

Infectious Diseases

Rubeola (Measles)

Viral (Paramyxovirus)

S&S: The 3 Cs: Cough, Coryza, (Inflammation of the mucosa of the nose and Conjunctivitis)

Rash: Red, erythematous starting on face and spreading downward to the feet.

Koplik's Spots: Small and red spots with a bluish centre and a red base, located on the buccal mucosa and last 3 days.

Rx: Cool Mist Vaporizer

Rubella (German measles)

Viral

S&S: Pinkish red maculopapular rash starts from the face and spreads to the entire body. Isolate from pregnant woman (Droplet precaution).

Mumps

Viral (Paramyxovirus)

S&S: Jaw or ear pain, parotid gland swelling.

Avoid foods that require chewing.

Apply hot or cold compresses.

Chickenpox (Varicella)

Viral (Varicella Zoster)

S&S: Macular rash that starts on trunk and moves to face and limbs.

Isolate the child at home until the vesicles have dried.

Meds: Antivirals, Varicella-zoster immune globulin.

Pertussis (Whooping Cough)

Bordetella Pertussis

S&S: Severe Cough with “whooping” sound, cyanosis, respiratory distress, tongue protrusion

Diphtheria

Corynebacterium diphtheriae

S&S: Purulent nasal discharge, neck edema, “bull neck”

Possible Antibiotics and tracheostomy.

Poliomyelitis

Enterovirus

S&S: Soreness, stiffness of muscles leading to paralysis, Monitor for respiratory paralysis. Wash hand with soap and water, alcohol based hand sanitizer will not be effective.

Mononucleosis

Epstein Barr Virus

Contact, Kissing Disease

S&S: Extreme lethargy, tonsillitis, sore throat, lymphadenopathy, hepatosplenomegaly, possible rash

Monitor for signs of splenic rupture: Abdominal pain, left quadrant pain and left shoulder pain.

Influenza

Viral

S&S: cough and sore throat, possible vomiting, and diarrhea.

Rest and fluids, antipyretics, may get an antiviral.

Points to remember:

- Rashes must be taken seriously. Report rash to the HCP.
- Most of the diseases: There is NO CURE, provide supportive care until the virus passes: antipyretics, analgesics, fluids, quiet environment, isolation.
- Common symptoms for all these diseases: Fever, lethargy and malaise-give antipyretics and analgesics.
- Encourage fluids to prevent dehydration.

Cardiac Disorders

Rheumatic Fever

Inflammatory autoimmune disorder that affects connective tissues of the heart, joints, skin, blood vessels and CNS.

Most Serious Complication: Cardiac valves esp. mitral valve affected.

Causes: Untreated strep infection with rheumatic fever starting 2-6 weeks after strep infection.

S&S: Low grade fever, spikes in afternoon.

DX: Elevated anti-streptolysin O titre, elevated ESR, elevated C-reactive protein, **Aschoff bodies (Leisons).**

RX:

- Anti-inflammatory meds such as NSAIDS
- Seizure precautions in case of chorea
- Antibiotics
- Hot/ Cold therapy for joint pain

Teaching to the parents:

Follow-up , Prophylactic Antibiotics for dental work and invasive procedures.

No exposure to someone with fever.

Kawasaki Disease

- Mucocutaneous lymph node syndrome
- Acute systematic inflammation
- **S&S:** Irritability, peeling of hands and feet, pain in the joints, morning stiffness.
- **Complications:** Cardiac involvement and aneurysms.
- **RX:**
 - Aspirin to prevent blood clots
 - Immunoglobulin IV to boost immune system
 - No Aspirin to <18 years old due to risk of Reye's syndrome.

Parent Education:

- Follow-up care.
- Record the temp.
- S/S of aspirin toxicity: tinnitus, headache, vertigo, bruising.
- S/S of bleeding.
- S/S of cardiac complications: Chest pain, tightness, cool, pale extremities, abdominal pain, N/V, irritability, restlessness and uncontrollable crying.
- Avoid contact sports.
- Avoid MMR or Varicella vaccine.

Congenital Heart Disorders

Acyanotic Congenital Heart Defects.

Atrial Septal Defect

Atrioventricular Canal Defect

Patent Ductus Arteriosus

Ventricular septal Defect

Aortic Stenosis, Coarctation of aorta

Pulmonary Stenosis

Cyanotic Congenital Heart Disorders

Tetralogy of Fallot:

- Overriding aorta
- Pulmonic Stenosis
- Ventricular septal Defect
- Right Ventricular Hypertrophy

Common Symptoms for all CHDs:

- Heart Failure
- Murmur

For Cyanotic heart diseases:

- Cyanosis (Blue spells or tet spells)
- Hypoxia
- Delayed growth and development

Treatment for cardiac diseases:

- Surgery to repair the vessels or cardiac tissue.

Digoxin

- Common drug for heart diseases
- Give 1 hour before or 2 hours after feedings
- Needs to be given on an empty stomach for absorption.

Diet

- No added salt.
- Do not introduce new foods in case of allergy.

Activity after Child Surgery

- Do not play outside for 2 weeks due to injuries and possible infections.
- Avoid activities that could cause injuries for 2-4 weeks such as bike riding.
- Do not attend physical education class for at least 2 months.
- Child can go back to school on the 3rd week starting with half days.

Hematology

1. Sickle Cell Anemia

- Shape of the RBC is Crescent Moon shape
- Crisis: RBCs clump together and block small blood vessels that carry blood to organs.
- S&S: SEVERE PAIN
- Tx: I.V Fluids, 2', O₂, 3. Pain medications

2. von Willebrand's disease

- Bleeding disorder
- Cause: missing or defective von Willebrand factor (VWF), a clotting protein.

3. Hemophilia

- X-linked genetic disorder that is a group of bleeding disorders.
- Clotting factor VIII or IX deficiency.
- More common in males

(Both 2 and 3) S&S

- Bleeding
- Joint pain, tenderness, swelling
- Excessive menstrual bleeding

Treatment

- Replace missing clotting factors

Interventions

- Immobilize the joint
- Apply ice to the injured joint or area that is bleeding for at least 15 minutes.

Teaching

- Avoid contact sports
- Wear pads and helmet

4. β -Thalassemia Major

- More common among people with Mediterranean descent such as Italians, Greeks, Syrians.
- S&S:

Low hemoglobin levels and anemia

Frontal bossing, Maxillary prominence, wide-set eyes with a flattened nose, greenish yellow skin tone, hepatosplenomegaly, abdominal distension.

Rx:

- Administer blood transfusions
- Monitor for iron overload, deferoxamine may be prescribed to treat iron overload.
- Splenectomy
- Genetic counseling to parents

Respiratory Disorders

1. Epiglottitis'

- Inflammation of epiglottis
- Caused by *Haemophilus influenzae* or *Streptococcus pneumoniae*
- High risk of airway obstruction.
- S&S: Sore, red, inflamed throat, pain with swallowing, muffled voice, dysphagia, dyspnea, and drooling.
- Tripod positioning to attempt to widen airway.

Rx:

- Prevent by getting vaccinated for influenza (HIB)
- Maintain patent airway.
- Possible intubation with ventilator.
- DON'T CHECK MOUTH: No tongue depressors, culture swabs, taking an oral temperature.

2. Croup (Laryngotracheobronchitis)

Inflammation and infection of the larynx, trachea, and bronchi.

Low-grade fever, hoarseness, seal bark or brassy cough.

RSV is one of the causes but it can be viral.

Rx:

- Maintain patent airway.

- Give oxygen.
- Elevate HOB.
- Increase fluid intake to prevent dehydration.
- Antibiotics if it is bacterial.
- Corticosteroids to reduce inflammation and edema.

Cystic Fibrosis

- Genetic disorder affecting primarily the lungs and GI systems.
- Mucous produced by the exocrine glands is abnormally thick, tenacious, and copious causing obstruction of the small passageways of the organs in the respiratory, digestive, and reproductive systems.
- Clogging the lungs and blocking the pancreatic ducts.
- Life span is early 40s.

S&S

Lungs: From increased mucous in the lungs:

- Dyspnea
- Wheezing
- Cough
- Cyanosis
- Clubbing of fingers and toes
- Barrel chest
- Recurrent resp. infections.

GI system: From increased mucous in GI ducts (enzymes can't break down food):

- Meconium ileus (Newborns)
- Intestinal obstruction
- Frothy and foul-smelling bulky stools
- Deficiency of fat-soluble vitamins
- Malnutrition and failure to thrive
-

Dx

Sweat Chloride test

Rx

GI: high calorie, and high protein diet with unrestricted fat. Administer pancreatic enzymes before meals. Pancrelipase, pancreatin

Resp: Chest physiotherapy, nebs, postural drainage

Infection: Antibiotics.

4. SIDS (sudden infant death syndrome) Sudden respiratory arrest

Risk Factors: Soft bedding, overheating, co-sleeping, Smokers at home

Intervention: Place in supine position (On back) when sleeping to prevent

Gastrointestinal System

1. Cleft lip and Cleft palate

- The upper lip and palate don't fuse completely together.
- Unable to create suction
- Will need surgery to repair

Nursing interventions:

a) Risk of aspiration:

- Upright position while feeding
- Nipple pointed down and away from the cleft
- More burping

b) Inadequate nutrition

- Increase oral intake
- Special cross-cut nipples
- Squeezable bottles
- Slow and more frequent feeds

Surgery @ 6-12 months of age

Speech therapy

Esophageal atresia and Transeosophageal fistula:

The esophagus forms an unnatural connection with the trachea causing food to enter the airway.

- High risk of aspiration

S&S: The 3Cs

- Coughing
- Choking during feeding
- Cyanosis

Tx: Surgical repair of the fistula, gastrostomy till the esophagus heals

3. Celiac disease: Intolerance to gluten

S&S: Watery diarrhea

Teaching: Don't eat foods with gluten: "**BROW**": **B**arley, **R**ye, **O**ats and **W**heat

Hirschsprung's disease: Aganglionic Megacolon

- Nerves are missing from parts of the intestine, child can have a bowel obstruction, enter colitis, and perforation.

- Newborn fails to pass meconium within 48 hours.

- Older infants and child: Passage of ribbon-like and foul-smelling stool.

Intervention: Focus on preventing constipation and obstruction: Healthy diet, stool softeners, rectal irrigation.

Surgery

Poisoning: Call Poison Control Centre

a) Lead poisoning:

- Chelation therapy

b) Medication Poisoning: DO NOT INDUCE VOMITING

Tx for Acetaminophen OD: Acetylcysteine, activated charcoal with gastric lavage

Tx for Aspirin OD: Activated Charcoal

Tx for Corrosive poisoning: Give water or milk

6. Intussusception: Part of the intestine folds into the section immediately ahead of it causing a blockage.

S&S: Currant Jelly-Like stools with blood and mucus.

7. Hypertrophic pyloric stenosis:

- Obstruction of pyloric sphincter by hypertrophy of pylorus.
- Projectile vomiting shortly after feeding
- Olive-shaped mass may be palpated in the right epigastric area.

Tx: Pyloromyotomy or Pyloroplasty

Neurologic Disorders

Most sensitive indicator of neuro status is LOC:

Assess restlessness, irritability, and confusion

Hydrocephalus: Fluid in the brain caused by malformations, tumors, hemorrhage, infections, or trauma.

S&S: Increased head circumference, bulging fontanel, setting “SUN” eyes, bulging eyes that look downward.

Tx: Surgery to drain the fluid.

Ventriculoperitoneal shunt:

Post-VP shunt position: Operative side-up, and flat to avoid rapid reduction of fluid.

Signs of Increased ICP: High, shrill cry, poor feeding, irritability or lethargy.

2. Reye's syndrome:

Acute encephalopathy that follows a viral illness (Flu or varicella) or aspirin ingestion.

S&S: Cerebral Edema and changes in the liver

- Decreased LOC
- Hepatotoxicity/Bleeding, Elevated LFT's

Tx: No CURE, steroids, diuretic (Mannitol).

3. Spinal abnormalities/Neural tube defects: Spina bifida, meningocele, myelomeningocele

Alpha-feto-protein test: To diagnose during pregnancy.

Prevention: Folic acid during pregnancy

Intervention: Surgery to close sac

- Open sac: Cover with sterile moist, non-adherent dressing

Cerebral Palsy: Brain injury or malformation that occurred before, during or after birth.

Affects body movement and muscle coordination.

Persistent neonatal reflexes (Moro, tonic neck) after 6 months

2. Delayed developmental milestones
3. Apparent early preference for one hand
4. Poor suck, tongue thrust
5. Spasticity (may be described as "difficulty with diapering" by mother or caregiver)
6. Scissoring of legs (legs are extended and crossed over each other, feet are plantar flexed); a common characteristic of spastic CP.)
7. Involuntary movements
8. Seizures

Tx: Promote Independence: OT/PT/ST

Renal Disorders

1. Wilm's tumour

- Most common intra-abdominal/kidney tumour of childhood.
- **S&S:** Swelling or mass within the abdomen that firm and non-tender on one side.
- **Intervention:** DO NOT PALPATE ABDOMEN

2. Nephrotic Syndrome: Autoimmune disorders where nephrons are damaged, unknown cause.

S&S:

- Massive proteinuria: Clear and frothy urine
- Hypoalbuminemia
- Edema

Medications: Diuretics, corticosteroids to decrease inflammation, immunosuppressants

3. Epispadias and Hypospadias:

Congenital defect where ureter opening is in the wrong spot.

Tx: Usually surgery is done between 6-12 months old before toilet training.

Eye, Ear, Nose and Throat

1. Strabismus: “Cross eye”, patch the good eye to strengthen the bad eye.

2. Conjunctivitis: “Pink eye”, contact precautions, handwashing.

3. Otitis media: Ear infection in the middle ear.
Commonly due to Resp. infection.

4. Epistaxis: Nosebleed, have child sit up and lean forward, continuous pressure to the nose with thumb and forefinger for 10 min.