Medications

Amoxicillin-clavunate 600 mg oral Q12H- Therapeutic: Antibiotic Pharmacologic: Aminopenicillin Why taking: to treat ear nose and throat infections (Jones & Bartlett., 2023).
D5 0.9% NS w/ KCL 20 mEq Continuous 50 ml/hr- Classes not found. why taking- this patient is taking this due to an imbalance in fluids (Jones & Bartlett., 2023).
Ceftriaxone 700 mg PEDS Syringe Q24H- Therapeutic: Antibiotic. Pharmacologic: Third-gen cephalosporin. Why taking- To treat bacterial infections (Jones & Bartlett., 2023).
Azithromycin 68 mg once daily- Therapeutic: Antibiotic. Pharmacologic: Macrolide. Why taking: To treat pneumonia (Jones & Bartlett., 2023).
Acetaminophen 160mg/5ml oral liquid Q4H PRN- Therapeutic: Antipyretic Pharmacologic: Nonsalicylate, Para aminophenol derivative. Why taking: mild pain relief Jones & Bartlett., 2023).
Ibuprofen 138 mg oral Q6H PRN- Therapeutic: Analgesic. Pharmacologic: NSAID. Why taking: pain relief (Jones & Bartlett., 2023).

Demographic Data

Admitting diagnosis: Rhinovirus/ Pneumonia

Age of client: 2 years old (12/31/22)

Sex: Male

Weight in kgs: 13.8 kg

Allergies: None

Date of admission: 1/21/24

Psychosocial Developmental Stage: Autonomy versus shame and doubt (Rudd & Kocisko., 2023).

Cognitive Developmental Stage: Preoperational stage (Rudd & Kocisko., 2023).

Admission History

Patient presented a fever after being diagnosed with pneumonia with breathing difficulty. Patient was sick three days prior with respiratory distress and high fever.

Pathophysiology

Disease process: Pneumonia (On separate page)

S/S of disease:

Method of Diagnosis:

Treatment of disease:

Relevant Lab Values/Diagnostics

WBC (5-10): 9. The relevance of the WBCs is to determine if the body is fighting off the infection or has any inflammation (Pagana et al., 2022). Note stated that the electrolytes were okay. Unable to find anywhere else in chart.
PCT (0.15-20): 1.2. This was taken to see if this patient had a bacterial infection in the lower resp. tract (Pagana et al., 2022).
RPP+ for Rhinovirus and mycoplasma. This was taken to determine what pathogens the patient could have in their resp. tract (Pagana et al., 2022).
Chest X-Ray taken, results unavailable.

Medical History

Previous Medical History: Not on file, unavailable to obtain

Prior Hospitalizations: No prior hospitalizations

Past Surgical History: Not on file, unable to obtain

Social needs: This patient needs to seek more self-control and freedom to try things on their own. This patient also needs a place of security and safety (Rudd & Kocisko., 2023).

Active Orders

BP Q8H when awake: This shows if blood is flowing throughout the body, but this is not relevant to the patient's diagnosis.
High flow humidity NC: This is relevant to the patient due to their difficulty breathing and in distress and relates to their primary diagnosis.
Pulse ox continuous: This is relevant because this patient is needing a nasal cannula for oxygen and we need to see if there is a decline in their status.
VS Q4H: This is to show if there are any significant changes in the patient. The respirations are relevant to the patient's infection.
Neonatal airway status: This is important to the patients breathing and making sure they have a clear airway, relating to their pneumonia.
Oxygen per resp. protocol: This is a procedure that is mandatory to the facility relating to the patient's respiratory condition.
Assess ped. Resp. score: Assessing this score is going to help us know the respiratory needs for this patient pertaining to their diagnosis.
Attempt full CPR- Full code: If patient were to crash into a code, it is required to perform all measures to resuscitate patient.

Assessment	
General	Patient appears awake and alert. Overall appropriate for age. No distress noted.
Integument	Skin color was usual for ethnicity, skin was dry and warm. Normal skin turgor. No scars, bruises, scrapes, or cuts noted.
HEENT	Head symmetrical, normal neck structure, seemed to have normal hearing, nose was midline, clear nasal drainage noted.
Cardiovascular	S1, S2 present, normal rate and rhythm, pulses 3+, Capillary refill less than 2 seconds, no edema noted, no neck vein distention
Respiratory	Patients pattern was Tachypnea, respirations were symmetrical, crackles noted on bilateral lung sounds.
Genitourinary	Patient voids without difficulty, clear and yellow, no pain when urinating.
Gastrointestinal	Bowel sounds were active in all four quadrants. Abdomen is soft, nontender, no pain upon palpation.
Musculoskeletal	Full range of motion, patient moves all extremities well, patients' strength is a 5.
Neurological	Patient appeared to be alert, normal cognition, able to listen.
Most recent VS (highlight if abnormal)	**Time: 1047** **Temperature: 97.8 F** **Route: Axillary** **RR: 48** **HR: 140** **BP and MAP: 110/66 MAP- unavailable** **Oxygen saturation: 95%** **Oxygen needs: Nasal Cannula**
Pain and Pain Scale Used	According to FLACC scale, patient was in 0 pain.

Nursing Diagnosis 1 Impaired gas exchange related to ineffective breathing as evidence by respiration count of 48 breaths per min (Phelps., 2023).	Nursing Diagnosis 2 Risk for infection related to elevating WBC count as evidence by medical diagnosis of pneumonia (Phelps., 2023).	Nursing Diagnosis 3 Decreased activity related to generalized weakness as evidence by decrease oxygenation (Phelps., 2023).
Rationale I chose this nursing diagnosis due to the patient breathing extremely fast and out of the normal range.	**Rationale** I chose this nursing diagnosis because this patient is susceptible to infections with their WBC count increasing and weakened immune system.	**Rationale** I chose this nursing diagnosis due to the patient being tired and wore out due to the sickness being hard on the body.
Interventions Intervention 1: Administer and monitor oxygen therapy, as ordered (Phelps., 2023). Intervention 2: Assist patient with ADLs to decrease tissue oxygen needs (Phelps., 2023).	**Interventions** Intervention 1: Minimize patients' risk by washing hands and maintaining a clean environment (Phelps., 2023). Intervention 2: Monitor WBC count (Phelps., 2023).	**Interventions** Intervention 1: Encourage rest (Phelps., 2023). Intervention 2: Increase fluid intake (Phelps., 2023).
Evaluation of Interventions After evaluating this patient, they tolerated the oxygen therapy well and respirations were lowered. They also did not need to give as much energy by helping them with ADLs.	**Evaluation of Interventions** These interventions were very helpful for decreasing the risk for infection and to see if there were any changes in the patient's condition.	**Evaluation of Interventions** After monitoring the patient's status, resting and fluids were helping the patient have energy.

Med Math: (Jones & Bartlett., 2023)

Amoxicillin-clavunate 600 mg. Ped dose under 40kg- 200-400mg Q12H. Per drugs.com, this is not a safe dose and is too much for this child.

D5 0.9% NS w/ KCL 20 mEq 50ml/hr. Unable to find the normal flow rate for this patient.

Ceftriaxone 700 mg Q24H- 25-37.5 mg/kg/12 hr. 13.8 x 25&37.5= 345-517.5 x 2= 690-1035. This dose is safe for this child.

Azithromycin 68 mg once daily: 12x 13.8= 165.6. The dose is safe for this patient.

Acetaminophen 160mg/5ml: The safe dose is 160 mg every 4 hours as needed. This is what is ordered for this patient, so this is a safe dose.

Ibuprofen 138 mg Q6H: The safe dose is 100mg Q6-8H. With this being said, the dose for this patient is safe.

Pathophysiology

Pneumonia impairs gas exchange by causing the alveoli to fill with mucus, fluid, and debris (Capriotti., 2020). When oxygen cannot enter and CO2 cannot exit, gas exchange is impaired. Low oxygen levels, or hypoxia, are the outcome. Hypoxia can be brought on by suffocation damage, exposure to low oxygen concentrations in the environment (like at high altitudes), insufficient oxygen diffusion at the alveoli (like in pneumonia), airway blockage by a foreign material, or inflammation of the oropharyngeal tissues. Air or fluid in the pleural cavity or bronchial blockage reduce breath sounds. As with pneumonia, solid regions of the lung produce tubular breath sounds, often known as bronchial noises. A bacterial, viral, or fungal infection of the lungs is known as pneumonia (Cleveland Clinic., 2022). Pneumonia can result in fluid or pus in your lungs and cause inflammation, or swelling, of the lung tissue. Compared to viral pneumonia, which frequently goes away on its own, bacterial pneumonia is typically more severe. Breathing problems are among the severe side effects of pneumonia that might require hospitalization. Acute respiratory distress syndrome (ARDS) or respiratory failure can result from pneumonia. Pleural effusion is the term for fluid surrounding the lungs. Sepsis or blood-stream bacteria (bacteremia). The pneumonia-causing bacteria can go into your circulation, infecting other organs and causing organ failure or sepsis, lung abscess. Your lungs may develop pus-filled holes as a result of pneumonia. Pneumonia symptoms vary depending on the reason. Mild to severe symptoms are possible. Older adults, infants, and young children may have distinct symptoms. Young children frequently experience fever, chills, overall discomfort, sweating or flushed skin, coughing, tachypnea (difficulty breathing), loss of appetite, vomiting, low energy, and fussiness or restlessness. Direct contact or respiratory tract droplet inhalation are the two ways that transmission occurs (Capriotti., 2020). Some of the treatments for pneumonia include antibiotics, antifungal medication if this is fungal pneumonia, antiviral medication, if it is a viral infection, and bacterial medications, if it is from bacteria (Cleveland Clinic., 2022). Other treatments include oxygen therapy, IV fluids, draining of fluid if there is

pleural effusion. Some of the ways to relieve symptoms are pain/fever reducers, cough suppressants, breathing treatments, exercises, using a humidifier, and increasing fluid intake.

References (3):

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Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2022). *Mosby's diagnostic and laboratory test reference* (16th ed.). Mosby.

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