N433 Infant, Child, and Adolescent Health
Communicable Diseases
Week 8
Text: Pediatric Nursing-Critical Components of Nursing Care, 3rd Edition, F.A. Davis (Advantage)
(Reviewed/Updated 5/2024)

(PP Notes should be used as a study aid and basis for class notes. PP Notes reflect the most important concepts of the current unit **but are not a substitution for required reading of the text**.) Students are responsible for all text references that listed in **RED** as these may be the basis for test questions.

#1. F. A. Davis, Chap 6: ATI Ch. 36

#2. Learning Objectives

#3. Nurses should be aware of the following considerations for administering immunizations:

• Some immunizations may cause mild fever or soreness and redness at the injection site.
- Teach parents to calculate appropriate doses of acetaminophen to relieve pain or fever after immunization.
- Discuss with parents that acetaminophen (Tylenol) or ibuprofen is not needed unless the child is uncomfortable from the fever or pain.
- These medications are no longer routinely given because of the potential to decrease the immune reaction to the vaccine (Wysocki et al, 2017).
- Warm compresses may also be applied to the injection site.

• A mild illness is not considered a contraindication to receiving vaccines.
- Children with mild cold symptoms may receive immunizations. However, if they are moderately to severely ill with or without fever, it is better to hold immunization until later (CDC, 2021a).

• Legal caregivers must receive a vaccine information statement (VIS) that explains the purpose of the vaccine, possible side effects, and how to care for the child. The VIS also informs and questions the caregiver about possible contraindications and allergies to the vaccine.

• **All adverse effects of immunizations must be reported.** The physician or nurse practitioner may file a Vaccine Adverse Event Report with the Centers for Disease Control and Prevention (CDC) (Vaccine Adverse Event Reporting System [VAERS], n.d.).
- Documentation must include the lot number of the vaccine as recorded on the vaccine label.
- Documentation also includes the route and site of vaccine administration and the date that the vaccine was given.
- Copies of permission forms must be kept on file (CDC, 2019a), in addition to the manufacturer and source of the vaccine and the date of the VIS form.

Contraindications for each vaccine include a previous severe allergic reaction to any component of the vaccine.

Review these vaccines in your textbook pg. 78, 84-85.

#4.
For Updated Version, go to:
https://www.cdc.gov/vaccines/index.html

****Review Clinical Judgment boxes on pg. 86.****

#5. Question

#6.
General History

The history is essential to the assessment of the child who may be experiencing a communicable disease.

It is important to ask about the following issues:
• Exposure to the disease
• Consider the incubation period of a disease and the length of time it takes for symptoms to appear from the time the child was exposed.
• Has the child had any communicable diseases in the past?
• What immunizations has the child had? Are they up to date with the recommended schedule?
• Any child 2 months or younger with a fever of 101°F (38.3°C) or higher should be seen by a health-care provider to evaluate for subtle signs of sepsis or other concerning infections. The very young infant does not yet have a fully functioning immune status, and presentations of communicable diseases may be subtle.

Physical Examination
Prodromal signs and symptoms may include:
• Coryza (runny nose)
• Cough
• Fever
• Malaise
General signs and symptoms experienced by a child with a communicable disease include:
• Changes in behavior—lethargy or irritability

• Skin rashes that may itch and include macules, papules, pustules, and vesicles
• Enlarged lymph nodes that may vary in location based on the disease but are predominately located in the anterior cervical, posterior cervical, and tonsillar areas
• Fever
• Vomiting and diarrhea
• Pain in any body part, including headache, abdominal pain, throat pain, or muscle aches

Review Table 6-1 on pg. 87 regarding Communicable Diseases.
#7. Read the Critical Component box on pg. 88 in your textbook.

#8.
Coronavirus refers to a group of respiratory diseases commonly seen in childhood and linked to a family of viruses associated with severe acute respiratory syndrome (SARS).

Disease Process
Children in general tend to be less severely affected than adults but can develop a multisystem inflammatory syndrome associated with COVID-19 (MIS-C). **MIS-C results in inflammation of multiple organ systems, including renal, cardiac, respiratory, hematologic, and neurological.**

Clinical Presentation
The presentation can be variable, including asymptomatic children, but the most reported symptoms in children include:
• Fever
• Cough
• Rhinorrhea
• Sore throat
• Diarrhea
• Vomiting
• Rash especially around the oral cavity
• Myalgia
• Headache
• Loss of smell or taste (Christophers et al, 2020; Deville, Song, & Ouellette, 2021)

Diagnostic Testing
Tests for COVID-19 include:

• Nucleic acid amplification tests (NAATs), including PCR tests—Detect one or more RNA genes and indicate an active infection.
• Antigen tests—Detect the presence of a specific viral antigen. Less sensitive than NAATs but are point-of-care tests.
• Both types of tests require a respiratory swab to be placed usually in the nasal cavity of the patient (CDC, 2021j).

Nursing Interventions

Care of patients is mostly supportive unless severe forms of the disease process occur. For patients with less severe forms of the disease, care includes cool mist humidifier, management of symptoms associated with fever with acetaminophen (avoid use of ibuprofen), respiratory support, and other support as needed (Deville et al, 2021).

Caregiver Education

Caregivers should be educated on infection control measures and quarantine needs for potential exposures of 10 to 14 days with need to test on day 5 of exposure. It is important to provide education on supportive care and signs of worsening disease process such as increased respiratory distress, worsening fatigue/lethargy, dehydration, cyanosis, or chest pain and the need to seek care if the child worsens or has signs and symptoms of MIS-C (Deville et al, 2021).

#9.

Erythema infectiosum is commonly referred to as “fifth disease” because it was historically classified as the fifth common red rash in children. Erythema infectiosum commonly affects children 5 to 15 years of age.

Disease Process

• Agent: human parvovirus B19
• Transmission: contact with respiratory secretions
• Incubation period: 4 to 21 days
• Communicability: contagious until the rash appears
• Precautions: droplet

Clinical Presentation

• Prodromal: fever, upper respiratory symptoms, headache.
• Rash distribution: erythema of the cheeks, giving the appearance of “slapped cheeks.” The rash appears after the red cheeks appear and is characterized by a lacy pattern on the trunk and extremities. The rash may

disappear and then reappear if the child becomes hot for weeks after the infection **(Fig. 6–2).**
• Systemic signs and symptoms: no signs or symptoms after the rash has appeared. Adults may have pain and swelling of joints (American Academy of Pediatrics [AAP], 2018a).

Diagnostic Testing
Blood testing will reveal the presence of immunoglobulin M (IgM) antibody that indicates immunity to parvovirus B19.

Nursing Interventions
Nursing interventions for patients with fifth disease include emergency and acute hospital care.

Emergency Care
Sickle cell crisis may occur with human parvovirus B19 in susceptible persons.

Acute Hospital Care
• Fifth disease may be severe in individuals with immune deficiency disorders.
• A child with human parvovirus B19 who is hospitalized with aplastic crisis or immunodeficiency must be placed on droplet precautions.
• A child in aplastic crisis may not have the typical rash but complain of fever, nausea and vomiting, abdominal pain, malaise, and lethargy.

Caregiver Education
Caregiver education should include the following topics related to fifth disease.

Read the Critical Component box on pg. 90 in your textbook.

Emergency Care
The disease may trigger a crisis in persons with sickle cell disease. It may also trigger aplastic crisis in children who are immunodeficient.

Home Care
Acetaminophen or ibuprofen for fever or discomfort; adequate hydration

#10.

Hand, foot, and mouth disease (HFMD) is common among infants and children younger than 10 years. HFMD is a self-limited condition and usually resolves within 10 days without complications.

Disease Process
• Agent: Coxsackie virus or enterovirus
• Transmission: direct contact, droplet, fecal-oral
• Incubation period: 3 to 6 days
• Communicability: the virus may be shed for several weeks

Clinical Presentation
• Signs and symptoms: cold symptoms, coryza, fever, sore throat.
• Small vesicles appear in the mouth and on the palms of the hands and soles of the feet and may also appear on the genitalia and buttocks **(Fig. 6–3).**

Diagnostic Testing
• Stool samples and throat swabs can be tested for presence of a virus, but the disease is usually diagnosed clinically.

Caregiver Education
• Careful hand hygiene and disposal of tissues
• Clean surfaces and toys with soap and water, and disinfect with a solution of 1 tablespoon of bleach to 4 cups of water
• Give bland foods and drinks because the mouth may be sore; make sure the child is well-hydrated
• Acetaminophen or ibuprofen for pain and fever
• Over-the-counter sprays and mouthwashes that contain local anesthetic to relieve pain in the mouth (AAP, 2018b)

#11.
Hepatitis A
Hepatitis A virus (HAV) is a disease process causing inflammation and decreased liver function. The most common source is contaminated food or water. Most patients have a mild illness and recover without permanent liver damage within 2 weeks.

Disease Process
• Agent: HAV viral infection
• Transmission: fecal-oral route, contaminated food
• Incubation period: approximately 30 days
• Communicability: most contagious for 2 weeks before onset of symptoms and for 1 week after onset of jaundice

Clinical Presentation
- Fever, malaise, poor appetite, nausea, jaundice, abdominal pain, dark urine
- Children younger than 6 may have mild or no symptoms; therefore, they may play a significant role in the transmission of HAV

Diagnostic Testing
- Blood test for presence of anti-HAV IgM in the serum
- Other abnormal laboratory work: presence of bilirubin in urine, elevated serum bilirubin, elevated liver enzymes (aspartate transaminase and alanine transaminase)

Nursing Interventions
- Contact isolation if the child is incontinent with feces
- Immune globulin can be given after exposure to prevent or reduce the severity of the disease
- Report incidence to the local health department

Caregiver Education
- Strict hand hygiene and sanitizing of surfaces
- Appropriate rest and activity
- Nutritious, well-balanced diet (Quiros-Tejeira, 2020)

Hepatitis B
Hepatitis B virus (HBV) can cause short-term and long-term liver dysfunction. HBV is commonly transmitted through blood or body fluids.

Disease Process
- Agent: HBV viral infection
- Transmission: blood or blood products, sexual contact
- Incubation period: average of 90 days
- Communicability: can be spread as long as the virus is in the blood of an individual; some people are chronic carriers and carry the disease for life

Clinical Presentation
- Symptoms include aching, malaise, joint pain, jaundice, dark urine, loss of appetite, and mild right upper quadrant abdominal pain.
- Children with chronic hepatitis B may be asymptomatic.
- Children with chronic hepatitis risk development of hepatocellular carcinoma later in life.

• Newborns may acquire HBV perinatally. The CDC (2020f) reports that 40% of infants who do not receive postexposure prophylaxis experience development of chronic hepatitis B. It is important to administer HBIG and the hepatitis B vaccine if the mother is HBsAg positive.
• High-risk groups among children and adolescents include those living in institutions, involved in IV drug use, infected by sexual partners, and who are hemophiliacs or receive frequent blood transfusions. Individuals who have traveled to Africa or Asia are also at higher risk.

Diagnostic Testing
• Blood tests reveal the HBsAg and the IgM anti-HBc core antibody.
• In chronic hepatitis B, the positive HBsAg persists. Chronic carriers are those who have a positive HBsAg for more than 6 months. HBV DNA markers will also be present.

Nursing Interventions
• Blood-borne precautions (universal precautions)

Caregiver Education
• Teach family members not to share toothbrushes or razors.
• Lifestyle counseling is necessary if risky behaviors such as drug use or sexual activity are present.
• Teach importance of treatment and follow-up.

#12.

#13.

Influenza

Influenza, commonly called the flu, is a **very contagious** disease process that occurs worldwide annually and is often epidemic. The most common months for influenza in the United States are October through May. Most patients have a self-limited disease with common symptoms such as cough, fever, and body aches.

Disease Process
• Agent: influenza viruses; influenza may be type A or type B; type A is much more common
• Transmission: coughing and sneezing; contact with objects contaminated with oral or nasal secretions
• Incubation period: 1 to 4 days
• Communicability: 1 day before symptoms until approximately 7 days after child becomes ill

Clinical Presentation
Fever, chills, headache, sneezing, cough, malaise, conjunctivitis, and myalgia (aching)

Diagnostic Testing
Rapid screening for flu virus antigens in nasal secretions

Nursing Interventions
Nursing interventions for influenza among pediatric patients include emergency care and acute hospital care measures.

Emergency Care
Influenza may trigger croup in infants.

Acute Hospital Care
- Pneumonia is a complication of influenza and may require hospitalization.
- Other complications include ear infections, sinus infections, dehydration, myocarditis, pericarditis, and increased severity of chronic conditions such as diabetes and asthma.
- Droplet isolation is necessary.

Caregiver Education
- Acetaminophen (Tylenol) or ibuprofen for fever (no aspirin because of risk for Reye's syndrome)
- Careful hand washing and disposal of tissues
- Encourage fluids
- Administration of medications within 48 hours of symptoms (see "Treating Influenza" feature)
- Importance of annual influenza immunizations

#14.
Mononucleosis is sometimes called mono or the "kissing disease" because it is commonly transmitted through saliva.

Mononucleosis is a viral infection caused by the Epstein-Barr virus (EBV); it is most common among adolescent patients but can affect individuals of all ages.

Disease Process
- Agent: EBV
- Transmission: person-to-person contact, sharing personal objects such as cups or toothbrushes, through saliva

- Incubation period: 30 to 50 days
- Communicability: virus may be excreted for months after infection

Clinical Presentation
- Fever, sore throat, malaise, pharyngitis, enlarged posterior cervical lymph nodes, with symptoms lasting 1 to 4 weeks **(Fig. 6–4)**
- May develop splenomegaly or hepatomegaly
- Disease primarily affects adolescents and young adults; children often have very mild symptoms, and adults are usually immune because of previous exposure

Diagnostic Testing
- Positive mono spot test, positive Paul-Bunnell heterophile antibody test, increased lymphocytes, greater than 10% atypical lymphocytes
- EBV antibody titers

Nursing Interventions
Hospitalization may be needed if the child experiences respiratory distress, abdominal pain with splenomegaly, or dehydration because of inability to swallow adequate fluids.

Caregiver Education
- To prevent injury to spleen, no contact sports for 6 to 8 weeks if spleen is enlarged
- Rest, with appropriate quiet activities and play
- Fever management with acetaminophen or ibuprofen
- Hydration and nutrition
- Counseling and emotional support for adolescents who must be on bedrest (Cunha, 2017)

#15.
Mumps is a virus that causes a disease resulting in inflammation, primarily of the salivary glands below and in front of the ears. It can also affect other areas of the body, leading to complications such as sterility in males from orchiditis, hearing loss, encephalitis, and pancreatitis. Although the incidence of mumps has significantly declined with immunization, outbreaks continue worldwide, including in the United States in 2016.

Disease Process
- Agent: paramyxovirus
- Transmission: contact with oral and nasal secretions (droplet spread)
- Incubation period: 16 to 18 days

• Communicability: 2 to 3 days before swelling of salivary glands to 5 days after swelling starts

Clinical Presentation
• Location:
• Swelling of parotid salivary glands in front of the ear, below the ear, under the jaw **(Fig. 6–5)**
• Boys may have painful swelling of the testicles (orchitis)
• Girls may have ovarian involvement with abdominal pain (oophoritis) and breast inflammation (mastitis)
• Systemic symptoms: headache, fever, earache, muscle aches, malaise, loss of appetite

Diagnostic Testing
IgM enzyme immunoassay is used to detect the mumps virus.

Nursing Interventions
Nursing interventions for patients with the mumps virus include emergency care and acute hospital care.

Emergency Care
• Complications include meningitis, encephalitis, glomerulonephritis, permanent deafness, sterility, myocarditis, and joint inflammation. Infection during pregnancy may cause fetal death.
• Seek medical care immediately for complications.

Acute Hospital Care
Droplet spread isolation is required.

Caregiver Education
• Acetaminophen or ibuprofen for fever and pain
• Bland, soft foods
• Bland liquids; avoid citrus juices; keep well hydrated
• Ice packs or warm compresses to the neck for comfort and pain relief
• Snug underwear and warmth may provide comfort and pain relief for orchitis (CDC, 2021g)

#16.
Respiratory syncytial virus (RSV) is a viral respiratory infection that can affect **all ages**.

RSV is usually well-tolerated with symptoms of the common cold in older children, but is the most common cause of bronchiolitis and pneumonia in

infants and toddlers. In infants, toddlers, those born prematurely, and those with chronic lung or heart disease, RSV can result in a life-threatening illness with significant respiratory distress, wheezing, and in some cases, respiratory failure. The usual disease process is self-limited to approximately 1 week, with the worst symptoms on days 3 through 5. However, cough and wheezing can persist for up to 3 to 6 weeks after the illness.

Disease Process
- Agent: RSV.
- Transmission: contact with saliva and nasal secretions. The virus can live on surfaces for several hours and is readily transmitted by hands.
- Incubation period: usually 4 to 6 days.
- Communicability: viral shedding may last 3 to 4 weeks in infants. In older persons, it is shed for 3 to 8 days.

Clinical Presentation
- Symptoms of a cold in older children: cough, coryza (nasal congestion), fever.
- As the disease progresses in infants and young children, there may be respiratory distress with tachypnea, wheezing, retractions, severe coughing, and poor air exchange.
- **Refer to Chapter 12 for additional information on bronchiolitis.**

Diagnostic Testing
RSV screening

Nursing Interventions
Nursing interventions for RSV include the following measures.

Emergency Care
- The virus may cause respiratory distress in infants and toddlers.
- Emergency treatment may be needed.
- Infants born prematurely or who have medical problems such as congenital heart defects are especially vulnerable to the effects of RSV.

Acute Hospital Care
- Hospitalization may be needed for infants with bronchiolitis and pneumonia
- Contact isolation with gowns and gloves; mask if close to the infant’s face
- Frequent assessments of respiratory status
- Schedule activities to allow rest time for infant
- Cool humidified air at bedside
- Administer oxygen as needed

• Hydration with IV fluids if needed

Caregiver Education
• Careful hand hygiene and disposal of tissues.
• Cool mist humidifier, hydration.
• Do not administer over-the-counter cough/cold products to children younger than 4 years.
• Teach parents signs of respiratory distress in an infant and when to seek medical care.
• Immunization: infants who are at risk and more vulnerable to RSV because of medical problems may require the palivizumab (Synagis) vaccine to prevent RSV (AAP, 2018e).

#17.
Roseola is defined as a rose-colored rash and is also called *roseola infantum* because it is most common among infants and toddlers. Many patients are asymptomatic when they have the virus, but the classic presentation is a high fever that resolves after about 3 to 7 days, after which the rose-colored rash emerges throughout the body. The disease process is usually benign and self-limited, but rarely causes febrile seizures in infants with very high fevers.

Disease Process
• Agent: human herpesvirus 6
• Transmission: saliva of persons who have the disease or are carrying the virus; 75% of adults carry the virus in their saliva without symptoms; most people have had roseola by age 4
• Incubation period: 9 or 10 days
• Communicability: unknown

Clinical Presentation
• Prodromal: high fever (potentially as high as 103°F [39.4°C] or greater) for 3 to 7 days; the high fever may trigger febrile seizures
• Rash distribution: papular pink or red rash that appears on the day that the fever returns to normal **(Fig. 6–6)**

Diagnostic Testing
Typically diagnosed based on the rash. A blood test may look for antibodies.

Nursing Interventions
Emergency care may be needed for febrile seizures.

Caregiver Education

Home care includes fever management, sponging with tepid water, and administration of acetaminophen or ibuprofen (Tremblay & Brady, 2019).

 # 18.

Rubella, sometimes called *German measles* or *3-day measles,* is a contagious viral infection with either no symptoms or a mild febrile illness with a rash lasting about 3 days.

Rubella in infants and children rarely causes significant complications.

However, if a pregnant woman is affected, her fetus can develop multiple congenital anomalies such as hearing and vision loss, heart defects, and intellectual disability, referred to as *congenital rubella syndrome.*

Disease Process

- Agent: rubella virus
- Transmission: respiratory droplets or direct contact with respiratory secretions; the virus is also found in blood, urine, and stool
- Incubation period: 16 to 18 days
- Communicability: 7 days before rash until 14 days after rash; most children are contagious 3 to 4 days before the rash to 7 days after the rash

Clinical Presentation

- Prodromal: children do not have prodromal symptoms. Adolescents may experience mild fever, malaise, sore throat, and headache.
- Rash distribution: fine red or pink rash that appears on the face first and spreads downward. The rash lasts approximately 3 days and disappears in the same order that it appeared.
- Systemic signs and symptoms include fever, aching, and posterior cervical lymph nodes that are tender and swollen **(Fig. 6–7).**

Caregiver Education

- Home care includes fever management as needed.
- Teach the importance of getting the MMR vaccine before the childbearing years.

#19.

Rubeola is a viral syndrome resulting in a rash for 7 days, often referred to as *measles.* The disease process is a self-limiting moderate illness in most children, presenting with the rash and fever.

However, complications such as encephalitis, pneumonia, and death can occur in children younger than 5 years and adults.

Disease Process
- Agent: measles virus
- Transmission: airborne through respiratory droplets or direct contact with respiratory secretions
- Incubation period: 8 to 12 days
- Communicability: 1 or 2 days before prodromal symptoms, 3 to 5 days before rash, 4 days after rash appears

Clinical Presentation
- Prodromal: coryza, cough, conjunctivitis, fever, malaise; small red spots in the mouth with a bluish white center **(Koplik's spots; Fig. 6–8)**
- Rash distribution: brownish-red macular rash starts at hairline and spreads downward over body
- Systemic signs and symptoms: fever; cough; red, watery eyes; coryza **(Fig. 6–9)**

Diagnostic Testing
Blood test to detect antibodies

Nursing Interventions
Nursing interventions for measles include the following measures.

Emergency Care
Complications include ear infections, diarrhea, encephalitis, pneumonia, seizures, deafness, mental retardation, and death. Seek medical care immediately for complications.

Acute Hospital Care
Airborne isolation is required.

Chronic Home Care
Long-term care, including ventilator care, may be needed for children with brain damage resulting from measles-related encephalitis.

Caregiver Education
- Manage fever with acetaminophen or ibuprofen.
- Keep child isolated for 5 days after rash appears.

• Dim lights if photophobia exists. Use warm compresses to remove crusting from eyes as needed.
• Give soft, bland foods.
• Keep child well hydrated with plenty of fluids.
• Use cool mist humidifier.

 # 20.

#21.
Varicella zoster virus (VZV) most commonly causes chickenpox in children and, in rare cases, may cause shingles.

After initial infection with VZV, the virus lies dormant in the nervous system, often for years. In some cases, during periods of a weakened immune system such as stress, VZV causes a secondary infection of shingles in older children and adults. Given the burden of the disease and potential complications, it is essential to prevent this disease process through adequate immunization.

Disease Process
• Agent: VZV
• Transmission: fluid from vesicles of an infected person; secretions from nose, mouth, and eyes; airborne from coughing and sneezing
• Incubation period: 10 to 21 days
• Communicability: 1 day before rash appears, while rash is spreading, and until all vesicles have crusted over

Clinical Presentation
• Prodromal: fever, malaise, coryza
• Rash distribution: the rash first appears on the trunk and face, then spreads to other parts of the body. The rash goes through the stages of macule, papule, vesicle, and scab (crust). All stages are present at the same time. Severe itching may be present **(Fig. 6–10)**
• Systemic signs and symptoms: fever, headache, dehydration

Diagnostic Testing
Typically diagnosed by visualizing a rash

Nursing Interventions
Nursing interventions for chickenpox include emergency care and acute hospital care.

Emergency Care

Complications may include bacterial infections of the skin, pneumonia, septicemia, encephalitis, and bleeding problems. Urgent medical care is needed for any complications.

Acute Hospital Care

• Children with chickenpox are not generally hospitalized unless immunocompromised or experiencing complications; IV acyclovir may be given to children in these situations.
• Strict isolation for the hospitalized child, including contact and airborne isolation.

Special Considerations

• It is possible to get chickenpox twice. The second case is usually mild, with less fever and few vesicles. Care is the same as for the first case of chickenpox.
• A small percentage of people who receive the chickenpox vaccine get chickenpox, but the disease is mild with fewer lesions. The risk of breakthrough is higher if varicella vaccine is given less than 30 days after the MMR vaccine**. Varicella vaccination should be given simultaneously with MMR or longer than 30 days from MMR.**
• It is possible to have a mild rash with a few vesicles around the injection site after varicella immunization. These vesicles must be covered with clothing or a nonporous bandage to prevent spread to others. Isolation may be needed if the rash is more widespread.

Caregiver Education

• Use acetaminophen to relieve fever. Aspirin or any medication that contains salicylates should never be used because of the risk for Reye's syndrome. The caregiver should receive education on the signs and symptoms of this syndrome.
• Keep child isolated until all vesicles have crusted over.
• Keep the child well-hydrated. Offer cool, bland liquids, as the inside of the mouth may be affected.
• To help prevent itching, keep the child cool, dressed in light cotton, and distracted with play activities. Apply gloves or mittens if necessary; keep fingernails clean and cut short.
• Aveeno (oatmeal powder) or baking soda baths may bring relief.
• Apply calamine or Cetaphil lotion to lesions.

#22.

#23. Bacterial communicable diseases are highly contagious, resulting in outbreaks throughout the year, especially in schools, day-care centers, and crowded living conditions. These diseases can often be treated with antibiotics, good hygiene practices, and symptomatic care.

#24.
Conjunctivitis is a disease process that results in erythema and edema of the conjunctiva of the eye, in addition to thick, purulent drainage in the case of bacterial infection.

Disease Process
- Agent: virus or bacteria
- Transmission: contact with discharge from an infected eye, either direct contact or by touching contaminated surfaces
- Communicability: varies depending on organism

Clinical Presentation
- Viral infection: pink or red conjunctiva, edema, watery discharge **(Fig. 6–11)**; may affect only one eye
- Bacterial infection: pink or red conjunctiva, edema, purulent discharge, crusted eyelids in the morning, complaints of itching or pain

Nursing Interventions
- Teach administration of eyedrops as ordered for bacterial infections.
- If conjunctivitis develops in two or more children in the same setting (home or school), the cause may be adenovirus. This may cause epidemics in school or group settings.

Caregiver Education
Avoid touching eyes, wash hands carefully after touching eyes, sanitize objects touched by eyes or hands, discard tissues used to wipe eyes, and administer eyedrops as ordered.

#25.
Pertussis is also known as *whooping cough* because it causes a characteristic “whoop” sound after paroxysmal coughing fits.

In older children and adults, pertussis is usually well-tolerated.

In infants and very young children, however, this virus often results in a severe respiratory illness that can cause respiratory failure and death.

This disease mainly affects babies or children who are not immunized or not fully immunized.

Disease Process

- Agent: *Bordetella pertussis*
- Transmission: oral and nasal secretions
- Incubation period: 6 to 21 days
- Communicability: contagious from the onset of symptoms and for about 2 weeks; infants who have not been immunized may be contagious for at least 6 weeks
- The disease is most dangerous to young infants

Clinical Presentation

- **Catarrhal phase that lasts 1 to 2 weeks**: cold symptoms, including coryza, mild cough, and fever
- **Paroxysmal phase that lasts 1 to 6 weeks or longer**: cough ends with crowing (whooping) and may be severe enough to cause vomiting and cyanosis; the classic whoop may not occur in an infant; respiratory distress may be severe
- Recovery phase when cough gradually becomes less severe
- In some children, adolescents, and adults, pertussis may present as a chronic cough that lasts for weeks; the crowing or whooping may not always be present
- Pertussis is becoming more common among adolescents and adults

Diagnostic Testing

The PCR test identifies genetic material of the *B. pertussis* bacteria in nasal secretions.

Nursing Interventions

Infants have more severe cases of pertussis and may require hospitalization to manage respiratory distress and dehydration.

Caregiver Education

- Give small amounts of fluid frequently to keep the child hydrated, especially during bouts of vomiting. Refeed or give small amounts of fluid after episodes of coughing and vomiting.
- Teach signs of respiratory distress and dehydration, and urge parents to seek medical care as needed.
- Provide for rest and quiet activities and avoid stimuli that trigger coughing.

• Use a cool mist humidifier.

Review the Clinical Judgment box on pg. 101 in your textbook.

#26.
Strep throat, also known as *strep pharyngitis, group A beta-hemolytic streptococcus,* or *scarlet fever,* is a bacterial infection resulting from group A beta-hemolytic streptococcus. The disease affects all ages but is more common in children older than 2 years, especially school-age children.

Strep throat has an abrupt onset of symptoms, including a severe sore throat, headache, stomachache, and possible rash called a *sandpaper rash* (fine, maculopapular, rough rash that occurs especially in the groin, axilla, and neck folds).

Prevention and treatment are essential to prevent complications such as rheumatic fever.

Disease Process
• Agent: group A beta-hemolytic streptococcus; causes group A streptococcus (GAS) pharyngitis **(Fig. 6–12)** and may also cause impetigo
• Complications of group A beta-hemolytic streptococcus include rheumatic fever and poststreptococcal glomerulonephritis; **please refer to Chapters 13 and 17 for additional information on these diseases**
• Transmission: droplet spread, direct contact with secretions
• Incubation period: 2 to 5 days
• Communicability: approximately 10 days without treatment; no longer contagious after 24 hours on antibiotics

Clinical Presentation
• Presentation includes sore throat, fever, headache, enlarged and tender anterior cervical and tonsillar lymph nodes, abdominal pain, and decreased appetite.
• Cough and coryza are not major signs of strep throat. If a child has nasal congestion, the sore throat is likely caused by another organism.
• Children younger than 3 years may have a streptococcal infection without complaining of a sore throat. Symptoms may include fever, irritability, and nasal discharge.
• Scarlet fever is strep throat with a fine, red rash **(Fig. 6–13)** that has texture of sandpaper. The rash is more pronounced in the armpits and groin, creases of the elbows, and behind the knees. After the rash fades, the skin of

the fingers and toes may peel. There may be pallor around the mouth and a white tongue with swollen, red papillae **(strawberry tongue; Fig. 6–14).**

Diagnostic Testing
Rapid strep test, throat culture

Nursing Interventions
Complications of untreated strep throat include glomerulonephritis and rheumatic fever.

Caregiver Education
- Administration of penicillin or amoxicillin as ordered
- Fluids to keep the child hydrated—soups, Popsicles, milkshakes
- Cool mist humidifier
- Acetaminophen or ibuprofen for pain and fever
- Replace toothbrush
- Throat lozenges

#27. Question

#28. Question

#29. Question