

Medications

- Acetaminophen 15mg/kg, every 4 hours as needed. This patient will receive 86.7 mg of oral liquid. This patient is taking this medication for pain relief. The pharmacological class of this medication is nonsalicylate, para-aminophenol derivate (Jones & Bartlett, 2024). The therapeutic class of this medication is an antipyretic, nonopioid analgesic (Jones & Bartlett, 2024). A nursing assessment before administration would be a gag reflex and swallowing ability since this is an oral liquid medication (Jones & Bartlett, 2024). It is also essential to view the allergies of this patient if they have had a possible allergic reaction to this medication (Jones & Bartlett, 2024). Nurses should assess pain before giving this medication (Jones & Bartlett, 2024).

Demographic Data

Admitting diagnosis: Respiratory syncytial virus (RSV)
Age of client: 32 days old
Sex: Male
Weight in kgs: 5.780 kgs
Allergies: NKA
Date of admission: 1/23/2025
Psychosocial Developmental Stage: Trust vs Mistrust (Rudd & Kocisko, 2022).
Cognitive Development Stage: Sensorimotor stage (Rudd & Kocisko, 2022).

Admission History

Pathophysiology

This will be provided on the page below.

- Disease process:**
- S/S of disease:**
- Method of Diagnosis:**
- Treatment of disease:**

Active Orders

- High flow humidity nasal cannula to help provide and ensure adequate oxygenation since this client is having trouble breathing.
- Notify the provider if the FiO2 is less than or equal to 60%. This is important since the client is on oxygen to know the amount needed. Pulse oxygen continuous is important to determine the client's oxygen saturation when the client is on oxygen therapy and has a respiratory virus.
- BP Q8, if awake. Knowing if the body is pumping enough blood is important, but this is irrelevant to the patient's primary diagnosis. However, it can tell us if a complication is occurring.
- Vitals Q2. This is important for an infant, especially when fighting a respiratory virus. It is important to monitor vitals for any complications.
- Reflux precautions, upright position, burp frequently, and hold upright at least 30 minutes after a feed. This order is for when the baby is feeding. Since they have respiratory issues, it is important to implement these precautions to help with drainage and breathing.
- Pediatric respiratory score on admission, Q4, PRN for mild bronchiolitis. This order is important in viewing the severity of this patient's respiratory status.
- Notify MD for respirations less than 9-12. This order is important if the client is in respiratory distress.
- Isolation contact droplet. RSV is contagious so it is important not to spread it to other sick patients or healthy people. Activity increases as tolerated. Promoting activity to loosen secretions and encourage the baby to cough them up is important.
- I/O. This is important for an infant to ensure adequate nutrition, growth, and intake.
- Notify the physician if the patients have desaturations with 40% FiO2 (3-4L/min), cyanosis on above O2, apnea, or new or worsening O2. It is important to monitor all these to ensure the client gets adequate oxygen and can breathe without obstruction. Notifying the provider is important as well for assistance in new orders.
- Would consult and skin evaluation and treatment. This order was included because the client's umbilicus was purple with drainage from the site. This is to rule out any infection.
- Pulse ox to keep O2 sats at greater than or equal to 90% (continuous) for moderate or severe bronchiolitis. It is important to keep the clients' O2 in a normal range, especially when they have adventitious breath sounds and trouble breathing independently.

This patient was transferred from Sarah Bush Lincoln Hospital in Mattoon. They were referred to this hospital by the Emergency Department. They were admitted to the current hospital on 1/23/2025 with a positive medical diagnosis of respiratory syncytial virus (RSV). The client sought care and was taken to the hospital because of their breathing pattern, as stated by the mother. The client is breastfeeding well and tolerating before administration. The client has siblings at home who were sick, per their mother, and have been ill for three days. This client had substernal and subcostal retractions, as documented previously in the electronic health record. The symptoms were not managed at home, and the client was taken to emergency care.

Relevant Lab Values/Diagnostics

- Chest x-ray. This test was done before the hospitalization of OSF Sarah Bush. This test showed bronchiolitis without pneumonia per the electronic medical record. I could not view this test; I only read the results. A chest X-ray is used to diagnose any pulmonary or cardiac diseases and can show findings such as inflammation and fluid and help diagnose diseases such as RSV (Pagana et al., 2023). A routine chest x-ray will be free of any inflammation, occlusions, or abnormal heart and lung disease processes (Pagana et al., 2023).
- Aerobic Culture (gram stain). The lab result was not complete during my rotation. This culture was done because of the drainage and color of the client's umbilicus. A gram stain is used to determine whether the bacteria is positive or negative and to help determine the best antibiotic to treat this possible infection (Pagana et al., 2023). Aerobics, specifically, helps identify the type of bacteria. A typical aerobic culture would have no bacteria present.
- Gram Stain. The lab result was not complete during my rotation. This culture was created because of the drainage and color of the client's umbilicus. A gram stain is used to determine if the bacteria is positive or negative to help determine the best antibiotic to treat this possible infection (Pagana et al., 2023). A standard gram stain would show no bacteria present.

Medical History

Previous Medical History: N/A.

Prior Hospitalizations: N/A.

Past Surgical History: N/A.

Social needs: In the psychosocial developmental stage this patient is in, it is essential to allow for security and comfort for this patient (Rudd & Kocisko, 2022). This patient's trust in this stage will ensure a trusting life ahead (Rudd & Kocisko, 2022). In the cognitive stage this patient is in, they need to be able to explore themselves and the world around them which is important for their growth and development (Rudd & Kocisko, 2022).

Assessment	
General	The patient appears their age, weight, and height. The patient appears happy and not in distress when in mothers arms. The patient cried when getting assessment completed. The patient appeared well groomed.
Integument	The patient did not appear jaundice, cyanotic, have any rashes, or bruises on skin upon observation. The patient had pink skin, was warm, the umbilicus was a dark color and had fallen off earlier than normal. The client had some dry skin around their mouth and on one shoulder upon observation. There were no abnormalities noted on the patients skin. The client had a peripheral 24 gauge IV on the right forearm.
HEENT	There was O2 present on the baby with tape securing on either side of the nose. The oral mucosa was pink and moist. The client cry was congested as well as congestion in the clients nostrils that was a yellow color. There was no deformities or abnormalities noted. The patients ears were free of drainage or scratches. The patients fontanelles were present, and the head was normal, round, and asymmetrical. I was not able to observe the patients eyes. The patients neck had full range of motion and was able to look from side to side with no difficulty.
Cardiovascular	The patients apical pulse was present and palpable. The heart rate of this patient is 159 beats per minute which can be considered fast. There were no murmurs or gallops heard upon auscultation. The patient had a normal rate and rhythm for age.
Respiratory	The patient was tachypneic during assessment, no crackles, wheezing or rhonchi noted on auscultation. The client was crying during the assessment of their respiratory state. The client has visible use of accessory muscles when breathing and crying. The client has equal breath sounds bilaterally, posteriorly and anteriorly. No grunting was noted. No cyanosis was present.
Genitourinary	Patient can void without difficulty. I was not able to observe the patients urine, but per the electronic health record and parent, the clients urine was clear, yellow, with no odor. The client has appropriate input and output.
Gastrointestinal	This client has appropriate input and output. I was not able to observe the clients output, but the client is able to void. The client has normal, active bowel sounds. There was no distention, no scars, no wounds, or incisions on the abdomen. The clients umbilicus was a dark color and freshly fell off.
Musculoskeletal	This patient moves all extremities well. The patients grip finger well on both hands. The clients Babinski reflex was not able to be tested as the client was crying. The patient exhibited strength in all extremities as they moved all four extremities. The client has all ten finger and all ten toes.
Neurological	The client cognition is normal for their age. The patient is alert, awake, and crying. The client is responsive to cold and pain.
Most recent VS (highlight if abnormal)	<p>Time: 1030</p> <p>Temperature: taken at 1130: 99.3F</p> <p>Route: axillary</p> <p>RR: 46 respirations per minute</p> <p>HR: 159 beats per minute</p>

	<p>BP and MAP: 132/70 mmHg and 87 mmHg</p> <p>Oxygen saturation: 92%</p> <p>Oxygen needs: the patient is on 7L/min on nasal cannula.</p>
Pain and Pain Scale Used	The baby appeared content in the mothers arms and there was no pain observed according to the FLACC scale score of 0 (Rudd & Kocisko, 2022).

<p>Nursing Diagnosis 1 Impaired gas exchange related to ineffective airway clearance as evidenced by use of accessory muscles (Phelps, 2023).</p>	<p>Nursing Diagnosis 2 Risk for infection related to exposure to respiratory syncytial virus (Phelps, 2023).</p>	<p>Nursing Diagnosis 3 Risk for impaired parenting related to impaired knowledge about infant health maintenance (Phelps, 2023).</p>
<p>Rationale I picked this diagnosis because the client was using accessory muscles so breath and were on oxygen due to their medical diagnosis of RSV.</p>	<p>Rationale I picked this diagnosis because this client is at more risk of developing more complicated respiratory disorders/diseases because of the medical diagnosis of RSV.</p>	<p>Rationale I chose this nursing diagnosis because the clients caregiver may be of inadequate knowledge when it comes to respiratory infections and how a young infant can contract viruses.</p>
<p>Interventions Intervention 1: Monitor vitals, especially respiratory status every 2 hours (Phelps, 2023). Intervention 2: Reposition and keep the patient as active as possible to increase mobilization of secretions (Phelps, 2023).</p>	<p>Interventions Intervention 1: Minimize spread of infection (Phelps, 2023). Intervention 2: Educate caregiver on signs and symptoms of infection (Phelps, 2023).</p>	<p>Interventions Intervention 1: Educate caregiver on signs and symptoms of possible illness in an infant(Phelps, 2023). Intervention 2: Encourage parent to express their knowledge on infant care (Phelps, 2023).</p>
<p>Evaluation of Interventions Monitoring the clients vitals, can make sure no complications occur. This is observed by the nurse as beneficial since it seems the clients oxygen saturation and heart rate are stable while being monitored well. This aids in the care plan. Repositioning the client as the nurse and educating the caregiver to reposition is showing those secretions come up in the nasal cavity which can be suctioned out.</p>	<p>Evaluation of Interventions Initiating precautions to spread infection, can lead to this client not contracting another respiratory disease or lead to further complications for this patient. Initiating hand hygiene can help the spread of infection. Educating the patient can help them when they get home to their family on helping the spread of infection to other family members and increasing the risk of further respiratory</p>	<p>Evaluation of Interventions I was not allowed to implement these interventions, but it is expected the caregiver will understand the risk of an infant contracting an illness. It would be expected the caregiver would take precautions with older people in the home when they are sick. Assess the clients knowledge on signs of an infection or sickness is important for an infant. This will hopefully decrease the occurrence of an illness. The</p>

	<p>complications for this patient. These interventions were well evaluated since the patient was stable with no further evidence of another infection forming.</p>	<p>caregiver will express appropriate ensures to take if the infant is sick.</p>
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Pathophysiology

Disease process:

The clinical presentation of respiratory syncytial virus (RSV) is an upper respiratory infection; however, in young infants, RSV frequently exhibits bronchiolitis, a lower respiratory tract condition characterized by minor airway constriction (Jain et al., 2023). One of the viruses that infect children the most frequently in the globe is RSV. RSV spreads quickly from person to person through droplets. After someone is exposed to the virus, it usually takes about 2 to 8 days for symptoms to show up, with most people seeing signs around 4 to 6 days later (Jain et al., 2023). This timing can depend on the person's age and whether they have had RSV. Once RSV enters the nose or eyes, it quickly moves into the lungs, targeting specific cells with tiny, hair-like structures. The virus uses a protein called RSV-G to latch onto the cell, and then another protein called RSV-F helps it merge with the cell's membrane (Jain et al., 2023). This allows the virus to sneak inside and start making copies of itself. As the virus replicates, it triggers an immune response from the body involving antibodies and immune cells. The way the virus damages cells, combined with the body's reaction, results in the death of respiratory cells (Jain et al., 2023). This can lead to blocked airways from mucus, cell debris, and other materials. In severe cases, it can even affect the air sacs in the lungs. Other issues include problems with the tiny hairs that help clear mucus, swelling in the airways, and a decrease in how well the lungs can expand and contract (Jain et al., 2023).

S/S of disease:

Respiratory Syncytial Virus (RSV) usually causes a runny nose, nasal congestion, coughing, sneezing, and sometimes fever (Jain et al., 2023). It can be more serious for young children, especially those under two (Jain et al., 2023). In these cases, RSV may cause problems in the lower respiratory tract. Symptoms can include noisy breathing, rapid breathing, using extra muscles, wheezing, and long periods of breathing out. In severe

cases, it might also lead to symptoms of viral pneumonia, like low oxygen levels, tiredness, episodes of not breathing, and severe trouble breathing (Jain et al., 2023). My client presented with accessory muscle use, congestion, and subcostal/substernal retractions.

Method of Diagnosis:

Screening for respiratory syncytial virus (RSV) is critical for distinguishing it from other respiratory conditions (Jain et al., 2023). This testing typically employs quick antigen and polymerase chain reaction (PCR). Antigen testing is known for its speed and cost-effectiveness (Jain et al., 2023). Conversely, PCR testing is favored due to its higher sensitivity, quicker result delivery, and capability to identify additional organisms (Jain et al., 2023). Radiographic findings associated with RSV often mirror those of bronchiolitis and lack specificity. Chest X-rays may reveal hyperinflation, patchy atelectasis, and peribronchial thickening, which may complicate the differential diagnosis from bacterial pneumonia (Jain et al., 2023). A physical exam and clinical symptoms can help diagnose RSV as well. My client was diagnosed with RSV because of their clinical symptoms, as well as a chest X-ray.

Treatment of disease:

Patients with RSV are treated chiefly with supportive care, which includes nasal suction, fever-reducing antipyretics, hydration assistance, and oxygen for those suffering from hypoxia (Jain et al., 2023). Severe instances may necessitate ventilatory support, and hospitalization is recommended for individuals with moderate to severe illness or those requiring breathing aid (Jain et al., 2023). Antiviral medicine may also be used. My patient was on oxygen via nasal cannula and had an IV in place in case of the need for hydration. My patient was not on any medications other than oxygen while receiving treatment for RSV at the time of my rotation.

References (3):

Capriotti, T. M. (2020). *Davis advantage for pathophysiology introductory concepts and clinical preservations* (2nd ed.). F.A. Davis.

Jain, H., Schweitzer, J., & Justice, N.A. (June 20, 2023). Respiratory syncytial virus infection in children. National Library of Medicine – StatPearls.

<https://www.ncbi.nlm.nih.gov/books/NBK459215/>

Nurses drug handbook. (2024). Jones and Bartlett Learning.

Pagana, K., Pagana, T., & Pagana, T. (2023). *Mosby's diagnostic & laboratory test reference* (16th ed). Elsevier.

Phelps, L. L. (2023). *Nursing diagnosis reference manual* (12th ed). Wolters Kluwer.

Rudd, K. & Kocisko, D. (2022). *Davis advantage for pediatric nursing: Critical components of nursing care* (3rd ed.). F.A. Davis.

Med math:

15mg/kg is the order.

High- 15mg x 5.78 kg = 86.7 mg of Acetaminophen/dose. This is a safe dose for this patient.

Low- 10mg x 5.75kg = 57.5 mg of Acetaminophen/dose

