominal discomfort, followed within a few days by jaundice. It varies in clinical severity from mild illness lasting 1-2 weeks to severely disabling disease lasting several months (rare). In general, severity increases with age. Children may have mild symptoms or be asymptomatic. Complete recovery without sequelae is the rule. Diagnosis is by serology.

Mode of Transmission:
HAV is shed in the feces of an infected person and is ingested by a susceptible person usually through food, water or feces-soiled hands.

Incubation Period: 15-50 days, averaging 25-30 days.

Period of Communicability: Maximum infectivity is during the latter half of the incubation period and continues for a few days after onset of jaundice. Most cases are probably not infectious after the first week of jaundice. No HAV carrier state exists. Infection causes life-long immunity.

Reporting Requirements: Reportable.

Management: If a case of hepatitis A is identified within the school, the local Department of Health plans and implements strategies to limit the spread of infection, working with professional school health personnel, administrators, parents, private health care providers and others as appropriate. Communication via letter to parents within the school and community is important to avoid irrational fears. Also, confidentiality should be maintained.

Vaccine: Hepatitis A vaccine is recommended for international travelers, persons in communities with high rates of the disease, in periodic outbreaks, for men who have sex with men, street drug users, recipients of certain blood products, and individuals with chronic liver disease.

After Exposure:

1. Immunoglobulin is recommended for all household and sexual contacts or other close personal contacts. Immunoglobulin (IG) given within 2 weeks of exposure is moderately protective against clinical illness. Its value is greatest when given early after exposure and declines thereafter. Giving IG more than 2 weeks after exposure is not indicated.

2. IG is recommended to all staff and students in school classes attended by diapered children and in some classes if the source case has not practiced careful hand washing or has shared food with others.

3. Regular classrooms: Contact at elementary and secondary school is usually not an important means of transmitting hepatitis A. Routine administration of IG is not indicated. However, when an epidemiological investigation shows the existence of a school or classroom centered outbreak, IG may be indicated for persons who have close contact with infected individuals. The local Department of Health should be consulted.

4. If a food handler is diagnosed as having hepatitis A, common-source transmission is possible but uncommon. IG administration may be considered if all the following conditions exist:

a. Infected person, without gloves, handles foods that will not be cooked before being eaten.
b. Contact can be identified and treated within 2 weeks of exposure.

Future Prevention/Educational Needs: Importance of good hand washing technique by all staff and students after toileting and before touching food. Avoid touching food to be eaten by others.

Other Actions:

- Hand washing after diaper changing.
- Cleaning diapering surface with approved cleanser.
- Proper disposal of diapers where they cannot be touched by others.
- Separation of diapering and food preparation areas.

8. HEPATITIS B

Definition: Hepatitis B is a communicable disease that attacks the liver.

Etiology: Hepatitis B virus (HBV). Important components include hepatitis B surface antigen (HBsAg), hepatitis B core antigen (HBcAG), and hepatitis B e antigen (HBeAG).

Clinical Manifestations:
Acute Hepatitis B: Flu-like symptoms with headache, fever, chills, nausea, vomiting, abdominal pain, jaundice (yellow eyes and skin), malaise, loss of appetite, joint/muscle pain and enlarged tender liver. Some individuals have no symptoms; some have a more severe clinical course requiring hospitalization with several weeks to months of work lost. Each year approximately 300,000 individuals, primarily young adults, are infected with HBV. Chronic HBV Infection: Between 25-50% of children infected before 5-years of age become carriers whereas only 6-10% of acutely infected adults become carriers. These individuals cannot clear their liver cells, and become chronic carriers. They may develop persistent hepatitis, cirrhosis, or primary liver cancer. Carriers often have no symptoms and have the highest concentrations of HBV in blood and serous fluids. A lower concentration is present in other body fluids such as saliva and semen.

Mode of Transmission: Hepatitis B virus is found in all body fluids of infected people including blood, semen, saliva and urine, or any body fluid where there is visible blood. Blood and serous fluids have the highest concentrations of HBV. Needle stick exposures and exposure of blood and body fluids to the skin and mucous membranes can transmit HBV. The virus can enter the body through small cracks, cuts or abrasions in the skin or mucous membranes. The principle ways of transmitting hepatitis virus is through sexual intercourse with an infected person, to infants born to women who are infected, when illicit drug users share contaminated equipment, piercing of the skin by contaminated instruments such as those used for tattooing, ear piercing, acupuncture, blood brothers, and dental or medical procedures. Infection can also occur in settings of continuous close personal contact such as in households or among children in institutions for the developmentally disabled. Individuals should be aware that if a person bites another

person and causes a break in the skin, then both the biter and person receiving the bite could potentially be at risk from exposure to blood. Any biting incident should be assessed by a health care professional for visible blood exposure to either person. When indicated, notify parent/guardian of the incident.

Incubation Period: Several weeks to six months after exposure (average is 120 days).

Period of Communicability: An infected person can transmit the hepatitis B virus as long as the virus remains in their blood and body fluids. Transmission can occur as early as four weeks before any signs or symptoms occur.

Reporting Requirements: Reportable.

Management and Control: If a case of hepatitis B is identified within the school, the local Department of Health plans and implements strategies to limit the spread of infection, working with professional school health personnel, administrators, parents, private health care providers and others as appropriate.

Vaccine: The American Academy of Pediatrics recommends vaccination of all infants, all adolescents, all children in populations of high HBV endemicity, and all children in other high risk groups. The series of three doses of Hepatitis B vaccine is required for school entry (K-12) for children born on or after 1-1-93.

1. Implement consistent and correct universal precautions at all times when anticipation of or contact with blood or any body fluid (BBF) visibly contaminated with blood and other potentially contaminated materials and environment.

2. Educate all students to avoid coming in contact with another person's blood/body fluids, and how to manage their own blood/body fluid incidents.

3. Use work practices and controls to reduce risk of exposure to blood and body fluids, i.e.,
   a. Handling needles and other sharp instruments safely.
      * No recapping, bending or breaking needles.
      * Disposing of sharp items in puncture resistant containers.
   b. Prevent skin and mucous membrane exposure by use of gloves, masks, goggles or gowns when contact is anticipated.
   c. Disposal of wastes contaminated with blood/body fluids in disposable plastic liners, which are sealed and disposed of daily.

4. Use consistent and correct clean-up procedures for the environment and contaminated materials; prompt removal of blood/body fluids. Clean contaminated surfaces with an EPA-approved tuberculocidal disinfectant.

5. Prohibit sharing of personal items (i.e., toothbrushes).

6. Clean and disinfect toys and objects after use and as needed.

7. Wash hands immediately after removal of gloves following contact with blood/body fluids.

8. Wash any skin or body part that comes in contact with blood and report the incident to a health care professional immediately.

9. Cover all open lesions, sores, etc. with a bandage/Band-Aid.

10. Pre-exposure prophylaxis: The U. S. Department of Health & Human Services and the Occupational Safety and Health Administration recommends that those identified to be at risk for occupational exposure to BBF's receive a series of three intramuscular injections of Hepatitis B vaccine over six months.

11. Post-exposure prophylaxis: A single injection of Hepatitis B Immunoglobulin and Hepatitis B Vaccine series provide short and long term protection. The HBIG should be administered within 24 hours of exposure and not longer than 7 days following exposure.

Management: The risk of disease transmission in the school environment is theoretically small because blood or infected body fluid must get inside another person's body in order to transmit HBV infection. The child's health care provider should assess each HBV carrier on a case-by-case basis. Children who are chronic carriers of HBV and who have no behavioral or medical risk factors such as unusually aggressive behavior (i.e., biting, frequent scratching), generalized dermatitis or bleeding problems, need not be restricted in their learning or recreational activities. All facility staff should receive regular training about modes of transmission and infection control standards and universal precaution procedures. Incidents and injuries that lead to bleeding should be handled promptly according to standard operating procedures.

9. HERPES SIMPLEX (COLD SORE)

Definition: Infections that primarily involve the skin and mucous membranes. While the virus can infect any area of the skin, the lips and fingers (herpetic whitlow) are the most common sites of involvement.

Etiology: Herpes simplex viruses. Two types have major differences. Type I (HSV-1) usually involves the face and skin above the waist. Type II (HSV-2) usually involves the genitalia and skin below the waist in adults and is the most common cause of disease in the neonate. However, either type can be found in either site, depending on the source of infection.

Clinical Manifestations: (common in children)
Over 90% of primary infections due to HSV-1 are subclinical; but, because of the prevalence of the virus, symptomatic primary lesions are common. Gingivostomatitis is the most commonly recognized manifestation of primary HSV infection. Fever, irritability, and a painful ulcerative exanthem involving the gingiva and the mucous membranes of the mouth characterize it. In immunocompromised patients' severe local lesions and, less commonly, disseminated HSV infection with generalized vesicular lesions and visceral involvement can occur. People with atopic eczema and other forms of chronic dermatitis are at risk for a particularly severe form of primary HSV infection. Rarely, HSV has been known to cause conjunctivitis, encephalitis and meningitis.

After primary infection, HSV persists in a latent form within the ganglia that lie in the region of initial involvement. Therefore reactivation of the virus usually is manifested by "cold sores" (herpes labialis). These lesions appear as single or grouped vesicles in the perioral region, usually on the vermilion border of the lips. Fever, sunlight, local trauma, menses and emotional stress are recognized triggers.

Mode of Transmission: HSV infections are ubiquitous and are transmitted person to person throughout the year. Infections with HSV-1 result primarily from direct contact with infected oral secretions or lesions. Infections with HSV-2 usually are from direct contact with genital secretions and lesions.

Incubation Period: For gingivostomatitis, estimated 2 - 12 days. Not well defined for genital infection; estimated 2 - 14 days.

Period of Communicability: Difficult to define. HSV may be shed intermittently from the mouth or genital tract in the absence of clinical manifestations years after infection. In recurrent lesions, the virus is present in highest concentrations in the first 24 hours after the appearance of vesicles. The amount of virus decreases rapidly and usually cannot be recovered after 5 days. HSV can be transmitted during primary infections or during recurrences, regardless of whether or not signs and symptoms are present.

Reporting Requirements: HSV-1 or 2– none

Management:
1. Only those children with HSV gingivostomatitis (i.e. primary infection) who do not have control of oral secretions should be excluded from childcare or school. Exclusion of children with "cold sores" (i.e. recurrent infection) from school is NOT indicated.
2. Exclude student with vesicular or ulcerative skin lesions from participating in sports and games with close physical contact such as wrestling.
3. Skin lesions should be covered with a bandage or clothing when possible.
4. Wearing gloves, if direct contact with lesions is necessary.
5. No sharing of drinking vessels.
6. No mouthing articles.
7. No kissing.
8. Potential sexual abuse case reporting mandatory-for Type II

10. HUMAN IMMUNODEFICIENCY VIRUS (HIV), AIDS

Definition: HIV is a retrovirus found in the blood and body fluids of infected persons that creates a course of infection and subsequently the disease of AIDS. HIV infiltrates the white blood cells using them to replicate itself, destroying other white blood cells. Consequently over time, there are less and less white blood cells, which are essential to normal immune system function. Therefore, the infected individual becomes increasingly susceptible to opportunistic infections, cancers and diseases.

Etiology: Human Immunodeficiency Virus.

Clinical Manifestations: From the time of exposure to HIV, if one has been infected, an individual is capable of transmitting HIV to another person. Within approximately one month, the infected individual may have a fever, swollen lymph nodes, and diarrhea, skin rash and fatigue (flu-like symptoms). However, not everyone will notice these symptoms. Over time, usually 0-6 months, the individual develops antibodies to the HIV. The person may be asymptomatic, feel and look healthy, and not know he/she has HIV in their body. This asymptomatic period may last upwards of 12-15 years. Eventually the individual when exhibit signs of immune deficiency-like symptoms, i.e., fatigue, diarrhea, night sweats, rashes, weight loss. The disease AIDS (Acquired Immune Deficiency Syndrome) is diagnosed when the individual's CD4 count is below 200 and/or the presence of an opportunistic disease or cancer is evidenced, i.e., tuberculosis, pneumonia, dementia, Kaposi's sarcoma, etc. The course from being infected to the diagnosis of AIDS, as well as the length of living with AIDS, is variable. Early detection of the presence of the virus in an individual can lead to improved care and treatment, prevention of infection and disease and the transmission of the virus to others.

Mode of Transmission:

1. From a mother with HIV infection to her newborn during pregnancy, delivery or breast-feeding.
2. Between sex partners through contact of infected semen, vaginal or cervical secretions.
3. By direct inoculation of infected blood or blood-containing tissues through transfusion, transplantation of organs, reuse of contaminated needles or other injection equipment, or penetrating injuries with needles or other sharp objects contaminated with blood (i.e., needle stick, tattooing, ear piercing, blood brother rituals, acupuncture, razors). The risk of infection after a needle stick exposure to HIV-infected blood is approximately 0.3%.
4. Contact of mucous membranes (eyes, nose, mouth) or non-intact skin to infected blood (i.e., cuts, scratches).
5. Individuals should be aware that if a person bites another person and causes a break in the skin, then both the biter and person receiving the bite could be at minimal risk from exposure to blood. Any biting incident should be assessed by a health care professional for visible blood exposure to either person. When indicated, notify parent/ guardian of the incident.

6. No person has been shown to acquire HIV from exposure to teeth or saliva where there is no visible blood.

Incubation of Periods: Generally, up to 0-6 months from time of exposure.

Period of Communicability: Once infected, an individual is considered always infectious to others.

Reporting Requirements: Unless school health personnel are conducting HIV testing, no reporting is required. Refer to the New York State Confidentiality Law and HIV Public Health Law, Article 27F (Appendix K). This law requires information about HIV and AIDS to be kept confidential. This law strictly limits disclosure to HIV-related information. This law applies to people and facilities providing health or social services. Within the school setting, HIV information can be shared only after parents have signed a disclosure form.

Management: The risk of HIV transmission in the school environment is theoretically small because blood or infected body fluid must get inside another person's body in order to transmit the HIV. Policies and procedures related to the HIV positive staff member or student should be written. Federal, state and public health laws relating to access to education or employment should be applied and each individual assessed on a case-by-case basis.

- Monitor for socialization, discrimination, and adjustment to program and early signs of new or recurring infection.
- Protect individuals right to privacy by planning confidentiality of health information and administration of medications.
- When known, the parent/guardian of an HIV infected child should be notified when there is an outbreak of an infectious disease, i.e., chicken pox, measles, cytomegalovirus, tuberculosis, herpes simplex virus.
- All facility staff should receive regular education/training about modes of transmission and infection control standards and universal precaution procedures.
- Incidents and injuries that lead to bleeding should be handled promptly according to established Exposure Control Plan procedures required by OSHA.
- Policy and procedures should be in place to manage a possible student exposure incident.

11. IMPETIGO CONTAGIOSA

Definition: A superficial, contagious skin infection. It is one of the most common skin infections of children. Predisposing factors such as poor hygiene, anemia, malnutrition and warm climate favor outbreaks of the disease, most of which occur during the late summer and early fall.

Etiology: Two types of bacteria, either Group A Streptococci or Staphylococcus Aureus.

Clinical Manifestations: Streptococcal impetigo begins with a small red macule that turns into a vesicle and becomes pustular within hours. When the vesicle breaks, a characteristic thick, honey golden colored crust forms from the exudate. Autoincubation may cause satellite lesions to appear. Other features include pruritis, burning, and regional lymphadenopathy. Staphylococcal impetigo causes a thin walled vesicle to open, and a thin clear crust to form from the exudate. The lesion consists of a central clearing, circumscribed by an outer rim, much like a ringworm lesion and commonly appears on the face or exposed areas. Both forms usually produce painless itching, and may appear simultaneously and be clinically indistinguishable.

Mode of Transmission: Transmission is by direct contact. Lesions often are secondary infections of insect bites, or other breaks in skin integrity.

Incubation Period: One to ten days.

Period of Communicability: From onset of lesion and lasts until the lesions are dry or, up to 24 hours after antibiotic therapy is initiated.

Reporting Requirements: Reportable only if outbreak occurs

Management:

1. Isolation of area, cover area with clean dressing. Establish good hand washing technique. Clean items and toys that child has been in close contact with and do not share items of clothing.
2. Exclusion from school: student should not return until under treatment for 24 hours or until lesions are dry.
3. Assessment of the student should include a determination of their ability to participate in athletics without transmitting disease.

12. LYME DISEASE

Definition: bacteria transmitted by the deer tick cause Lyme disease. Lyme disease causes symptoms affecting the skin, nervous system, heart and/or joints of an individual. Over 50,000 cases [current] have been reported to the New York State Department of Health since Lyme disease became reportable in 1986.
Lyme disease can affect people of any age. People who spend time in grassy and wooded environments are at an increased risk of exposure. The chances of being bitten by a deer tick are greater during times of the year when ticks are most active. Young deer ticks, called nymphs, are active from mid-May to mid-August and are about the size of poppy seeds. Adult ticks, which are approximately the size of sesame seeds, are most active from March to mid-May and from mid-August to November. Both nymphs and adults can transmit Lyme disease. Ticks can be active any time the temperature is above freezing. Infected deer ticks can be found throughout New York State.

Etiology: Infection is caused by the spirochete Borrelia burgdorferi

Clinical manifestations: In 60%-80% of cases, a rash resembling a bull's eye or solid patch, about two inches in diameter, appears and expands around or near the site of the bite. Sometimes multiple rash sites appear. The early stage of Lyme disease is usually marked by one or more of the following symptoms: chills and fever, headache, fatigue, stiff neck, muscle and/or joint pain, and swollen glands. If Lyme disease is unrecognized or untreated in the early stage, more severe symptoms may occur. As the disease progresses, severe fatigue, a stiff aching neck, and tingling or numbness in the arms and legs, or facial paralysis can occur. The most severe symptoms of Lyme disease may not appear until weeks, months or years after the tick bite. These can include severe headaches, painful arthritis, swelling of the joints, and heart and central nervous system problems.

Mode of transmission: Not all deer ticks are infected with the bacteria that cause Lyme disease. Ticks can become infected if they feed on small animals that are infected. The disease can be spread when an infected tick bites a person and stays attached for a period of time. In most cases, the tick must be attached for 36 hours or more before the bacteria can be transmitted. Lyme disease does not spread from one person to another.
Transfer of the bacteria from an infected pregnant woman to the fetus is extremely rare.

Incubation period: Early symptoms usually appear within 3 to 30 days after the bite of an infected tick and typically within 7 to 14 days. Late manifestations can occur months to years after initial infection. Lyme disease is a bacterial infection. Even if successfully treated, a person may become reinfected if bitten later by another infected tick.

Reporting Requirements: Reportable

Management: Antibiotics have made it possible to treat Lyme disease whether it has localized in the skin or spread systemically to other major organ systems. Early treatment is best to prevent complications. Refer persons with symptoms clinically compatible with Lyme disease or history of exposure to their own health care provider.

Control measures for prevention:

1. Avoid tick-infested areas when possible.
2. If tick infested area (woods, bushy, unmowed field) is entered, e.g., for field trips or science activities, protective clothing that covers arms, legs and exposed areas should be worn. Pants should be tucked into socks. Wearing light colored clothing helps to identify ticks.
3. Tick/insect repellents applied to the skin provide additional protection but should be applied and removed as directed in order to avoid toxic side affects (seizures in young children have been reported).
4. Teach persons to inspect themselves and pets after possible tick exposure.
5. If a tick is found, remove promptly by grasping with a fine tweezer close to the skin and gently pulling out. DO NOT SQUEEZE tick body. Cleanse the area thoroughly after removal. Refer to primary health care provider for follow-up. The tick should be saved and sent with student to health care provider.

6. Contact local department of health to see if it can be determined whether the tick is a deer tick.
7. Educate students and families about the disease, prevention, and treatment.

13. MEASLES (RUBEOLA)

Definition: Acute, highly communicable vaccine-preventable viral disease. Also called rubeola.

Etiology: Measles virus is an RNA virus.

Clinical Manifestations: Measles symptoms generally appear in two stages. In the first stage, the prodome, the individual may have a runny nose, cough and a low-grade fever. The fever increases in a stepwise fashion and often peaks between 103 and 105 degrees Fahrenheit. The eyes may become reddened and sensitive to light, and Koplik's spots, little white dots on the mucous membranes, may appear. The second stage begins on the third to seventh day and consists of a temperature of 103-105 degrees F and a red blotchy rash lasting four to seven days. The rash usually begins on the face and head then spreads downward over the entire body. The rash usually lasts 5-6 days and disappears in the same order it appears.

Complications:
1. Diarrhea (most common).
2. Middle ear infection.
3. Bronchopneumonia
4. Encephalitis - may cause permanent neurologic damage (1of every 1,000 cases).
5. Respiratory and neurologic complications - may cause death (1-2of every 1,000 cases).

The complications of measles are more common among infants and adults. Hospitalization occurs in 18 % of cases.

Mode of Transmission: Transferred from person to susceptible person airborne by droplet spread. Those at risk are individuals with either inadequate or no immunization. Highly communicable in this group. After recovery from measles or after two doses of live virus vaccine, the individual is believed to have life-long immunity.

Incubation Period: Averages 10-12 days after exposure to onset of prodome, range 7-18 days.

Incidence: Peak incidence during late winter and spring months.

Period of Communicability: One to two days before onset of symptoms (3-5 days before rash) to five days after appearance of rash.

Reporting Requirements: Reportable
Vaccination: Two doses of measles vaccine after the age of 12 months are required for new to school and daycare and for all students born on or after 1-1-85. For those born

before 1-1-85, one dose after the age of 12 months is required. A second dose is required for entrance to post-secondary education in NYS.

Management: A plan should be developed prior to a measles outbreak, which will enable the school to respond immediately. This plan should include but not be limited to:

1. Immediate contact with the local Department of Health.
2. Identification of unimmunized or inadequately immunized individuals. Such identification will be easier if a current list of individuals who have one or no measles vaccines has been continually maintained. This includes but is not limited to students who have not yet completed measles immunization requirements as well as those with medical and/or religious exemptions.
3. Identification of immunocompromised individuals.
4. Referrals of inadequately immunized and immunocompromised individuals to there own health care provider or the Department of Health.

To be effective post-exposure, the measles live virus vaccine must be given within 72 hours of exposure. Immunoglobulin may be given within six days of exposure to provide temporary immunity. A person with suspected measles should be excluded from school and immediately referred to their own health care provider for diagnosis and treatment. Individuals with confirmed cases may return to school upon approval from their primary physician.

Immunization requirements of school staff in the affected building:
Those born after January 1, 1985 should have a two measles-containing vaccines or titer showing immunity.

NOTE: If one physician-diagnosed case of measles occurs within the school, all students without record of two measles vaccines must have second dose of vaccine for continued school attendance.

14. MENINGOCOCCAL MENINGITIS

Definition: Meningoccal disease is a severe bacterial infection of the bloodstream or meninges (a thin lining covering the brain and spinal cord). Meningococcal meningitis is a relatively rare, severe bacterial infection that usually occurs in a single isolated event.

Etiology: Neisseria meningitides is a Gram-negative diplococcus with multiple serogroups known to cause invasive disease.

Clinical Manifestations: Sudden onset with rapidly progressive manifestations of shock, purpura, disseminated intravascular coagulation, and reduced levels of consciousness, is a dramatic and often fatal presentation of meningococcal sepsis with meningitis, It may evolve to death within 24 hours. Some cases of meningococcal meningitis are preceded by several days of upper respiratory tract or gastrointestinal symptoms. Fever is present in 90 - 95%, anorexia; myalgias, arthralgias, tachycardia; hypotension and various cutaneous signs such as petechiae can be present. Meningeal irritation symptoms are

nuchal rigidity and back pain. Increased intracranial pressure is suggested by headache, emesis and occasionally seizures.

Mode of Transmission: Direct contact including respiratory droplets from nose or throat of an infected person. Many people carry this particular bacterium without any signs of illness, while others may develop serious symptoms.

Incubation Period: Two to ten days after exposure, usually within 5 days.

Period of Communicability: Until the bacteria is no longer present in discharges from the nose and mouth; susceptible organisms will disappear within 24 hours after appropriate treatment is started.

Reporting Requirements: Prompt action. Meningococcal meningitis or meningococcemia is considered an emergency and must be reported to local health department by telephone.

School Considerations:

1. Immediate referral for suspected cases.
2. Obtain accurate facts so information can be shared.
3. Classmates, teachers and other school staff usually do NOT require prophylaxis, (usually rifampin) unless they have had prolonged, close exposure.
4. Exposed household, school or childcare contacts must be observed carefully. Exposed individuals who develop a febrile illness should receive prompt medical attention.
5. Because secondary cases can occur several weeks after onset of disease in the index case, meningococcal vaccine is a possible adjunct to chemoprophylaxis when the outbreak is caused by a serogroup contained in the vaccine. Health department personnel will determine need.

15. MONONUCLEOSIS, INFECTIOUS

Definition: A viral infection characterized by high fever, sore throat and generalized lymphadenopathy.

Etiology: Epstein-Barr virus (EBV), a member of the herpesvirus family.

Clinical Manifestations: Fever, exudative pharyngitis, lymphadenopathy, hepatosplenomegaly, jaundice. A rash may occur, especially in patients treated with ampicillin. Central nervous system complications include aseptic meningitis, encephalitis and Gullain-Barre syndrome. The status of "chronic" infectious mononucleosis (chronic fatigue syndrome) is still controversial and in most, if not all, cases appears not to be related to EBV infection.

Mode of Transmission: Person to person spread via the oropharyngeal route via saliva; occasionally by blood transfusion.

Incubation Period: Estimated to be four to six weeks.

Period of Communicability: Prolonged, may persist for one year or more, 15-20% or more of EBV antibody positive healthy adults are long term oropharyngeal carriers.

Reporting Requirements: Not reportable.

Management: Treatment of symptoms.
In individuals who are immunocompromised, fatal disseminated infections or B-cell tumors can occur. Vulnerable students may need to be protected from infection. However, because of subclinical infection and the carrier state, this disease may be endemic in the school.

Control: Use hygiene measures including hand washing to help prevent spread. Properly dispose of articles soiled with nose and throat discharge. Infected students may require home tutoring if the course of disease is prolonged. Return to school is determined on an individual basis as symptoms subside. Physical education and/or athletics for recovering students may need adjustment. Due to hepatospleenic enlargement, in some cases students should have a written release from their health care provider prior to return to contact sports in physical education and interscholastic athletic participation.

16. MUMPS (PAROTIDIS)

Definition: Mumps is an acute viral infection characterized by fever, swelling and tenderness of one or more of the salivary glands

Etiology: Caused by an RNA virus classified as a Rubulavirus.

Reporting Requirements: Reportable to local health department

Clinical Manifestations: Symptoms include fever, swelling and tenderness of one or more of the salivary glands, usually the parotid gland (located just below the front of the ear). Approximately one-third of infected people do not exhibit symptoms.

17. PEDICULOSIS CAPITIS (HEAD LICE INFESTATION)

Definition: Directly transmissible parasitic skin infestation involving the head.

Epidemiological studies support the following:
- All socioeconomic groups are affected.
- Females are infested more frequently than males.
- The difference between infestation rates for children with long hair and those with short hair are not statistically significant.
- Rates are highest in children in elementary grades and special education classes.
- Head lice are uncommon in the black race.

Etiology: Lice are external parasites of the human host. There are three types of lice, which infest humans; the one of most concern in the school setting is Pediculosis Humanus Capitis. Lice are 2-4 mm in length, wingless, gray-brown, hairy, flat insects, and have special mouthparts for piercing and sucking.

Lice cannot jump or fly. They do not survive for more than two days away from their source of food. The life span for an adult louse is approximately one month. Adult female lice can lay eggs at a rate of 8-10 per day, producing large populations of lice within 3-4 weeks.

Head lice generally inhabit only the hairy surface of the scalp preferring the nape of the neck and the area behind the ears. Diagnosis is made by direct inspection of the hair and scalp for the presence of crawling lice (adult or nymphs) and/or nits (unhatched eggs). Female lice lay eggs at the junction of the scalp.

Louse eggs are grayish white and oval, darkening to a tan or coffee color as they mature. They are firmly attached to the shaft of hair by a cement-like substance. Eggs hatch in about a week. The nymph matures into an adult louse in 8-9 days at which time it is capable of reproduction.

Once hatched, the egg casing appears white and may be confused with dandruff or a particle of dried hair spray. Nits that contain air pockets or have a shrunken or indented shape will not hatch.

Clinical Manifestations: The primary clinical symptom of lice is itching of the scalp, back of the neck and behind the ears. Scratch marks or what appears to be a rash often accompanies the itching. Secondary excoriations and infection accompanied by cervical lymphadenopathy can occur from vigorous scratching and may require antibiotic treatment.

Screening Procedures: Diagnosis of head lice is made by direct inspection of the hair and scalp for the presence of lice or nits. To examine a student for pediculosis, part the hair with wooden tongue blades or applicator sticks. Use separate tongue blades or applicators for each student. Wearing gloves is not necessary. Watch closely for movement on or near the scalp and for nits on strands of hair.

If the diagnosis is made solely on the presence of eggs, health personnel must determine whether the nits are hatched or unhatched. The presence of only hatched eggs (lice not observed and empty egg casings) indicates past infection and does not constitute grounds for treatment, retreatment or suspension from or refused admission to school. On the other hand, the presence of unhatched eggs indicates an active infection that requires treatment. In the past, it was thought that only nits within 1/4" of the scalp were viable. Research has indicated that in warmer climates, viable nits can be found more than 1/4" from the scalp. Judgment about viability should, therefore, be based on the appearance of nits rather than their location. Live nits fluoresce under a Wood's light.

Measures should be taken to assure that those students with head lice are not identified to other students. An immediate head check of all siblings, children in the same childcare setting and classmates of the infected child should be done.

Mode of Transmission: Coming into direct contact with an infested person, and to a lesser extent, indirect contact with fomites such as hairbrushes, stuffed animals, caps, scarves and coats. Lice are only viable on fomites for only a short period of time.

Incubation Period: 6-10 days.

Reporting Requirements: None. However, local health department assistance may be helpful when recurrent infestations occur in the same environment.

Management: The key to interrupting transmission of infestation is attention to <u>all four areas</u> of treatment.

1. **Kill lice using an approved pediculicide**, correctly applied, following label instructions.
   Some additional information:
   - Most do not need a prescription.
   - Pediculicides are effective in killing live lice.
   - Pediculicides are not as effective in killing eggs; treatment should be repeated in 7-10 days to kill newly hatched lice.
   - Reexamine to verify treatment effectiveness.
   - Inappropriate use of certain Pediculicides is reported to have toxic effects.
   - Inadequate use of Pediculicides can result in treatment failure.
2. **Remove nits** after shampooing**:**
   - Several aids on market
   - May require manual removal with fingernails or tweezer.
3. **Screens contacts and treat if infested:**
   - All household members
   - Classmates
   - Others (e.g. sports team members, bus seatmates)
4. **Treat environment:**
   - The person puts on clean clothing and uses fresh bedding, towels and linens. All clothing (especially coats and sweaters), bedding and other linen, which the person used before treatment, should be cared for using one of the following methods:
     a. Machine wash on hot cycle (130 F). Since heat is lethal to lice and their eggs, personal articles can be disinfected by machine washing in hot water.
     b. Dry using the hot cycle of the dryer.
     c. Dry-clean.
     d. Personal articles of clothing or bedding in addition to stuffed animals may be placed in a plastic bag and sealed for a period of

10 days. Head lice die in about 48 hours without a blood meal and nits kept at room temperature for 10 days do not hatch.

e. Iron items with a hot iron.

f. For combs and brushes, soak for one hour in a 2% Lysol solution or heat them in a pan of water for 5-10 minutes can disinfect.

NOTE: Because head lice are not transmitted from animals to humans, domestic pets should not be treated.

Once active infestation has been identified, communication with the parent should include an explanation of the problem, possible methods of treatment, and the importance of examining other family members and treating simultaneously if found to be infested.

If a student still has signs of infestation after two treatment attempts, request help from the local health department or the student's private health care provider. The risk of transmission between treatments is probably less than prior to treatment since newly hatched nymphs are fragile and tend to remain closer to the scalp than adult lice. They are, therefore, less likely to be brushed off or transferred to a new host.

American Academy of Pediatrics (AAP) attempts to clarify diagnosis and treatment of head lice and makes recommendations for dealing with this condition in school. Among its recommendations, the AAP says no healthy child should be excluded from, or allowed to miss school because of head lice, and that "no nit" policies for return to school should be discouraged. Numerous anecdotal reports exist of children missing weeks of school and even being forced to repeat a grade because of head lice. Although not painful or a serious health hazard, head lice are the cause of much embarrassment and misunderstanding, many unnecessary days lost from school and work, and millions of dollars spent on remedies.

The AAP recommendations for treating head lice also include:

- School personnel responsible for detecting head lice should be appropriately trained, as it can be difficult to diagnose.
- Permethrin 1 percent (an insecticide) is currently the recommended treatment for head lice.
- Head lice screening programs in schools do not have a significant effect on the incidence of head lice, and are not cost-effective. Parent education programs may be a more appropriate management tool.
- Manually removing nits after medication for killing lice is not necessary to prevent spread. However it may be prudent to remove nits in school-aged children to decrease the chance of mis-diagnosis. Nit removal is tedious and often cannot be accomplished in one sitting.

Because a child with an active head lice infestation has likely had the infestation for a month or more by the time it is discovered, and because the child poses little risk to others and does not have a resulting health problem, he or she should remain in class, but be discouraged from close direct head contact with others.

Classroom Activity: When an outbreak of pediculosis is recognized at a school, classroom activities involving frequent body contact between students should be temporarily suspended.

Buses: During an outbreak of pediculosis, rules applicable to riding school buses should be more strictly enforced. Students should be asked to sit with the same person(s) each day for one to two weeks until the outbreak is under control.

School Environment:
The recommendations given below are considered practical and easy to implement in most schools during an outbreak of pediculosis. It is recommended that:

- A policy of assigning hooks in cloakrooms is initiated.
- Hats are kept in coat sleeves or pockets.
- During an outbreak of pediculosis, a policy of segregation of an infested individual's clothes should be instituted in the gymnasium, work shops, art room, music room, cafeteria and other areas where large plastic bags can be used to separate individual coats, hats, scarves.
- Classroom activities involving "dress-up" costumes or hats should be temporarily discontinued if a case of head lice is detected in the class.
- Resting mats, towels or pillows for younger children should be permanently assigned and kept separated while in use and during storage. Adequate towel service should be provided in locker rooms so those students are not tempted to share towels.
- Carpeted classrooms should be thoroughly vacuumed daily.
- It is NOT advisable to fumigate schools or buses.

Future Prevention/Educational Needs: Although there is no satisfactory way to prevent the occurrence of pediculosis, the following strategies may help to reduce the incidence of infestation.

- Provide health teaching related to the problem including contributing factors, modes of transmission, signs and symptoms, step by step inspection and treatment procedures, care of home and clothing.
- Help people to understand and accept the fact that this is a condition of living which can affect anyone, any time, anywhere.
- Inform the school community of the scope of school health services related to pediculosis control including: inspection of students' hair and head, district policy relative to exclusion and readmission, parent notification and follow-up activities. Be sure to include the ways in which parents may help as well as the name and phone number of the school health service staff member to be contacted if parents require assistance and advice.
- Incorporate this topic in the school health education curriculum at all age levels. When an outbreak occurs in a classroom, notify parents of the other children by letter so they can monitor their children for infestation. To help contain the outbreak, any new infestations should be reported to school health personnel.

18. PERTUSSIS (WHOOPING COUGH)

Definition: A highly contagious, vaccine preventable bacterial infection of the respiratory tract. In the U.S., adolescents and adults are recognized as major sources of the disease. Occurs endemically with periodic outbreaks.

Clinical Manifestations:
Catarrhal stage - mild upper respiratory symptoms, consisting of cough, runny nose, sneezing, and a low grade fever. The cough gradually becomes more severe. This stage lasts 1-2 weeks.
Paroxysmal stage - persistent cough, can progress to severe paroxysms of cough; children often have characteristic inspiratory whoop followed by vomiting. Disease in infants younger than 6 months of age may be atypical; apnea is a common manifestation and whoop often is absent. Adolescents and adults can have atypical course with persistent cough and no whoop. This stage lasts 1-6 weeks, but may last as long as 10 weeks.
Convalescent stage - symptoms wane gradually over weeks to months.

The duration of classic pertussis is 6-10 weeks. Complications include seizures, pneumonia, encephalopathy and death. Pertussis is most severe when it occurs during the first 6 months of life. In previously vaccinated persons, infection is often mild. Hospitalization occurs in 20 % of all cases and in 63% of all cases in infants less than 6 months of age.

Etiology: Bordetella pertussis, a Gram-negative bacillus.

Incubation Period: 4 - 21 days; usually 7 - 10 days, rarely up to 42 days.

Mode of Transmission: Close contact via respiratory secretions. Humans are the only host. Infants and young children are frequently infected by older siblings or adults who have mild or atypical illness that goes unrecognized and untreated.

Period of Communicability: Most contagious during catarrhal stage and the first 2 weeks after cough onset. Erythromycin therapy decreases infectivity and may limits spread.

Reporting Requirements: Reportable

Management: If a case of pertussis is suspected, report to local health department. Students and staff with suspected or confirmed pertussis should be excluded. May return to school after a 5-day completion of a 14-day total course of antibiotic therapy erythromycin or 5 day course of azithromycin or 7 day course of clarithromycin for those who cannot tolerate erythromycin or health care provider's choice of treatment.

Vaccine: Universal immunization with pertussis vaccine for children younger than 7 years is recommended. The pertussis vaccines used in the United States are acellular vaccines in combination with diphtheria and tetanus toxoids.

19. PINWORM INFECTION

Definition: A common infestation by intestinal parasite; generally benign. All ages are susceptible; autoinfection is common; and humans are the only host. While the infected person sleeps, female pinworms leave the intestinal tract and lay their eggs on the skin around the anus. Cases of pinworm infection are seen most often at schools, day care centers and other institutional settings.

Etiology: Enterobius vermicularis, a 4-mm worm, inhabits rectum or colon and emerges to lay eggs in the skin folds of the anus. Eggs remain viable for several days.

Clinical Manifestations: Perianal pruritus, especially at night. Restlessness during sleep. Females may complain of pain or itching of genitals. Vaginitis, salpingitis and pelvic peritonitis can occur because of aberrant migration of adult worm from perineum. Diarrhea may occur. If anus is inspected during the night, ova or white threadlike worms may be seen.

Mode of Transmission: Adult gravid female nematodes usually die after depositing eggs on the perianal skin. Thus, reinfection by autoinfection (child scratches their anus, gets eggs under fingernails and then puts fingers in mouth) or infection acquired from others is necessary to maintain infestation. Egg contamination occurs by the fecal-oral route directly, indirectly, or inadvertently by contaminated hands or fomites, such as shared toys, bedding, clothing, toilet seats, and baths.

Incubation Period: From ingestion of an egg until an adult gravid female migrates to the perianal region is 1 to 2 months or longer.

Period of Communicability: As long as gravid female nematodes are discharging eggs on perianal skin and eggs remain infectious in an indoor environment; this period is usually 2 - 3 weeks.

Management:

1. Control is difficult in schools because rate of reinfection is high.
2. Refer student with symptoms.
3. Stress good personal hygiene to avoid autoinfection.
4. Supervise hand washing in school setting

20. RABIES

Definition: Usually transmitted by an animal bite resulting in an acute central nervous system infection

Etiology: Rabies virus, a rhabdovirus of the genus Lyssa.

Clinical Manifestations: After a period of one to three months, rabies produces local or radiating pain or burning, a sensation of cold, pruritus, and tingling at the bite site. Early

symptoms include irritability, headache, fever, and symptoms of itching or pain at the site of exposure. The disease eventually progresses to paralysis, spasms of the throat muscles, convulsions, delirium, and death.

Mode of Transmission: Animals introduce virus through the skin or mucous membrane; the virus then spreads to the central nervous system and replicates in the brain.

Incubation period: Variable, but is normally two to eight weeks. Incubation periods over one year have been reported.

Period of Communicability: Person to person transmission is extremely rare. However, precautions should be taken to prevent exposure to the saliva of the diseased person.

Reporting Requirements: Animal bites must be reported to the local health department

Management: When an animal bite occurs at or in route to school:

1. 1. Clean and wash the wound immediately with soap and water.
1. 2. Notify parent/guardian about incident and document notification.
3. Contact local health department or local police as required by local law and document notification.
4. Referral for rabies immune globulin and/or vaccine as indicated.
5. Tetanus prophylaxis and anti-bacterial treatment as required.

Future Prevention/Educational Needs: Educate students: exposure of student or staff to a rabid animal does not always result in rabies. If preventive treatment is obtained promptly following a rabies exposure, most cases of rabies will be prevented. Untreated cases will invariably result in death. No sutures or wound closure advised unless unavoidable.
Removing all stray animals, having all pets vaccinated and staying away from all live or dead wild animals may minimize exposure to rabies.

21. RESPIRATORY INFECTIONS

Definition: Includes common colds, influenza and acute respiratory disease. Infections of the upper respiratory tract affect the nose, pharynx and/or larynx. Infections of the lower respiratory tract affect the trachea, bronchi, bronchioles and/or lung alveoli.

Etiology: A large number of different agents (mostly viruses), each of which is capable of producing a wide spectrum of respiratory disease. These include respiratory syncytial virus, adenoviruses, rhinoviruses, coronaviruses, Coxsackie viruses, echoviruses, parainfluenza and influenza viruses and mycoplasma organisms.

Clinical Manifestations: Infectious disease references should be consulted for specific information.

1. Dependent on agent and severity of illness.
2. Constitutional reactions: chills, fever, headache, malaise, anorexia.
3. Localizing signs: coryza, conjunctivitis, lacrimitis, sneezing, coughing, rhinitis, pharyngitis, tonsillitis, bronchitis, bronchiolitis, pneumonia, and croup.

4. Gastrointestinal manifestations may occur with influenza, especially in children.
5. Individuals with compromised cardiac, pulmonary or immune systems are at increased risks of severe illness. Secondary bacterial infections may occur.

NOTE: Pertussis (Whooping Cough), a vaccine preventable bacterial infection with paroxysmal coughing episodes associated with inspiratory whoop, still occurs. All cases must be immediately reported to the local health department.

Mode of Transmission: Directly by oral contact or by droplet spread; indirectly by hands, tissues, eating utensils or other articles freshly soiled by respiratory discharge of an infected person. The hands carry viruses to the mouth, nose or eyes of the susceptible individual.

Incubation Period: 12 hours to 10 days, depending on agent; for influenza it is usually 1 - 3 days. Consult references for specific information.

Incidence: Seasonal in temperate zones with greatest incidence during fall and winter and occasionally spring. During an outbreak of influenza, the highest attack rates occur in school-aged children, with spread to families.

Period of Communicability: Shortly prior to and for the duration of active disease.

Reporting Requirements: None unless an outbreak occurs.

Management: Because of the association with Reye's syndrome, salicylates, i.e. aspirin, should be avoided when a viral illness is suspected. Yearly influenza vaccine is indicated for persons at greatest risk of serious complication from the disease, e.g. children with chronic diseases. In children, being vaccinated for the first time, two doses administered at least 1 month apart are necessary; thereafter, one dose/year.
To prevent spread of viruses, infection control procedures should include frequent hand washing, covering the mouth with tissues when coughing and sneezing, and sanitary disposal of tissues. Staff and students need frequent reeducation in these matters.

Proper disinfection/sanitization by custodial staff of all bathrooms, drinking fountains and hand washing areas should be performed routinely. Hand washing supplies in restrooms should be restocked frequently to ensure availability.

School attendance is permissible unless the individual has more severe infection with constitutional symptoms and discomfort. Suspected secondary infections should be referred to the private health care provider.

Closing of schools during influenza outbreaks has not been shown to be an effective control measure. Any employee, student, or teacher suspected of having the FLU should not attend school.

Future Prevention/Educational Needs: Staff, parents and students require education about the causes of respiratory diseases and the measures that must be taken to contain the spread.

22. SARS (SEVERE ACUTE RESPIRATORY SYNDROME)

Definition: Severe acute respiratory syndrome (SARS) is a viral respiratory illness that was first reported in Asia in February 2003. Over the next few months the illness spread too more than two dozen countries in North America, South America, Europe, and Asia. By late July 2003, no new cases were being reported and the outbreak was considered contained.

Etiology: Coronavirus called SARS-associated coronavirus

Clinical Manifestations: Illness begins with a fever (temperature greater than 100.4 degrees F), possibly associated with chills or other symptoms, including headache, general feeling of discomfort, and body aches. Some people also experience mild respiratory symptoms at the outset. Approximately 10-20 percent of patients have diarrhea. After two to seven days, SARS patients may develop a dry cough with most developing pneumonia.

Mode of transmission: Close person-to-person contact. Direct contact with respiratory droplets or with body secretions of an infected person. The virus can be spread when person touches a surface or object contaminated with infected droplets, then touches his/her mouth, nose or eye(s).

Incubation Period: 2-7 days up to 10 days.

Period of Communicability: Only when exhibiting symptoms such as fever and cough.

Reporting Regulations: Reportable to local health department

Management: As the SARS situation evolves worldwide and at the state and local levels, guidance will be developed. Schools should consult with their local and state health departments for the most up-to-date guidelines.

23. SCABIES

Definition: A transmissible parasitic skin infection characterized by superficial burrows, intense itching and secondary infection. Infestations are usually not severe, with 3-50 mites found on an affected person. Immunocompromised persons may develop a more severe rash, referred to as crusted or Norwegian scabies.

NOTE: Much of the discussion on pediculosis applies equally well to scabies. However, there are some epidemiological differences of medical and public health importance.

Etiology: The mite, sarcoptes scabiei (ssp.) hominis, is not an insect; it is more closely related to ticks and spiders. Mites measure 0.3 to 4 mm. in diameter (about 1/5 the size of lice). To infect humans, the female mite burrows beneath the stratum corneum of the skin and lays her eggs in tortuous tunnels. In most of the cases, burrows occur somewhere on the hands and arms; can also occur in the axillary folds, waistline, thighs, navel, genitalia and buttocks. The classic site is the web between the fingers. In children younger than 2 years of age, burrows may occur on any part of the body, including head, neck, palms and soles.

Clinical Manifestations:

1. Intense pruritus is the earliest and most common symptom. Itching is usually worse at night.
2. Primary lesions are:
    a. Burrows- gray or skin colored ridges up to a few centimeters long; scratching destroys burrows, so they are usually not found.
    b. Vesicles - isolated, pinpoint and filled with serous fluid; may contain mites.
    c. Papules - small, isolated; represent a hypersensitivity reaction and rarely contain mites.
3. Secondary lesions with erythema and scaling caused by scratching are present in more chronic cases.
4. A generalized urticarial rash may occur.

Mode of Transmission: Scabies is transmitted by person-to-person contact; most authorities feel that this contact must be fairly prolonged and intimate (i.e., sharing a bed, sponge-bathing an individual, or applying body lotions). Mites can be transmitted via infested bedding, clothing or other fomites but this mode of spread occurs relatively infrequently.

Incubation Period: In a previously unexposed individual, 2-6 weeks may elapse between infection and onset of symptoms. In reinvested persons, rash and itching develop within 1-4 days. The infected individual is capable of transmitting the mite during the entire incubation period.

Management: Because the incubation period for scabies can be several months, it is usually recommended that the infested individual and all of his or her family members and close contacts be treated simultaneously. The treatment of choice is 5% permethrin cream (Elmite) because of its efficacy and safety in use in infants and children. This

treatment requires one application. The infested person should be thoroughly cleansed by means of a shower or bath and dried. The lotion or cream should be applied to the entire skin surface of the body below the neck. Special attention should be given to skinfold areas such as between digits, elbows, axillae, groin, and external genitalia, between the buttocks, below the breasts and in the bends of the knees. The lotion should be left undisturbed for the recommended time period and followed by a bath or shower. Itching often persists for more than one week after treatment, should not be interpreted as a sign of renewed activity by the mite. Secondary bacterial infection may require antibiotic treatment.

Other Considerations:

1. Suspect scabies in a rash that causes intense itching, especially at night. Inquire about any rashes/itching by other family members. If other siblings are in school, they should be checked for the presence of a rash.
2. Notify parents recommending referral to an appropriate health care provider for diagnosis and treatment of suspected cases. Students can be readmitted 24 hours after treatment begins.
3. Individuals who have been adequately treated can be considered as non-communicable cases and readmitted to school even if a second treatment has been prescribed.
4. Monitor reinfestation to ensure that treatment was effective. Maintain close communication with family.

24. STREPTOCOCCAL DISEASE (Strep Throat & Scarlet Fever)

Definition: Bacterial illnesses, the vast majority relatively mild. Occasionally these bacteria can cause severe disease such as necrotizing fasciitis or streptococcal toxic shock syndrome.

Etiology: Streptococcus pyogenes: Group A Beta Hemolytic Streptococci (GAS). There are certain strains that are more likely to cause severe disease than others.

Clinical Manifestations: In its typical form, the infection is manifested by sore throat, fever, a beefy red pharynx and tonsillar exudate. Other cases may present with fever or mild sore throat alone or have nonspecific symptoms such as headache, malaise, nausea, vomiting, and tachycardia or be asymptomatic. None of these signs and symptoms is specific for streptococcal infections and may also present in viral infections.

The only sign and symptom statistically associated with serologically confirmed cases is cervical adenitis. For this reason, throat culture is the recommended way to determine Strep infection. Scarlet fever is associated with group A streptococcal (GAS), and produces an erythrogenic toxin leading to a diffuse pink-red cutaneous flush that blanches on pressure. It is seen best on the abdomen, lateral chest and cutaneous folds. Additional characteristic manifestations of scarlet fever are circumoral pallor surrounded by a flush face and the "strawberry tongue" and Pastia's lines (dark red lines in the creases of the skin folds).

Rarely, invasive disease (bacteremia) has been reported with group A streptococcal (GAS).

Complications:
Local: Peritonsillar abscess, otitis media, sinusitis and mastoiditis.
General: Rheumatic fever, acute glomerulonephritis.

Mode of Transmission: Contact with respiratory secretions from clinically infected persons or with an infected wound lesion. People may carry group A streptococcal (GAS) in the throat or on the skin and have no symptoms of disease.

Incubation Period: 2-5 days.

Period of Communicability: Communicability is maximum during acute infection and gradually diminishes during a period of weeks. When treated, until 24 hours after initiation of antibiotic therapy.

Reporting Requirements: Report clusters or outbreaks only.

Management:
1. All contacts with sore throats should be referred for medical evaluation.
2. Reinforce importance of following antimicrobial regimen as prescribed.
3. Children may return to school 24 hours after beginning antimicrobial therapy if they are afebrile.
4. Reinforce the importance of good infection control practices such as covering mouth when coughing or sneezing and proper hand washing and disinfecting of surfaces.

25. TINEA (RINGWORM) - general

Definition: A skin infection caused by a fungus that can affect the scalp, skin, fingers, toenails or foot.

Etiology: Fungi of several types.

Clinical Manifestations: Refer to body area affected (see below).

Mode of Transmission: Direct or indirect contact with infected humans, animals and/or fomites.

Incubation Period: Unknown but usually symptoms occur 10-14 days after contact.

Period of Communicability: As long as fungi can be cultured from or demonstrated in the infected area.

Reporting Requirements: Not reportable.

Management:
Although there is probably no way to prevent the occurrence of tinea infections, the following strategies may help to reduce the incidence and confine the infection.

1. Develop educational programs for students, staff and parents, which include:
   a. Emphasis on the nature of the infection, contributing factors, signs and symptoms, and mode of transmission.
   b. Instruction and/or counseling related to personal hygiene measures including but not limited to:
      - Proper laundering of towels and clothing.
      - Special care of feet and skin between toes, especially after bathing.
      - Airing shoes and sneakers between wearing.
      - Using alternate pairs of footwear.
      - Avoiding the sharing of combs, brushes, clothing and towels with other persons.
      - For persons who have had fungal infections of the feet, regular use of a fungicidal dusting powder on the feet and between the toes also may be a preventative measure.
      - Observation of pets for signs and symptoms of infection.
2. Maintain general cleanliness of showers, locker and dressing rooms in pools and gymnasiums, especially repeated washing of benches and floors with a fungicidal agent such as creosol. Shower rooms should be frequently hosed down and rapidly drained. Mats should be cleaned with an appropriate fungicidal solution to decrease the transmission of the fungus.
3. If student participates on interscholastic wrestling team, contact district Athletic Director for current requirements for students with skin lesions.

26. TINEA CAPITIS (RINGWORM OF THE SCALP)

Definition: Fungal infection of the scalp

Clinical Manifestations: Occurs primarily in children between the ages of 3 and 9. Erythema and scaling of scalp with short, broken hairs and alopecia in area of infection; enlarges in size over time if untreated. Kerion, a boggy inflammatory mass surrounded by follicular pustules, is a hypersensitivity reaction to the fungal infection.

Management: All suspected cases require medical evaluation. Must be treated systemically with oral prescription medication, usually for 4-8 weeks. It is not necessary to cut hair, shave the head or wear a head covering.
Exclusion is generally not necessary; each case should be considered individually.

Personal hygiene instruction related to avoiding shared use of combs, brushes, towels and clothing.

27. TINEA CORPORIS (RINGWORM OF THE BODY)

Definition: Superficial tinea infections of the nonhairy skin may involve the face, trunk, or limbs but **not** the scalp, beard, groins, hands or feet.

Clinical Manifestations: Complaints may include mild pruritus, pain, scaling. History may reveal close contact with infected animal(s) or person(s). The lesion starts as a small, red, colorless or depigmented circle that progressively enlarges. The circular border is elevated and sometimes scaly; it is dry or moist and crusted. The center starts to heal, as the area becomes larger. Usually seen on arms, face and neck but may occur elsewhere on the body.

Management: Topical applications of recommended medication as directed. Improvement of lesion(s) may be obvious within 2 weeks, a minimum of 4 weeks of treatment is recommended.

Management: Need to evaluate the individual student's activities (i.e., wrestling), to minimize skin to skin contact until medical treatment has been initiated.

Exclusion from school is generally not necessary. Each case should be considered independently.

28. TINEA CRURIS (JOCK ITCH)

Definition: Common superficial fungal disorder of the groin and upper thighs

Clinical Manifestations: Common in the groin and thigh region of post-pubescent males; the scrotum is spared. A raised border demarcates lesion. Often follows from prolonged use of an athletic supporter. Treated topically.

29. TINEA PEDIS (RINGWORM OF THE FEET/ATHLETE'S FOOT)

Definition: Fine vesiculopustular or scaly lesion that commonly are pruritic. The lesions can involve all areas of the foot.

Clinical Manifestations:

1. Fine vesiculopustular or scaly lesions with a predisposition to fissures and scaling between the toes.
2. Student frequently complains of severe itching of area(s).
3. The infection may spread to the soles of the feet.
4. Toenails may be infected and become dystrophic.
5. It may be accompanied by a spread to other parts of the body, especially the hands, or by a hypersensitivity reaction to the fungi with resulting vesicular eruptions on the palms of the hands, sides of the fingers, trunk and/or extremities.

Management: Topical medications as directed. Cool wet compresses to relieve itching. Proper foot hygiene.

Additional Considerations:

1. Students should not use public areas conducive to transmission (i.e., swimming pools, locker's) with active infection.
2. Need to evaluate the individual student's activities.

30. TUBERCULOSIS (PULMONARY)

Definition: Pulmonary tuberculosis (TB) is a bacterial disease usually affecting the lungs. Other parts of the body can also be affected, for example lymph nodes, kidneys, bones, joints etc., this is called extrapulmonary tuberculosis. All cases of tuberculosis disease are initially treated with at least four anti-TB medications for a minimum of six months.

Etiology: Mycobacterium tuberculosis, an acid-fast bacillus (AFB).

Clinical Manifestations:

1. Tuberculosis infection may result after close contact with a person who has tuberculosis disease.
2. Early clinical manifestations that occur 1-12 months after initial infection may include one or more of the following: fatigue, night sweats, and low-grade fever, weight loss and/or progressive weakness, persistent sputum-productive cough.

Mode of Transmission: Infectious airborne droplets, from person with active pulmonary disease, usually released during coughing, sneezing, screaming, singing and/or spitting. Prolonged exposure to the tuberculosis organism is normally necessary for infection to occur.

NOTE: Because children rarely transmit the disease, the usual method of spread is adult-to-child.

Incubation Period: Four to 12 weeks after infection until significant tuberculin skin test reaction or a demonstrable primary lesion. Infection may be latent for years.

Period of Communicability: As long as infectious tuberculosis bacilli are being discharged in sputum. Only an individual with active TB disease is capable of transmitting the disease.

Tuberculin Skin Testing: The intradermal Mantoux Purified Protein Derivative (PPD) skin test is currently the most accurate and reliable test. It does not prove the presence of active infection. Tine tests should not be used. The disadvantage of the multiple-puncture devices (i.e., tine test) is that the exact dose of antigen injected can be inconsistent and errors in reading the reaction are likely.

Tuberculosis skin testing in Children: No routine skin testing of children for the presence of tuberculosis should be conducted, except as part of an epidemiological investigation in cooperation with or recommended by the local Department of Health Tuberculosis

Control Program. Children should be tested by their primary health care provider based on risk assessment, as part of routine care.

Reporting Requirements: Tuberculosis is a reportable disease. As soon as a school district becomes aware that a student, teacher or other member of the school staff has or is suspected of having tuberculosis disease, school authorities are required to report to the local Department of Health.

It is a responsibility of local Department of Health to evaluate and provide appropriate care for tuberculosis cases, tuberculosis suspects, contacts to infectious cases and tuberculin skin test reactors.

School Considerations:

1. If potential transmission of tuberculosis has occurred within the school, cooperation among the local Department of Health, school officials and school health personnel is necessary to determine the level of appropriate disease control investigation.
2. Students and/or school personnel who are taking treatment for latent TB infection (usually Isoniazid for 9 months) prophylactic medication do not need to be excluded from the school setting. These individuals may be infected but do not have symptoms of the disease. They do **not** have the potential for transmitting the bacteria to others.
3. Students and/or school personnel who have been diagnosed as having active tuberculosis disease must be excluded from school until they are no longer infectious. A written statement from the primary care provider concerning their ability to return to the school setting should be requested.

31. WEST NILE VIRUS

Definition: West Nile Virus (WNV) is a mosquito-borne infection that can cause serious illness, and in some cases, death.

Etiology: Arbovirus

Clinical Manifestations: It is estimated that 20% of the people who become infected will develop mild symptoms such as fever, headache and body aches, occasionally a skin rash and/or swollen lymph glands. In many individuals, these symptoms are so mild that they go unnoticed or undetected.

The symptoms of severe infection (West Nile encephalitis or meningitis) include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness and paralysis. Usually, symptoms occur from 3 to 14 days after exposure. There is no specific treatment for viral infections, other than to treat the symptoms and provide supportive care.

Risk Factors: All residents of areas where virus activity has been identified are at risk of getting West Nile virus; persons over 50 years of age are at the highest risk for severe disease.

Mode of Transmission: WNV is primarily transmitted through the bite of an infected mosquito

Incubation Period: 5-15 days

For more information regarding activities in your specific area, contact your local health department, or visit the Department's Web site at **www.health.state.ny.us.**

New York State Department of Health
Fight the Bite
Box 2000
Albany, New York 12220
Environmental Health Information: 1-800-458-1158

APPENDIX B

New York State Department of Health
Communicable Disease Reporting Requirements

Reporting of suspected or confirmed communicable diseases is mandated under the New York State Sanitary Code (10NYCRR 2.10a). The primary responsibility for reporting rests with the physician; moreover, laboratories (PHL 2102), school nurses (10NYCRR 2.12), day care center directors, nursing homes/hospitals (10NYCRR 405.3d) and state institutions (10NYCRR 2.10) or other locations providing health services (10NYCRR 2.12) are also required to report the diseases listed below.

Amebiasis
☎ **Animal bites for which rabies prophylaxis is given** [1]
☎ **Anthrax** [2]
☎ **Arboviral Infection** [3]
Babesiosis
☎ **Botulism** [2]
☎ **Brucellosis** [2]
Campylobacteriosis
Chancroid
Chlamydia trachomatis infection
☎ **Cholera**
Cryptosporidiosis
Cyclosporiasis
☎ **Diptheria**
E Coli Infection [4]
Ehrlichiosis
☎ **Encephalitis**
☎ **Foodborne illness**
Giardiasis
☎ **Glanders** [2]
Gonococcal infection
Haemophilus influenzae [5] (invasive disease)
☎ **Haemophilus**
☎ **Hantavirus disease**
Hemolytic uremic syndrome (HUS)
Hepatitis A
☎ **Hepatitis A in a food handler**
Hepatitis B, C (specify acute or chronic)
Pregnant hepatitis B carrier
Hospital associated infections (as defined in section 2.2 10NYCRR)
Legionellosis
Listeriosis
Lyme Disease
Lymphogranuloma venereum
Malaria
☎ **Measles**
☎ **Melioidosis 2**
Meningitis, aseptic or viral
☎ **Meningococcal**
☎ **Meningococcemia**
☎ **Monkey pox**
Mumps
Pertussis
☎ **Plague** [2]
☎ **Poliomyelitis**
Psittacosis
☎ **Q Fever** [2]
☎ **Rabies**
Rocky Mountain spotted Fever
☎ **Rubella** (including congenital rubella syndrome)
Salmonellosis
☎ **Severe Acute Respiratory Syndrome (SARS)**
Shigatoxin-producing infection [4]
Shigellosis [4]
☎ **Smallpox** [2]
Staphylococcus aureus [6] (due to strains showing reduced susceptibility or resistance to vancomycin)
☎ **Staphylococcal enterotoxin B poisoning** [2]
Streptococcal infection (invasive disease) [5]
Group A beta-hemolytic strep
Group B strep
Streptococcus pneumoniae
☎ **Syphilis, specify stage** [7]
Tetanus
Toxic shock syndrome
Trichinosis
☎ **Tuberculosis current disease (specify site)**
☎ **Tularemia** [2]
☎ **Typhoid**
Vibriosis [6]
☎ **Vaccinia disease** [8]
☎ **Viral hemorrhagic fever** [2]
Yellow fever
Yersiniosis

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1 Local health unit must be notified prior to initiating rabies prophylaxis.

2 Diseases that are possible indicators of bioterrorism.

3 Including, but not limited to, infections caused by eastern equine encephalitis virus, western equine encephalitis virus, West Nile virus, St. Louis encephalitis virus, LaCrosse virus, Powassan virus, and Jamestown Canyon virus.

4 Positive shigatoxin test results should be reported as presumptive evidence of disease.
Only report cases with positive cultures from blood, CSF, joint, peritoneal or pleural fluid. Do not report cases with positive cultures from skin, saliva, sputum or throat.
Proposed addition to list.

5 Any non-treponemal test >= 1:16 or any positive primary or secondary stage disease or prenatal or delivery test result regardless of titer should be reported by phone; all others may be reported by mail.

6 Persons with vaccinia infection due to contact transmission, and persons with the following complications from vaccination: eczema vaccinatum, erythema multiforme major or Stevens-Johnson syndrome, fetal vaccinia, generalized vaccinia, inadvetent innoculation, ocular vaccinia, post-vacinial encephalitis or encephalomyelitis, progressive vaccina, pyrogenic infection of the vaccination site, and any other serious adverse events.

SPECIAL NOTES:

- Diseases listed in blood type (☎**)** warrant prompt action and should be reported immediately to local health units by phone followed by submission of the confidential case report form (DOH-389). In NYC use case report form 395V.
- In addition to the diseases listed above, any unusual disease (defined as a newly apparent or emerging disease or syndrome that could possibly be caused by a transmissible infectious agent or microbial toxin) is reportable.
- Outbreaks: while individual cases of some diseases (e.g., streptococcal sore throat, head lice, impetigo, scabies and pneumonia) are not reportable, a cluster or outbreak of cases of any communicable disease is a reportable event.
- Cases of HIV infection, HIV-related illness and AIDS are reportable to:

Division of Epidemiology
P.O. Box 2073, ESP Station
Albany, NY 12220-2073
(518) 474-4284
In New York City: NYC Department of Health and Mental Hygiene
For HIV/aids reporting, call: (212) 442-3388

WHO SHOULD REPORT?

Physicians, nurses, laboratory directors, infection control practitioners, health care facilities, state institutions, and schools.

WHERE SHOULD REPORT BE MADE?

Report to local health department where patient resides

Contact Person:_____

Name/Address: _____

_____

Phone: _____ Fax:_____

WHEN SHOULD REPORT BE MADE?

Within 24 hours of diagnosis:

- Phone or fax diseases in bold type
- Mail case report, DOH-389, for all other diseases.
- In New York City use form 395V

For more information on disease reporting, call your local health department Or The New York State Department of Health, Bureau of Communicable Disease Control at (518) 473-4439.**In NewYork City, 1 (866) NYC-DOH1. To obtain reporting forms (DOH-389), call (518) 474-0548 (Revised January, 2004)**

APPENDIX C

PARENT NOTIFICATION

School health personnel may wish to notify parents of outbreaks of infectious/communicable diseases such as chicken pox, strep throat, conjunctivitis, head lice, tuberculosis, etc. A form letter and/or information sheet about specific diseases may be used to facilitate this process.

Information sent home should include:

1. General information about the disease including:
    a. Mode of transmission
    b. Incubation period
    c. Period of communicability
    d. Degree of concern for students, if appropriate.
2. Signs and symptoms of the disease.
3. Preventative measures.
4. Appropriate parental follow-up if the disease is suspected including:
    a. School attendance policies.
    b. Recommendations for medical evaluation.
    c. Home management information.
5. Means of contacting school health office with concerns.
6. Measures the school will take to maintain a healthy environment.

School health personnel may also need to notify a parent of a suspected infectious/communicable disease in an individual child. A form letter may be used to facilitate this process.

Information contained in the letter should include:

1. Student name and date seen.
2. Cause for concern including subjective complaints and objective symptoms.
3. Recommended follow-up including:
    a. School attendance policy including requirements for return.
    b. Recommendations for medical follow-up.
    c. Home management information.
4. Possible complications and measures to prevent or recognize side effects.
5. Means of contacting school health office with concerns.

Additional information on disease reporting can be obtained from your local health department or the New York Sate Department of Health, Bureau of Communicable Disease Control at (518) 474-3186.

APPENDIX D

STANDARD OPERATING PROCEDURES FOR GENERAL HYGIENE AND DISEASE PREVENTION

These guidelines and procedures should be followed by ALL STAFF and ALL STUDENTS at ALL TIMES to eliminate and minimize transmission of all infectious disease.

HANDWASHING - Hand washing is the single most important procedure for preventing transmission of infectious organisms.

Proper hand washing procedures follow:

1. Use soap and warm running water. Soap suspends easily removable soil and microorganisms, allowing them to be washed off. Dispenser-style liquid soap is recommended.
2. Wet hands thoroughly under warm running water and dispense soap into wet hands.
3. Rub and scrub hands together for approximately 15 seconds to work up lather.
4. Scrub knuckles, back of hands, nails and between fingers.
5. Rinse hands under warm running water. Running water is necessary to carry away debris and dirt.
6. Use paper towels to thoroughly dry hands.
7. After drying hands, use the towel to turn off the faucet.
8. Discard paper towels into appropriate plastic lined waste receptacle.
9. Allow sufficient time for hand washing:
    a. After using the toilet.
    b. Before meals, snacks and preparing food.
    c. After handling soiled garments, menstrual pads, soiled diapers.
    d. After blowing nose.
    e. After touching potentially contaminated objects, soiled materials, etc.
    f. After removing disposable gloves.
    g. After contact with blood or other body fluids.

Schools must assure convenient and accessible hand washing facilities for all staff and students. Hand washing materials should always be available: dispenser-style liquid soap, paper towels and plastic lined baskets for disposal.

When hand washing facilities are not available, a waterless antiseptic hand cleaner should be used. The manufacturer's recommendations for the product should be followed. Then follow up with complete hand washing as soon as possible.

APPENDIX D (continued)

Additional ways to prevent and control disease transmission are:

1. Cover mouth when coughing or sneezing.
2. Dispose of used tissues in plastic-lined waste receptacles.
3. Keep fingers out of eyes, nose, and mouth.
4. Stay home when sick, i.e., fever, diarrhea, vomiting, excessive sneezing, coughing.
5. Dry feet after taking a shower.
6. Refrain from sharing personal care items, i.e., combs, brushes, makeup, razors, and toothbrushes.
7. Refrain from sharing eating utensils, drinking cups or water bottles.
8. Cover open draining lesions.
9. Maintain updated immunizations.
10. Avoid contact with another person's blood or body fluids.
11. Keep environment clean, contain and dispose of all trash in plastic lined wastebaskets. Change plastic liners daily. If plastic liners are not used, the wastebasket must be cleaned and disinfected daily.

APPENDIX E

GENERAL STAFF EDUCATION FOR INFECTION CONTROL

It is recommended that all school districts provide initial training for all staff, training for new employees, and an annual update for all staff. Such training programs should strive to help individuals recognize the importance of routine use of appropriate infection control practices. Staff not designated in Exposure Control Plan should clearly be informed that care of blood or other body fluid incidents is NOT in their job description, and know who to contact if an incident occurs.

The training would include but not be limited to:

1. An explanation of the infection control plan covering general precautions to prevent transmission of all infectious diseases.

2. An explanation of the exposure control plan required by OSHA, and its implementation in the school district.

3. An overview of potentially infectious diseases, transmission and prevention in the school setting.
   a. Review the Chain of Infection, to increase employee/student awareness of how disease-causing microorganisms are transmitted, and what each individual can do to minimize/eliminate transmission in the school setting.
   b. Review elements of effective infection control practice to include hand washing.

4. A review of standard operating procedures that will ensure that all staff are prepared to take preventative and corrective action when the potential for exposure to infectious microorganisms exists.
   a. Assist an individual to help him/herself.
   b. Create a barrier between self and individual (i.e., clean materials or use of gloves).

5. A demonstration of the correct use and disposal of personal protective equipment; creating a barrier between one's self and another's blood/body fluid (i.e., gloves).

6. A review of the information about exposure incidents, the appropriate reporting procedures and the medical monitoring recommended in cases of suspected occupational exposure.

7. A review of management of general and regulated medical waste materials.

8. A review of other safety, health and legal issues (i.e., confidentiality, employee rights).

9. A review of available resources and services.

10. Maintenance of a clean and safe environment.

APPENDIX F

STANDARD OPERATING PROCEDURES FOR EMPLOYEES WITH POTENTIAL OCCUPATIONAL EXPOSURE TO BLOOD/BODY FLUID

Blood/body fluid clean-up materials should be readily accessible to any employee who is identified at risk for occupational exposure to bloodborne pathogens and covered by the 29CR1910.1030 BBP standard and therefore, may be faced with a situation that would involve responding to aid an individual that involves blood or the clean-up of a blood/body fluid incident. These materials may be packaged in a readily accessible container (i.e., self-sealing plastic bag).

Blood/Body Fluid Response Kit materials are:

1. Disposable latex gloves - 2 pair.
2. Disposable paper towels - 3.
3. Sanitary absorbent material (optional).
4. Plastic bags with twist seals - 1.
5. Liquid soap packet or alcohol towelettes.
6. Gauze pads - 5.
7. Band-Aids - assorted sizes.

Instructions for use:

1. Wear disposable gloves before handling blood/body fluids.
2. Provide first aid treatment.
3. Soak up spilled blood/body fluid with disposable towels or sanitary absorbent material.
4. Vigorously clean environmental surfaces with soap and water, removing all the blood/body fluid.
5. Disinfect with EPA-approved tuberculocidal disinfectant. Allow contact time as per manufacture's recommendation.
6. Place all soiled materials in a leak-proof plastic bag.
7. Remove gloves, turning inside out during removal, and place in plastic bag of soiled materials. Avoid touching skin with soiled gloves. Seal and dispose of plastic bag properly.
8. Wash hands thoroughly with soap and water using hand washing procedures.
9. Cleanup of blood/body fluid spills may be referred to appropriate personnel (designated custodial staff); keep students/staff away from the incident area.
10. For those employees identified as at risk for occupational exposure to blood and OPIM, safety glasses, goggles and face mask should be worn prior to any situation where splashes of blood/body fluids may occur.

    Examples of such situations include:

    a. Extreme medical emergencies.
    b. Occupational/technical programs, (i.e., dental assistant, nursing).

APPENDIX G

STANDARD OPERATING PROCEDURE FOR THE SCHOOL HEALTH OFFICE

The school nurse or designated health service personnel have the responsibility to protect self, students and staff from the transmission of infectious diseases. Adherence to infection control procedures including universal precautions must be strictly practiced at all times. School nurses and other health personnel meet the criteria for occupational risk to bloodborne pathogens and are covered by the exposure control plan.

1. The school health office must be equipped at all times with all essential materials/equipment to provide complete, effective hand washing, first aid, blood/body fluid cleanup, waste disposal and disinfection of special equipment (thermometers, diabetic monitoring devices).

2. School health personnel must use protective barrier equipment and measures to prevent skin and mucous membrane exposure to any blood/body fluids during routine care, emergencies and/or accidents.
   a. Wash hands before and after all contact with an individual and associated materials using proper hand washing procedures.
   b. Use gloves for any procedure with potential for exposure to blood/body fluids.
   c. Use goggles, mask and gown when splash/splattering may be anticipated.
   d. Use mouthpiece for resuscitation to eliminate mouth-to-mouth contact in CPR situation.
   e. Place used syringes, needles, lancets (all sharp instruments) immediately in nearby puncture proof impermeable container labeled medical or infectious waste. Never recap a syringe.
   f. Dispose of all contaminated materials in a covered waste receptacle lined with disposable plastic bag.
   g. Call a custodian for cleanup of large blood/body fluid spill.

3. The school nurse must maintain documentation/record keeping of each individual incident requiring care and treatment. Maintain confidentiality of health records by securing records in a locked file.

4. The school health office has an extreme high priority for cleaning on a daily basis. The area must be dusted daily and all work surfaces cleaned with an EPA approved tuberculocidal disinfectant. All trash and materials used in treatment must be appropriately bagged and disposed of daily. Bathrooms connected to the school health office should be cleaned according to standard operating procedures previously discussed.
   a. Any materials, tools or equipment used must be disinfected immediately following use.
   b. Equipment labeled “single patient use” must not be reprocessed for use on another patient.
   c. Equipment must be disinfected as per manufacturer’s instructions.

d. Fabric mattresses and pillows should be covered with plastic, which can be thoroughly cleaned with soap and water and an EPA-approved disinfectant after each use in case of blood/body fluid spill.

e. Bedding and towels are to be changed and laundered on a regular schedule as per predetermined guidelines for housekeeping. If contaminated from blood/body fluid spill, immediately remove, place in a sealable plastic bag, label and follow laundering instruction.

f. Disposable examination paper can be used to cover sheets and pillows to minimize laundering.

g. Maintain storage areas for clean linens, equipment and disposable items. These areas must be separate from areas used for storage of soiled items.

h. Follow standard operating procedures identified for special education classroom related to assisting with change of a menstrual pad, diapering or fecal or urine accidents.

5. If health personnel are handling regulated medical waste, follow standard operating procedure for "Regulated Medical Waste Disposal".

6. Following any percutaneous injury, the health service personnel should advise the employee/student or legal guardian regarding medical follow-up, including the possible need for a tetanus vaccination. Follow procedure for documentation of incident of exposure.

APPENDIX H

GLOVES

Barrier effectiveness of gloves varies by manufacturer. The most common type of gloves used for prevention of infection is latex, vinyl or nitrile. The Center for Devices and Radiological Health of the U.S. Food and Drug Administration has responsibility for regulating the medical glove industry. Providers of gloves should purchase gloves, which by the glove manufacturer can provide documentation of the acceptability of the glove material for the protection against transmission of bloodborne pathogens.

Disposable gloves shall not be washed or disinfected for re-use. Utility gloves that are of more substantial construction may be used for housekeeping duties and may be decontaminated and reused. However, they must be discarded when cracked, peeling, discolored, torn, punctured or show any other signs of deterioration.

Hands should always be washed after gloves are removed, even if the gloves appear to be intact.

Centers for Disease Control. (1988). Morbidity and Morality Weekly Report, 37(24), page 5.

APPENDIX I

DOCUMENTATION OF STUDENT INCIDENT OF EXPOSURE

OSHA regulations apply only to employees. Students, however, may be exposed to potentially infectious body fluids because of illness, accidents or incidents of violence. School districts should develop policies for handling situations, which place students at risk.

All students should receive education about how to react in situations involving body fluids. Students should be encouraged to notify an adult and NOT to provide first aid or assistance in any instance unless they have received special training.

If a student is exposed to body fluids from another individual, the following procedure should be instituted:

1. The exposed student should wash affected body part or flush mucous membranes as applicable, immediately.
2. Incident should be reported to an adult staff member immediately.
3. Staff member should direct student(s) to designated school health care personnel.
4. Staff member should notify designated personnel to clean environment, which has been contaminated with body fluids, spills.
5. School health personnel should provide appropriate first aid to individuals involved.
6. School health personnel should notify parent/guardian(s) and, if appropriate, recommend follow-up with family health care provider. The "Blood/Body Fluids Incident Form" used for reporting employee incidents of exposure may be helpful in evaluating student incidents.
7. Confidentiality related to the source individual should be maintained.
8. School staff involved in the incident should complete appropriate incident reports.
9. School health personnel should request follow-up report from family health care provider if appropriate. The health care provider is not obligated; however, to share test results or treatment provided.
10. School staff should evaluate the extent that appropriate practices were followed and make recommendations for change if necessary.

APPENDIX J

NEW YORK STATE DEPARTMENT OF HEALTH
COMMUNICABLE DISEASE FACT SHEETS

Fact sheets can be downloaded from:
www.health.state.ny.us/nysdoh/communicable_disease.en/factshts/pdf

Amebiasis
Anthrax
Arboviral Infections
Babesiosis
Botulism
Campylobacteriosis
Chancroid
Chlamydia
Chickenpox
Cholera
Cryptosporidiosis
Cyclosporiasis
Cytomegalovirus (CMV)
Dengue Fever
Diphtheria
Ehrlichiosis
E. Coli
Fifth Disease
Giardiasis
Gonorrhea
Haemophilus Influenzae Type b
Hand, Foot & Mouth Disease
Hantavirus
Hepatitis A
Hepatitis A & Food Service Workers
Hepatitis B
Hepatitis C
Herpes II
Impetigo
Infectious Mononucleosis
Influenza
Kawasaki Syndrome
Legionellosis
Leprosy
Leptospirosis
Listeriosis
Lyme Disease
Lymphogranuloma Venereum
Malaria
Measles
Meningococcal Meningitis
Methicillin Resistant Staphylococcus Aureus (MRSA)
Mumps
Mycoplasma Infection
Nongonococcal Urethritis
Pediculosis
Pertussis
Norwalk Virus Infection
Plague
Pneumococcal Disease
Poliomyelitis
Psittacosis
Rabies
Respiratory Syncytial Virus Infection (RSV)
Ringworm
Rocky Mountain Spotted Fever
Rubella
Salmonellosis
Scabies
Shigellosis
Shingles
Sporotrichosis
Streptococcal Infections
Swimmer's Itch
Syphilis
Tetanus
Trichinosis
Tuberculosis
Tularemia
Typhoid Fever
Vancomycin Resistant Enterococcus (VRE)
Venereal Warts
Viral Meningitis
Yellow Fever
Yersiniosis

Note: Comments or suggestion on the fact sheet series can be directed to the Regional Epidemiology Program, Bureau of Communicable Disease Control, New York State Department of Health, ESP Corning Tower, Room 651, Albany, New York 12237-0627, Telephone: (518) 473-4439, Fax: (518) 474-7381.

APPENDIX K

NEW YORK STATE DEPARTMENT OF HEALTH REGIONAL OFFICES

CAPITAL DISTRICT REGIONAL OFFICE:
Frear Building, 4th Floor
Troy, NY 12180
(518) 271-2760

CENTRAL NEW YORK REGIONAL OFFICE:
217 South Salina Street
Syracuse, NY 13202
(315) 426-7625

HAUPAUGUE FIELD OFFICE
250 Veterans Highway
Rm. 2B-41
Haupauge, NY 11788

METROPOLITAN REGIONAL OFFICES:
5 Penn Plaza
New York, NY 10001-3250
(212) 268-6437
(212) 268-7276

NEW ROCHELLE FIELD OFFICE
145 Huguenot Street
New Rochelle, NY 10801-5228
(914) 654-8236
(914) 654-7194

ROCHESTER FIELD OFFICE:
Triangle Bldg.
335 East Main Street
Rochester, NY 14604-2137
(585) 423-8109

WESTERN REGIONAL OFFICE:
584 Delaware Avenue
Buffalo, NY 14202
(716) 847-4385

APPENDIX L

CITATIONS AND ADDITIONAL RESOURCES

Anderson, Richard D. et al. *Infections in Children: A Source Book for Educators and Child Care Providers*. Rockville, MD. An Aspen Publication.

Benenson, Abram S. *Control of Communicable Diseases in Man.* Washington, DC. The American Public Health Association.

MMWR (Morbidity and Mortality Weekly Report). Atlanta, GA Centers for Disease Control.

Report of the Committee on Infectious Disease, Red Book. Elk Grove Village, IL. American Academy of Pediatrics.

Lewis, Keeta, et al. Manual of School Health. Menlo Park, CA. Addison-Wesley Publishing Company.

New York State Department of Health. *Recommendations for the Control of Select Communicable Diseases in School Setting*.

School Health: A Guide for Health Professionals. Elk Grove Village, IL. American Academy of Pediatrics.

Centers for Disease Control and Prevention. www.cdc.gov

NOTE: Dates of publications were intentionally omitted. The most recent edition should be utilized for reference.

County Department of Health – in addition to personal resources, your local health department has fact sheets available on many communicable diseases. A complete list can be found in Appendix J.