COMMUNICABLE DISEASE NURSING

TERMINOLOGIES

- **Infection**
  - Implantation and success replication of an organism in the tissue of the host resulting to signs and symptoms as well as immunologic response.
- **Carrier**
  - An individual who harbors the organism and is capable of transmitting it to a susceptible host without showing manifestations of the disease.
- **Communicable Disease**
  - It is an illness caused by an infectious agent or its toxic products that are transmitted directly or indirectly to a well person through an agency, and a vector or an inanimate object.
- **Contact**
  - It is any person or animal who is in close association with an infected person, animal or freshly soiled materials.
- **Contagious Disease**
  - It is a term given to a disease that is easily transmitted from one person to another through direct or indirect means.
- **Disinfection**
  - It is the destruction of pathogenic microorganism on inanimate objects by directly applying physical or chemical means.
- **Concurrent**
  - it is a method of disinfection done immediately after the infected individual discharges infectious material/secretions.
  - Method of disinfection when the patient is still the source of infection.
- **Terminal**
  - It is applied when the patient is no longer the source of infection
  - This is done after patient is discharged from the hospital to prepare the room for the next patient.
- **Habitat**
  - It is a place where an organism lives or where an organism is usually found.
- **Host**
  - It is a person, animal or plant on which a parasite depends for its survival.
- **Infectious Disease**
  - It is transmitted not only by ordinary contact but requires direct inoculation of the organism through a break on the skin or mucous membrane.
- **Isolation**
  - it is the separation from other persons of an individual suffering from a communicable disease during the period of communicability.
- **Quarantine**
  - It is the limitation of freedom of movement of persons or animals which have been exposed to communicable disease/s for a period of time equivalent to the longest incubation period of that disease.
- **Reservoir**
  - It is composed of one of more species of animal or plant in which an infectious agent lives and multiplies for survival and reproduces itself in such a manner that it can be transmitted to man.

EPIDEMIOLOGY

- It is study of occurrences and disturbance of diseases as well as the distribution and determinants of health states of events in specified population and application of this study to the control of health problems.
- Foundation of preventing disease

Uses

- Study the history of the health population and the rise and fall of disease and changes in their character.
- Diagnose the health of the community
- Study the work of health services with a view of improving them
- Estimate the risk of disease, accident, defects and the chances of avoiding them.
- Complete the clinical picture of chronic disease and describe their history

Epidemiologic Triangle

- Consists of three components – host, environment and agent.

Host

- Any organism that harbors and provides nourishment for another organism

Agent

- Intrinsic property of microorganism to survive and multiply in the environment to produce disease.

Environment

- It is the sum total of all external conditions and influences that affect the development of an organism which can be:
  - ✓ Biological
  - ✓ Social
  - ✓ Physical

Patterns of Occurrence and Distribution

❖ Sporadic
- Intermittent occurrence of a few isolated and unrelated cases in a given locality.
- Cases are few and scattered
- E.G. Rabies

❖ Endemic
- Continuous occurrence throughout a period of time, of the usual number of case in a given locality.
- The disease is therefore always occurring in the locality and the level of occurrence is more or less constant through a period of time.
- Examples:
  - Schistosomiasis (Leyte & Samar)
  - Filariasis (Sorsogon)
  - Malaria (Palawan)

❖ Epidemic (Outbreak)
- Unusually large number of cases in a relatively short period of time.

❖ Pandemic
- The simultaneous occurrence of epidemic of the same disease in several countries.
- E.G. HIV/AIDS and SARS

CHAIN OF INFECTION

1. **Causative Agent**
   - ❖ Any microbe capable of producing a disease
   - ❖ Bacteria, spirochete, virus, ricketssia, chlamydiae, fungi, protozoa and parasites
2. **Reservoir of Infection**
   - ❖ Refers to the environment and objects on which an organism survives and multiples
3. **Portal of Exit**
   - ❖ It is the path or way in which the organism leaves the reservoir.
   - ❖ Common portals of exit:
     - Respiratory System
     - Genitourinary Tract
     - Gastrointestinal Tract
     - Skin and Mucous Membrane
     - Placenta
4. **Mode of Transmission**
   - ❖ It is the means by which the infectious agent passes through from the portal of exit of the reservoir to the susceptible host.
   - ❖ Easiest link to break the chain of infection

Contact Transmission

- Most common mode of transmission.

<u>Direct Contact</u>

✓ Refers to a person to person transfer of organism.

<u>Indirect Contact</u>

✓ Occurs when the susceptible person comes in contact with a contaminated object.

Droplet Spread
- ✓ It is the transmission through contact with respiratory secretions when the infected person coughs, sneezes or talks.
- ✓ Transmission is limited within 3 feet.

Airborne Transmission
- Occurs when fine microbial particles or dust particles containing microbes remain suspended in the air for a prolonged period.
- Transmission can be more than 3 feet.

Vehicle Transmission
- It is the transmission of infectious disease through articles or substance that harbor the organism until it is ingested or inoculated into the host.

Vector-borne Transmission
- Occurs when intermediate carriers, such as fleas, flies and mosquitoes transfer the microbes to another living organism.

5. **Portal of Entry**
   - ❖ It is the venue the organism gains entrance into the susceptible host.
   - ❖ The infective microbes use the same avenues when they exit from the reservoir.
6. **Susceptible Host**
   - ❖ When the defenses are good, no infection will take place.
   - ❖ However, in weakened host, microbes will launch an infectious disease.

IMMUNITY

- ❖ **Natural**
  - Active
    - ✓ Acquired through recovery from a certain disease
  - Passive
    - ✓ Acquired through placental transfer
- ❖ **Artificial**
  - Active
    - ✓ Acquired through the administration of vaccine and toxoid
  - Passive
    - ✓ Acquired through the administration of antitoxin, antiserum, convalescent serum, and immunoglobulins

Type of Antigen
- ❖ Inactivated (killed organism)
  - Not long lasting
  - Multiple doses needed
  - Booster dose needed
- ❖ Attenuated (live, weakened organism)
  - Single dose needed
  - Long lasting immunity

ISOLATION

- ❖ Separation of patients with communicable disease from other so as to prevent or reduce transmission or infectious agent directly or indirectly.

Categories Recommended in Isolation
- ❖ **Strict Isolation**
  - Prevents highly contagious or virulent infections
- ❖ **Contact Isolation**
  - Prevents the spread of infection primarily by close or direct contact
- ❖ **Respiratory Isolation**
  - Prevents the transmission of infectious diseases over short distance through the air

- **TB Isolation**
  - For TB patients with positive smear or with chest X-ray which strongly suggests active tuberculosis.
- **Enteric Isolation**
  - For infection with direct contact with feces
- **Reverse/Neutropenic Isolation**
  - An immunocompromised client is separated to prevent contracting infection from environment.
- **Standard Precaution**
  - To prevent infections that are transmitted by direct or indirect contact with secretions or drainage (except sweat) from another person.
  - Universal Precaution + Body Substance Isolation (BSI)
  - **Universal Precaution**
    - Intended to prevent parenteral mucous membrane and non-intact skin exposure of health care workers to blood borne pathogens
- Transmission Based Precaution
  - Second Tier of precaution
  - Applicable to patient who are highly contagious
  - Three types: Contact, Airborne, Droplet

INTEGUMENTARY DISEASE

CHICKEN POX
Other Term: Varicella zoster

Description: Acute infectious disease of sudden onset with slight fever, mild constitutional symptoms and eruptions which are maculopapular for a few hours, vesicular for 3-4 days and leaves granular scabs.

Etiologic Agent: Human (alpha) herpes virus 3 (Varicella-zoster virus)

Sources of Infection:
- Secretions of respiratory tract of infected persons
- Lesions (little consequence)
- Scabs are not infective

Mode of Transmission
- Direct contact
- Contact with contaminated linen and fomites
- Airborne

Incubation Period
- 2 to 3 weeks

Period of Communicability
- Cases are infectious for up to 2 days before the onset of the rash until 5 days after the first crop of vesicles.

Diagnostic Test
- Isolation of the virus from the vesicular fluid within the first 3 to 4 days of the rash
- Serum antibodies is present in 7 days after onset

Congenital Varicella results in:
- Hypoplastic, deformities and scarring of limb
- Retarded growth
- CNS and ophthalmic manifestation

Nursing Considerations
- Strict Isolation
- Exclusion from school for 1 week after eruption first appears and avoid contact with susceptible
- Concurrent disinfection if throat and nose discharge

- ❖ Tell the patient not to scratch the lesions

- ❖ Teach the child and the family how to apply topical antipruritic medication correctly

Susceptibility, Resistance & Occurrence
- ❖ Universal among those not previously attacked
- ❖ Severe in adults
- ❖ An attack confers long immunity
- ❖ Second attacks are rare

Prevention
- ❖ Vaccine
  - Varicella – zoster Immune Globulin (VZIG)
    - ✓ It should be given within 10 days of exposure

MEASLES
Other Terms: Rubeola / Morbili / 7 – day Measles

Description: it is an acute contagious and exanthematous disease that usually affects children who are susceptible to Upper Respiratory Tract Infection (URTI)

Etiologic Agent
- ❖ Filterable virus of Measles (*Paramyxoviridae*)

Source of infection
- ❖ Secretions of nose and throat of infected persons

Mode of Transmission
- ❖ Droplet Spread / Direct Contact with Infected person
- ❖ Indirect Contact (articles with secretions)
- ❖ Airborne

Incubation Period
- ❖ 1-2 weeks

Period of Communicability
- ❖ Starts just before the prodrome and lasts until 4 days after the rash appears.

Clinical Manifestations
Koplik spots – pathognomonic sign

1. **Pre-eruptive Stage**
   - Fever
   - **Catarrhal Symptoms** (cough, conjunctivitis, coryza)
   - Photophobia
   - Stimson's line (red line on the lower conjunctiva)
2. **Eruptive Stage**
   - Maculo-papular rash
   - High grade fever
   - Anorexia and irritability
   - Throat is red and extremely sore
3. **Convalescence Stage**
   - Rashes fade away
   - Fever subsides
   - Desquamation begins
   - Symptoms subside and appetite is restored

Diagnostic Procedures

- Nose and Throat Swab
- Urinalysis
- Blood exams (Single raised IgM or rise on IgG)

Treatment Modalities
- Anti-viral drug (Isoprenosine)
- Antibiotics
- Oxygen Inhalation
- IV fluids

Complications
- Bronchopneumonia
- Otitis Media
- Pneumonia
- Nephritis
- Encephalitis

Nursing Management
- Isolation
- Maintain standard and airborne precautions.
- Place the patient on a negative pressure room
- Tepid Sponge Bath (TSB)
- Skin care
- Oral and nasal hygiene
- Eye care (photosensitivity)
- Ear care
- Daily elimination (Mild laxative)
- During febrile stage, limit the diet to fruit juices, milk, and water.
- Give medication as ordered by the physician (Penicillin)

Preventive Measures
- Immunization with:
  - Anti-measles at the age of 9 months as a single dose
  - MMR vaccine (15 mos.); 2nd dose (11 to 12 years old)
- Measles vaccine should not be given to pregnant women, or to persons with active tuberculosis, leukemia, lymphoma or depressed immune system.

LEPROSY
Other Terms: Hansen's Disease / Hansenosis

Description: It is a chronic systematic infection characterized by progressive cutaneous lesions

Three distinct forms
- **Lepromatous (Multibacillary) leprosy**
  - Most serious type
  - Not infectious
  - Causes damage to the respiratory tract, eyes and testes and well as the nerves and the skin.
  - Lepromin test is negative, but the skin lesion contains large amount of Hansen's bacillus
  - Slow involvement of the peripheral nerves, with some degree of anesthesia and loss of sensation and gradual destruction of the nerves.
- **Tuberculoid (Paucibacillary) Leprosy**
  - Affects the peripheral nerves and sometimes the surrounding skin, especially on the face, eyes and testes as well as the nerves and the skin.
  - Lepromin Test is positive, but the organism is rarely isolated from the lesions
  - Macules are elevated with clearing at the center and more clearly defined than the lepromatous form
- **Borderline (dimorphous)**

- Has the characteristics of both lepromatous and tuberculoid leprosy.

Etiological Agent: *Mycobacterium leprae*

Incubation Period:
- ❖ The incubation period varies from a few months to many years. Lepromatous patients may be infectious for several years.

Mode of Transmission
- ❖ Airborne
- ❖ Prolonged skin-to-skin contact

Clinical Manifestation
- ❖ **Early**
  - Changes in skin color (reddish/white)
  - Loss of sensation on the skin/Anesthesia
  - Decrease/loss of sweating and hair growth over the lesion
  - Thickened/painful nerves
  - Muscle weakness
  - Redness of the eye
  - Nasal Obstruction
  - Ulcers that do not heal

- ❖ **Late**
  - Madarosis (Loss of eyebrow and eyelashes)
  - Lagopthalmos (inability to close eyelids)
  - Clawing of fingers and toes
  - Contractures
  - Sinking of the nose bridge
  - Gynecomastia

Diagnostic Tests
- ❖ Slit skin Smear
- ❖ Blood Test (Inc. RBC & ESR; Dec, Ca, albumin & Cholesterol level)

Treatment Modalities
- ❖ Sulfone Therapy
- ❖ Rehabilitation, Recreational and Occupational Therapy
- ❖ Multiple Drug Therapy
  - Multibacillary (Rifampicin, Clofazimine, Dapsone)
    - ✓ Infectious Type
    - ✓ Duration of treatment (12 months)
  - Paucibacillary (Rifampicin and Dapsone)
    - ✓ Tuberculoid & indeterminate
    - ✓ Non-infectious types
    - ✓ Duration of treatment (6-9 months)

Nursing Management
- ❖ Isolation and Medical Asepsis should be carried out
- ❖ Diet: Full, nutritious diet
- ❖ Give antipyretic, analgesics and sedative as needed.
- ❖ Provide emotional support throughout treatment and rehabilitation of affected extremities
- ❖ Patients with eye dryness need to use a tear substitute daily and protect their eyes to prevent corneal irritation and ulceration.
- ❖ Tell the patient with an anesthetized leg to avoid injury by not putting to much weight on the leg, testing water before entering to prevent scalding, and wearing appropriate footwear.

Prevention
- ❖ Report all cases and suspect of leprosy

- BCG vaccine
- Health education

SCABIES
Description: It is a highly transmissible skin, infection that is characterized by burrows, pruritus, and excoriations with secondary bacterial infection.
Etiologic Agent: *Sarcoptes scabei var. homonis*
Source of Infection
- Human skin

Mode of Transmission
- Skin to skin contact
- Direct contact with fomites

Incubation Period
- The itch mite may burrow under the skin and lay ova within 24 hours of an original contact

Period of Communicability
- This disease is communicable for the entire period that the host is infected.

Clinical Manifestations
- Intense itching that becomes more severe at night
- Burrows (lesions) seen in webs of the fingers, wrists and elbows
- Burrows in immunocompromised, infants, young children and elderly appears in face, neck, scalp and ears

Complications
- Persistent pruritus
- Intense scratching can lead to excoriation, tissue trauma and secondary bacterial infection

Diagnostic Procedure
- Superficial scraping and examination under a low-power microscope of material from a burrow

Treatment
- Aqueous Malathion lotion
- Permethrin derma cream left on the skin for 8-12 hours
- Benzyl Benzoate
- Sulfur in petrolatum
- Ivermectin – Anti-helminthic drug is effective in resistant cases
- Antipruritic emollient or topical steroid for itching

Nursing Intervention
- Have the patient's fingernails cut short to minimize skin breaks from scratching
- Instruct patient on proper application of the drugs
- Contaminated clothing or beddings should be dry-cleaned or boiled
- Advise patient to report any skin irritation
- Advise family member and other people who had close contact with the patient be checked for possible symptoms and be treated if necessary
- Practice contact precaution
- Terminal disinfection should be carried out
- Encourage the patient to verbalize his/her feelings

Prevention and Control
- Good personal hygiene
- Avoid contact with infected persons
- All members of the household, including close contact should be treated

GERMAN MEASLES

Other Terms: Rubella / Three-day Measles

Description

- ❖ It is a mild viral illness caused by rubella virus
- ❖ It causes mild feverish illness associated with rashes and aches in joints.
- ❖ It has a teratogenic effect on the fetus.

Etiologic Agent: Rubella virus

Mode of Transmission

- ❖ Droplet transmission
- ❖ Transplacental transmission in congenital rubella

Incubation Period

- ❖ 2 to 3 weeks

Clinical Manifestations

- ❖ **Prodromal Period**
  - Low grade fever
  - Headache
  - Malaise
  - Mild coryza
  - Conjunctivitis
  - Post-auricular, sub-occipital and posterior cervical lymphadenopathy which occurs on the 3rd to the 5th day after onset

- ❖ **Eruptive Period**
  - Forchheimer's spot (pinkish rash on the soft palate)
  - Eruption appears after the onset of adenopathy
  - Children usually present less or no constitutional symptoms
  - The rash may last for one to five days and leaves no pigmentation nor desquamation
  - Testicular pain in young adults
  - Transients polyarthralgia and polyarthritis may occur in adults and occasionally in children.

- ❖ **Congenital Rubella**
  - Classic Congenital Rubella Syndrome
    - ✓ Intrauterine growth retardation
    - ✓ Infant has low birth weight
    - ✓ Thrombocytopenic purpura known as "blueberry muffin" skin
  - Intrauterine Infection
    - ✓ May result in spontaneous abortion
    - ✓ Birth result in spontaneous abortion one or multiple birth anomalies such as:
      - Cleft palate, talipes and eruption of teeth
      - Cardiac defects (patent ductus arteriosus, atrial septal defect)
      - Eye defects (glaucoma, retinopathy, micropthalmia)
      - Neurologic (Microcephaly, mental retardation, psychomotor retardation, vasomotor instability)

Diagnostic Tests

- ❖ Clinical observation
- ❖ Cell cultures of the throat, blood, urine and cerebrospinal fluid confirm the presence of the virus
- ❖ Convalescent serum that shows a fourfold rise antibody titer supports that the diagnosis

Treatment Modalities

- ❖ Acetaminophen for fever and joint pain.
- ❖ Isolation

Complications

- ❖ Encephalitis
- ❖ Neuritis

- Arthritis
- Arthralgias
- Rubella syndrome manifested by:
    - Microcephaly
    - Mental retardation
    - Cataract
    - Deaf-mutism
    - Heart Disease

Nursing Consideration
- Provide comfort
- Make sure female patients understand how important it is to avoid exposure to this disease when pregnant.
- Report confirmed cases of rubella to local public health officials
- Warn the patient about possible mild fever, slight rash, transient arthralgia, and arthritis.
- If lymphadenopathy persists after the initial 24 hours, suggest a cold compress to promote vasoconstriction and prevent antigenic cyst formation.
- Patient's room must be darkened to avoid photophobia
- Patient's eyes should be irrigated with warm saline to relieve irritation
- Good ventilation is necessary.

Prevention
- Administration of live attenuated vaccine (MMR)
- Pregnant women should avoid exposure to patients infected with rubella virus
- Administration of Immune Serum Globulin one week after exposure to rubella

PEDICULOSIS
Description
- Any human infestation of lice
- May occur anywhere on the body

Types:
- **Pediculosis capitis**
    - Lice feed on the scalp and rarely, on the skin under the eyebrows, eyelashes and beard
- **Pediculosis Corporis**
    - Lice live next to the skin in clothing seams.
- **Pediculosis pubis**
    - Lice are found primarily in pubic hairs but may extend to the eyebrows, eyelashes and axillary or body hair.

Mode of Transmission
- Head-to-head contact
- Fomites
- Sexual activity

Incubation Period
- 3 to 7 days

Clinical Manifestation
- Pruritis (most common symptom of infestation)
- Tickling sensation of something moving in the hair may be noticed
- Head lice and their nits are most commonly found behind the ears and on the hairs of the neck and occiput.
- Body lice are found on clothing seams
- Pubic lice will be found attached to the base of the pubic hair and the infestation generally results in severe itching.

Diagnostic Tests
- Wood's light examination (fluorescence of the adult lice)
- Microscopic examination (presence of nits on the hair shaft)

Treatment Modalities
- ❖ Permethrin (Eliminate) / Pyrethin (Rid Mousse)
  - Initial treatment of choice
  - Topical insecticide
  - For Pediculosis capitis & Pediculosis pubis
- ❖ Fine-tooth comb dipped in vinegar
- ❖ Washing hair with ordinary shampoo
- ❖ Oral Anthelminthics (Ivermectin, Levamisole, Albendazole) are effective against head lice infestation
- ❖ Prevention of head reinfestation
  - Clothes and bed linens must be washed in hot water, ironed or dry cleaned.
  - Storing clothes or linens for more than 30 days or placing them in dry heat of 140 F (60 C) kislls lice

Complications
- ❖ Excoriation
- ❖ Secondary bacterial infections
- ❖ If left untreated, pediculosis may result in dry, hyperpigmented, thickly encrusted, scaly skin, with residual scarring

Nursing Considerations
- ❖ Contact precautions should be maintained until treatment is complete to prevent spreading the infection
- ❖ Have the patient's fingernails cut short to prevent skin breaks and secondary bacterial infections caused by scratching.
- ❖ Be alert for possible adverse reactions to treatment with an antiparasitic, including sensitivity reactions and in some cases, central nervous system (CNS) toxicity.
- ❖ To prevent self-infestation, avoid direct contact with the patient's hair, clothing and bedsheets.
- ❖ Use gloves, a gown, and a protective head covering when administering delousing treatment.
- ❖ After each treatment, inspect the patient for remaining lice and eggs.
- ❖ Teach the patient and family how to inspect and identify lice, eggs and related lesions
- ❖ Instruct the patient and family about the use of the creams, lotions, powders and shampoos that eliminate lice.
- ❖ Instruct the patient in the proper application of lindane, which can be absorbed by the skin and cause CNS complications.

HERPES ZOSTER
Other Term: Shingles

Description
- ❖ It is acute unilateral and segmented inflammation of the dorsal root ganglia caused by reactivation of the herpes varicella-zoster virus, which also causes chickenpox
- ❖ Usually occur in adults

Causative Agent
- ❖ Varicella virus

Incubation Period
- ❖ Unknown, but it is believed to be 13-17 days

Period of Communicability
- ❖ Communicable a day before the appearance of the first rash until 5-6 days after the last crust

Mode of Transmission
- ❖ Airborne
- ❖ Droplet
- ❖ Direct contact

Clinical Manifestations
- ❖ Begins with fever and malaise
- ❖ Severe deep pain, pruritus, and paresthesia and hyperesthesia, usually on the trunk and occasionally on the arms and legs
- ❖ Small, red, nodular skin lesions (Unilateral) erupt on the painful areas up to 2 weeks after first symptoms

- Vesicles filled with fluid or pus
- Cranial nerve involvement

Complications
- Generalized central nervous system infection
- Acute transverse and ascending myelitis
- Intractable neurologic pain

Diagnostic Procedure
- Differentiation of herpes zoster from herpes simplex virus through fluorescent light
- Tissue culture technique
- Smear of vesicle fluid
- Microscopy

Management
- Antiviral therapy – Acyclovir
- Analgesics to control pain
- Anti-inflammatory

Nursing Interventions
- Airborne and contact precautions
- If vesicles rupture, apply a cold compress as ordered
- To minimize neuralgic pain, administer analgesics as ordered and evaluate their effects
- Instruct the patients to avoid scratching the lesions
- Keep the patient comfortable and maintain meticulous hygiene
- Encourage sufficient bed rest and give supportive care

Prevention
- Vaccination against varicella
- Avoid exposure to patients with varicella infection

RESPIRATORY DISEASES

DIPHTHERIA

Description: Acute febrile infection of the tonsil, throat, nose, larynx or wound marked by patches of grayish membrane from which the diphtheria bacillus is readily cultured.

Etiologic Agents: *Corynebacterium, diphtheria (Klebs-Loeffier bacillus)*

Sources of Infection
- Discharges and secretion from mucus surface of nose and nasopharynx and from skin and other lesions
- Reservoir = Man

Mode of Transmission
- Contact with a patient or carrier or with articles soiled with discharges of infected persons.
- Milk (*vehicle)*

Incubation Period
- 2 to 5 days

Period of Communicability
- 2 weeks to more than 4 weeks
- Variable until virulent bacilli has disappeared from secretions and lesions

Types
- **Nasal**

- With foul – smelling serosanguinous secretions from the nose

❖ **Tonsillar**
- Low fatality rate
- Lesions are confined to the tonsils only but tend to spread over the pillars, into the soft palate and uvula.

❖ **Nasopharyngeal**
- Cervical lymph nodes are swollen
- Neck tissues are edematous

❖ **Laryngeal**
- Most commonly found in children ages 2 to 5 years old
- It is considered as most severe and more fatal type due to anatomical reason
- There is moderate hoarseness; voice is diminished until it is finally absent.
- Most fatal

❖ **Wound / Cutaneous**
- Affects to mucous membrane and any break in the skin.

Clinical Manifestation
❖ Bull neck formation (swelling of the soft tissues of the neck)
❖ Exudates forming the membrane are grayish in appearance (Pseudomembrane)
❖ Fatigue / malaise
❖ Slight sore throat
❖ Breathing difficulty
❖ Husky voice
❖ Swelling of the palate
❖ Low-grade fever

Methods of Prevention and Control
❖ Active immunization of all infants and children with 3 doses of DPT
❖ Pasteurization of milk
❖ Education of parents
❖ Reporting of case to the Health Officer of proper medical care

Diagnostic Tests
❖ Swab from the nose and throat
❖ Schick Test
- Involves giving an injection of 0.1 mL of dilute diphtheria toxin intradermally.
- Area is checked in 3-4 days and the reaction is documented
- Positive Test is indicated by inflammation or induration at the point of injection. This indicates that the client lacks antibodies to diphtheria.

❖ Virulence Test
❖ Moloney Test
- A test to detect a high degree of sensitivity to diphtheria toxoid is given intradermally.

Treatment Modalities
❖ Penicillin
❖ Anti-toxin
❖ Erythromycin

Nursing Care
❖ Follow prescribed dosage and correct technique in administering anti toxin
❖ Provide comfort
❖ Absolute bed rest for at least two weeks
❖ Soft-food diet; small frequent feedings
❖ Ice collar applied to the neck
- Visiting bag should be set up outside the room of the patient of should be far from the bedside of the patient

❖ Watch for signs of shock, which can develop suddenly as a result of systematic vascular collapse, airway obstruction, or anaphylaxis.
❖ If neuritis develops, tell the patient it's usually transient. Be aware that peripheral neuritis may not develop until 2 to 3 months after the onset of illness.

- Explain how to properly dispose of nasopharyngeal secretion and teach proper infection precautions

PERTUSSIS
Other Term: Whooping Cough
Description: Acute infection of the respiratory tract characterized by repeated attacks of spasmodic coughing which consists of a series of explosive expirations, producing a crowing sound, "the whoop", and usually followed by vomiting.

Etiologic Agents
- *Haemophilus pertussis*
- *Bordet Gengou bacillus*
- *Bordetella pertussis*

Source of Infection
- Discharges from laryngeal and bronchial mucous membrane of infected persons.

Incubation Period: 7-10 days but may occasionally be up to 3 weeks

Period of Communicability
- Seven days after exposure to three weeks after typical paroxysms

Mode of Transmission
- Direct spread through respiratory and salivary contacts

Clinical Manifestations
- Violent coughing
- Nose bleeding
- Distended neck veins
- Periorbital edema
- Conjunctival hemorrhage

Complications
Most dangerous: bronchopneumonia
- Convulsion
- Umbilical hernia
- Otitis media
- Severe malnutrition and starvation

Diagnostic Tests
- Nasopharyngeal swabs (Positive for *B. pertussis)*
- Sputum culture
- CBC (leukocytosis)
- Chest Radiography may reveal infiltrates or pulmonary edema with atelectasis

Treatment Modalities
- **Supportive Therapy**
  - Fluid & electrolyte replacement
  - Adequate nutrition
  - Oxygen therapy
- **Antibiotics**
  - Erythromycin
  - Ampicillin

- **Post Exposure Treatment:** Hyperimmune convalescent serum / gamma-globulin

Nursing Management
- Isolation and medical asepsis
- Suction Equipment should be present at bedside

- Provide warm baths
- Keep the bed dry and free from soiled linens
- I & O should be closely monitored
- General care of nose and throat discharges
- Instruct patients to cover their mouths when they cough or sneeze and to wash their hands immediately afterwards.

Prevention
- Any case of pertussis should be reported
- Patient should be isolated for 4 to 6 weeks
- Previously immunized children should be given reinforcing injection

INFLUENZA
Other Term: La Grippe
Description: It is an acute infectious disease affecting the respiratory system

Etiologic Agents
- Influenza virus A, B, C

Source of Infection: Discharges from the mouth and nose of infected persons

Mode of Transmission
- Droplet
- Direct contact through droplet infection
- Indirect contact (fomites)

Incubation Period
- 1 to 3 days, occasionally up to 5 days

Period of Communicability
- Infectious period lasts from 1 day before until 3-5 days after onset of symptoms in adults.

Clinical Manifestations
- Chilly sensation
- Hyperpyrexia
- Severe aches and pain usually at the back associated with severe sweating
- Vomiting

- Sore throat
- Coryza and cough

Complications
- Hemorrhagic pneumonia
- Encephalitis
- Myocarditis
- Sudden Infant Death Syndrome
- Myoglobinuria

Diagnostic Procedures
- **Blood examinations**
  - Usually normal but leukopenia has been noted

- **Viral Culture** (oropharyngeal washing or swabbing during the first few days of illness)

- **Viral Serology**
  - Complement Fixation Test
    - ✓ It is an immunological medical test that can be used to detect the presence of either specific antibody or specific antigen in a patient's serum

- Chest Radiography may reveal bilateral symmetrical interstitial infiltrates indicative of pneumonia
- Arterial Blood Gas Testing may reveal hypoxemia in severe cases
- Laboratory Tests may reveal leukopenia, lymphopenia, and/or thrombocytopenia.

Management
- Stay at home
- Teach the patient about proper disposal of tissues and good handwashing technique
- Drink plenty of fluids
- Fever Management
  - Paracetamol
  - Ibuprofen
- Maintain contact and droplet precautions
- Limit strenuous activities
- Watch for signs and symptoms of developing pneumonia such as crackles, another temperature increase , or coughing accompanied by purulent or bloody sputum
- Instruct patients who are sick with flu-like symptoms to avoid contact with others for at least 24 hours.

Preventive Measures
- Active immunization with influenza vaccine
- Education of the public as to sanitary hazard from spitting, sneezing and coughing
- Avoid crowded places
- Avoid use of common towels, glasses and eating utensils.

ANTHRAX
Other Terms: Wool-sorter's Disease / Ragpicker's Disease

Description: An acute bacterial disease usually affecting the skin but which may very rarely involve the oropharynx, lower respiratory tract, mediastinum or intestinal tract.

Etiologic Agent: *Bacillus anthracis*

Mode of Transmission
- Cutaneous infection is by contact with:
  - Tissues of animals (cattle, sheep, goats, horses, pigs and others) dying of the disease
  - Contaminated hair, wool, or products made from them such as drums or brushes
  - Soil associated with infected animals or contaminated bone meal used in gardening.

Incubation Period
- Inhalation Anthrax (1 to 7 days) usually within 48 hours
- Cutaneous anthrax (1 to 7 days rarely up to 7 weeks
- Ingestion (1 to 7 days)

Clinical Manifestation
- Cutaneous Anthrax
  - Most common (over 90% of cases)
  - Infection is through the skin
  - Over a few days a sore, which begins as a pimple, grows, ulcerates and forms a black scab, around which are purplish vesicles
  - Systemic symptoms may include rigors' headache and vomiting
  - The sore is usually diagnostic: 20% cases are fatal.
- Inhalational Anthrax
  - Spores are inhaled with subsequent invasion of mediastinal lymph nodes.
  - Abrupt onset of flu-like illness, rigors, dyspnea and cyanosis followed by shock and usually death over the next 2-6 days.
  - Most Fatal

- Intestinal Anthrax
  - Occurs following ingestion of meat from infected animals and is manifested as violent gastroenteritis with fever, vomiting, bloody stools and then septicemia
  - Poor prognosis

Diagnostic Tests

- **Polymerase Chain Reaction (PCR)**
  - Definitive test for *B. anthracis*
- Swabs from cutaneous lesions
- Blood cultures
- Lymph node or spleen aspirates
- CSF shows characteristic bacilli on staining with polychrome methylene blue.
- Chest radiology may show fluid surrounding the lungs or widening of the mediastinum

Treatment Modalities

- Antibiotics
  - Penicillin
  - Ciprofloxacin (DOC)
  - Doxycycline

- Treatment of cutaneous anthrax is oral antibiotic for 7 to 10 days

- Length of treatment for GI anthrax is 60 days, but safety has not been evaluated beyond14 days

Complications

- Cutaneous Anthrax
  - Septicemia

- Inhalational Anthrax
  - Hemorrhagic meningitis
  - Pleural Effusions
  - Mediastinitis
  - Shock
  - Acute Respiratory Distress Syndrome

- GI Anthrax
  - Hemorrhage
  - Shock

Nursing Considerations

- Obtain culture specimens before starting antibiotic therapy
- Supportive measures are geared toward the type of anthrax exposure
- Teach the patient and family that anyone who has been exposed to anthrax must see a doctor immediately.
- Instruct the patient to take antibiotics as prescribed and until completed.
- Instruct the patient with cutaneous anthrax not to scratch at the lesions.
- Alcohol-based hand sanitizers do not kill anthrax spores; wash hands with soap and water.

Prevention

- Pretreatment of animal product and good occupational health cover are the mainstays of control
- Animals believed to have died of anthrax should be disposed of under supervision.
- Mass vaccination of animals may reduce disease spread
- Non-cellular vaccines for human use are available for individuals at risk from occupational exposure
- Workers handling potentially infectious raw materials should be aware of the risks.

PNEUMONIA

Description: An acute infectious disease of the lungs usually caused by the pneumococcus resulting in the consolidation of one or more lobes of either one or both lungs.

Etiologic Agents
- *Streptococcus pneumonia*
- *Staphylococcus aureus*
- *Haemophilus influenzae*
- *Pneumococcus of Friedlander*

Incubation Period
- 2 to 3 days

Mode of Transmission
- Droplet infection
- Indirect contact (fomites)

Clinical Manifestations
- Rhinitis
- Chest indrawing
- Rusty sputum
- Productive cough
- High fever
- Vomiting
- Convulsions
- Flushed face
- Dilated pupils
- Pain over the affected lung
- Highly colored urine with reduced chlorides and increased urates

Complications
- Emphysema
- Endocarditis
- Pneumococcal meningitis
- Otitis Media
- Jaundice

Diagnostic Test
- Chest X-ray
- Sputum Analysis
- Blood/Serologic Exam
- Dull percussion note on affected side

Management
- Bed Rest
- Adequate salt, fluid, calorie, and vitamin intake
- TSB
- Frequent turning from side to side

Prevention and Control
- Prevent common colds, influenza and other upper respiratory infections
- Immunization with pneumonia vaccine
- Eliminate contributory factors such as exposure to cod, pollution, and physical conditions of fatigue and alcoholism.

TUBERCULOSIS

Other Terms: Koch's Disease / Phthisis / Galloping Consumption Disease
- TOP 8 highest cases of TB in the world (Philippines)

Description
- It is a chronic sub –acute or acute respiratory disease commonly affecting the lungs
- Characterized by the formation of tubercles in the tissue which tend to undergo ceseation necrosis and calcification

Etiologic Agents
- *Mycobacterium tuberculosis*
- *M. africanum*
- *M. bovis*

Source of Infection
- Sputum
- Blood from Hemoptysis
- Nasal discharge
- Saliva

Mode of Transmission
- Airborne
- Direct / Indirect contact with infected persons

Incubation Period
- 3 to 8 weeks (occasionally up to 12 weeks)

Period of communicability
- As long as the tubercle bacilli are being discharged in the sputum

Clinical Manifestations
- Cough of two weeks or more
- Afternoon rise of temperature
- Chest or back pains
- Hemoptysis
- Significant weight loss
- Fatigue
- Body malaise
- Shortness of breath
- Night sweating
- Sputum positive for AFB

Diagnostic Tests
- Sputum Analysis for AFB
    - Confirmatory

- Chest X-ray

- Tuberculin Testing (for TB exposure)
    - ✓ Mantoux Test (PPD)
    - ✓ Tine Test
    - ✓ Heaf Test

Treatment Modalities
- **Short – course chemotherapy**
    - Six-month treatment (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol)

    Rifampicin
    - Empty stomach
    - Body fluid discoloration (red-orange)
    - Hepatotoxic (metabolism)
    - Nephrotoxic (elimination)

- Permanent discoloration of contact lenses

Isoniazid
- Empty stomach
- Peripheral Neuropathy
- Avoid alcohol
- Hepatotoxic
- Nephrotoxic
- Increase intake of Vitamin B6

Pyrazinamide
- Before meals
- Monitor s/sx of liver impairment
  - ✓ Anorexia
  - ✓ Fatigue
  - ✓ Dark urine
  - ✓ Photosensitivity
- Liver Function Studies
- Causes hyperuricemia

Ethambutol
- Not affected by food
- Report visual disturbances
- Hepatotoxic
- Not recommended for children (below 6 years old); can cause optic neuritis

Streptomycin
- After meals
- Report Oliguria – nephrotoxic
- Ototoxic
- Neurotoxic

Direct Observation Treatment Short Course
- Strategy to prevent non-compliance

Nursing Management
- ❖ Maintain respiratory isolation
- ❖ Administer medicines as ordered
- ❖ Educate patient all about PTB
- ❖ Stop smoking
- ❖ Cough or sneeze into tissue paper and dispose secretion properly
- ❖ Provide the patient with a well-balanced, high-calorie diet, preferably in small, frequent meals to conserve energy.
- ❖ Allow ret periods
- ❖ Caution the patient who is taking an oral contraceptive that the contraceptive may be less effective while she's taking rifampin.

Prevention and Control
- ❖ Submit all babies for BCG (Bacille Calmette-Guerin) immunization
- ❖ Avoid overcrowding
- ❖ Improve nutritional and health status
- ❖ Persons who have been exposed (Receive Tuberculin Test)

BIRD FLU
Other Term: Avian Influenza

Description: It is an infectious disease of birds ranging from mild to severe form of illness.

Source of Infection

- Viruses that normally infect only birds and less commonly pigs

Incubation Period
- 3 to 5 days

Clinical Manifestations
- Fever
- Body weakness / muscle pain
- Cough
- Sore throat
- May have difficulty of breathing in severe cases
- Sore eyes

Susceptibility, Resistance & Occurrence
- All birds are susceptible to infection but domestic poultry flocks are especially vulnerable to infection that can rapidly reach epidemic proportion.

Control Measures
- Rapid destruction**,** proper disposal of carcasses and quarantining and rigorous disinfection of farms
- Restrictions on the movement of live poultry

Nursing Care
- Isolation precaution
- Infected Control
- Early recognition of cases of highly pathogenic Avian Influenza during outbreak among poultry

SEVERE ACUTE RESPIRATORY SYNDROME (SARS)

- Earliest known case (**Guangdong Province, China, November, 2002)**
- Outbreak and Worldwide Surveillance (**March 12, 2003)**
- First case in the Philippines (**April 11, 2003)**

Etiologic Agent
- Human coronavirus

Mode of Transmission:
- Droplet Contact

Incubation Period
- Mean incubation period is 5 days (range 2-10 days) and may reach up to 14 days

Clinical Manifestations
- **Prodromal Phase**
  - Fever $\geq$ 38^{o}C (Initial Sign)
  - Chills
  - Malaise
  - Myalgia
  - Headache
- **Respiratory Phase**
  - Dry, non-productive cough with or without respiratory distress
  - Hypoxia
  - Crackles
  - Dullness on percussion
  - Decreased breath sounds on physical examination

Preventive Measures and Control
- Screen patents for travel hx, symptoms and/or close contact ith cases
- Isolation of suspected probable case
- Barrier nursing technique for suspected and probable cases

Nursing Care
- Maintain **Isolation Measures**
- **Utilize** Personal Protective Equipment **(PPE)**
- Apply principle of hand washing

GASTROINTESTINAL DISEASES

CHOLERA
Other Term: El Tor
Description: It is an acute bacterial enteric disease characterized by profuse diarrhea, vomiting, massive loss of fluid and electrolytes that can result to hypovolemic shock, acidosis and death.
Etiologic Agent: Vibrio El Tor

Source of Infection
- Vomitus and feces of infected persons

Mode of Transmission
- Food and water contaminated with vomitus and stools of patients and carriers

Incubation Period
- 6 to 48 hours

Period of Communicability
- Cases are infectious during the period of diarrhea and up to 7 days after

Clinical Manifestations
- Rice-watery stool
- Washer-woman's hands
- Vomiting
- Diarrhea
- Deep, rapid breathing
- Oliguria

Diagnostic Tests
- Rectal swab
- Darkfield or phase microscopy
- Stool exam
- Blood test
    - Elevated BUN & Creatinine Levels
    - Increase in serum lactate, protein and phosphate levels

Treatment Modalities
- IV treatment
- Oral Therapy Rehydration
- Coconut water
- Give ORESOL
- Antibiotics
    - Tetracycline
    - Furazolidone
    - Chloramphenicol
    - Cotrimoxazole

Nursing Management
- Medical Aseptic protective Care (Hand washing)
- Enteric Isolation
- VS
- I & O monitored accurately

- Personal hygiene
- Proper excreta disposal
- Environmental sanitation

Prevention
- Food and water supply must be protected from fecal contamination
- Water should be boiled and chlorinated
- Milk should be pasteurized
- Sanitary disposal of human excreta is a must

TYPHOID FEVER
Description: It is a systemic infection characterized by continued fever, anorexia, involvement of lymphoid tissue, especially ulceration of Peyer's patches.

Etiologic Agents
- *Salmonella typhi or Typhoid bacillus*

Sources of Infection
- **Feces** and **urine** of infected persons

Mode of Transmission
- Fecal-oral Transmission
- Contaminated Urine
- Direct/indirect contact with infected person
- Ingestion of contaminated food, water and milk

Incubation Period
- 1 to 3 weeks; average (2 weeks)

Period of Communicability
- As long as typhoid bacilli appears in excreta

Clinical Manifestations
- **Onset**
  - Headache
  - N/V
  - Ladder-like fever
  - Rose spots on the abdomen
- **Typhoid State**
  - Coma vigil
  - Subsultus tendinum
  - Carphologia
  - Delirium

Complications
- Hemorrhage/Perforation (most dreaded complications)
- Peritonitis
- Bronchitis and Pneumonia
- Typhoid spine
- Septicemia
- Reiter's syndrome – joint pain, eye irritation

Diagnostic Tests
- Typhidot – confirmatory
- ELISA
- Widal
- Rectal swab
- Bone Marrow Aspiration (identifies *S. typhi*)

Treatment Modalities
- Chloramphenicol – drug of choice
- Ampicillin
- Co-trimoxazole
- Ciprofloxacin
- Cefixime / Azithromycin
- Ceftriaxone (recommended for complicated cases)

Nursing Management
- Isolation
- Maintain standard precautions unless the patient is incontinent or in diapers or if an outbreak develops in an institution.
- Give nourishment fluids in small quantities at frequent intervals
- Monitor VS
- Prevent further injury
- WOF: intestinal bleeding / bowel perforation, including sudden pain in the lower right side of the abdomen and abdominal rigidity.
- Provide good skin and mouth care
- Turn the patient frequently and perform mild passive exercises, as indicated.
- Apply mild heat to the abdomen to relieve cramps.

Prevention and Control
- Sanitary and proper disposal of excreta
- Proper supervision of food handlers
- Enteric isolation
- Provision of safe drinking water supply
- Detection and supervision of typhoid carriers

BACILLARY DYSENTERY
Other Terms: *Shigellosis / Bloody Flux*

Description: It is an acute bacterial infection of the intestine characterized by diarrhea, fever, tenesmus and in severe cases, bloody and mucoid stools.

Etiologic Agents
- *Shigella sonnei (*most common species in Western Europe)
- *Shigella flexneri*
- *Shigella boydii*
- *Shigella dysenteriae*

Incubation Period
- 12 to 96 hours, but may be up to 1 week

Period of Communicability
- The patient can transmit the microorganism during the acute infection until the feces are negative of the organism.

Mode of Transmission
- Ingestion of contaminated food
- Drinking contaminated water / milk
- Feco-oral transmission

Clinical Manifestations
- Fever
- Tenesmus
- N/V
- Headache
- Colicky or cramping abdominal pain associated with anorexia and body weakness
- Bloody-mucoid stool
- Rapid dehydration

Diagnostic Tests
- Microscopic examination of a fresh stool specimen may reveal mucus, red blood cells, and polymorphonuclear leukocytes.
- Direct immunofluorescence with specific antisera will demonstrate *Shigella.*
- Sigmoidoscopy or proctoscopy may reveal typical superficial ulcerations
- Stool culture must rule out other causes of diarrhea, such as enteropathogenic *Escherichia coli* infection, malabsorption disease, and amebic or viral diseases.

Treatment Modalities
- Antibiotics
  - Ampicillin
  - Ceftriaxone
  - Trimethoprim-sulfamethoxazole
  - Ciprofloxacin
- IV Therapy
- Low Residue Diet
- Contraindicated: Anti-diarrheal drugs (they delay fecal excretion that can lead to prolong fever)

Prevention and Control
- Sanitary disposal of human feces
- Adequate personal hygiene, particularly handwashing after defecation.
- Sanitary supervision of processing, preparation and serving of food (raw)
- Fly control and protection against fly contamination
- Isolation (Acute Stage)
- Protection and purification of public water supply
- Routine cooking kills shigella

PARAGONIMIASIS
Etiologic Agents:
- *Lung Fluke*
- *Paragonimus westermani*
- *Paragonimus siamenses*

Mode of Transmission
- Ingestion of raw / uncooked crabs/crayfish
- Contamination of Food
- Using meat / juice of infected animals

Reservoir of Hosts
- Cats
- Dogs
- Rats
- Pigs

Clinical Manifestations
- Cough of long duration
- Recurrent blood-streaked sputum
- Chest/back pain
- PTB – like signs/symptoms not responding to anti-TB medication

Diagnostic Test
- Sputum Microscopy
- Immunology
- Cerebral Paragonimiasis

Treatment

- Praziquantel (Billtrizide)

Prevention and Control
- Treatment of infected person
- Anti-mollusk campaigns
- Educated of the population
- Avoid eating infected foods

MUMPS
Other Terms: Infectious Parotitis / Epidemic Parotitis
Description: It is a acute viral disease manifested by swelling of one or both parotid glands, with occasional involvement of other glandular structures, particularly the testes in male.
Etiologic Agent: *Paramyxoviridae*

Source of infection: Secretion of the mouth and nose

Mode of Transmission
- Direct contact
- Indirect contact with the articles freshly soiled with secretion from the nasopharynx.

Period of Communicability
- Cases are infectious for up to a week (normally 2 days) before parotid swelling until 9 days after.
- 48 – hours period immediately preceding onset of swelling is considered the time of highest communicability.

Clinical Manifestation
- Sudden headache
- Earache
- Loss of appetite
- Fever
- Swelling of the parotid gland (between the earlobe and angle of the mandible)

Complications
- Orchitis
- Oophoritis
- Mastitis
- Nuchal rigidity
- Deafness
- Meningoencephalitis
- Pancreatitis
- Myocarditis
- Nephritis

Diagnostic Tests
- Serum amylase Determination (most useful test in making early presumptive diagnosis of mumps); elevated amylase level
- Complement Fixation Test
- Hemo-agglutination Inhibition Test
  - Used to determine the immune status
- Neutralization Test
  - Determines immunity to mumps
- Viral Culture

Treatment Modalities
- Analgesics for pain
- Antipyretics for fever
- IV Fluid Replacement
- Hot and Cold Application

Nursing Management

- **Medical Aseptic Protective Care**
  - Single-occupancy room
  - Oral Care and Personal Hygiene (warm salt-water gargles)

- **General Management of the disease**
  - Bed rest
  - Diversional Activities
  - Eye care
  - Provide extra fluids

- **Diet**
  - No restriction of food
  - Soft bland and semi-solid is easily managed
  - Acid foods (fruit juices) increases discomfort

Prevention and Control

- Active Immunization (MMR)
- Reporting of cases to health authorities
- Isolation of patient

BOTULISM

Description

- Rare but severe form of poisoning caused by a gram-positive, anaerobic bacteria.
- It is an illness of descending paralysis and autonomic dysfunction due to a neurotoxin

Causative Agent: Clostridium Botulinum

- Foodborne Botulism
- Wound Botulism
- Infant Botulism

Source of Infection

- Untreated water
- Undercooked and improperly preserved canned foods, especially those with a low acid content
- Home-canned vegetables
- Cured pork and ham
- Smoked or raw fish
- Honey and corn syrup

Mode of Transmission

- Ingestion (or injection) of preformed toxin
- Spores may resist 100 degree Celsius for many hours
- Inhalation of toxin may also cause disease
- Introduction of spores into the wound

Incubation Period: 12 to 72 hours but extremes of 2 hours to 10 days are reported.

Clinical Manifestations:

- Double or blurred vision
- Droopy eyelids
- Dry mouth
- Difficulty swallowing and talking
- Difficulty breathing
- Flaccid paralysis (descending)
- Deep tendon reflexes are decreased or absent
- Initial vomiting or diarrhea followed by constipation

Diagnostic Tests:

- A toxicity screen may identify *C. botulinum.*

- Stool culture may identify *C. botulinum.*
- The suspected food may also be cultured to isolate C. botulinum.
- Electromyography will show little response to nerve stimulation in the presence of botulism.
- Diagnostic tests should be conducted as needed to rule out diseases that may be confused with botulism, such as myasthenia gravis and Guillain-Barre syndrome.
- A mouse-inoculation test will be positive and is the most direct way to confirm a diagnosis of botulism.

Complications
- Aspiration
- Weakness and nervous system problems can be permanent
- Death

Treatment Modalities
- Botulinus antitoxin- IV, IM
- Infants – inducing vomiting or giving an enema
- IV fluid can be administered
- Nasogastric tube
- Endotracheal intubation – respiratory distress

Nursing Consideration
- Obtain a careful history of foods eaten in the past several days.
- Monitor respiratory and cardiac function carefully
- Perform frequent neurologic checks
- Purge the GI tract as ordered
- If giving the botulinus antitoxin, check the patient's allergies, perform a skin test first.
- Educate the patient and family about the importance of proper hand hygiene
- Teach the patient and family to cook food thoroughly before ingesting.
- Instruct the patient who eats home canned food to boil the food for 10 minutes before eating to ensure that it is safe to consume.
- Teach patient and families to see their doctors promptly for infected wounds and to avoid injectable street drugs.

Suggested on-call action
- Ensure that the case is admitted to hospital
- Obtain food history as a matter of urgency
- Obtain suspect foods
- Identify others at risk
- Inform appropriate local and national authorities

AMOEBIASIS

Description: Protozoal infection that initially involves the colon but may spread into the liver and lungs by lymphatic dissemination

Etiologic Agent
- Entamoeba Histolytica
  - 2 stages
    - ✓ **Cyst –** considered to be the infective stage and the resistance to environmental conditions and can survive for few days outside the body
    - ✓ **Trophozoites / vegetative form –** Facultative parasites that invades the tissue

Source of Infection
- Contaminated food and water
- Flies

Mode of Transmission
- Fecal-oral
- Oral-anal

Incubation Period
- Severe infections: 3days
- Average 2-4 weeks

Period of Communicability
- Communicable for the entire duration of the illness or until cysts are present in the stool

Clinical Manifestation
- **Acute Amoebic Dysentery**
  - Slight attack of diarrhea altered with PD of constipation
  - Watery foul-smelling stools containing blood streaked mucus
  - Gaseous distension of the lower abdomen
  - Nausea, flatulence
  - Tenderness in the right iliac region
- **Chronic Amoebic Dysentery**
  - Diarrhea for several days, succeeded by constipation
  - Anorexia, weight loss, weakness, fatigue
  - Watery, bloody mucoid stool
  - Flatulence and irregular bowel movement
  - Abdomen loses its elasticity
  - Severe cases – scattered ulceration is seen through sigmoidoscopy

Diagnostic Procedures
- Stool exams – cyst (plenty of amoeba on the stool)
- Blood exams – leukocytosis
- Sigmoidoscopy

Management
- Metronidazole (Flagyl) 800mg TID x 5 days
- Tetracycline, Ampicillin, Streptomycin, Chloramphenicol

Nursing Interventions
- Observe isolation and enteric precautions
- Proper collection of stool specimen
  - No oil prep for 48 hours
  - Large portion of stools containing blood mucus
  - Label specimen properly
  - Send specimen immediately to the laboratory
- Provide skin care and hygiene
- Provide optimum comfort dysenteric patient should never be allowed to feel cold
- Diet fluid should be forced
  - Cereals and strained meat broths without fats
  - Bland diet without cellulose or bulk producing foods
  - Chicken and fish may be added when convalescence is established

Prevention
- Health education and Fly control
- Sanitary disposal of feces
- Safe drinking water
- Proper food preparation and food handling
- Detection and treatment of carriers

SCHISTOSOMIASIS
Other Terms: Bilharziasis / Snail Fever
Description: Slowly progressive disease caused by blood flukes

Causative Agent
- ***Schistosoma japonicum* –** endemic in the Philippines and China
- ***Schistosoma mansoni* –** South America, the Caribbean, Africa and countries of the Arab Middle East
- ***Schistosoma haematobium* –** Africa and the Middle East

Source of Infection
- Stool and urine of infected persons or animals

Mode of Transmission
- Ingestion of contaminated water
- Penetration through the skin pores
- **Oncomelania hupensis quadrasi* is the intermediary host

Incubation Period
- At least 2 months

Clinical Manifestations
- **1st stage**
  - Pruritic rash known as "swimmers itch" occurs 24 hours after penetration of cercariae in the skin
- **2nd Stage**
  - Bloody mucoid stools (on and off for weeks)
  - **Katayama Fever –** clinical constellation of the following:
    - ✓ Fever, headache
    - ✓ Cough, chills and sweating
    - ✓ Lymphadenopathy and hepatosplenomegaly
- **3rd (Chronic) Stage**
  - Granulomatous reactions to egg deposition in the intestine, liver, bladder
  - Inflammation of the liver

  Icteric and jaundice
  - Bulging of the Abdomen
  - Enlargement of the Spleen
  - Sometimes the brain is affected that caused epilepsy
  - Eggs are deposited in the bladder wall, leading to hematuria, bladder obstruction
  - Hydronephrosis and recurrent urinary tract infection
  - Pale and marked muscle wasting

Complications
- Liver cirrhosis and portal hypertension
- Bleeding esophageal varices
- Bladder cancer
- Pulmonary hypertension
- Heart failure
- Ascites
- Renal failure
- Cerebral schistosomiasis

Diagnostic Procedure
- Fecalysis
- Liver and rectal biopsy
- ELISA
- Circumoval precipitation test (COPT) – confirmatory test

Management
- Drug of choice: PRAZIQUANTEL for 6 months
  - 1 tab 2x a day for 1st 3 mos
  - 1 tab a day for next 3 mos
  - Alternative: Ovamniquine

Nursing Interventions
- TSB
- Skin care
- Provide comfort
- Proper nutrition

Prevention and Control
- Reduce snail density
  - Molluscicides
  - Stream Cleaning Vegetation (expose the snails to sunlight)
- Proper waste disposal
- Control of stray animals
- Safe and adequate water supply for bathing, laundering and drinking
- Foot bridges over snail-infested streams
- Health education about mode of transmission and prevention

SEXUALLY TRANSMITTED INFECTIONS

SYPHILIS
Other Terms: Sy, Bad blood, The Pox, Lues Venereal, Morbus Gallicus

Description: it is an acute, chronic infectious disease caused by spirochete and is acquired through sexual contact

Etiologic Agent: *Treponema pallidum*

Source of Infection
- Discharges from obvious or concealed lesions of the skin or mucous membrane
- Semen
- Blood
- Tears
- Urine
- Mucous discharge from the nose, eyes, genital tract
- Surface lesions

Incubation Period
- Varies, but typically lasts about 3 weeks

Period of Communicability
- Variable and indefinite

Mode of Transmission
- Sexual Contact
- Indirect contact with the articles freshly soiled with discharges or blood
- Transmission via placenta

Clinical Manifestation
- Primary
  - Painless chancre (sore) at site of entry of germs, swollen glands
  - Chancres disappears after three to six weeks even without treatment
- Secondary
  - Rash can be macular, papular, pustular or nodular
  - Macules often erupt between rolls of fat on the trunk and on the arms, palm, sole face and scalp
  - Alopecia (temporary)

- Nails become brittle and pitted

❖ Latent
- Patient is asymptomatic for a few months
- Dormancy stage of bacteria

❖ Late
- Varies from no symptoms to indication of damage to body organs such as brain and heart and liver

Diagnostic Tests
❖ Dark Field Illumination Test identifies *T. pallidum* from lesion exudates and provides an immediate diagnosis
❖ Fluorescent treponemal antibody absorption test
❖ Venereal Disease Research Laboratory (VDRL) test detects nonspecific antibodies that become reactive within 1 to 2 weeks after the primary syphilis lesion appears or 4 to 5 weeks after the infection begins
❖ CSF analysis, identifies neurosyphilis when the total protein level is higher than 40 mg/dL

Treatment Modalities
❖ **IM Penicillin G benzathine**
❖ Tetracycline
❖ Doxycycline

Nursing Considerations
❖ Stress the importance of completing the treatment even after the symptoms subside
❖ Practice universal precaution
❖ In secondary syphilis, keep the lesions dry as much as possible

Prevention and Control
❖ Report cases to the Department of Health
❖ Control prostitution
❖ Require sex worker to have check up
❖ Proper sex education

TRICHOMONIASIS
Other Term: Trich

Etiologic Agent: *Trichomonas vaginalis*

Mode of Transmission
❖ Direct sexual contact
❖ Indirect contact (towels, wash clothes, douching equipment)

Incubation Period
❖ 5 to 21 days

Clinical Manifestations
Females: White or greenish – yellow odorous discharge; vaginal itching and soreness, painful urination.
Males: Slight itching of penis, painful urination, clear discharge from penis

Diagnosis:
❖ Microscopic slide of discharge
❖ Culture of urethral tissue, urine or semen
❖ Physical Examination
❖ The OSOM Trichomonas Rapid Test identifies infection within 10 to 45 minutes, but it is less sensitive and specific than culture.

Treatment
❖ Metronidazole (Flagyl) – treatment of choice
❖ Tinidazole (Tindamax)

Complication
❖ Cervical cancer

Nursing Considerations
- Follow standard precautions
- Assist with obtaining appropriate specimen for culture or testing
- Tell the patient to avoid ingesting alcohol while taking metronidazole (and for 48 hours after completing the prescription), as the combination may cause severe nausea and vomiting, abdominal pain, headaches, and flushing.

CHLAMYDIA

Etiologic Agent
- *Chlamydia trachomatis*

Mode of Transmission
- **Vaginal / Rectal intercourse**
- Oral-genital contact

Incubation Period
- 7 to 14 days
- Case will remain infectious until treated

Clinical Manifestations
- Cervical erosion
- Mucopurulent discharges
- Dyspareunia
- Pain and tenderness of the abdomen
- Chills
- Fever
- Dysuria
- Urinary frequency
- Painful scrotal swelling
- Diarrhea
- Tenesmus

Diagnostic Test
- Culture of the site of infection will reveal *C. trachomatis*
- Nucleic acid probe will be positive for *C. trachomatis*

Treatment
- Tetracycline
- Erythromycin
- Azithromycin

Complications
- Sterility
- Prematurity
- Stillbirths
- Infant pneumonia
- Eye Infections (infants)

Nursing Management
- Observe standard precautions
- HIV testing for both partners
- Assess newborn for signs of chlamydial infection
- Urge the patient to inform sexual contacts of his or her infection so they can receive appropriate treatment.
- Stress the importance of completing the course of antibiotics even after symptoms subside.
- Teach the patient to follow meticulous personal hygiene measures
- Instruct the patient to avoid touching any discharge and to wash and dry the hands thoroughly before touching the eyes to prevent eye contamination.

GONORRHEA
Other Terms: Clap / Flores Blancas / Gleet / Drip

Description: It is a sexually transmitted bacterial disease involving the mucosal lining of the genitor-urinary tract, the rectum, and pharynx

Etiologic Agent
- *Neisseria gonorrhoeae*

Incubation Period
- 2 to 5 days

Mode of Transmission
- Direct contact through sexual intercourse
- Direct contact with contaminated secretions of the mother during vaginal delivery
- Indirect contact (*fomites*)

Clinical Manifestations
- Females
  - 80% are aysmptomatic
  - Burning sensation and frequent urination
  - Yellowish purulent vaginal discharge
  - Redness and swelling of the genitals
- Males
  - Dysuria with purulent discharge
  - Rectal infection
  - Inflammation of the urethra
  - Prostatitis
  - Pelvic Pain

Complications
- Sterility
- Pelvic Infection
- Epididymitis
- Arthritis
- Endocarditis
- Conjunctivitis
- Meningitis

Diagnostic Tests
- Gram staining
- Culture of cervical & urethral smear

Treatment
- Ceftriaxone (IM)
- Azithromycin or Doxycycline (po)

Nursing Considerations
- Standard precautions
- Sexual abstinence until he/she recovers from the disease
- For gonococcal arthritis (apply moist heat to relieve pain)

Prevention and Control
- Sex education
- Case finding
- Report cases of gonorrhea

CANDIDIASIS
Other Term: Candidosis / Moniliasis

Description: Superficial fungal infection that usually infects the skin, nails, mucous membrane, vagina, esophagus and GI tract

Etiologic Agent: Candida albicans

Sources of infection
- Candida are part of the normal flora of the GI tract, mouth vagina and skin, They cause infection when some changes in the body (such as increased blood glucose or immunocompromised) occurs

Clinical Manifestations
- **Skin**
  - Scaly, erythematous, popular rash, sometimes covered with exudates, appearing below the breast, between the fingers, and the axillae, groin, and umbilicus
- **Nails**
  - Red, swollen, darkened nail bed
  - Occasionally, purulent discharge and the separation of a pruritic nail from the nail bed
- **Oropharyngeal mucosa (thrush)**
  - Cream-colored or bluish white curd-like patches of exudates on the tongue, mouth, or pharynx that reveal bloody engorgement when scraped
- **Esophageal mucosa**
  - Dysphagia
  - Retrosternal pain, regurgitation
  - Occasionally, scales in the mouth and throat
- **Vaginal mucosa**
  - White or yellow discharge, with pruritus and local excoriation
  - White or gray raised patches on vaginal walls, with local inflammation
  - Dyspareunia

- **Lungs –** hemoptysis, cough, fever
- **Kidney –** fever, flank pain, dysuria, hematuria, pyuria, cloudy urine
- **Brain –** headache, nuchal rigidity, seizures, focal neurologic deficits
- **Endocardium –** systolic or diastolic murmur, fever, chest pain, embolic phenomena
- **Eye –** Endophthalmitis, blurred vision, orbital or periorbital pain, scotoma, exudates

Diagnostic Procedures
- Blood Culture
- Culture of vaginal scraping
- Echocardiography if here is cardiac involvement
- Fundoscopy for patients with endophthalmitis

Management
- Antifungal: Nystatin, Clotrimazole, Miconazole
  - ✓ Mutism
  - ✓ Coma

Diagnostic Tests
- Enzyme linked Immuno-Sorbent Assay (ELISA) – presumptive test
- Western Blot – confirmatory test
- Particle agglutination (PA)
- Immunofluorescent Test

Treatment Modalities
- Reverse transcriptase inhibitors (Zidovudine)
- Protease inhibitors (Ritonavir)

Nursing Management
- Avoid accidental wounds from infectious materials used in HIV patients
- Avoid contact of open skin lesions
- Gloves should be worn when handling blood specimens
- Handwashing
- Blood and other specimens should be labelled prominently
- Instruments with lenses should be sterilized after use on AIDS patient
- Needles should not be bent after use, placed it under puncture – resistant
- Patients with active Aids should be isolated
- Care of thermometer – wash with warm soapy water, Soak in 70% alcohol for 10 minutes, dry and store.

VECTOR-BORNE DISEASES

DENGUE FEVER
Other Terms: Breakbone Fever / Hemorrhagic Fever / Dandy Fever / Infectious Thrombocytopenic Purpura

Description: It is an acute febrile disease caused by infection with one of the serotypes of dengue virus.

Etiologic Agents
- Dengue Virus Types 1, 2, 3, & 4
- Chikungunya Virus

Mode of Transmission
- Bite of female infected mosquito (*Aedes aegypti*)

Incubation Period
- 3 to 15 days

Period of Communicability
- Unknown
- Presumed to be on the 1st week of illness (*when the virus is still present in the blood*)
- Human-to0human spread of dengue has not been recorded, but people are infectious to mosquitoes during the febrile period

Clinical Manifestations
***Herman's* sign (maculopapular rash with patches of normal skin) –** pathognomonic sign

- **Febrile / Invasive Stage**
  - First 4 days
  - High fever (39 – 40 C)
  - Abnormal pain
  - Headache
  - Later flushing
- **Toxic / Hemorrhagic Stage**
  - Lowering of temperature
  - Severe abdominal pain
  - Vomiting
  - Melena
  - Hematemesis
- **Convalescent / Recovery Stage**
  - Generalized flushing with areas of blanching appetite
  - BP stable

Diagnostic Tests
- Tourniquet test (Rumpel – Leede Test)
- Platelet count (decreased)
- Hemoconcentration (increased of at least 20%)
- Occult blood

- Hemoglobin determination
- Dengue NS1 Test (confirmatory)

Treatment Modalities
- Give analgesic (Don't give Aspirin)
- Rapid replacement of body fluids
- Oxygen Therapy
- Oral Rehydration Solution
- Blood Transfusion (for severe bleeding)
- Sedatives

Nursing Management
- Patient should be kept in mosquito-free environment
- Monitor VS
- Provide periods
- Nose bleeding (apply ice bag on the forehead and at the bridge of the nose)
- Watch out for: signs of shock
- Diet: Low fat, low fiber, non-irritating, non-carbonated

Prevention & Control
- Health education
- Early detection and treatment of cases
- Treat mosquito nets with insecticides
- House spraying
- Avoid too many hanging clothes
- Case finding

MALARIA
Other Term: *Ague and Marsh Fever*

Description: It is an acute and chronic parasitic disease transmitted by bite of infected mosquitoes and it is confined mainly to tropical and subtropical areas.

Etiologic Agents
- *Plasmodium falciparum (most common)*
- *Plasmodium vivax*
- *Plasmodium malariae*
- *Plasmodium ovale*

Incubation Period
- *P. falciparum (5 to 7 days)*
- *P. vivax (6 to 8 days)*
- *P. ovale (8 to 9 days)*
- *P. malariae (12 to 16 days)*

Mode of Transmission
- Transmitted mechanically through bite of an infected female Anopheles mosquito
- Blood transfusion
- Transplacental transmission

Clinical Manifestation:
- Paxoysms with shaking chills
- Rapid rising fever with severe headache
- Profuse sweating
- Myalgia
- Splenomegaly
- Hepatomegaly

Chemoprophylaxis

- **Chloroquine**
  - This must be taken at weekly intervals, starting from 1-2 weeks before entering endemic areas.

Preventive and Vector Control Measures
- Insecticide – treatment of mosquito nets
- House Spraying
- On-stream seeding
- On-stream clearing
- Wearing of clothes that covers arms and legs in the evening
- Avoiding outdoor night activities (9PM to 3AM)
- Planting of Neem tree
- Zooprophylaxis

FILIRIASIS
Other Term: Elephantiasis

Description
- It is a parasitic disease caused by an African eye worm, microscopic thread-like worm
- Extremely debilitating and stigmatizing disease

Etiologic Agents
- *Wuchereria bancrofti*
- *Brugia malayi*
- *Brugia timori*
- *Loa loa*

Mode of Transmission
- Mosquito bite (*Aedes poecilius*)

Incubation Period
- 8 to 16 months

Clinical Manifestations
- **Asymptomatic Stage**
  - No clinical signs and symptoms of the disease
- **Acute Stage**
  - Lymphadenitis
  - Lymphangitis
  - Epididymitis
  - Orchitis
- **Chronic Stage**
  - Develop 10 to 15 years from the onset of the first attack

  Chronic Signs and Symptoms
  - Hydrocele
  - Lymphedema
  - Elephantiasis

Diagnosis
- Physical examination
- History taking

Laboratory Examinations
- **Nocturnal Blood Examination (NBE)**
  - Blood are taken from the patient's residence (8pm)
- **Immunochromatographic Test (ICT)**
  - Rapid Assessment Method
  - Antigen test can be done at daytime

Treatment
- Diethylcarbamazine citrate (Hetrazan)

Nursing Management
- Health Education
- Environmental Sanitation
- Psychological and emotional support
- Personal hygiene

Prevention and Control
- Mosquito net
- Mosquito repellent
- Yearly dose of medicine

LEPTOSPIROSIS
Other Terms: Canicola Fever / Hemorrhagic Jaundice / Mud Fever / Swine Herd Disease / Flood Fever / Trench Fever / Spirochetal Jaundice / Japanese Seven Days Fever

Description: It is a zoonotic infectious bacterial disease carried by animals, both domestic and wild, whose urine contaminates water or food which is ingested or inoculated through the skin.

Etiologic Agent: *Leptospira interrogans*

Incubation Period
- 7 to 13 days (range 4 to 19 days)

Mode of Transmission
- Direct contact on the skin through open wounds

Clinical Manifestations
- **Leptospiremic Phase (4 to 7 days)**
  - Nausea
  - Vomiting
  - Fever
  - Headache
  - Myalgia
  - Chest pain
- **Immune Phase (4 to 30 days)**
  - Meningeal irritation
  - Oliguria
  - Anuria
  - Severe cases (shock, coma, congestive, heart failure)
- **Convalescence Phase**
  - Relapse may occur during the 4^{th} to 5^{th} week

Laboratory Tests
- ELISA
- Liver Function Tests
- Leptospira Antigen-antibody test
- Leptospira Antibody Test

Complications
- Meningitis
- Respiratory distress
- Renal interstitial tubular necrosis
- Cardiovascular problems

Treatment
- Doxycycline (Prophylactic)
- Penicillin
- Tetracycline
- Erythromycin
- Administration of Fluid and Electrolyte and Blood

Nursing Management
- Isolate patient
- **Darken patient's room**
- Observe meticulous skin care
- **Wide Rat Eradication Program**
- Encourage Oral fluid intake

Prevention & Control
- Environment Sanitation
- Proper Drainage System and Control of Rodents
- Information - dissemination campaign

CNS DISEASES

RABIES
Other Terms: Hydrophobia / Lyssa

Description: It is a specific, acute, viral infection communicated to man by saliva of an infected animal.

Etiologic Agent
- *Rhabdovirus (Bullet Shape Virus)*

Incubation Period
- 3 to 8 weeks, but may be as short as 9 days or as long as 7 years, depending on the amount of virus introduced, the severity of the wound and its proximity to the brain

Susceptibility and Resistance
- All warm-blooded mammals are susceptible

Clinical Manifestations
- **Prodromal / Invasion Phase**
  - Fever
  - Malaise
  - Irritability
  - Restlessness
  - Apprehensiveness
  - Melancholia
  - Sensitive to light and sound
- **Excitement / Neurological Phase**
  - Marked excitation and apprehension
  - Nuchal rigidity
  - Involuntary twitching
  - Severe and painful spasm of the muscles of the mouth, pharynx and larynx
  - Hydrophobia
  - Aerophobia
  - Profuse drooling of saliva
- **Terminal / Paralytic Phase**
  - Quiet and unconscious
  - Loss of bowel and urinary control
  - Cessation of spasms and progressive paralysis

- Tachycardia; respiratory paralysis, heart failure

Diagnostic Tests
- ❖ Virus isolation from the patient's saliva / throat
- ❖ Fluorescent rabies antibody (RFA) – most definitive diagnosis
- ❖ Presence of negri bodies in the dog's brain

Treatment Modalities
- ❖ Wash with soap and water
- ❖ Application of antiseptics such as povidone iodine may be done
- ❖ Patients should not be bathed and there should not be any running water in the room
- ❖ Concurrent and terminal disinfection should be carried

Prevention and Control
- ❖ Vaccination of all dogs (immunized 3 months of age and every year thereafter)
- ❖ Confinement of any dog that has bitten a person for 10 to 14 days
- ❖ Provide public education

TETANUS
Other Term: Lock Jaw

Description: It is an acute illness caused by toxin of the tetanus bacillus. This infection is usually systemic; less commonly, it is localized.

Etiologic Agent: Clostridium tetani

Source of Infection:
- ❖ Soil
- ❖ Feces

Mode of Transmission
- ❖ Transmission occurs when spores are introduced in the body through
  - Dirty wound
  - Injecting drug use and occasionally during abdominal surgery

Incubation Period
- ❖ 3 to 21 days depending on the site of the wound and the extent of contamination

Clinical Manifestation
- ❖ **Localized**
  - Spasm
  - Increased muscle tone in the wound
- ❖ **Generalized**
  - Marked muscles hypertonicity
  - Hyperactive deep tendon reflexes
  - Tachycardia
  - Profuse sweating
  - Low-grade fever
  - Painful, involuntary muscle contractions:
    - ✓ Neck and facial muscles
      - ➢ Lockjaw (trismus)
      - ➢ Painful spasms of masticatory muscles
      - ➢ Difficulty opening the mouth
      - ➢ Risus sardonicus
    - ✓ Somatic Muscles
      - ➢ Arched-back rigidity and board-like abdominal rigidity

- ✓ Intermittent tonic seizures lasting several minutes, which may result in cyanosis and sudden death by asphyxiation

Diagnostic Tests
- ❖ Clinical features
- ❖ Blood cultures and tetanus antibody tests are often negative, only a third patients have a positive wound culture
- ❖ Cerebrospinal fluid pressure may rise above normal

Treatment Modalities
- ❖ Drainage of ski abscesses
- ❖ Administration of antibodies
  - Metronidazole (first-line agent)
  - Pen G
- ❖ Administration of tetanus immunoglobulin (TIG)
- ❖ Sedatives
- ❖ Patients with severe, generalized or rapidly progressing muscle spasm should be intubated sedated and paralyzed if necessary
- ❖ Manage autonomic instability
  - Labetalol

Complications
- ❖ Atelectasis
- ❖ Pneumonia
- ❖ Pulmonary emboli
- ❖ Acute gastric ulcers
- ❖ Seizures
- ❖ Flexion contractures
- ❖ Cardiac Arrhythmias

Nursing Management
- ❖ Maintain an adequate airway and ventilation to prevent pneumonia and atelectasis
- ❖ Suction often and watch for signs of respiratory distress
- ❖ Maintain an IV line for medications and emergency care, if necessary
- ❖ Monitor for arrhythmias
- ❖ Record intake and output accurately and check vital signs often
- ❖ Keep the patient's room quiet and dimply & Warn visitors not to upset or overly stimulate the patient
- ❖ Give muscle relaxants
- ❖ Perform passive-range-of-motion
- ❖ Provide adequate nutrition to meet the patient's increased metabolic needs.
- ❖ Stress the importance of maintaining active immunization with a booster dose of tetanus toxoid every 10 years
- ❖ Teach the patient or family about proper wound care.

POLIOMYELITIS
Other Terms: Polio / Infantile Paralysis

Description: It is an acute communication disease caused by the poliovirus

Etiologic Agent: Poliovirus Types 1, 2 and 3

Mode of Transmission
- ❖ Direct contact with infected oropharynges secretions or feces

Incubation Period
- ❖ 7 to 14 days

Clinical Manifestations
- ❖ Fever
- ❖ Headache

- Vomiting
- Lethargy
- Irritability
- Pains in the neck, back, arms, legs and abdomen
- Muscle tenderness, weakness an spasms in the extensors of the neck, back, hamstring and other muscles during range-of-motion exercises
- Loss of superficial and deep reflexes
- Positive Kernig's and Brudzinski's signs
- Hypersensitivity to touch
- Urinary retention
- Tripod (arms extended behind for support when sitting up)
- **Hoyne sign (head** falls back when surprise and shoulders are elevated)
- Inability to raise the legs a full 90 degrees from a supine position.
- Diplopia
- Dysphasia
- Difficulty chewing
- Inability to swallow or expel saliva

Diagnostic Tests
- Viral culture = Stool sample
- Convalescent serum antibody titers four times greater than acute titers support the diagnosis
- CSF pressure and protein levels may be slightly increased, and the white blood cell count elevated initially, thereafter mononuclear cells constitute most of the diminished number of cells.
- Electromyographic findings in early poliomyelitis show a reduction in the recruitment pattern and a diminished interference pattern due to acute motor axon fiber involvement.
- Fibrillations develops in 2 to 4 weeks, and fasciculations also may be observed

Treatment Modalities
- Analgesics (No Morphine)
- Moist heat application
- Bed rest is necessary only until extreme discomfort subsides
- Physical therapy
- Braces
- Corrective shoes

Complications
- Respiratory failure
- Pulmonary edema
- Pulmonary embolism
- Urinary Tract Infection
- Urolithiasis
- Atelectasis
- Pneumonia
- Cor Pulmonale
- Paralytic shock

Nursing Considerations
- Observe the patient for paralysis and other neurologic damage
- Maintain patent airway
- Check blood pressure frequently
- Provide an adequate, well-balanced diet

- Good skin care and frequent repositioning
- Inform ambulatory patients about the needs for careful handwashing.
- Instruct the patient or caregivers about measures need to manage symptoms and prevent complications.

Prevention
- Administration of Oral Polio Vaccine

- Boosters are required at 10-years intervals for travel to endemic areas.