

Infection Control: Schools & Day Care

**Infectious Disease Epidemiology Section
Office of Public Health
Louisiana Dept of Health & Hospitals
800-256-2748**

www.oph.dhh.louisiana.gov

Your taxes at work

Child Care in Louisiana

- 55,000 children in child care
- 1,837 Child Care Centers*
 - 1,371 Class A Centers
 - 307 Head Start Centers
 - 465 Class B Centers

* as of 9/15/99

Factors Related to Risk of Infection

- **Host (infants and children)**
 - immature immune system
 - lack of previous exposure
 - incomplete immunizations
 - non-hygienic practices
- **Care givers**
 - close proximity to children
- **Environment**
 - space
 - staffing ratios
 - ventilation
 - sanitation
 - presence of sick children
 - unstable population
 - wading pools

When a Communicable Disease is Diagnosed or Suspected

- Separate ill child from well children at facility
- Notify parents/guardians immediately
- Adhere to exclusion/readmission recommendations
- If recommended
 - Inform parents of exposed children
 - Advise parents/guardians to watch for early S & S
- Prevent spread of communicable diseases
- Utilize a sanitizing procedure
 - Wash, rinse and sanitize any object or surface that has been soiled with discharge (nasal or feces)
 - Sanitize diaper-changing tables, toilets and potty chairs after each use
- Encourage staff and children to take extra precautions with handwashing, foodhandling, dishwashing and general cleanliness

Exclusion

- **School attendance is important ⇒ No frivolous exclusion**
- **Justification for exclusion: reduction of spread of disease**
- **Decision made by school (school nurse) following guidelines**
- **Region /Health Unit for consultation**
- **Guidelines have exclusion recommendations for most infectious diseases**
- **Return to school when exclusion period met, or HCW clears**

General Conditions for Exclusion

- **Child not able to participate comfortably in regular activities**
- **Child requires more care than staff can provide**
- **Potentially contagious illness**
- **Unvaccinated students exposed to vaccine preventable disease (measles, mumps, rubella, pertussis), may be excluded after consultation**

General Conditions for Exclusion

- high fever
- behavior changes
- lack of energy, lethargy
- persistent crying
- difficult breathing
- diarrhea
- bloody stools with, or, high quantity of mucus
- vomiting >2 times within 24 hours
- uncontrolled coughing
- other S & S that may indicate a severe illness

Modified Exclusion

- **Students could be excluded from specific activities:**
 - **Skin infections: contact sports or any activities that may involve close contact**
 - **URTI: choir, singing**

Reporting

- Louisiana law requires persons treating or having knowledge of a reportable disease, whether the disease is suspected or confirmed, to report the case
- HCW or laboratories report diseases in most cases
- School personnel, parents have similar obligation
- List of reportable diseases at LA OPH website
- Phone (504) 568-5005 or (800) 256-2748
- Fax: (504) 568-5006
- Notifying OPH of reportable disease does not breach confidentiality laws

Why Report

- To confirm diagnosis
- To prevent transmission
- To prevent secondary cases

- Investigation of individual cases
 - Ex: first case of VPD \Rightarrow prevention of secondary cases
 - Ex: First case of meningo-invasive \Rightarrow prevention of cases among co-infected
- Outbreak investigation
 - Ex: Food borne

Main Modes of Transmission

AIRBORNE

DROPLET

CONTACT

Direct

Indirect

Transmitted by Droplets

- **Hemophilus influenzae**
- **Meningococci**
- **Pneumococcal infections (invasive, resistant)**
- **BACTERIAL RESPIRATORY Infections**
 - **Diphtheria, Pertussis, pneumonic plague, Mycoplasma pneumoniae**
 - **Strepto pharyngitis, pneumonia, scarlet fever**
- **VIRAL RESPIRATORY Infections**
 - **Adenovirus, Influenza, Mumps, Parvovirus, Rubella**
- **ANY PAROXYSMAL COUGH (Pertussis?)**

Transmitted by Contact



- **Blood & Body Fluids**
- **Gastrointestinal, respiratory, skin, wound infections**
- **Infectious skin infections: HSV, impetigo, cellulitis, scabies, staphylococcal furunculosis, abscess**
- **Viral hemorrhagic conjunctivitis, viral fevers**
- **Some respiratory infections, bronchiolitis in infants, children: RSV, parainfluenza**

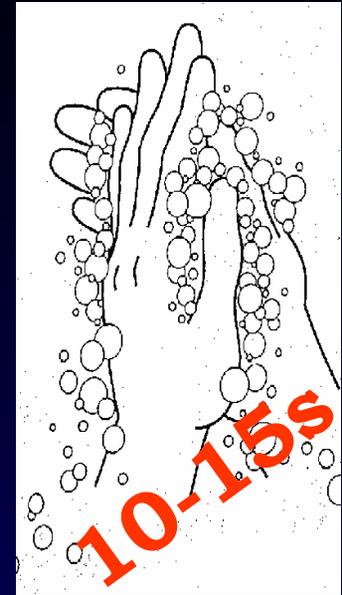
Transmitted by Contact: Fecal Oral Route

- Shigella
- Enteroviruses:
Polio, Coxsackie, Echo,
Reo
- Norovirus
- Rotavirus
- Hepatitis A



Handwashing

- **When to Wash Hands?**
 - **After coughing, sneezing, wiping nose, cleaning up messes**
 - **After using toilet**
 - **Before eating or drinking**
 - **After handling animals**
 - **Whenever hands are soiled**
 - **Food handlers before handling food and when hands are soiled**
- **Hand sanitizer OK**
- **Wash 10-15 seconds**



Contact Hygiene

- **Avoid sharing glasses, water bottles, drinks, spoons/forks, etc.**
- **Avoid sharing clothes, hats, combs, towels**
- **Alcohol hand gels in classrooms to minimize disruption**
- **Disinfect commonly handled interior surfaces**
 - **Door handles, hand rails, eating surfaces, desks**
 - **School building, bus**
 - **Bleach solutions or commercial disinfectants**

Respiratory Hygiene

- Employee, student, teacher, or staff having URTI should not attend school
- Tissues available in all classrooms
- Cover mouth when coughing
- Use tissue when sneezing or blowing noses
- Tissues to be thrown away immediately then... hand washing



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Cover Your Cough

Why should I cover my cough?

Serious respiratory illnesses like influenza, respiratory syncytial virus (RSV), whooping cough and SARS are spread by:

- Coughing or sneezing
- Unclean hands

These illnesses spread easily in crowded places where people are in close contact.



How do I stop the spread of germs if I am sick?

1-Cover your nose and mouth with a tissue every time you cough or sneeze.

2-If you don't have a tissue, sneeze or cough into your sleeve.



3-Throw the used tissue in a waste basket



4-After coughing or sneezing, always clean your hands with soap & water or an alcohol-based hand cleaner



5-Stay home when you are sick.

6-Do not share eating utensils, drinking glasses, towels or other personal items.

How can I stay healthy?

- Clean your hands often with soap and water or an alcohol-based hand cleaner.
- Avoid touching your eyes, nose or mouth.
- Avoid close contact with people who are sick, if possible.
- Get vaccinated! Influenza (flu) and pneumococcal (pneumonia) vaccines can prevent some serious respiratory illnesses.



When you are at the clinic or hospital:

- Cover your cough or sneeze with a tissue and dispose of the used tissue in the waste basket.
- Clean your hands with soap and water or an alcohol-based hand cleaner.
- You may also be asked to wear a mask to protect others.

Vaccine Preventable Diseases



List of Vaccine Preventable Diseases

- MMR (measles, mumps, rubella)
- DPT (diphtheria, pertussis, tetanus)
- OPV/IPV (polio)
- Hemophilus influenza type B
- Influenza
- Chickenpox
- Pneumococcal
- Hepatitis A and B

Recommended Immunization Schedule
for Children and Adolescents Who Start Late or Who Are More Than 1 Month Behind
 UNITED STATES • 2005

The tables below give catch-up schedules and minimum intervals between doses for children who have delayed immunizations. There is no need to restart a vaccine series regardless of the time that has elapsed between doses. Use the chart appropriate for the child's age.

CATCH-UP SCHEDULE FOR CHILDREN AGED 4 MONTHS THROUGH 6 YEARS

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Diphtheria, Tetanus, Pertussis	6 wks	4 weeks	4 weeks	6 months	6 months ¹
Inactivated Poliovirus	6 wks	4 weeks	4 weeks	4 weeks ²	
Hepatitis B ³	Birth	4 weeks	8 weeks (and 16 weeks after first dose)		
Measles, Mumps, Rubella	12 mo	4 weeks ⁴			
Varicella	12 mo				
<i>Haemophilus influenzae</i> type b ⁵	6 wks	<u>4 weeks</u> if first dose given at age <12 months <u>8 weeks (as final dose)</u> if first dose given at age 12-14 months <u>No further doses needed</u> if first dose given at age ≥15 months	<u>4 weeks⁶</u> if current age <12 months <u>8 weeks (as final dose)⁶</u> if current age ≥12 months and second dose given at age <15 months <u>No further doses needed</u> if previous dose given at age ≥15 mo	<u>8 weeks (as final dose)</u> This dose only necessary for children aged 12 months–5 years who received 3 doses before age 12 months	
Pneumococcal ⁷	6 wks	<u>4 weeks</u> if first dose given at age <12 months and current age <24 months <u>8 weeks (as final dose)</u> if first dose given at age ≥12 months or current age 24–59 months <u>No further doses needed</u> for healthy children if first dose given at age ≥24 months	<u>4 weeks</u> if current age <12 months <u>8 weeks (as final dose)</u> if current age ≥12 months <u>No further doses needed</u> for healthy children if previous dose given at age ≥24 months	<u>8 weeks (as final dose)</u> This dose only necessary for children aged 12 months–5 years who received 3 doses before age 12 months	

CATCH-UP SCHEDULE FOR CHILDREN AGED 7 YEARS THROUGH 18 YEARS

Vaccine	Minimum Interval Between Doses		
	Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Booster Dose
Tetanus, Diphtheria	4 weeks	6 months	6 months⁶ if first dose given at age <12 months and current age <11 years 5 years⁸ if first dose given at age ≥12 months and third dose given at age <7 years and current age ≥11 years 10 years⁸ if third dose given at age ≥7 years
Inactivated Poliovirus ⁹	4 weeks	4 weeks	IPV ⁹
Hepatitis B	4 weeks	8 weeks (and 16 weeks after first dose)	
Measles, Mumps, Rubella	4 weeks		
Varicella ¹⁰	4 weeks		

Footnotes

Children and Adolescents Catch-up Schedules

UNITED STATES • 2005

- DTaP.** The fifth dose is not necessary if the fourth dose was administered after the fourth birthday.
- IPV.** For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if third dose was administered at age ≥4 years. If both OPV and IPV were administered as part of a series, a total of 4 doses should be given, regardless of the child's current age.
- HepB.** All children and adolescents who have not been immunized against hepatitis B should begin the HepB immunization series during any visit. Providers should make special efforts to immunize children who were born in, or whose parents were born in, areas of the world where hepatitis B virus infection is moderately or highly endemic.
- MMR.** The second dose of MMR is recommended routinely at age 4–6 years but may be administered earlier if desired.
- Hib.** Vaccine is not generally recommended for children aged ≥5 years.
- Hib.** If current age <12 months and the first 2 doses were PRP-OMP (PedvaxHIB[®] or ComVax[®] [Merck]), the third (and final) dose should be administered at age 12–15 months and at least 8 weeks after the second dose.
- PCV.** Vaccine is not generally recommended for children aged ≥5 years.
- Td.** For children aged 7–10 years, the interval between the third and booster dose is determined by the age when the first dose was administered. For adolescents aged 11–18 years, the interval is determined by the age when the third dose was given.
- IPV.** Vaccine is not generally recommended for persons aged ≥18 years.
- Varicella.** Administer the 2-dose series to all susceptible adolescents aged ≥13 years.

Report adverse reactions to vaccines through the federal Vaccine Adverse Event Reporting System. For information on reporting reactions following immunization, please visit www.vaers.org or call the 24-hour national toll-free information line 800-822-7967. Report suspected cases of vaccine-preventable diseases to your state or local health department.

For additional information about vaccines, including precautions and contraindications for immunization and vaccine shortages, please visit the National Immunization Program Web site at www.cdc.gov/nip or call the National Immunization Information Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

Food Hygiene

- GI tract symptoms (abdominal cramps and/or pain, nausea, vomiting, diarrhea) most common clinical
- Fecal < ----- > Oral route
- Food safety responsibility of every person involved in food service

Sample Food Service Cleaning Schedule

Task				Frequency			Comments
	After Each Use	Before and After Each Use	Daily	Weekly	As necessary		
RANGE							
Clean grill and grease pans	Yes						
Clean burners	Yes						
Clean outside			Yes				
Wipe out oven				Yes			
Clean edges around hood				Yes			
Clean hood screening and grease trap				Yes			
REFRIGERATOR AND FREEZER							
Defrost freezer and clean shelves					Yes	When more than 1/2-inch frost develops or temperature exceeds 0° F	
Wipe outside			Yes				
Dust top				Yes			
Clean inside shelves in order				Yes			
MIXER AND CAN OPENER							
Clean mixer base and attachments	Yes						
Clean and wipe can opener blade	Yes						
WORK SURFACES							
Clean and sanitize		Yes					
Organize for neatness			Yes				
WALLS AND WINDOWS							
Wipe if splattered or greasy					Yes		
Wipe window sills					Yes		
Wipe window screens					Yes		
SINKS							
Keep clean	Yes						
Scrub			Yes				
CARTS (if applicable)							
Wipe down	Yes						
Sanitize			Yes				
GARBAGE							
Take out			Yes			More often as needed	
Clean can					Yes		
TABLES AND CHAIRS							
Clean and sanitize		Yes					
LINENS							
Wash cloth napkins	Yes						
Wash tablecloths and placemats	Yes if plastic						
			Yes if cloth				
Wash dishcloths			Yes				
Wash potholders				Yes			
STORAGE AREAS							
Wipe shelves, cabinets and drawers				Yes			

Cleaning and Sanitizing

- **Cleaning with detergent & water most useful method for removing germs from surfaces**
- **Sanitizing: additional step after cleaning to ↓ germs on surface**
- **In classrooms with young children: clean & sanitize toys**
- **Common areas, desks/tables, doorknobs, handles, phone receivers, drinking fountains**

Cleaning & Sanitizing

- **Sanitizer solutions:**
 - **Spray bottle: diaper changing surfaces, toilets, potty chairs**
 - **Cloths rinsed in sanitizing solution - for food preparation areas, large toys, books and activity centers**
 - **Dipping object into container filled with sanitizing solution**
- **Important to determine sanitizer dilution & contact time**
- **Sanitizer must be sufficient: example - 2 min for bleach on counter**

Sample Cleaning and Sanitizing Chart

Area/Item	Clean	Sanitize	Frequency	Comment
Classroom/Child Care/Food Areas				
Countertops/tabletops, floors, doorknobs, cabinet handles	Yes	Yes	Daily and when soiled	
Food preparation/service surfaces	Yes	Yes	Before and after contact with food activity; between preparation of raw and cooked foods	
Carpets and large area rugs	Yes		Vacuum daily when children are not present. Clean carpets at least monthly in infant areas, at least every 3 months in other areas and when soiled .	1. Vacuum only when children are not present. 2. Clean carpets only when children will not present until carpet is dry. 3. Clean with a carpet-cleaning method approved by the local health authority.
Small rugs	Yes		Vacuum daily or shake outdoors. Laundry weekly	
Utensils, surfaces, toys that go in the mouth or have been in contact with saliva or other body fluids	Yes	Yes	After each child use	Use one-time or disposable utensils and toys if possible
Dress-up clothes not worn on the head, Washcloths, Sheets /pillow cases, individual cloth towels (if been used), Toys that are not contaminated with body fluids, Machine-washable cloth toys, Combs /hairbrushes.	Yes		Weekly and when visibly soiled	(Warning! None of these items should be shared among children!)
Blankets, sleeping bags, cubbies	Yes		Monthly and when soiled	
Hats	Yes		After each child's use	Use disposable hats if possible
Cribs and crib mattresses	Yes		Weekly, before use by different child and whenever soiled or wet.	
Phone receivers	Yes	Yes	Weekly	
Toilet and diapering areas				
Handwashing sinks, faucets, surrounding counters, soap dispensers, door knobs	Yes	Yes	Daily and when soiled	
Toilet seats, toilet handles, doorknobs or cubicle handles, floors	Yes	Yes	Daily or immediately if visibly soiled	
Toilet bowls	Yes	Yes		
Changing tables, potty chairs	Yes	Yes	After each child's use	Use of potty chairs in child care is discouraged because of high risk of contamination
General Facility				
Mops and cleaning rags	Yes	Yes	Before and after a day of use.	Wash mops and rags in detergent and warm water, rinse in water, immerse in sanitizing solution and wring as dry as possible. After cleaning and sanitizing hang mops and rags to dry.
Waste and diaper containers	Yes		Daily	
Any surface contaminated with body fluids (e.g. saliva, mucus, blood, urine, vomit, stool)	Yes	Yes	Immediately	Use standard precautions as specified in <i>Caring for Our Children</i> , Standard 3.026

Adapted from: *Managing Infectious Diseases in Child Care and Schools, A quick Reference Guide*, Editor: Susan Aronson, Timothy R. Shope, American Academy of Pediatrics, 2005

National Health and Safety Performance Standards, *Caring for Our Children: National Health and Safety Performance Standards for Out-of-Home Child Care*, Special Edition, Copyright 2002 by American Academy of Pediatrics American Public Health Association National Resource Center for Health and Safety in Child Care, p. 417 Appendix I

Animals & Pets at School

- **Animals in classroom may be beneficial**
- **Some animals transmit infectious diseases to humans**
 - **Reptiles shed *Salmonella* bacteria in feces**
 - **Birds transmit psittacosis**
 - **Poisonous animals: spiders, snakes, insects**
 - **Wild, stray, or aggressive animals & rabies**

Animals & Pets at School

- Avoid species known to transmit zoonoses
- Keep cages or enclosures clean and in good repair
 - If students clean cages; supervise, wash hands
- Wash hands after animal contact
- Never “kiss” animals or have contact with faces
- Have animals inspected by a veterinarian
- Minimize handling of animals, only by mature students
- Disposable gloves
- "No fingers in the mouth" policy
- Human food not allowed in room with animals
- Check for student allergies before bringing animals

Child Care Health Consultants



**LEST we
forget why
we're here**



STATE OF LOUISIANA
DEPARTMENT OF HEALTH AND HOSPITALS

COMMUNICABLE DISEASES IN SCHOOL SETTINGS:

*AN ESSENTIAL GUIDELINES
FOR SCHOOL NURSES &
SCHOOL PERSONNEL*

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P.O. Box 60630, New Orleans, LA 70160 (504) 568-5005
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