Which children should be excluded from child care due to illness?

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Editor's note: *This is the first of two articles on prevention of illness in out-of-home child care settings.*

Two of the most important actions to reduce transmission of infectious diseases in a child care setting are meticulous attention to hand hygiene and adherence to immunization recommendations for both staff and children.

Transmission of bacteria and viruses is determined by respiratory etiquette and practices to minimize the spread of fecal organisms. Characteristics of the organism that influence transmission are the frequency of asymptomatic infection or colonization, the infective dose and the ability of a bacteria or virus to survive in the environment.

Which of the following statements regarding transmission of infectious diseases in a child care setting is correct?

a) A child with conjunctivitis with or without fever should not attend child care.
b) A child with symptoms of the common cold should not be excluded from child care.
c) Colonization with methicillin-resistant *Staphylococcus aureus* regardless of the presence of an active lesion is a reason for exclusion.
d) Scabies transmission requires person-to-person contact and is not transmitted by contact with objects.

Answer: b

Most minor illnesses are not a sufficient reason to exclude a young child from child care. Exceptions occur when the illness prevents the child from participating in normal activities, the ill child requires more care than the staff can provide or the ill child presents a risk to other children. Examples of illnesses that generally should not result in exclusion include the common cold, diarrhea (as long as stool is contained in the diaper), cytomegalovirus (CMV) infection and conjunctivitis without a fever or behavioral change.

RESOURCES

- AAP *Red Book* recommendations for inclusion or exclusion of children in child care, http://bit.ly/2xo4oPF
- AAP book *Managing Infectious Diseases in Child Care and Schools: A Quick Reference Guide, 4th Edition*, http://bit.ly/2wFYX1i
- Healthy Childcare America website, http://www.healthychildcare.org/contacts.html

S. aureus may colonize the skin, oropharynx or nasal mucosa of asymptomatic children and adults. Colonization with methicillin-resistant or with methicillin-susceptible *S. aureus* should not result in exclusion unless an active, draining lesion that cannot be covered is present.

When caring for children, hand hygiene, particularly after changing diapers, is important to decrease transmission of CMV. Female child care workers in particular should be aware of the potential risk from CMV and should have access to appropriate hand hygiene measures to reduce occupationally acquired infection. Because asymptomatic excretion of CMV may occur in people of all ages, a child with known congenital CMV infection should not be treated differently from other children.

Conjunctivitis in young children may be caused by bacteria (i.e., *Haemophilus influenzae* or *Streptococcus pneumoniae*) or a virus (i.e., adenovirus, enterovirus or herpes simplex). Transmission occurs by direct contact (autoinoculation with contaminated secretions) or by respiratory spread mostly in large droplets. Except when accompanied by systemic signs or purulent discharge, most young children should be permitted to attend once any indicated therapy has been initiated.

Scabies transmission usually occurs after prolonged personal contact. However, because of the large number of mites that may be present in exfoliated skin, transmission can occur through contamination of inanimate objects. Children should be allowed to return to child care after treatment of scabies has been completed. Environmental disinfection is not recommended.

Viral respiratory tract diseases may be transmitted by respiratory droplets in an aerosol or autoinoculation after contact with a contaminated surface. Influenza virus and rhinovirus have been isolated from toys in a child care setting. All children 6 months and older should be vaccinated appropriately with an inactivated influenza vaccine on an annual basis (see http://www.aappublications.org/news/2017/09/04/Influenza090417).

In the pre-vaccine era, pneumococcal disease occurred more commonly among children in child care settings than among children who were not in child care. Licensure and widespread uptake of pneumococcal conjugate vaccines have drastically reduced pneumococcal disease (and carriage) in all age groups.

Prior to widespread use of the rotavirus vaccine, rotavirus was the most common cause of gastroenteritis, particularly among children attending child care. Rotavirus is present in high titers in stools of infected patients several days before until several days after onset of clinical disease. Transmission mainly is by the fecal-oral route, although respiratory spread likely plays a minor role. Rotavirus can be found on toys and hard surfaces in child care centers, indicating that fomites likely serve as a mechanism for transmission.

In child care centers, recognized symptomatic (icteric) illness caused by hepatitis A (HA) occurs primarily among adult contacts of children. Most HA-infected children younger than 6 years (about 70%) are asymptomatic or have nonspecific manifestations. Hence, spread of HA infection within a child care center often occurs before recognition of the index case.

HA outbreaks have occurred most commonly in large child care centers and especially in facilities that enroll children in diapers because of a greater risk of fecal-oral transmission. HA outbreaks at child care centers have been recognized since the 1970s, but the frequency has decreased as HA immunization rates in children have increased. Immunization with hepatitis A vaccine series is recommended routinely for all children 12 through 23 months of age. Routine hepatitis A immunization of staff at child care centers is not recommended.

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