



# The Child with a Communicable Disease

Chapter 32

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## Review of Terms

- › Communicable disease—can be transmitted from one person to another
- › Incubation period—time between exposure to pathogen and onset of clinical symptoms
- › Prodromal period—time between earliest symptom and appearance of typical rash or fever
- › Vector—an insect or animal that carries and spreads disease

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## Review of Terms

- › Pandemic—a worldwide high incidence of a communicable disease (e.g., H1N1 influenza, COVID 19)
- › Epidemic—sudden increase of disease in localized area
- › Endemic—an expected continuous incidence of disease in a localized area
- › Opportunistic infection—caused by organism normally present in the environment that the immune-suppressed person cannot fight
- › Health care-associated infection—an infection acquired after admission to a health care facility

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## Rashes of the Skin

- › Erythema
- › Macule
- › Papule
- › Vesicle
- › Pustule
- › Scab
- › Pathognomonic

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## Childhood Communicable Diseases

Vaccines have significantly reduced the rates of childhood diseases.

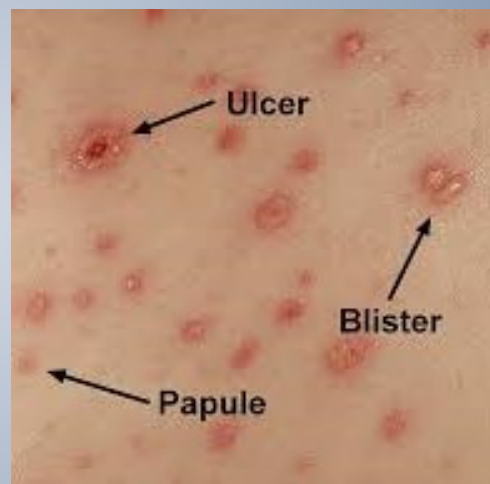
### Health Promotion Box: Communicable Disease of Childhood

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## Chickenpox (Varicella)

- › Signs and Symptoms
  - Mild fever
  - Macules, papules, vesicles, pustules, and scabs.
    - › All stages present at the same time
- › How long Contagious
  - 6 days after appearance of rash
    - › Excluded from daycare until lesions dry
- › Prevention/Treatment/Nursing Interventions
  - Varicella vaccine
  - Airborne isolation precautions
  - Acyclovir or Immune Globulin
  - Trim fingernails
  - Calamine lotion



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## Measles (Rubeola)

- › Signs and Symptoms
  - Fever, cough, and conjunctivitis
  - Koplik spots
  - Maculopapular rash then erupts
- › How long Contagious
  - From 4 days before to 5 days after rash appears
- › Prevention/Treatment/Nursing Interventions
  - MMR vaccine
  - Airborne isolation precautions
  - Quiet activities
  - Symptomatic care



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## Fifth Disease

### Signs and Symptoms

- › Slapped cheek
- › Generalized rash subsides, and reappears if irritated by sun or heat

### How long Contagious

- › 4-14 days before the rash appears
- › No longer contagious when rash is present

### Prevention/Treatment/Nursing Interventions

- › Standard precautions
- › Oatmeal baths for itching



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# Whooping Cough (Pertussis)

## Signs and Symptoms

- › Fever, cold, cough
- › Spells of coughing accompanied by a noisy gasp for air that creates a "whoop"

## How long Contagious

- › Several weeks
  - Excluded from daycare for 5 days after antimicrobial treatment is completed

## Prevention/Treatment/Nursing Interventions

- › DTaP Vaccine
- › Erythromycin
- › Droplet precautions for 5 days after antibiotics
- › Bedrest and cool mist tent
- › Observe for airway obstruction and O<sub>2</sub> saturation



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# Hepatitis B

## Signs and Symptoms

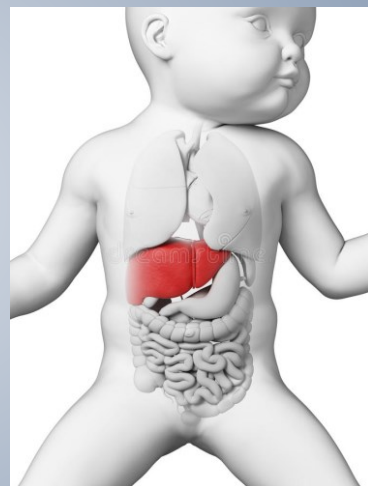
- › Fever, abdominal pain, headache
- › Anorexia, malaise
- › Jaundice, dark urine, chalklike stools

## How long Contagious

- › If the disease is active

## Prevention/Treatment/Nursing Interventions

- › Hepatitis B Vaccine
- › Interferon or transcriptase inhibitor
- › Prevent contact with blood
- › Hepatitis B vaccine- First dose within 12 hours of birth



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# Lyme Disease

## Signs and Symptoms

- › Fever, arthralgia
- › Macule with raised border and clear center. May burn
- › Can lead to heart and neurological involvement

## How long Contagious

- › Only spread by infected tick

## Prevention/Treatment/Nursing Interventions

- › Wear protective clothing
- › Amoxicillin or Doxycycline (Avoid sunlight)
- › Standard Precautions
- › Insect repellant containing DEET



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# Tuberculosis

## Signs and Symptoms

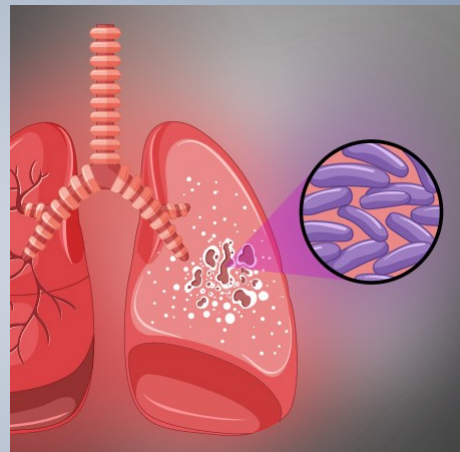
- › Low-grade fever, malaise, cough, night sweats
- › Anorexia and weight loss

## How long Contagious

- › 2-10 weeks
- › After treatment has started will need medical clearance to return to daycare

## Prevention/Treatment/Nursing Interventions

- › Isoniazid (NH), Rifampin, and Pyrazinamide (PZA) for several months
- › Airborne isolation precautions
- › Identify contacts



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# Scarlet Fever

## Signs and Symptoms

- › Tachycardia, strawberry tongue, pinpoint rash, circumoral pallor, desquamation

## How long Contagious

- › 2-5 days

## Prevention/Treatment/Nursing Interventions

- › PCN for 10 days
- › Bed rest and quiet activities
- › Teaching regarding prevention of streptococcal infection



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# Pediatric Immunization Schedule

Birth	2 months	4 months	6 months	12-15 months	4-6 years	11-12 years
Hep B	DTap	DTap	DTap	MMR	Varicella	Tdap
	Rotavirus	Rotavirus	Rotavirus	A Hep		HPV
				DTap (15)	DTap	Meningococcal
	Hib	Hib	Hib		IPV	
	IPV	IPV	IPV	Hib	MMR	
	PCV	PCV	PCV	PCV		
	Hep B		Hep B	Varicella		

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## Types of Immunity

- › Natural
- › Acquired
- › Active
- › Passive

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## Worldwide Immunization Programs

- › Healthy People 2030 Framework
- › The goal for 2030 is to have 95% of all children in the U.S. immunized against childhood communicable diseases
  - Increase education
  - Accessibility to health clinics
  - Reduce the cost of immunizations
  - Follow-up and track immunizations
  - CDC provides advice concerning vaccinations needed when traveling

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## Vaccines

- › Multiple doses at predetermined intervals may be needed to achieve an immunity
- › Used to prevent disease; cannot be used to treat disease
- › Route of administration
- › Proper storage and handling will ensure potency
- › Table 32.2 Types of Immunization Agents

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## Allergies and Toxicities

- › Epinephrine should be available in units where immunizations are given
- › Child should be observed for 20 minutes after immunization
- › **Do not administer vaccine if the patient is allergic to**
  - Baker's yeast: avoid recombinant hepatitis B
  - Eggs: Avoid influenza vaccine and MMR
  - Neomycin: Avoid IPV, MMR, and Varicella

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## Contraindications

- › Compromised immune system
- › Pregnancy
- › Serious infection
- › Immunocompromised caregiver in the home
- › Steroid therapy
- › History of very high fever with previous vaccine (over 105 degrees)

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## Bioterrorism

- › Immature immune systems
- › Closer to the ground
- › New drugs not tested in children
- › Initial observation
  - Airway
  - Breathing
  - Circulation
  - Mental status

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## Sexually Transmitted Infections

Infections can be spread through

- › Sexual activity
- › Pregnant mother to fetus
- › Sexual abuse of a child
- › Use of contaminated needles or exposure to blood

Nurses are required to report STIs to the local Public Health Department

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## HPV

- › Most common STI - adolescents
  - Increases incidence with multiple partners
- › Manifestations
  - Flesh-colored, cauliflower-shaped warts in the perineal area
- › Prevention
  - Vaccines given in a 3 series dose
- › Treatment
  - Cryotherapy
  - Electrocautery

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## Pediatric HIV/AIDS

### Symptoms

- Failure to thrive
- Enlarged lymph glands
- Chronic infections
  - › Sinusitis
  - › Pneumonia
  - › UTIs that don't respond to treatment

› Diagnosis: ELISA, Western blot

### Medications

- AZT (ZDV) given during pregnancy significantly reduces transmission to baby