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, food handling, 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 ⇒ prevention of secondary cases
  ▪ Ex: First case of meningo-invasive ⇒ prevention of cases among co-infected

• Outbreak investigation
  ▪ Ex: Food borne
Main Modes of Transmission

AI RBORNE

DROPLET

CONTACT

Direct  Indirect
Transmitted by Droplets

- **Hemophilus influenzae**
- **Meningococci**
- **Pneumococcal infections (invasive, resistant)**
- **BACTERIAL RESPIRATORY Infections**
  - Diphtheria, Pertussis, pneumonic plague, *Mycoplasma pneumoniae*
  - Streptococcal 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
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**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Minimum Interval Between Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria, Tetanus, Pertussis</td>
<td>6 wks</td>
<td>Dose 1 to Dose 2: 4 weeks</td>
</tr>
<tr>
<td>Inactivated Poliovirus</td>
<td>6 wks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Birth</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Measles, Mumps, Rubella</td>
<td>12 mo</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Varicella</td>
<td>12 mo</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Hemophilus Influenzae type b</td>
<td>6 wks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>6 wks</td>
<td>4 weeks</td>
</tr>
</tbody>
</table>

*If current age <12 months
**If current age ≥12 months and second dose given at age <15 months
***If previous dose given at age ≥15 months

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

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Interval Between Doses</th>
<th>6 months anytime after first dose if dose 1 or dose 2 were not administered at age 2 months.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Td/Tdap</td>
<td>Dose 1 to Dose 2: 4 weeks</td>
<td>Dose 2 to Dose 3: 6 months</td>
</tr>
<tr>
<td></td>
<td>Dose 3 to Booster Dose: 6 months</td>
<td>If first dose given at age &lt;12 months and current age &lt;11 years. If dose 3 given at age ≥12 months, current age ≥11 years.</td>
</tr>
<tr>
<td>Inactivated Poliovirus^</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>4 weeks</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Measles, Mumps, Rubella</td>
<td>4 weeks</td>
<td>(and 16 weeks after first dose)</td>
</tr>
<tr>
<td>Varicella</td>
<td>4 weeks</td>
<td></td>
</tr>
</tbody>
</table>

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**Footnotes**

**Children and Adolescents Catch-up Schedules**

**UNITED STATES • 2005**

1. **DtaP**. The fifth dose is not necessary if the fourth dose was administered after the fourth birthday.
2. **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.
3. **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.
4. **MMR**. The second dose of MMR is recommended routinely at age 4–6 years but may be administered earlier if desired.

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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](http://www.vaers.org) or call the 24-hour national toll-free information line 1-800-822-7967. 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/vaccines](http://www.cdc.gov/vaccines) or call the National Immunization Information Hotline at 1-800-232-2522 (English) or 1-800-232-0233 (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

<table>
<thead>
<tr>
<th>Task</th>
<th>Frequency</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RANGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean grill and grease pan</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clean burners</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clean outside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe out oven</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clean edges around hood</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clean hood screening and grease trap</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>REFRIGERATOR AND FREEZER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defrost freezer and clean shelves</td>
<td>Yes</td>
<td>When more than 5 inches frost develops or temperature exceeds 0°F</td>
</tr>
<tr>
<td>Wipe outside</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Dust top</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean inside shelves in order</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>MIXER AND CAN OPENER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean mixer base and attachments</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clean and wipe can opener blade</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>WORK SURFACES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean and sanitize</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Organize for next use</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>WALLS AND WINDOWS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe if splattered or greasy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe windows inside</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Wipe windows screens</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>SINKS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep clean</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Scrub</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CARTS</strong> (if applicable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe down</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sanitize</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>GARBAGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take out</td>
<td>Yes</td>
<td>More often as needed</td>
</tr>
<tr>
<td>Clean can</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>TABLES AND CHAIRS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean and sanitize</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>LINENS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash cloth napkins</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Wash tablecloths and placemats</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Wash dishcloths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash plastic</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Wash ploths</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>STORAGE AREAS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe shelves, cabinets and drawers</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Area/Item</th>
<th>Clean</th>
<th>Sanitize</th>
<th>Frequency</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countertops/Worktops, floors, desks, cabinets, handles</td>
<td>Yes</td>
<td>Yes</td>
<td>Daily and when soiled</td>
<td></td>
</tr>
<tr>
<td>Food preparation/service surfaces</td>
<td>Yes</td>
<td>Yes</td>
<td>Before and after contact with food</td>
<td></td>
</tr>
<tr>
<td>Carpets and large area rugs</td>
<td>Yes</td>
<td></td>
<td>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</td>
<td>1. Vacuum only when children are not present. 2. Clean carpet only when children have not present until carpet is dry. 3. Clean with a carpet-cleaning method approved by the local health authority.</td>
</tr>
<tr>
<td>Small rugs</td>
<td>Yes</td>
<td></td>
<td>Vacuum daily or shake outdoors. Launder weekly</td>
<td></td>
</tr>
<tr>
<td>Utensil, surface, toys that go in the mouth or have been in contact with saliva or other body fluids</td>
<td>Yes</td>
<td>Yes</td>
<td>After each child use</td>
<td>Use one-time or disposable utensil and toys if possible</td>
</tr>
<tr>
<td>Dress-up clothes worn on the head, Washcloths, Sheets (yellow cases, individual cloth towels if been used), Toys that are not contaminated with bodily fluids, Machine-washable cloth toys, Combos, blankets</td>
<td>Yes</td>
<td></td>
<td>Weekly and when visibly soiled</td>
<td>(Warning! None of these items should be shared among children!)</td>
</tr>
<tr>
<td>Blankets, sleeping bags, cubbies</td>
<td>Yes</td>
<td></td>
<td>Monthly and when soiled</td>
<td></td>
</tr>
<tr>
<td>Hats</td>
<td>Yes</td>
<td></td>
<td>After each child’s use</td>
<td>Use disposable hats if possible</td>
</tr>
<tr>
<td>Cots and bed mattresses</td>
<td>Yes</td>
<td></td>
<td>Weekly, before use by different child and whenever soiled or wet</td>
<td></td>
</tr>
<tr>
<td>Highchairs</td>
<td>Yes</td>
<td>Yes</td>
<td>Weekly</td>
<td></td>
</tr>
<tr>
<td>Toilet and diapering areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handwashing sinks, faucets, surrounding counters, soap dispensers, door knobs</td>
<td>Yes</td>
<td>Yes</td>
<td>Daily and when soiled</td>
<td></td>
</tr>
<tr>
<td>Toilet seat, toilet handle, deodorant or clobicide handle, floors</td>
<td>Yes</td>
<td>Yes</td>
<td>Daily or immediately if visibly soiled</td>
<td></td>
</tr>
<tr>
<td>Toilet bowls</td>
<td>Yes</td>
<td>Yes</td>
<td>After each child’s use</td>
<td>Use of potting pans during care is discouraged because of high risk of contamination</td>
</tr>
<tr>
<td>Changing tables, potty chairs</td>
<td>Yes</td>
<td>Yes</td>
<td>After each child’s use</td>
<td></td>
</tr>
<tr>
<td>General Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mops and cleaning rags</td>
<td>Yes</td>
<td>Yes</td>
<td>Before and after day of use</td>
<td>Wash mops and rags in detergent and warm water, rinse in water, immerse in sanitizing solution and wring to dry as possible. After cleaning and sanitizing hang mops and rags to dry.</td>
</tr>
<tr>
<td>Waste and diaper containers</td>
<td>Yes</td>
<td></td>
<td>Daily</td>
<td></td>
</tr>
<tr>
<td>Any surface contaminated with bodily fluids (e.g. saliva, mucous, blood, urine, vomit, stool)</td>
<td>Yes</td>
<td>Yes</td>
<td>Immediately</td>
<td>Use standard precautions as specified in Caring for Our Children, Standard 3.005</td>
</tr>
</tbody>
</table>

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
COMMUNICABLE DISEASES
IN SCHOOL SETTINGS:

AN ESSENTIAL GUIDELINES
FOR SCHOOL NURSES &
SCHOOL PERSONNEL

Louisiana Office of Public Health - Infectious Disease Epidemiology Section
P.O. Box 90651, New Orleans, LA 70189-0651
http://www.odph.dhp.state.la.us/epidemic_disease/8-106-1.html