Nursing Care of Patients with Upper Airway Disorders

- Upper airway disorders may be minor and treated outside of the health care setting, or may be severe and life-threatening.
- Require good assessment skills, an understanding of the variety of disorders that affect the upper airway, and the impact that those disorders may have upon the patient.
- Patient teaching is an important aspect of care.

Upper Airway Infection

- Most common cause of patient illness
- Also known as URIs
- About 90% are viral.*
  - This is important in treatment approach and antibiotic resistance.
Specific Disorders

- Infections
- Rhinitis
- Sinusitis: acute and chronic
- Pharyngitis: acute and chronic
- Tonsillitis and adenoiditis
- Laryngitis
- Epistaxis

Rhinitis

- Inflammation and irritation of nasal mucous membranes.
- May be acute or chronic, nonallergic or allergic
- Pathophysiology
  - Nonallergic
    - Environmental, temp, odors, foods, infection, drugs, foreign body. (Most commonly associated with antihypertensive agents, OCPS, and nasal decongestants.)
  - Allergic
    - Identified triggers

Rhinitis

- Viral rhinitis (common cold)
  - Most frequent viral infection in the general population
  - Highly contagious, because virus is shed for about 2 days before symptoms appear.
  - Adult women more susceptible than men
  - S/S: congestion, rhinorrhea, discharge, sneezing, tearing, "scratch"/sore throat*, malaise, low-grade fever, chills, headache, and muscle aches. Also may have a cough. These symptoms tend to last 1-2 weeks
Rhinitis

- Allergic: s/s: rhinorrhea, nasal congestion, nasal discharge, sneezing, pruritis of the nose, roof of the mouth, throat, eyes, and ears, headache.

- Medical Management
  - Reduce allergen exposure
  - Tx symptoms if viral in nature (meds include antihistamines for sneezing, pruritus, and rhinorrhea; decongestants for nasal obstruction; nasal spray to liquefy mucus*; intranasal corticosteroids for severe congestion; ophthalmic meds for eye irritation, itching, and redness.
  - Antibiotic if evidence of bacterial infection

Rhinitis

- Nursing Management
  - Help reduce allergen and irritant exposure
  - Teach patient to read drug labels and about OTC meds.
  - Teach hand hygiene
  - Encourage appropriate immunizations

Rhinitis and Sinusitis

A. Rhinos
B. Sinus

- Thick mucus
- Nasal obstruction
- Enlarged nasal passages
- Discharging mucus
- Ciliated epithelium
- Nasal mucosa
- Nasal drainage

*Note: Mucous liquefaction can be achieved with nasal sprays containing salbutamol or ipratropium bromide.
Sinusitis

- Sinusitis affects 35 million people a year.
- Sinuses are normally protected from infection by mucociliary action. If cilia action is impaired or mucus openings are obstructed, mucus can accumulate and thus become an infection.
- Blockage of mucus openings may be due to a deviated nasal septum, bony abnormalities, congenital malformations, infections, or allergies.
- Diagnosis is suggested by clinical findings and confirmed by x-ray.
- These findings include fever and chills along with headaches and facial pain exacerbated by bending, pain or numbness in the upper teeth, and a purulent or discolored nasal discharge may be present. Pt may also have fatigue, ear pain, sore throat, cough, and periorbital edema. XRays will show opacification of the sinuses, thickened mucous membranes, and an air-fluid level.

Sinusitis

- Dx: pain with palpation and decreased transillumination, cultures via aspiration/swabbing.
- Medical Management:
  - Antibiotics to manage the bacterial infection
  - Decongestants to reduce nasal edema
  - Corticosteroid nasal sprays to reduce mucosal inflammation
  - Humidification to prevent nasal crusting and to moisten secretions.
  - Sinus lavage or surgical procedures such as functional endoscopic sinus surgery (FESS), External Sphenoidectomy, and Caldwell-Luc Procedures in cases not responding to treatment.
**Sinusitis**

- **Nursing Management**
  - Teach patients to humidify air, use steam inhalation, or warm compresses
  - Avoid tobacco, swimming, diving, and air travel
  - Teach concerning meds and rebound congestion with nasal sprays
  - Teach symptoms of complications which include fever, severe headache, and nuchal rigidity.

**Sinusitis**

- **Nursing Management**
  - For the post op patient: assess for profuse nasal bleeding, respiratory distress, ecchymosis, and orbital and facial edema for the first 24 hours.
  - Apply ice compresses to the nose and cheeks to control bleeding.
  - Semi-High flowler’s position for 24-48 hours.
  - Remove nasal packing the am after surgery.
  - Mild analgesics as necessary
  - Teach clients to increase fluid intake to thin secretions, avoid blowing the nose for 7-10 days (snif or spit), sneeze with mouth open, limit strenuous activity for ~ 2 weeks.
  - Nasal sprays may be started 3-5 days after surgery to moisturize the nasal mucosa.

**Pharyngitis**

![Pharyngitis Images]
Pharyngitis

- Inflammation of the pharynx
  - More common in patients younger than 25 years of age.
  - Primary symptom is sore throat
- Pathophysiology
  - Usually caused by a viral infection
  - May be bacterial (group A beta-hemolytic streptococcus "strep throat")
  - The body triggers an inflammatory response to the invading organism

Pharyngitis

- Manifestations
  - Pain, fever, edema, redness and swelling of the pharynx and surrounding structures, "white patches" of exudate, enlarged tender lymph nodes, malaise, occasional GI symptoms and scarlatina rash with strep throat
- Medical Management
  - Viral = supportive measures only
    - Tylenol or aspirin, antitussives, cool/warm drinks, increase fluid intake (at least 2 to 3 L/day).
  - Bacterial = antibiotic agents (usually Penicillin)

Pharyngitis/strep throat
Pharyngitis

• Nursing Management
  – Teach:
    – when to contact physician
      • With dyspnea, drooling, inability to swallow, and inability to fully open mouth.
    – Rest during febrile stage of illness
    – Frequent handwashing and proper disposal of tissues
    – Warm saline gargles, mouth care.
  – Can return to activities 24 hours after antibiotic admin.

Tonsillitis and Adenoiditis

• Most commonly caused by Group A beta hem. strep.
• Symptoms
  – Sore throat, fever, snoring, difficulty swallowing, earaches, bronchitis, bad breath, voice impairment, and noisy respiration.
• Dx made by culturing the tonsils.
• Med Management
  – Supportive measures: increase fluid intake, analgesics, salt-water gargles, and rest.
  – If bacterial: tx with Penicillin as first line therapy for 7-10 days

Tonsillitis and Adenoiditis

• Consider surgical removal if pt has had
  – Repeat infections
  – Hypertrophy causing obstruction and sleep apnea
  – Subsequent otitis media and hearing loss, speech problems.
  – (Not just if they are enlarged, will normally decrease in size with age)
Tonsillitis and Adenoiditis

- Nursing Management
  - For post op patients
    - Continuous observations as pt is at increased risk for hemorrhage
    - Prone position with head to side
    - Nurse does not remove oral airway until the patient’s gag and swallowing reflexes have returned.
    - Have basin and tissues for drainage
    - Control pain with analgesics
    - *If the patient vomits large amounts of dark blood or bright red blood at frequent intervals, or if the pulse rate and temp rise and the patient is restless, the nurse notifies the surgeon immediately.

Tonsillitis/Adenoiditis

- Home teaching (b/c they are Discharged so soon)
  - S/s hemorrhage
  - Liquid or semiliquid diet for several days
  - Avoid spicy, hot, acidic, or rough foods.
  - Limited milk products
  - Avoid vigorous tooth brushing or gargling

Laryngitis

- An inflammation of the larynx that often occurs as a result of voice abuse, or exposure to irritants such as dust, chemicals, smoke, and other pollutants, or as part of a URI.
- Most commonly caused by a virus, usually in the winter, and easily transmitted to others.
- S/S: hoarseness and severe cough, often exacerbated by cold wind.
- Management: voice rest, avoiding irritants, inhaling cool steam or aerosol meds. Antibiotics if associated with another bacterial infection. Increase PO fluids.
- Contact MD with difficulty swallowing, hemoptysis, and noisy respirations, Continued hoarseness > 5 days after tx.
Potential Complications of upper airway infections

- Sepsis
- Meningitis
- Peritonsillar abscess
- Otitis media
- Sinusitis

Nursing Process: The Care of Patients with Upper Respiratory Infections:

Assessment

- Health history
- Signs and symptoms: headache, cough, hoarseness, fever, stuffiness, and generalized discomfort and fatigue
- Allergies
- Inspection of nose, neck, throat
  - Include palpation of lymph nodes

Diagnosis

- Ineffective airway clearance
- Acute pain
- Impaired verbal communication
- Deficient fluid volume
- Deficit of knowledge related to prevention, treatment, surgical procedure, or postoperative care
Interventions

- Interventions to maintain a patent airway
- Promote comfort
  - Analgesics
  - Gargles for sore throat
  - Use of hot packs for sinus congestion or ice collar to reduce swelling, and also bleeding post tonsillectomy and adenoidectomy
- Rest
- Refrain from speaking, use alternative communication
- Encourage liquids; 2-3 L a day and appropriate foods

Nursing Process: The Care of Patients with Upper Respiratory Infections:
Planning

- Maintenance of a patent airway
- Relief of pain
- Maintenance of effective communication
- Normal hydration
- Knowledge of how to prevent upper airway infections
- Absence of complications

Patient Education

- Prevention of upper airway infections
- Emphasize frequent handwashing
- When to contact health care provider
- Need to complete antibiotic treatment regimen
- Annual influenza vaccine for those at risk
Epistaxis

- Hemorrhage from the nose
- Risk factors
  - See Chart 22-5
- Sites of bleeding; most common: anterior septum
- This can be a serious problem resulting in significant blood loss or airway compromise.

Treatment of Epistaxis

- Initially, apply direct pressure with pt sitting upright with head tilted forward pinching the nose for 5-10 minutes.
- If bleeding continues other interventions include:
  - Topical vasoconstrictors
    - Adrenaline
    - Cocaine
    - Phenylephrine
  - Packing of the nasal cavity with tampon, vaseline gauze or balloon catheter.
  - Silver nitrate or electrocautery if bleeding source is identified.

Epistaxis

- Packing may stay in place for 48 hours or up to 6 days to control bleeding.
- Antibiotics may be prescribed d/t the risk of infection and toxic shock syndrome.
Control of Epistaxis

Nursing Care of Patients with Epistaxis
- Assessment of bleeding
- Monitor airway and breathing
- Vital signs
- Reduce anxiety
- Patient teaching
  - Avoid nasal trauma, nose picking, and nose blowing
  - Air humidification
  - Pressure on the nose to stop bleeding. If bleeding does not stop in 15 minutes, seek medical attention.

Tumors of the larynx
- May either be benign or malignant
- Benign tumors:
  - Papillomas—one type of benign tumor of the larynx that are small, wart-like growths believed to be viral in origin. May be removed surgically or by laser tx.
  - Nodules and polyps—usually in people who abuse or overuse their voice.
- Cancerous tumors:
  - 2-3% of all malignancies
  - Tx depends on stage of the disease
Cancer of the Larynx

- Etiology and Risk factors:
  - Primary etiologic agent: CIGARETTE SMOKING!!!!
  - Other risks include occupational exposure to asbestos, wood dust, mustard gas, and petroleum products and the inhalation of other noxious fumes.
  - Chronic laryngitis and voice abuse may also contribute to the disorder.
  - Possible mutation of gene p53

- Pathophysiology
  - Squamous cell is the most common malignant tumor of the larynx arising from the membrane lining the respiratory tract.
  - With the exception of cancer of the glottis, cancers elsewhere in the larynx spread rather quickly because of the abundant lymphatic vessels.
  - Check for metastasis-neck masses
  - Distant metastasis may occur in the lungs
  - See Fig 62-5

- Categories: See Box 62-3 for manifestations of each
  - Supraglottic: false vocal cords above the vocal cords.
  - Glottic: true vocal cords; interferes with normal closure and vibration of the cords.
  - Subglottic: below the vocal cords; usually no manifestations until late in the disease process.
Symptoms
- Hoarseness (> 2 weeks)
- Voice change
- Persistent cough
- Sore throat or pain and burning in the throat
- Lump in the neck
- Sensation of a foreign body in the throat
- Later symptoms: dysphagia, dyspnea, unilateral nasal obstruction, persistent hoarseness, persistent ulceration, foul breath
- Generalized symptoms: weight loss, debilitation, lymphadenopathy, and radiation of pain to the ear

Cancer of the Larynx
- Diagnostic Findings
  - Diagnosis is made by direct visual examination of the larynx using laryngoscopy.
  - Inspect nasopharynx for drainage, bleeding, ulceration, or masses.
  - Biopsy (utilizing CT and/or MRI) is performed to determine exact location, size, and extent of the primary tumor.
  - Lab work includes CBC, electrolytes, kidney and liver function tests.
  - A thorough preoperative pulmonary assessment is critical as there is significant airway alteration that will interfere with breathing.
  - There is an increased risk of aspiration postop and client must be able to cough to rid the airway of aspirated secretions.
  - Chest xray and/or barium swallow may be done to check for possible tumor spread.
  - TNM (Tumor-node-metastasis) classification system is used for staging

Medical Treatment
- Goal is ablation of the tumor, with sparing of undiseased tissue when possible.
- Radiation therapy (cure rates of 85-95% if limited to true vocal cords)
- Chemotherapy—not used alone
- Surgery
  - Partial laryngectomy—usually combined with radiation for supraglottic tumors
  - Supraglottic laryngectomy—for cx of the supraglottis, true vocal cords are preserved. No loss of speaking function.
  - Total laryngectomy—usually for subglottic or large tumors that are fixated on the vocal cords.
Cancer of the Larynx

- Possible Complications of surgery
  - Airway obstruction from edema, bleeding, or loss of airway from a plugged trach.
  - Hemorrhage from inadequate hemostasis during surgery (also check for hematomas, unilateral swelling, tachycardia, hypotension, and changes in respiratory patterns)
  - Carotid artery rupture is a late complication and a life-threatening emergency. Mild bleeding from the oral cavity, neck, or trachea may precede rupture by 24 to 48 hours. A pulsating trach tube is a sign that the tip of the tube is resting on the innominate artery and may result in injury.
  - Fistula formation between the hypopharynx and the skin

Changes in Airflow with Total Laryngectomy

Nursing Process: The Care of a Patient with a Laryngectomy: Assessment

- Health history
- Assess history of alcohol abuse. Why?
- Physical assessment
- Nutritional status
- Assess literacy, hearing, and visual ability; these may have an impact on communication.
- Assess learning needs.
- Assess patient and family coping and support systems.
Preoperative Teaching

- Instruction regarding the type of procedure and the resultant changes such as changes in speech or permanent loss of speech and changes in airway.
- Include instruction regarding tubes used postoperatively such as drainage tubes and feeding tubes, and provide general preoperative teaching to prevent postoperative complications.
- Include planning for postoperative communication and long-term speech rehabilitation.
- Use a collaborative approach.
- Include the physician, speech therapy, dietary, social work, clinical nurse specialist, and others as required.

Nursing Process: The Care of a Patient with a Laryngectomy: Diagnosis

- Risk for aspiration
- Ineffective airway clearance
- Risk for impaired gas exchange
- Imbalanced nutrition: Less than body requirements
- Risk for infection
- Deficit knowledge related to surgical procedure and postoperative course
- Anxiety and depression
- Impaired verbal communication
- Disturbed body image
- Self-care deficit

Potential for Aspiration

- Keep HOB elevated during and after tube feedings.
- Check gastric residual when administering tube feedings.
- When the patient begins oral feeding, maintain upright bed position during and after feedings.
- Swallowing maneuvers to prevent aspiration See box on pg 1792.
- Use of thickened liquids
Nursing Process: The Care of a Patient with a Laryngectomy: Planning

- Maintenance of patent airway
- Attaining optimal hydration and nutrition
- Adequate level of knowledge (patient and family)
- Reduction of anxiety
- Effective means of communication
- Improved body image and self-esteem
- Self-care management
- Absence of complications

Maintaining a Patent Airway

- Assess for edema and bleeding
- Auscultate Q2 hours for the first 24 hours.
- Semi-Fowler’s or high Fowler’s position to decrease edema
- Monitor neck drainage for volume and color.
- Monitor for sign and symptoms of respiratory distress
- Tracheostomy or laryngectomy tube assessment and care
- Care of the stoma
- Suctioning
- Humidification of air

Anxiety and Depression

- Allow asking of questions and provide information.
- Permit verbalization of feelings.
- Interventions to reduce anxiety and promote comfort
- Reassuring manner.
- Stay with the patient during episodes of anxiety.
- Relaxation techniques
Communication

- Plan communication preoperatively
- Immediate postoperative communication
  - Magic slate
  - Communication board
- Speech rehabilitation
- Figure 62-8/handout

Cancer of the Larynx

- Additional postop considerations:
  - Radical neck dissection may result in decreased shoulder ROM and decreased muscle strength. Exercises to prevent/minimize these are encouraged.
  - Avoid heating pads or exposure to temperature extremes due to lack of sensation following neck dissection.
  - Post op teaching of trach care if patient is to go home with this.
  - Include written instructions for the patient concerning wound care to the stoma site, use of a humidifier, administration of tube feedings, progression of the diet, communication techniques, potential use of an artificial larynx, use of a medic alert bracelet, and s/s to report to physician.
  - Fig 62-10, 62-11
Potential for Aspiration

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