Immune System Outline – Child Communicable Diseases

I. Overview- Communicable diseases account for 50% of all visits to child health settings
- Nurses are often the first to recognize an infectious disease

II. Immunizations-Chapter 31 in text. (Do not need to memorize ages at which they are given. Just familiarize self with the types of immunizations given to children and why. What diseases are we trying to prevent? Hepatitis, Diphtheria, Tetanus, Pertussis, Polio, Measles, Mumps, Rubella, Varicella, Hib, pneumococcal, meningococcal, influenza, rotavirus
For the purpose of school entry- Series of:
- Hep B, DTAP, Inactivated Poliovirus, MMR/Varicella generally needed

III. Common Terminology
- A. Communicability – ability to be spread to others
- B. Incubation period –time between the invasion of an organism and the onset of symptoms of infection
- C. Prodromal period – time between the beginning of nonspecific symptoms and specific symptoms
- D. Illness – stage during which the specific signs/ symptoms are evident
- E. Convalescent period – interval between when symptoms begin to fade and the return to full wellness
- F. Portal of entry – how the pathogen enters the body
- G. Portal of exit – how the organisms leave the body
- H. Chain of infection – method by which the organisms are spread and enter a new individual to cause disease
- I. Exanthem – a rash

IV. Stages of Communicable Diseases
- A. Invasion of Organism
- B. Incubation period
- C. Prodromal Period
- D. Clinical S & S
- E. Convalescent period

V. Goals of care
- A. Minimize spread of communicable diseases to others
- B. Avoid complications
- C. Ease discomfort associated with illnesses

VI. Viral infections
- A. Roseola Infantum
  1. Causative agent – Human Herpesvirus 6 (6th disease)
  2. Incubation Period- 9-10 days
  3. S/S-
  4. Period of communicability –Unknown
  5. Mode of transmission – social contact spread, saliva of infected or carrier
  6. Immunity – lasting natural immunity; no vaccine is available
  7. Treatment-

B. Rubella (German Measles)
1. Causative agent- Rubella virus
2. Incubation period- 14-21 days
3. S/S-
4. Period of communicability- 2-3 days before to about 7 days after rash
5. Mode of transmission- Contact, nasopharyngeal secretions of infected, virus also present in blood, stool, and urine
6. Immunity- lasting natural immunity. Live but weakened virus vaccine (MMR)
7. Treatment-

C. Measles (Rubeola)
1. Causative agent- Measles virus
2. Incubation period- 8-12 days
3. S/S-
4. Period of communicability- 4 days before to 4 days after rash
5. Mode of transmission- Contact with droplets of infected person
6. Immunity- lasting natural immunity, live but weakened measles vaccine
7. Treatment-

D. Chicken Pox (Varicella)
1. Causative agent- Varicella zoster virus
2. Incubation period- 2-3 weeks
3. S/S-
4. Period of communicability-1 day before rash to 5-6 days after vesicles scab
5. Mode of transmission- Highly contagious.
6. Immunity- lasting natural immunity, although rare cases of 2nd event (Milder)
7. Treatment-

E. Erythema Infectiosum (5th disease)
1. Causative agent – Parvovirus B19
2. Incubation period – 6-14 days
3. S/S-
4. Period of communicability-Unknown
5. Mode of transmission- respiratory secretions, blood
6. Immunity- None
7. Treatment-

F. Hand Foot & Mouth Disease
1. Causative agent- Coxsackie virus or enterovirus
2. Incubation period- 3-6 days
3. S/S-
4. Period of communicability- several weeks
5. Mode of transmission- direct contact/resp/fecal or oral route
6. Immunity- None
7. Treatment-

G. Mumps
1. Causative agent- mumps virus (paramyxovirus)
2. Incubation period- 16-18 weeks

3. S/S-
4. Period of communicability- before and after swelling begins
5. Mode of transmission- direct contact or droplets
6. Immunity- lasting natural immunity, live vaccine
7. Treatment-

H. Poliovirus
1. Causative agent- Enterovirus subgroups
2. Incubation period- 6-7 days
3. Mode of transmission- Feces, urine, oral secretions. Direct contact.
4. S/S-
5. Period of communicability-unknown
6. Treatment-

VII. Bacterial Infections

A. Scarlet fever
1. Causative Agent- Group A beta-hemolytic streptococcus
2. Incubation period- 2-5 days
3. S/S-
4. Period of communicability- 10 days
5. Mode of transmission- direct contact, droplet spread, indirect contact with contaminated objects
6. Immunity- lasting natural immunity
7. Treatment-

B. Whooping Cough (Pertussis)
1. Causative Agent- Bordetella pertussis
2. Incubation period- 7-10 days
3. S/S-
4. Period of communicability- from onset of symptoms lasting about 2 wks
5. Mode of transmission- direct contact or droplet spread, indirect from objects
6. Immunity- lasting natural immunity
7. Treatment-

C. Diphtheria
1. Causative agent- Corynebacterium diphtheriae
2. Incubation period- 2-7 days
3. Period of communicability- varies around 2-4 wks
4. Mode of transmission- Direct contact
5. Immunity- lasting natural immunity DTAP vaccine
6. S/S- common cold symptoms: sore throat, malaise, runny nose, low grade fever, Lymphadenitis which causes BULL NECK swelling, possible airway compromise
7. Treatment-Antibiotics asap

D. Impetigo
1. Causative agent- staphylococci or beta-hemolytic streptococci
2. Incubation period- 1-10 days

3. Mode of transmission- Direct contact, rarely by touching contaminated objects.
4. S/S- red macule, small vesicle or pustule that ruptures easily. Exudate dries= honey colored crust
5. Treatment- Removal of debris with warm soaks: topical or PO Antibiotic depending on severity and spread. Very contagious

- Nursing Considerations for Viral Illnesses

  -No ASA for febrile viral illness in kids due to risk for Reyes Syndrome
  -No Ibuprofen for children < 6 mths of age!
  -Itching relief for children and rashes secondary to viral infections include light clothing (cotton), maintaining hydration, keeping fingernails short, cool cloths and tepid baths and antihistamines prn.
  -Prevention/good hand washing/staying away from others who are sick. EDUCATE!