PTEC 155 – DEVELOPMENTAL DISABILITIES

MODULE 27A

DISEASES ASSOCIATED WITH DEVELOPMENTAL DISABILITIES
Module 27A – Diseases Associated with Developmental Disabilities

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OBJECTIVES

THEORY: The successful candidate will achieve a passing score (75%) on a written comprehensive examination covering diseases and disorders commonly associated with the developmentally disabled.

ASSESSMENT: There will be a written comprehensive test; multiple choice, true/false, and matching questions.

MAKE UP TESTS MAY BE AN ESSAY TEST!!

INSTRUCTIONAL MEDIA:

Study Guides

1. Communicable Diseases
2. Disorders associated with the developmentally disabled client
The student will be able to:

1. Define communicable disease
2. Identify sources of infection
3. Identify and describe causative agents
4. Define and identify the following:
   a. Endemic illness
   b. Epidemic illness
   c. Pandemic illness
   d. Virulence
   e. Host
   f. Incubation period
   g. Carrier
5. Define and identify the following:
   a. Immunity
   b. Natural immunity
   c. Acquired immunity
   d. Active immunity
   e. Antibody
6. What are skin tests and what illnesses are they used for?
7. What does the treatment of communicable disease involve?
   a. What part does Interferon Play?
8. What is prevention dependent upon?
   a. Define quarantine
   b. Define isolation
      (1) Discuss the meaning and effects of isolation on the child/client
      (2) From a family
      (3) From an institution
9. Identify complications arising from communicable diseases

10. What are the four classification groups involved with a communicable disease?
   a. Give examples of each

11. Identify the following illnesses from the point of view of incubation period, communicability period, causative agent, method of spread, clinical manifestations, treatment, nursing care, complications and immunity.
   a. Chickenpox
   b. Diphtheria
   c. Encephalitis
   d. Epidemic influenza
   e. Infectious
   f. Measles (Rubeola)
   g. Measles (Rubella)
   h. Aseptic Meningitis
   i. Bacterial Meningitis
   j. Pneumococcal Meningitis
   k. Mumps
   l. Pertussis
   m. Poliomyelitis
   n. Rocky Mountain Spotted Fever
   o. Hemolytic Streptococcal Infection
   p. Smallpox
   q. Tetanus (lockjaw)

12. Discuss head injuries
   a. Head banging behavior
   b. “Punch Drunk” syndrome
   c. Concussion
   d. Contusion
e. Skull fracture
f. Treatment and nursing care

13. Define the following:
   a. Syncope
   b. Stupor
   c. Coma

14. Discuss eye injury
   a. Corneal Scratches
   b. Hemorrhage
   c. Retinal detachment
   d. Treatment and nursing care of eye injuries
      (1) Corneal ulcer
      (2) Conjunctival hemorrhage
      (3) Retinal detachment

15. Discuss and identify infections of the following:
   a. Skin
   b. Respiratory
   c. Parasitic
   d. Amoebic dysentery
   e. Worm infestation
   f. Bacillary dysentery
   g. Diarrhea (viral)

16. Identify the following:
   a. Pneumonia
   b. Dyspnea
   c. Cyanosis
   d. Rales
   e. Treatment of respiratory infections
f. Dyspnea

17. Identify the most common skin problems and treatment
   a. Scratches
   b. Bites
   c. Furuncle
      (1) Bacillus
      (2) Staphylococcus
   d. Cellulitis
   e. Lymphangitis

18. Ingestion of foreign bodies
   a. Treatment
   b. Aspiration (choking)
Communicable Disease
Endemic Illness
Epidemic Illness
Pandemic Illness
Virulence
Host
Incubation period
Carrier
Immunity
Natural immunity
Acquired immunity
Active immunity
Antibody
Interferon play
Quarantine
Isolation
Syncope
Stupor
Coma
Because of the preschool child’s expanding world, his participation in activities with other children in nursery school and play groups, and his exposure to environmental conditions unlike those of his home, he frequently comes in contact with organisms which cause communicable disease. Some of these diseases are preventable and primary immunizations and booster doses have been given him in infancy, during the toddler stage, and during preschool years. Other communicable diseases are not preventable and occur more frequently in this age group than any other. Serious complications, common in past years are less frequent today, however because of early recognition of the disease and prompt treatment the morbidity and mortality rates of communicable diseases have declined dramatically during recent decades, but continued research and its application in preventive and curative medicine are still necessary.

The following definitions are presented as a review of your previous medical, surgical studies.

**A COMMUNICABLE disease** is an illness caused by an infectious agent or its toxic products and transmitted from one person to another by direct contact with an infected person, by indirect contact with material containing the causative agent or by contact with an intermediate host, vector or fomites.

Sources of infection may be man, insects, animals (vectors), or environmental factors, dust, dishes, contaminated water or food (fomites).

**CAUSATIVE AGENTS** include bacteria, yeasts, molds, protozoa, viruses and rickettsiae.

Communicable diseases may be endemic, epidemic, or pandemic.

An **ENDEMIC** disease is one that occurs in a proportionately limited number of people in a given area and at a relatively constant rate.

An **EPIDEMIC** disease indicates an incidence of illness that is statistically higher than expected in a given population.

A **PANDEMIC** disease is one in which many cases occur over a large geographic area.

**VIRULENCE** indicates the ability of the infecting organism to overcome the defenses of the **HOST**, the body that is involved. The recent habitat of an organism to a large extent influences its virulence.

The **INCUBATION PERIOD** is the period between exposure to the disease and the appearance of initial symptoms.

The **PERIOD OF COMMUNICABILITY** is the time during which an infected person can transmit the disease directly or indirectly to another person.

A **CARRIER** is a person or animal harboring an infectious agent without manifesting symptoms, although he or it may infect others.

A **CONTACT** is a person or animal exposed to an infection through contact with an infected person or animal.
IMMUNITY is the ability of the body to resist the infecting agent. Protection against specific diseases is due to the presence of antibodies, which can weaken or destroy the disease-producing agent or neutralize its toxins. Or, resistance of the body to the effects of a harmful agent, such as pathogenic microorganisms or their toxins. Immunity occurs as a result of the antigen antibody reaction that takes place whenever a foreign agent or its product enters the bloodstream. Immune substances that aid in the body's defense against disease include lysins, which have a dissolving action; antitoxins, which neutralize poisons produced by the microorganisms; agglutins, which clump the microorganisms together enabling bacteria-destroying cells in the blood to destroy many at one time; and opsonins, which sensitize the bacteria so that they may be more easily engulfed by the phagocytes. These immune substances are believed to be produced by certain cells in the lymphoid tissue.

NATURAL IMMUNITY is present when immunity exists even though the person has not had the disease or been given any form of immunization against it, due to the presence of antibodies, occurring naturally in the blood.

ACQUIRED IMMUNITY may be active or passive, and results from antibodies not normally present in the blood; also called induced immunity.

IMMUNIZATION is the process of rendering a subject immune, or of becoming immune. Also called inoculation and vaccination; the word vaccine originally referred to the substance use to immunize against smallpox, the first immunization developed. Now, however, the term is used for any preparation used in active immunization.

ACTIVE IMMUNITY may be acquired by having had the disease or by inoculation (usually by injection) with a specific antigen to promote antibody formation in the body. The antigenic substance may be in one of four forms.
1. The dead disease bacteria, as in typhoid immunization
2. Dead viruses, as in the Salk poliomyelitis infection.
3. Live attenuated virus, e.g. smallpox vaccine and Sabin polio vaccine (taken orally)
4. Toxoids, altered forms of toxins produced by bacteria as in immunization against tetanus and diphtheria. Since active immunization induces the body to produce its own antibodies and to go on producing them, protection against disease will last several years, in some cases for life.

PASSIVE IMMUNITY is a transient immunization produced by the introduction into the system of serum (antiserum, a serum containing antibodies. It may be obtained from an animal that has been subjected to the action of antigen, either by injection into tissues or blood or by infection), or anti toxin that already contains antibodies. The person immunized is protected only as long as these antibodies remain in his blood and are active, usually 4 to 6 weeks. Passive immunity is also acquired by transfer of antibodies from mother to child.

Although various types of serums may be used to produce passive immunization, gamma globulin is the most frequent source of human antibodies.

ANTITOXIN a particular kind of antibody produced in the body in response to the presence of a toxin.

DIPHTHERIA Preparation from the blood serum or plasma of healthy animals immunized against diphtheria toxin, used as a passive immunizing agent.
GAS GANGRENE A sterile solution of antitoxic substances from blood of healthy animals against gas producing organisms of the genus clostridium.
SCARLET FEVER Sterile solution of antitoxic substances for blood serum of healthy animals immunized against toxin produced by the streptococcus considered the cause of scarlet fever.
TETANUS
Preparation from the blood serum or plasma of healthy animals immunized against tetanus toxin, used as a passive immunizing agent.

TOXOID
A toxin treated by heat or chemical agent to destroy its toxicity, but still capable of inducing formation of antibodies.

ALUM PRECIPITATED T.
A toxoid of diphtheria or tetanus precipitated by alum.

DIPHTHERIA
A sterile preparation of formaldehyde treated products of the growth of Corybacterium diphtheriae, used as an active immunizing agent.

TETANUS T.
A sterile preparation of formaldehyde treated products of the growth of Clostridium tetani, used as an active immunizing agent.

SKIN TESTS
May be done to determine immunity against certain diseases. The most reliable and commonly used are the DICK test, which determines susceptibility to scarlet fever, and the SCHICK test, which determines susceptibility to diphtheria.

The treatment of communicable disease involves helping the body to resist the invading organisms. Recent research on INTERFERON, a protein produced by the body, shows the interferon treated cells do not support virus growth well. It would follow, then that interferon is involved in natural recovery from viral diseases. More study is necessary in this area to determine whether interferon can be used as therapy against some of the viruses causing communicable diseases.

PREVENTION is dependent on the establishment of immunity and the prevention of contacts with the causative organism. Because of widespread immunization programs the spread of many of the childhood diseases has been checked.

QUARANTINE means limitation of freedom of movement of persons or animals exposed to a communicable disease for a period of time equal to the longest usual incubation period of the disease. Children having communicable disease are hospitalized only if the care they require necessitates hospitalization. They may be admitted to a general hospital if proper facilities for isolation are available (Please review isolation procedures learned in medical surgical training). All personnel caring for such children must be instructed in isolation technique and conscientiously carry it out as a part of medical treatment program or nursing care.

COMPLICATIONS: Children who have had encephalitis following a communicable disease such as rubella, rubella, mumps, pertussis or meningitis, may become mentally retarded. Many complications of the common communicable disease can be prevented if adequate care is given to the child when he initially has his illness.

CLASSIFICATION:
Communicable disease entities may be classified into one of four groups.

1. **Upper respiratory** such as pneumonia, measles, and diphtheria
2. **Gastrointestinal** such as dysentery and typhoid fever
3. **Dermal and membranous** such as impetigo and venereal disease
4. **Parenteral** such as serum hepatitis and malaria

If these diseases are to be controlled, all personnel in medical, nursing, dietary, laundry, housekeeping and other departments must make combined efforts. Cleanliness is essential in preventing the spread of infection.

**THE MEANING OF ISOLATION TO THE CHILD, HIS PARENTS AND HIS NURSE**

When a child is isolated, whether for his own protection, as when he is burned or when he has leukemia or for the protection of others as when he has communicable disease, he is physically separated from other human beings, both children and adults. In addition, his isolation may psychologically affect the behavior of others toward him. The child may feel forgotten if the nurse does not visit him frequently to care for or to play with him.
He may also feel neglected if his parents do not come near him when they visit for fear of carrying infection home to other children in the family.

The child, besides feeling separateness and loneliness, may also be fearful of the gown and possibly the mask and gloves which physicians and nurses wear when they care of him. He may even be disturbed by the strange-gowned appearance of his parents when they visit him.

The nurse must explain to both the parents and the child, if he is old enough to understand the reason for his isolation. If the parents can understand the reason for isolating their child, they are much more likely to be cooperative in following isolation procedures, much more understanding of the child’s need for physical contact and reassurance, and better able to help the child adjust to his hospitalization. If he can understand, the preschool child who is learning to enjoy the presence of other children will appreciate why other children on the unit cannot come near him or exchange toys with him. When the child is well enough, the nurse must provide him with opportunities for social interaction and play activities suitable for his and level of development. Play materials must be of the sort that can adequately cleaned or disposed of when the child is removed from isolation.

In summary, health care workers must be cognizant of their own feelings toward the isolated child. They should be aware of the possible fears lurking the minds of the parents. They must be perceptive of attitude or personality changes on the part of all concerned, and be prepared to deal with them or call in appropriate counseling assistance.
STUDY GUIDE 2

DISORDERS ASSOCIATED WITH THE DEVELOPMENTALLY DISABLED CLIENT

HEAD INJURY

**Minor Superficial Injuries** occur as a result of head banging behavior wherein small hemorrhages occur in the brain, sometimes resulting in the "punch drunk syndrome", i.e. slight ataxia, and garbled speech.

**CONCUSSION** An Injury resulting from impaction with an object. Loss of functions either partial or complete as that resulting from a blow or fall.

**CEREBRAL** A common result of a blow to the head, or fall on the end of the spine with transmitted force, usually causing unconsciousness, either temporary or prolonged.

**CONTUSION** An Injury in which the skin may not be broken.

**SEVERE HEAD INJURY** can result from traumatic Injury caused by a fall or violent blow. Such an injury may be open or closed and may involve a brain concussion, skull fracture or contusion of the brain. All head injuries are potentially dangerous because there may be a slow leakage of blood from damaged blood vessels into the brain, or the formation of a blood clot, which gradually increases pressure against brain tissue (subdural or extradural hematoma). These conditions may not present symptoms for several days or months after the injury. (Cite Ronald Reagan falling off horse). With very severe head injury unconsciousness is the rule. Onset may be sudden or gradual. Observation of the patient is extremely important in determining the extent of the injury. Anyone of the following symptoms should be closely observed and reported to the physician.

1. Changes in the patient's blood pressure should be carefully noted. Blood pressure is variable, but most commonly depressed in fracture, (*shock state and bleeding), elevated in concussion. Note especially slowing of pulse with a rising of blood pressure, indicating concussion. Rapid pulse in skull fracture (probable bleeding)
2. Extreme restlessness or excitability following a period of comparative calm
3. Deepening stupor or loss of consciousness
4. Headache that increases in intensity
5. Vomiting, especially persistent, projectile vomiting
6. Unequal size of pupils, unreactive to light (failure to constrict)
7. Leakage of spinal fluid (clear, yellow or pink tinged) from the nose or ear
8. Inability to move one or more extremities
9. Bleeding from either ear may be indicative of basal fracture
10. Reflexes are commonly altered (unequal on both sides of the body)
11. Paralysis may be noted.
Be prepared to identify in class:

1. **Syncope (fainting)** – Usually transient. If prolonged, consider Intercranial injury. Stupor

2. **Stupor** - Partial or nearly complete unconsciousness; a state of lethargy and immobility with diminished responsiveness to stimulation.

3. **Coma** - State of profound unconsciousness from which the patient cannot aroused even by powerful stimuli.

**EYE INJURY AND INFECTION**

A fairly common problem with the developmentally disabled client.

1. **Cornea** - The clear transparent anterior covering of the eye. The cornea is subject to injury by foreign bodies in the eye, bacterial infection, and viral infection (especially herpes simplex virus). The herpes zoster virus, which causes shingles, can also infect the cornea.

   If the cornea is scratched, an ulcer can form; often difficult to treat.

2. **Conjunctiva** - The delicate membrane lining the eyelids and covering the eyeball.

3. **Conjunctivitis** - Inflammation of the conjunctiva

4. **Foreign Bodies** - Cinder, grit or other foreign bodies are best removed by lifting the eyelid by the lashes. The foreign body will usually remain on the surface of the lid and can easily be removed by a physician.

5. **Detached Retina**: When small pieces of the retina become detached from the underlying layers, usually considered a severe problem. Repair by surgery can usually prevent blindness produced by retinal detachment.

**TREATMENT OF EYE INJURY AND INFECTION:**

The simple blood clot (although it looks serious), will absorb in approximately 1 week without treatment.

A cortisone, antibiotic eye ointment (i.e. cortisporin), three times daily, (inside the lower eyelid) for approximately one week is preferred in corneal scratches. Ophthalmologist should be consulted as soon as possible.

**INFECTIONS**

1. **SKIN**

   These are most commonly the result of scratches or bites, self inflicted injury or peer inflicted.

   a. **Furuncles**

      A focal suppurative inflammation of the skin and subcutaneous tissues, enclosing a central slough or "core" also called a boil. It is caused by bacteria, which enter through the hair follicles or sweat glands, and its formation is favored by
constitutional or digestive derangement and local irritation. One must be alert for a resistant type of bacillus, most commonly staphylococcus aureus. It may make treatment difficult.

b. Cellulitis
A diffuse inflammatory process within solid tissues, characterized by edema, redness, pain and interference with function. It may be caused by infection with streptococci, staphylococci, or other organisms. Red streaks may extend over a fairly large area indicating lymphangitis. Cellulitis is potentially dangerous but usually can be treated with antibiotics or sulfonamides. Any cellulitis of the face must be given special attention because the infection may extend directly to the sinuses of the brain.

TREATMENT OF SKIN INFECTIONS:

1. Tetanus toxoid booster 0.5cc, IM, if last one was over 5-7 years past
2. Clean off any crusts with Phisohex or Hydrogen peroxide
3. Antibiotics utilized locally. (bacitracin, neosporin and cortaid)
4. If cellulitis presents Epsom salts (or table salt) compress or soak, t.i.d.
5. Attempt to keep any draining lesion covered to prevent spread to other areas or people
6. Wound and linen precautions
7. Culture and sensitivity for appropriate antibiotic
8. Keflex 250 mg. q.i.d., x one week, Is excellent for staphylococcus
9. Epsom salts for boils and furuncles
10. For recurring skin infections or boils bather in Wescodyne or other appropriate bacteriostatic product. Be sure to follow directions for strength

RESPIRATORY
The individual pneumonia will commonly have dyspnea (difficult, labored respirations), cyanosis (blueness) of lips, fingertips. Check for rales. X-RA y is needed for differential diagnosis. The WBC count helps differentiate viral (low WBC) from bacterial (elevated WBC).

Down's syndrome commonly have much mucous and nasal secretions; resistance is low to infections, probably due to defect in adrenals. Food may be aspirated (inhaled); choking or aspiration occurs at meal times. A repeating pneumonia may have a chronic Infection In the bronchi, called bronchiectasis. Collections of pus may lead to pneumonia.

TREATMENT OF RESPIRATORY INFECTIONS

A broad-spectrum antibiotic, i.e. Vibramycin 100 mg. q.d x 1 week. Many other broad specs may be also be utilized. If the bacillus is known (sensitivity results), used the appropriate drug.

Force fluids, juices etc. ASA gr. X, q.i.d. to lower elevate Temp., relieve pain. Allow respiratory secretions to come out; can do cupping and clapping procedure. SSKI for lysis of sputum. If a "tight" cough is present, vaporizer is useful. Other expectorants such as Benylin etc. In hospital ventilators and positive pressure machine are available.
PARASITES

1. **AMEBIC DYSENTERY**
   A form of dysentery caused by Entamoeba histolytica and spread by contaminated food, water and flies; also called amebiasis. Amebic dysentery was once thought to be a purely tropical disease, but it is now known that many cases occur throughout the United States.

   **Symptoms:** are diarrhea, fatigue and intestinal bleeding. Complications include involvement of the liver, liver abscess and pulmonary abscess.

   **Treatment:** Emetine hydrochloride and chloroquine, which may be used singly or in combination. Stools are of varying degrees of frequency; not too watery, often containing blood and mucus. Search of the stool reveals cysts or ova. Proctosigmoidoscopy reveals ulcers. The course tends to be chronic, and the carrier state is important (especially in hospitals). Stool study must be done within one hour of passage. A great deal of searching will uncover cysts or ova in a surprising number of hospitalized D.D. clients.

   Broad-spectrum antibiotics, Emetine, Metronidazole and Enteroviaform can also be utilized for treatment.

2. **WORM INFESTATIONS (HELMINTHS)**
   For roundworms (ascaris lumbricoides), colic, diarrhea "acute" abdomen or may even cause intestinal block. (see worms in stool).

   **Pinworms:** (Enterobius Vermicularis), anal itch is most common. Small worms seen in stool, communicable in families and groups

   **Whipworms:** (Trichuris Trichlura) may produce diarrhea, nausea, not usual to see worms in stool.

   **Treatment of Helminths:** For round and pinworms, Antiminth (given by body weight. Also povan. For whipworms, Mintezol. Also beneficial effect on pin and round worms. The anthelmintic drugs prescribed for the elimination of worms are often toxic and the nursing person administering the drug must know the specific drug being administered, and the toxic effects that might develop. To be most effective, a special regimen is recommended for the administration of may anthelmintic drugs and includes a purgative or enema the night before administration. The stools of the patient must be checked for larva or worms. It is recommended that toilet paper not be placed in the bedpan with the stool, making identification difficult.

   The patient should have his own bedpan, which is washed and disinfected after use. Linen should be washed daily. Flashlight tests can be done in the case of pinworms. The anus should be visualized at night with a flashlight. Scotch tape applied to the anus picks up worms and ova for easy identification.

3. **BACILLARY DYSENTERY**
   Shigella, a genus Schizomyces that cause dysentery. They are gram negative, rod shaped bacteria. They produce a neurotoxin. The course of the disease is more stormy and acute than amebic.
Diagnosis: Can be made by stool culture.

Symptoms: Severe; fever, cramping, diarrhea, weight loss and dehydration. Weakened, very young or very old could die.

Treatment: Prevention is best, as in all forms of communicable disease. Ampicillin and chloromycetin may be utilized. Fluids are utilized for the dehydration, including IVs as needed. Do not have to Isolate patient if dishes, clothing excrement is disposed of properly.

4. DIARRHEA (VIRAL)
A summer diarrhea often seen on the units; Short incubation period, frequent watery, foul smelling stool. Contrast with diarrhea of food roughage or “dribbling” around an impaction. Sometimes, imbalance in use of laxatives (anti diarrheal agent used to combat a loose stool, and thus starts the cycle), poor absorption of food, or use of broad-spectrum antibiotics can be causative agent.

Treatment: Bismuth, paregoric, lomotil. In severe cases may use after each loose stool. Should adhere to a non-roughage diet.

5. IMPACATION
This is a collection of hardened feces in the rectum or sigmoid. A very severe condition of constipation. Check patients' bowel habits regularly. If improperly trained in observation of this condition, the fact of missed bowel movements will not be noticed. After 3-5 days, the patient is "not just right". May have low-grade fever, lack of appetite, vomiting. Check the rectum with the gloved finger for hard stool. Also palpate the abdomen, especially on the lower left side; a "ropey" feel, especially in the thin individual, Is good evidence. The use of laxative and anti diarrheal agents in steady amounts Is often the cause of this problem. Often this problem will be missed because the patient is observed to have "diarrhea", but this can be merely seepage of liquid feces around the impaction and a close watch must be maintained for this problem.

Treatment: First, prevention is the most Important factor. Regular bowel movement is the key factor. If stool Is felt In the rectum, a simple soap suds or Fleet's enema can be used. Often, one or two Dulcolax suppositories inserted into the rectum will result in defeation within 30 minutes or so. A mineral oil enema retained for a reasonable time may help more resistant cases. Prune juice may be used preventively. Laxatives, i.e. MOM with cascara may be used. Extreme amounts of stool are expected in impaction. Even when you think you have removed enough, continue to check for more. X-ray Is often valuable in assessing amount and location.

INGESTION OF FOREIGN BODIES

PICA
Craving for unnatural articles of food; an abnormal appetite, such as is seen in hysteria and in pregnancy.

The individual usually has the habit or pattern of eating string, cloth, bits of shoes etc. A mass can form in the stomach or Intestines. Incidentally, also watch for insertion of objects into nose, ears or any aperture.
TREATMENT
The habit is usually recognized. Most objects pass through with the stool. A sharp object can perforate the esophagus; this usually results in severe illness and often death in a short while (a day or so), if not surgically or medically treated. However, as a rule, things, which are swallowed safely, pass through safely. Multiple objects can collect in the stomach (cite case of 10 lb. mass removed surgically), or intestine.

ASPIRATION (Choking)
1. Attempt to dislodge with fingers, if obvious.
2. Heimlich maneuver, "hug". Grasp both hands from behind the patient, below rib cage, thrusting upward, object should "pop out". Repeat, if no success. Consult emergency techniques from CPR.
3. "Choke saver", a curved forceps is available, best used by a qualified person and not on children. Remember that death will ensue in approximately four minutes, if airway is completely blocked.
4. Bronchoscopy, laryngoscopy may be necessary to remove object. Suction will not remove a dense bolus and oxygen is of no value at this time.

HEPATITIS A

Identification:
Onset is usually abrupt with fever, malaise, anorexia, nausea and abdominal discomfort; followed within a few days by Jaundice. Multiple organs may be involved. varies from a mild illness lasting 1 or 2 weeks, to a severely disabling disease, lasting several months. Convalescence usually is protracted. In general, severity increases with age, but complete recovery without sequelae or recurrences is the rule. Many cases are mild and without jaundice, especially in children, and recognizable only by liver function or serum enzyme tests.

Occurrence:
World wide, sporadic and epidemic with a tendency to cyclic recurrences. Outbreaks are common in institutions, in low cost housing projects, in rural areas and in military forces, particularly during wars. Epidemics often evolve slowly, involve wide areas, and last many months. Most common among school age children and young adults. Incidence in California increased steadily from 1963 to 1968, when it reached a peak and since then has remained high.

Infectious agent:
Hepatitis A (HAV) with characteristics of an enterovirus, have been visualized in infected feces of human subjects and experimentally infected chimpanzees.

Reservoir:
Man, chimpanzees and I less frequently, certain other non-human primates.

Mode of transmission:
Person to person contact, presumably in the majority of cases by the fecal oral route. The infectious agent may be found in feces, blood and urine.
Methods of control:

1. Isolation - Enteric precautions during first 2 weeks of illness and no more than 1 week after onset of Jaundice

2. Concurrent disinfection - Sanitary disposal of feces, urine and blood

3. Quarantine - NONE

4. Immunization of contact. No vaccine for active immunization exists. Passive immunization with Immune Globin (IG), may prevent or modify the disease. Contacts given IG, who develop asymptomatic infection may still shed virus in their feces and urine; however, their ability to transmit the infection is probably depressed compared to patients with unmodified disease.

HEPATITIS B

Identification:
Onset if usually insidious, with anorexia, vague abdominal discomfort, nausea and vomiting, progressing to Jaundice. Fever may be absent or mild. The hepatitis B surface antigen (HBsAg), previously termed hepatitis associated antigen (HAA) or Australia or SH antigen, constitute hepatitis virus (HBV). They can be demonstrated in the blood at some stage in the large majority of cases by a variety of techniques. It is associated with the capability of such blood to be infectious. It is also found in saliva, semen and urine.

Occurrence:
Worldwide; endemic with little seasonal variation. California, incidence of cases have quadrupled in the late 1960s, 70s, and 80s, due to more accurate methods of diagnosing and to increased use of IV drugs.

Infectious agent:
A virus of probable DNA nucleic acid.

Reservoir:
Man, and possibly chimpanzees

Mode of transmission:
Parenteral (intravenous, intramuscular or subcutaneous) inoculation of blood, plasma, serum, thrombin, fibrinogen, packed red cells and other blood products. Contaminated needles, syringes and other IV equipment also are important vehicles of spread. The infection may be spread through contamination of wounds or lacerations. It may also be transmitted in the course of close personal contact, i.e. sexual activities.

Methods of control:
Hepatitis B immune globulin (HBIG) is recommended following a single exposure to a relatively large inocula, such as follows a needles stick or mucosal exposure. Should be administered as soon as possible within a seven day period after exposure, with a second identical dose administered 25-30 days after the first.
# Module 27A – Diseases Associated with Developmental Disabilities

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<th>DISEASES</th>
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<th>CAUSATIVE AGENT</th>
<th>METHOD BY SPREAD</th>
<th>CLINICAL MANIFESTATIONS</th>
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<tbody>
<tr>
<td>Chickenpox</td>
<td>10 – 21 days</td>
<td>One day before onset to 6 days after first vesicles appear</td>
<td>Virus</td>
<td>Airborne – droplet infection Direct or indirect contact Dry scabs are not infectious.</td>
<td>General malaise, slight fever, anorexia, headache. Successive crops of macules, papules, vesicles, crusts. These may all be present at the same time. Itching of skin. Generalized lymphadenopathy.</td>
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<tr>
<td>Diphtheria</td>
<td>2 – 6 days or longer</td>
<td>Several hours before onset of disease, until organisms disappear from respiratory tract.</td>
<td>Corynebacterium diphtheriae (bacillus)</td>
<td>Droplets from respiratory tract of infected person or carrier.</td>
<td>Local and systemic manifestations. Membrane over tissue in nose or throat at site of bacterial invasion. Hoarse brassy cough with stridor. Toxin from organisms produces malaise and fever. Toxin has affinity for renal, nervous and cardiac tissue.</td>
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<tr>
<td>Encephalitis</td>
<td>Dependent on type</td>
<td>Dependent on type</td>
<td>Type 1: Virus</td>
<td>Encephalitis is an inflammation of the brain. Several types of virus encephalitis, depending on location in which they were found (St. Louis, Western (U.S.), Eastern (U.S.) and others). Onset is abrupt with vomiting, fever, stiff neck, convulsions, coma. Symptoms may appear early or late. Mild symptoms include headache, stiff neck, fever, delirium. More severe manifestations include convulsions, coma, paralysis. Clinical manifestations may be produced by toxin during the course of illness. Child may be very irritable, have muscle twitching or convulsions and abnormal ocular movements.</td>
<td>Encephalitis – Occurs with acute infections or with lead poisoning</td>
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<tr>
<td>Epidemic Influenza</td>
<td>24 – 72 hours</td>
<td>Not known – possibly during early and febrile stages</td>
<td>Virus types A and B and subtypes C</td>
<td>Airborne droplet. Infection, direct contact</td>
<td>Manifestations in respiratory tract. Sudden onset with chills, fever, muscle pain, cough. If infection is severe and spreads to lower respiratory tract, air hunger may develop.</td>
</tr>
<tr>
<td>Infectious Hepatitis</td>
<td>15 – 50 days</td>
<td>Few days before to 1 month or more after onset</td>
<td>Virus</td>
<td>Oral contamination by intestinal excretions, contaminated food, milk or water</td>
<td>Manifestations vary from mild to severe, from mild fever, anorexia, generalized malaise, nausea, and vomiting, unpleasant taste in mouth, abdominal discomfort and non-existent or mild jaundice to severe jaundice, coma and death. Early leukopenia is seen. Bile may be detected in urine; bowel movements are clay-colored. Liver function tests are useful for diagnosis</td>
</tr>
<tr>
<td>Measles (rubeola)</td>
<td>10 – 12 days</td>
<td>From 4 days before to 5 days after rash appears</td>
<td>Virus</td>
<td>Direct contact and airborne by droplets and contaminated dust</td>
<td>Fetus may contract measles in utero if mother has the disease. Coryza, conjunctivitis, photophobia are present before rash. Koplik spots in mouth, hacking cough, high fever, rash and enlarged lymph nodes are present. Rash consist of small reddish brown or pink macules changing to papules; fades on pressure. Rash begins behind ears, on forehead or cheeks, progresses to extremities and lasts about 5 days.</td>
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## Module 27A – Diseases Associated with Developmental Disabilities

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<tr>
<td>Measles – German (Rubella)</td>
<td>14 – 21 days</td>
<td>During prodromal period and for 5 days after appearance of rash</td>
<td>Virus</td>
<td>Direct contact or by contaminated dust particles in air. From secretions of nose and throat of infected persons</td>
<td>Slight fever, mild coryza. Rash consists of small pink or pale red macules closely grouped to appear as scarlet blush which fades on pressure. Rash fades in 3 days. Swelling of posterior cervical and occipital lymph nodes. No Koplik spots or photophobia as in measles.</td>
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<td>Meningitis</td>
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<tr>
<td>Aseptic</td>
<td>3 – 5 days or longer</td>
<td>Not really known. Probably 2 to 3 days before to several days after onset</td>
<td>Coxsacke virus Group A-viruses (antigenic types 7 &amp; 9) Group B-viruses (antigenic types 3 &amp; 5) ECHO virus (types 4, 6, 9 or others)</td>
<td>Direct contact via fecal-oral and pharyngeal oropharyngeal routes</td>
<td>Onset is fairly acute. Infants are irritable. Older children have headache and hyperesthesia, fever, nausea and vomiting are common, convulsions rare. Mild self-limited disease. Nuchal spinal rigidity occurs. Spinal fluid contains many cells. No organisms are seen on direct smears usually.</td>
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<tr>
<td>Meningitis (cerebro-spinal fever)</td>
<td>2 – 10 days</td>
<td>Until meningococci are no longer present in mouth and nasal discharges</td>
<td>Meningococcus or Neisseria intracellularis</td>
<td>Direct contact or droplet spread from infected person</td>
<td>Sudden onset. Fever, headache, chills, convulsions, irritability, stiff neck and vomiting. Petechial and purpuric areas are seen in skin and mucous membranes in meningococcal septicemia. General muscular rigidity and opisthotonus are seen. Delirium, stupor or coma may occur. Spinal fluid is cloudy and purulent.</td>
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<tr>
<td>Hemophilus influenza type B</td>
<td>1 – 7 days</td>
<td>As long as the pathogen is present in nasopharynx. No more than 24 hours after beginning effective microbial therapy</td>
<td>Hemophilus influenza type B</td>
<td>Direct contact or inhalation of infected droplets</td>
<td>Same as Meningococcal meningitis</td>
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<tr>
<td>Pneumococcal meningitis</td>
<td>1 – 7 days</td>
<td>As long as the pathogen is present in nasopharynx. No more than 24 hours after beginning effective microbial therapy</td>
<td>Diplococcus pneumoniae, especially Types III, V, XIV</td>
<td>Direct contact or inhalation of infected droplets</td>
<td>Same as Meningococcal meningitis</td>
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<tr>
<td>Mumps (infectious parotitis)</td>
<td>14 – 21 days</td>
<td>One to 6 days before first symptoms appear until swelling disappears</td>
<td>Virus</td>
<td>Direct or indirect contact with salivary secretions of infected persons</td>
<td>Salivary glands are chiefly affected. Parotid glands, sublingual and submaxillary glands may be involved. Swelling and pain occur in these glands either unilaterally or bilaterally. Child may have difficulty in swallowing, headache, fever and malaise.</td>
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<tr>
<td>Pertussis (whooping cough)</td>
<td>5 – 21 days</td>
<td>Four to 6 weeks from onset</td>
<td>Bordetella pertussis</td>
<td>Direct contact or droplet spread from infected person</td>
<td>Coryza, dry cough which is worse at night. Cough occurs in paroxysms of several sharp coughs in one expiration, then a rapid deep inspiration followed by a whoop. Dyspnea and fever may be present. Vomiting may occur after coughing. Lymphocytosis occurs.</td>
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<tr>
<td>Poliomyelitis (infantile paralysis)</td>
<td>5 – 14 days</td>
<td>During period of infection, latter part of incubation period and the first week of acute illness</td>
<td>Virus types 1 (Brunhilde), 2 (Lansing) and 3 (Leon)</td>
<td>Oral contamination by pharyngeal and intestinal excretions</td>
<td>Acute illness. Initial symptoms of upper respiratory tract infection, headache, fever, vomiting. Types of poliomyelitis include abortive, non paralytic, spinal paralytic and bulbar paralytic forms. Clinical manifestations may vary from mild to very severe after symptomless period following initial symptoms. Later symptoms may include intense headache, nausea, vomiting, muscular soreness, nuchal and spinal rigidity, changes in reflexes, paralysis. Tripod sign is indicative of spinal rigidity. Examination of cerebrospinal fluid shows an increase in protein and in the number of cells, but the fluid is rarely cloudy.</td>
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<tr>
<td>Rocky mountain spotted fever</td>
<td>3 – 12 days</td>
<td>Not communicable from man to man</td>
<td><em>Rickettsia rickettsieae</em></td>
<td>Spread by wood ticks or dog ticks from animals to man (If tick is found, it should be removed without crushing it)</td>
<td>Sudden onset of nonspecific symptoms – headache, fever, restlessness, anorexia. One to 5 days after onset, pale, discrete rose-red macules or maculopapules appear.</td>
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<tr>
<td>Hemolytic Streptococcal infection (streptococcal sore throat and scarlet fever – scarletina)</td>
<td>2 – 5 days</td>
<td>Onset to recovery</td>
<td>Beta hemolytic streptococcus, group A strains</td>
<td>Droplet infection or direct and indirect transmission may occur</td>
<td>Initial symptoms of streptococcal sore throat are seen in pharynx. The source of this organism may also be in a burn on wound. Toxin from stir of infection is absorbed into bloodstream. The typical symptoms of scarlet fever which may result are headache, fever, rapid pulse, rash, thirst, vomiting. Lymphadenitis and delirium. Throat is infected, and cellulitis of throat occurs. White tongue coating desquates and red strawberry tongue results. Schultz-Charlton phenomenon is a blanch reaction occurring after intradermal injection of 0.2 ml of convalescent serum or diluted antitoxin. Other manifestations may include otitis media, mastoiditis and meningitis</td>
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<tr>
<td>Smallpox (variola)</td>
<td>12 days</td>
<td>One to 2 days before symptoms until crusts all drop off; usually 3 to 4 weeks</td>
<td>Virus</td>
<td>Direct or indirect contact; possibly airborne. Crusts are infectious</td>
<td>Abrupt onset with vomiting, headache, high fever and generalized aching. Skin eruption occurs a few days after onset, changing from macules to papules, vesicles, then pustules. Umbilication is characteristic of vesicles. Prostration or convulsions may occur. Individual lesions appear in single crop and progress at same rate. Mucous membranes of mouth and eyes become involved. Degree of scarring depends on severity and extent of eruption.</td>
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<tr>
<td>Tetanus (lockjaw)</td>
<td>3 – 21 days</td>
<td>Not communicable from man to man</td>
<td>Clostridium tetani bacillus</td>
<td>Organisms are found in soil and enter body through a wound. Deep puncture wounds are ideal for growth of this anaerobic organism; burns are ideal because of presence of necrotic tissue</td>
<td>Acute or gradual onset. Bacillus produces a powerful toxin having an affinity for nervous system. Clinical manifestations include muscle rigidity and spasm, hyperirritability, convulsions, headache, fever. Trismus, or inability to pen the mouth is present. Spasm of facial muscles results in risus sardonicus, or the sardonic grin. Opisthotonus, a backward arching of the back develops, due to the dominance of the extensor muscles of the spin clonic tetanospasms may be triggered by slight external stimuli. Conscious is not lost. Urine may be retained, due to spasm of urethral muscles. Cyanosis and asphyxia may occur due to muscle spasms of larynx and chest. The rate of metabolism is increased because of the intense muscle hyperirritability. Death may result from aspiration pneumonia or exhaustion.</td>
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Slide 1
Associated Diseases
PTEC 155

Slide 2

http://video.google.com/url?docid=-617730641277884
TED/feature/topics/video/MRSA&usg=a-97p

Slide 3

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Module 27A – Diseases Associated with Developmental Disabilities

Slide 4

Introduction

What makes clients more susceptible to illness?

- Importance of universal precautions.
- Virulence - strength of the organism.
- Immunity - strength of the host in resisting the infecting organism.
- Infectious disease: parasite attempts to multiply; the host defenses seek to control this effort.

Slide 5

Agenda

- Definitions
- Communicable diseases
- Head injury
- Infections
- Parasites
- Impaction
- Pica
- Aspiration
- Hepatitis

Slide 6

Overview

- Child first entering school
  - Immunizations have reduced the incidence of many childhood diseases
- Institutional living; illness more easily spread
- As the med person, you’re the one person in contact with all of the clients
Module 27A – Diseases Associated with Developmental Disabilities

Slide 7

Vocabulary

- Causative agents
  - Bacteria, viruses, yeasts, molds, protozoa, rickettsia
- Morbidity
- Mortality
- Endemic
- Epidemic
- Pandemic

Slide 8

- Obesity Epidemic - Google Video

Slide 9
Module 27A – Diseases Associated with Developmental Disabilities

Slide 10

Vocabulary 2

- Immunity
- Natural
- Acquired
  - Active
  - Passive
- Quarantine

Slide 11

Communicable diseases: classifications

- Upper respiratory
- Gastrointestinal
- Dermal
- Membranous
- Parenteral

- Encephalitis- if this complication occurs, mental retardation may develop

Slide 12

Head Injury

- Damage to blood vessels in the brain
- Hematoma- blood clot
- BP: depressed in a fracture; elevated in a concussion
- Unequal size of pupils; unreactive to light
- Inability to move one or more extremities
Module 27A – Diseases Associated with Developmental Disabilities

Slide 13

Infections
- Conjunctivitis
- Furuncles
- Cellulitis
- URI
  - Down’s clients have excessive mucous and secretions
  - Resistance is low when fighting infections
  - Aspiration is common
  - Tongue thrust
  - Inhibited gag reflex

Slide 14

Parasites
- Dysentery
- Diarrhea
  - May be a side effect of antibiotics
  - May be seepage around impaction
  - If viral and associated with flu-like symptoms, unit may be quarantined
- Pinworms
  - Don’t shake out used sheets; may spread eggs
  - Often associated with pica behavior
Module 27A – Diseases Associated with Developmental Disabilities

Slide 16

Pica
- Prevention
- Compulsive behavior
- Iron deficiency/ seen in pregnant women

Slide 17

Hepatitis
- A. contracted thru contaminated food and water
- B. contracted thru blood or body fluids, needle sticks
- C. contracted thru blood or body fluids; contracted mostly thru needle sharing during injection drug abuse – May be asymptomatic