Medications

Albuterol sulfate (salbutamol sulfate)

Pharmacological: Adrenergic (NDH, 2023)

Therapeutic: Bronchodilator (NDH, 2023)

Reason: The patient is taking this medication to treat an obstructed airway and open the bronchioles.

Assessments: Monitor the patient's heart rate because this medication can cause tachycardia and the patient is already tachycardic (NDH, 2023).

Budesonide (Pulmicort)

Pharmacological: corticosteroid (NDH, 2023)

Therapeutic: Antiasthmatic and anti-inflammatory (NDH, 2023)

Reason: This medication is used to provide maintenance therapy for asthma. The patient has not been diagnosed with asthma but is being treated as an asthmatic.

Assessments: Monitor the patient's pattern of growth because this medication can stunt growth (NDH, 2023).

Fluticasone propionate

Pharmacological: Corticosteroid (NDH, 2023)

Therapeutic: Antiasthmatic and anti-inflammatory (NDH, 2023)

Reason: This medication is used to prevent asthma attacks. The patient is being treated as an asthmatic patient.

Assessments: The nurse will need to administer a fast-acting bronchodilator if bronchospasms occur after taking this medication (NDH, 2023).

Demographic Data

Admitting diagnosis: Bronchiolitis

Age of client: 15 months

Sex: Female

Weight in kgs: 9.82kg

Allergies: Amoxicillin

Date of admission: 3/22/2024

Psychosocial Developmental Stage: Autonomy vs. Shame and doubt (Ricci et al., 2021)

Cognitive Development Stage: Sensorimotor (Ricci et al., 2021)

Admission History

A 15-month-old female came to Broman ED with complaints of difficulty breathing. The mother reports the patient was having pervious breathing issues. The mother reports the patient is on albuterol treatments and budesonide as needed. The patient's mother states the patient has had a dry cough and nasal congestion and within the past 12 hours has had an increase of shortness of breath. The patient developed tachypnea and intercostal retractions prior to arrival to the ED the mother stated. Around 1300 the mother gave the patient 1 albuterol treatment. Around 1730 the patient started to have symptoms again and the mother gave the patient 4 puffs of an inhaler with a spacer. Again around 1915 the mother reported the patient needed another albuterol treatment and the patient's symptoms increased, which made the mother bring her into the ED. The mother denies the patient having any fever, abdominal pain, diarrhea, vomiting, altered mental status, skin rashes, or decreased urine output.

Pathophysiology

Disease process: In bronchiolitis the lining of the epithelial cells in the small airways of the lungs are inflamed, and this causes a buildup of mucus production (Erickson et al., 2023). Bronchiolitis is one of the most common lung infections that affect children ("Bronchiolitis," 2023). This infection is almost always caused by a virus ("Bronchiolitis," 2023). This virus is most caused by the respiratory syncytial virus (RSV) (Erickson et al., 2023).

S/S of disease: The first symptoms that are noted from bronchiolitis is much like a cold, runny nose, cough, stuffy nose, and a possible slight fever ("Bronchiolitis," 2023). The cold like symptoms usually last for 3 days (Erickson et al., 2023). As the infection worsens the patient will develop tachypnea and the use of the accessory muscles that include intercostal retractions (Erickson et al., 2023). It is important to monitor the child closely because if not they can develop cyanosis, hypoxia, and go into respiratory failure (Erickson et al., 2023).

Method of Diagnosis: The diagnosis of bronchiolitis mainly depends on the symptoms that the patient is presenting with. After obtaining a thorough history of the patient's current illness and considering the patient's clinical manifestations, the diagnosis and severity of the sickness can be determined (Erickson et al., 2023). Typically, the patient is swabbed to see what virus caused the bronchiolitis (Erickson et al., 2023). Because chest x-rays frequently show nonspecific signs including peribronchial thickness, interstitial markings, and lung hyperinflation, they are not regularly performed (Erickson et al., 2023).

Treatment of disease: Treatment includes suctioning the patient frequently to clear the airway, providing fluids to keep the patient hydrated, supplemental oxygen if needed (Erickson et al., 2023). Having a continuous pulse ox on the patient, especially if they are on oxygen is very important. This will allow nurses to monitor the patient's pulse and oxygen levels (Erickson et al., 2023). The patient was on pulse ox and was on 10L of oxygen on optiflow with a 21% concentration. The patient was also being suctioned by her mother and the nurse frequently to open her airway. The patient was also receiving albuterol treatments every 4 hours.

Relevant Lab Values/Diagnostics

There were no labs or diagnostics during this admission.

Medical History

Previous Medical History: N/A

Prior Hospitalizations: 5 times in the previous year as of December 2023.

Past Surgical History: N/A

Social needs: Mother stated there are no social needs at this time.

Active Orders

Regular Diet: The patient has nothing that is preventing them from eating a regular diet.

Pediatric Respiratory Score: The patient is having respiratory issues and has suspected bronchiolitis.

I/O: We want to monitor the patient's fluid intake to make sure the patient is staying hydrated, and it will also help breakup the patients thick mucus.

Notify provider if respiratory score is >9-12: The patient is having some respiratory distress and it is important to notify the provider if the scores are high to provide immediate/appropriate action.

Suction PRN: The patient has a lot of congestion in both nares and suctioning will help the patient breath easier.

Reposition PRN: Repositioning the patient as needed will help break up the secretions and will help the patient keep moving.

Pulse ox and keep O2 at ≥ 90%: We need to monitor the patient's O2 stats and provide immediate action for O2 less than 90%.

Respiratory Therapy: Respiratory therapy will help provide the albuterol treatments to the patient as well as providing information and suggestions to help improve the patient's respiratory function.

Consult Child Life Specialist: The child life specialist will help support the family and the child. They can provide toys and distractions for the child.

Assessment	
General	The patient is alert and opens eyes to touch/voice. The patient follows simple commands. Cries, smiles, and coos.
Integument	The patient's skin was warm/dry upon palpation. Normal skin turgor. No discoloration/rashes/bruises/edema. Capillary refill was 3 seconds or less, no cyanosis or clubbing in the fingers noted.
HEENT	The patient's head and neck were symmetrical. No edema noted. Carotid pulses were 2+ and palpable bilaterally. Sclera's were white bilaterally, conjunctive pink bilaterally, no drainage from eyes noted. Eyelids were moist and pink with no lesions or drainage noted. PERRLA intact bilaterally. Septum was midline, nasal congestion bilaterally with thick mucus. Uvula was midline, soft palate rises and falls symmetrically, hard palate was intact, oral mucosa was moist and pink with no lesions. Auricles were symmetrical bilaterally with no drainage or lesions noted.
Cardiovascular	S1 and S2 were present with no murmurs, gallops, or rubs noted. Patient rate was tachycardic. PMI was palpable.
Respiratory	The patient was tachypneic with labored breathing bilaterally. Use of accessory muscles with minimal retraction. Infrequent nonproductive cough. Breath sounds were coarse bilaterally.
Genitourinary	The patient was voiding appropriately for age. Urine was yellow with no foul odors.
Gastrointestinal	The patient's abdomen was non-distended and soft upon palpation. No mass or organomegaly noted upon palpation and inspection. Bowel sounds were normoactive in all 4 quadrants.
Musculoskeletal	No noted or inspected muscle weakness. No joint swelling noted. All extremities have full range of motion.
Neurological	The patient opens eyes. Arouses to touch/voice. Orientation/verbalization appropriate for age. Behavior appropriate for age/situation.
Most recent VS (highlight if abnormal)	**Time:** 0850 **Temperature:** 98.1 F **Route:** axillary **RR:** 46 **HR:** 167 **BP and MAP:** 110/65 MAP 87

	Oxygen saturation: 98 **Oxygen needs:** Optiflow 10L 21 % concentration
Pain and Pain Scale Used	rFLACC scale Rated 1

Nursing Diagnosis 1 Ineffective airway clearance related to nasal congestion as evidence by obstructive airway from disease process (Philips, 2018).	**Nursing Diagnosis 2** Ineffective breathing pattern related to tachypnea as evidence by disease process (Philips, 2018).	**Nursing Diagnosis 3** Activity intolerance related to imbalanced oxygen supply as evidence by disease process (Philips, 2018).
Rationale The patient is congested with thick mucus and having difficulty breathing and clearing her airway.	**Rationale** The patient is having labored breathing with the use of accessory muscles. The patient is also having minimal retraction.	**Rationale** The patient was diagnosed with bronchiolitis and has low energy due to her body working harder to keep up with the demand of O2 that is needed.
Interventions **Intervention 1:** Assess respiratory status every 4 hours (Philips, 2018). **Intervention 2:** Suction patient as needed (Philips, 2018).	**Interventions** **Intervention 1:** Administer oxygen as needed (Philips, 2018). **Intervention 2:** Monitor respiratory rate (Philips, 2018).	**Interventions** **Intervention 1:** Monitor respiratory rate (Philips, 2018). **Intervention 2:** Provide ROM and activities (Philips, 2018).
Evaluation of Interventions The nurse and I did a respiratory assessment on the patient two times during the clinical day and the patient had coarse breath sounds. The mother asked the nurse if she was allowed to suction the patient as needed and the nurse gave the mother permission to suction the patient as she saw fit. When the patient got suctioned, you could see a difference in her breathing, it made it easier for her.	**Evaluation of Interventions** The patient was on 10L of oxygen on optiflow and the patient's O2 would drop without the oxygen on. The patient's respiratory rate upon assessment was 46.	**Evaluation of Interventions** The patient was provided toys and played a little but did not want to engage too much in play. We monitored the patient's respiratory rate and status frequently.

References (3):

Bronchiolitis. (2023, February 25). Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/bronchiolitis/symptoms-causes/syc-20351565

Erickson, E.N., Bhakta, R.T., & Mendez, M.D. (2023, June 26). *Pediatric Bronchiolitis*. National Library of Medicine. https://www.ncbi.nlm.nih.gov/books/NBK519506/#:~:text=Bronchiolitis%20occurs%20as%20a%20result,and%20ultimately%20result%20in%20wheezing.

Jones & Bartlett Learning. (2023). *Nurse's drug handbook*. Jones & Bartlett Learning.

Philips, L.L. (2018). *Sparks & Taylor nursing diagnosis pocket guide* (3rd edition). Wolters Kluwer.