Isolation Precautions: Quarantine for Pediatric Patients (Home Health Care) - CE

ALERT

For face-to-face education, don appropriate personal protective equipment (PPE) based on the patient’s exposure to an airborne- or droplet-transmitted infectious illness. Wash hands or use an alcohol-based hand sanitizer immediately after removing all PPE.

Use remote or distance education options to provide quarantine information whenever possible.

OVERVIEW

Quarantine is separation of a person or persons who are not yet symptomatic but may have been exposed to a pathogen and may be at risk for developing an infection. Self-quarantine is part of the social distancing requirement by the Centers for Disease Control and Prevention (CDC) to limit the spread of infection. Quarantines can be voluntary or enforced, and usually equal the length of the incubation period for the contagious disease (e.g., coronavirus, measles, tuberculosis).

Isolation in the home refers to the separation of a person or group of persons, either known or suspected of having a communicable disease, from those who are not known or suspected to be infected.

Current guidelines for preventing and controlling the spread of airborne- and droplet-transmitted infectious illnesses include identifying those who may have been exposed and quarantining them for a period of time equivalent to the incubation period of the infection. Airborne- and droplet-transmitted pathogens include coronaviruses, tuberculosis (TB), chicken pox, and rubella (i.e., measles).

Quarantine for pediatric patients can be challenging. They may not understand the reasons for quarantine. School-age and older patients are far more reliant on peer groups and contact with peers and do not adapt well to quarantine and isolation. Using remote communication and social media is essential for these patients.

EDUCATION

- Provide education to the patient and family remotely, if available, to limit the risk of exposure.
- Provide developmentally and culturally appropriate education based on the desire for knowledge, readiness to learn, and overall neurologic and psychosocial state.
- Educate the patient and family about the modes of infection transmission.
- Provide the patient and family information on the signs and symptoms of the infection to which they were exposed.
- Ensure that the patient and family can identify the ways that airborne or droplet transmission occurs.
- Encourage questions and answer them as they arise.

STRATEGIES

1. If providing face-to-face education, perform hand hygiene and don PPE as indicated by the patient’s signs and symptoms and diagnosis.
2. Introduce yourself to the patient and family.
3. Verify the correct patient or patients using two identifiers.
4. Explain the procedure to the patient and family and ensure that they agree to strategies for infection prevention.
5. Screen the patient and family for potential exposure to airborne- or droplet-transmitted infectious illnesses.

Strategies for Quarantine
1. Explain to the patient and family the methods of infection prevention.
   a. Personal hygiene and safety
      i. Perform hand hygiene often with soap and water for at least 20 seconds\(^2\) or use an alcohol-based hand sanitizer. Use soap and water if the hands are visibly soiled.
      ii. Ensure that the patient wears a disposable mask when around others. Toddlers and preschool-age children may express fear with PPE, especially the mask. Making PPE a game (e.g., superhero or other costume) may help to alleviate this anxiety.
      iii. Ensure that family members wear disposable masks and gloves when touching or in contact with the patient's blood or bodily fluids, including tissues or dressings with blood or sputum.
      iv. Avoid touching the eyes, nose, and mouth with unwashed hands.
   b. Community
      i. Practice social distancing (e.g., provide 1 to 1.8 m [3 to 6 ft]\(^2\) of physical space between other people).
      ii. Prohibit visitors to the home.
      iii. If emergency services are required, inform the dispatcher that the patient is in quarantine or is infected with an airborne-transmitted infectious illness.
      iv. Communicate with the patient's school to set up remote attendance in classes or other methods of distance education.
      v. Arrange time for communication with peers via text, phone, and social media.
   c. Environment\(^3\)
      i. Ensure that the patient stays in another room or away from other family members.
      ii. Minimize trips into and out of the patient's room for care.
      iii. Ensure that the patient uses a separate bedroom and bathroom, if possible.
      iv. Ensure that shared spaces have good ventilation (e.g., air conditioners, fans, open windows, if weather permits).
      v. Ensure that the patient does not handle animals or pets while sick.
      vi. Avoid sharing items, such as dishes, cups, eating utensils, towels, bed linens, and clothing.
      vii. Wash the patient's towels, washcloths, bed linen, and clothing thoroughly and separately from other family member's laundry. Use the sanitize setting in the wash cycle.
      viii. Clean all high-touch surfaces (e.g., toys, counters, tabletops, doorknobs, bathroom fixtures, toilets, phones, keyboards, tablets, remote controls) every day with a bleach or alcohol-based disinfectant.\(^4,5\) For infants and toddlers who have frequent hand to face motions, more frequent cleaning may be needed.
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ix. Dispose of contaminated supplies in a lined container. Perform hand hygiene immediately after disposing of waste into the container or disposing of the bag.

x. If using a diaper service for the infant or toddler, ensure that the diaper service is aware of the quarantine and ask if they have special handling instructions. Disposable diapers may be needed during this time.

2. Educate the patient and family about the need to create a household plan for quarantine.
   a. Prepare for essential needed supplies for the quarantine period (e.g., groceries, medications, cleaning supplies, durable or disposable medical equipment or supplies).
   b. Prepare for necessary communication for the quarantine period (e.g., ensure telephone and internet are functioning, inform social circle of quarantine).
   c. Prepare for absence from school (e.g., learn from home options).
   d. Prepare for psychological adaptation to social isolation and loss of the ability to perform usual activities and rituals (e.g., church, scouts, team sports).
   e. Plan for exercise or fresh air during times or at places where it is unlikely to meet people and to ensure social distancing of 1 to 1.8 m (3 to 6 ft).

Strategies for In-home Isolation
1. Designate a room for the patient for isolation.
2. Obtain PPE that is appropriate for the recommendations and the type of isolation used for a patient who has or is suspected of having an airborne-transmitted infectious illness.
3. Explain the purpose of the isolation to the patient and family and any precautions that the family should take when entering a room used for isolation, when used to separate an infected person from others in the home.
4. Demonstrate to the family how to don the PPE.
5. Demonstrate how to don a disposable mask and how to adjust the mask for a secure and comfortable fit.
   a. Ensure that the mask covers the nose and mouth.
   b. Adjust the metal nosepiece for comfort and fit.
   c. Ensure that the bottom of the mask extends to cover the chin.
6. Inspect PPE before donning. Ensure that the PPE is intact, that all required PPE and supplies are available, and that the correct size has been selected.
7. Once the family has donned PPE, instruct them in additional protective measures.
   a. Keep hands away from the face. If the mask becomes displaced, leave the room and doff PPE, perform hand hygiene, and don new PPE instead of touching the face to adjust the mask.
   b. Limit touching surfaces in the room.
   c. Remove gloves when torn or heavily contaminated, perform hand hygiene, and don clean gloves.
8. Explain and demonstrate to the family how to doff the PPE in the proper order and dispose of it appropriately.
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a. Remove the gloves; avoid touching the outside surface of the gloves.
b. Dispose of the used gloves.
c. Perform hand hygiene.
d. Remove the face mask. For reuse, leave the patient’s room and carefully fold the face mask, keeping the outer surface held inward and against itself to reduce contact with the outer surface during storage. Store the mask between uses in a clean, sealable paper bag or breathable container.4
e. Perform hand hygiene.

9. Explain the proper disposal of used PPE and supplies (e.g., double bagging, using caution not to touch waste while closing the bag).
10. Ensure that the family knows that after providing patient care, they should leave the isolation room and close the door.

EXPECTED OUTCOMES
- Patient and family are able to demonstrate understanding of quarantine and in-home isolation and cooperate with precautions.
- Family demonstrates proper use of PPE.
- Family is free from airborne- and droplet-transmitted infectious illness.
- Patient is able to keep up with school assignments and education.

UNEXPECTED OUTCOMES
- Patient and family are unable to demonstrate understanding of quarantine and in-home isolation or do not cooperate with precautions.
- Family cannot demonstrate proper use of PPE.
- Family shows signs of airborne- and droplet-transmitted infectious illness.
- Patient is unable to keep up with school assignments and education.

DOCUMENTATION
- Education
- Procedures performed
- Patient’s response to social isolation
- Evidence or suspected breach of isolation precautions
- Unexpected outcomes and related interventions
- Patient’s progress toward goals

REFERENCES
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ADDITIONAL READINGS

*In these skills, a “classic” reference is a widely cited, standard work of established excellence that significantly affects current practice and may also represent the foundational research for practice.

Elsevier Skills Levels of Evidence
- Level I - Systematic review of all relevant randomized controlled trials
- Level II - At least one well-designed randomized controlled trial
- Level III - Well-designed controlled trials without randomization
- Level IV - Well-designed case-controlled or cohort studies
- Level V - Descriptive or qualitative studies
- Level VI - Single descriptive or qualitative study
- Level VII - Authority opinion or expert committee reports

Supplies
Ensure that all necessary supplies and durable medical equipment are available.

- Basic care items
  - Hygiene items
  - Medication equipment
- PPE (gloves, gown, disposable mask, and eye protection [based on patient’s clinical condition])

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