

N433 Care Plan #2

Lakeview College of Nursing

Cindy Ho

## N433 CARE PLAN

**Demographics (3 points)**

<b>Date of Admission</b> 10/18/22	<b>Client Initials</b> JG	<b>Age (in years &amp; months)</b> 6 years 1 month	<b>Gender</b> Female
<b>Code Status</b> Full Code	<b>Weight (in kg)</b> 19.6 kg	<b>BMI</b> 15.7	<b>Allergies/Sensitivities (include reactions)</b> NKA

**Medical History (5 Points)****Past Medical History:**

**Illnesses:** Pneumonia, acute resp. failure w/hypoxia, elevated C-reactive protein. elevated procalcitonin, leukocytosis, empyema, pleural effusion on right, normocytic, anemia, respiratory distress, eczema

**Hospitalizations:** No prior hospitalizations.

**Past Surgical Hx:** No surgical history per mom.

IR Chest tube placement right 10/21

IR US Abdomen 10/21

**Immunizations:** Up-to-date on all vaccinations. Fully vaccinated for Covid-19.

**Birth History:** The patient was delivered at term. It was a normal delivery via cesarean section. No NICU stay.

**Complications (if any):** Cesarean section due to gestational diabetes.

**Assistive Devices:** The patient has prescription eyeglasses and does not have need for other assistive devices.

**Living Situation:** Lives between mom and dad's house. 2 sisters (10 and 12). They have a fish. Mom works 11pm through overnight and dad works late afternoon until 11pm. No plans for daycare right now according to mom.

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Sick contacts at school. Parents smoke away from their children.

**Admission Assessment**

**Chief Complaint (2 points):** Respiratory failure with hypoxia

**Other Co-Existing Conditions (if any):** RLL pneumonia

**Pertinent Events during this admission/hospitalization (1 points):**

The patient was discharged from the ED four days prior for suspected viral illness. On October 18, the patient was transported to Carle Hospital via ambulance from the clinic office for respiratory distress. The PCP noted retractions, nasal flaring, trouble talking and diminished breath sounds. The patient has elevated WBC and chest x-ray is significant for right middle lobe pneumonia.

**History of present Illness (OLD CARTS) (10 points):**

The patient's illness began on 10/13 with vomiting, diarrhea, cough, and congestion with an elevated temperature of 101°F. Mom reported diarrhea as black and runny. Mom gave Pepto Bismol. The patient was seen in the ED on 10/14 and discharged from the ED with a suspected viral illness. The patient had a prescription for Zofran to treat the vomiting, but the mom did not fill the prescription. The patient continued to have daily fevers, vomiting, cough, and congestion. The patient had three episodes of diarrhea on Sunday, 10/16. Mom reports that the patient can keep some fluids down and urinates at least three times a day. The patient can eat in small amounts but cannot eat a full meal in one sitting. There is no one else in the family with symptoms. Mom states the patient was "her normal self until 10/13." When asked about allergies, the mom states that the patient has "no allergies that I know of." The patient also reports she is having pain in the left side under the ribcage. Fever of 40°C on 10/18 between 2-5 am. The patient was seen at the Carle clinic on 10/18 and transferred to the ED by ambulance for

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respiratory distress. The provider at the clinic noted retractions, nasal flaring, trouble talking, and diminished breath sounds. In the ED, the patient was febrile to 39.4°C, tachycardic to 159, and tachypneic to 50-the 60s.

### **Primary Diagnosis**

**Primary Diagnosis on Admission (2 points):** Empyema in the lungs

**Secondary Diagnosis (if applicable):**

RLL pneumonia, pleural effusion on right, elevated C-reactive protein, elevated procalcitonin, elevated inflammatory markers

**Pathophysiology of the Disease, APA format (20 points):**

Empyema is a pleural space infection most commonly associated with pneumonia but can also develop after thoracic surgery or thoracic trauma (Garvia & Paul, 2021). Empyema is associated with higher rates of morbidity and mortality without early intervention. During the inflammatory process of pneumonia, there is an increase in fluid production in the pleural cavity, leading to the exudate stage. As the disease progresses, microorganisms like bacteria or viruses colonize the fluid and lead to the formation of exudate. This exudate is characterized by elevated lactate dehydrogenase, proteins, neutrophils, and dead cells (Garvia & Paul, 2021). Elevated lactate dehydrogenase (LDH) is an important enzyme that indicates tissue damage by acute or chronic disease or injury (Cleveland Clinic, 2022). The thick opaque fluid is characteristic of the fibrinopurulent stage (Garvia & Paul, 2021). Lastly, fibrosis can result from the inflammation and infection process and may lead to restriction of the lung parenchyma (Garvia & Paul, 2021).

The symptoms of empyema may be similar to pneumonia; cough, sputum production, fever, and difficulty breathing. The patient can present with tachycardia, tachypnea, fever (100.4 and up), experience breathlessness, and develop chest pain due to the pressure build-up of pus in

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the chest cavity. Lung sounds may be diminished, and crackles and wheezes can be auscultated. This child experienced a fever of up to 40°C, pain in the right side under her ribs, diminished breath sounds, and tachypneic (50-the 60s). Further evaluation is needed for diagnosis due to the lack of specificity. A chest x-ray can visualize pleural effusion. Aspirated pleural fluid can be cultured, and pleural fluid biomarkers, such as C-reactive protein and procalcitonin, can be used to identify the infection and severity of sepsis.

As with all infections, treatment of empyema is initiated with antibiotics to control the source of infection (Garvia & Paul, 2021). This child is being treated with vancomycin and ceftriaxone; both are strong, broad-spectrum antibiotics. Antibiotics should be given for 2 to 6 weeks, depending on the patient's response, source control, and the organism involved (Garvia & Paul, 2021). Surgical tube thoracostomy is the first intervention for the treatment of empyema. In this 6-year-old child, an image-guided pigtail catheter placement was more appropriate. The pigtail catheter has more advantages for children due to a smaller tube that allows safer passage through the pleural space. The pigtail catheter also has holes so that drainage will continue in case the tube comes in close contact with the pleura. Lastly, due to the high strength of the pigtail catheters, the tube can resume its original configuration after distortion (Ciftci et al., 2021). The drainage will relieve the pain the child was experiencing under the ribs on the right side of the chest due to pressure from the pus build-up.

Complications associated with empyema include worsening sepsis and pleural fibrosis. Pleural fibrosis can lead to adhesions and decreased lung expansion (Iguina & Danckers, 2022). Signs and symptoms of pleural fibrosis include shortness of breath, cough, and clubbing of fingers or toes. Nurses can encourage using the incentive spirometer ten times every hour while awake and provide oxygen therapy as ordered. Signs and symptoms of worsening sepsis include

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purulent sputum, tachycardia, fever, and confusion. Nursing interventions for worsening sepsis include maintaining a sterile technique when changing dressings and providing IV site care. Encouraging frequent position changes, deep breathing, and coughing can also help clear the lungs of microorganisms to prevent worsening sepsis.

**Pathophysiology References (2) (APA):**

Ciftci, T. T., Akinci, D., Unal, E., Tanir, G., Artas, H., & Akhan, O. (2021). Percutaneous management of complicated parapneumonic effusion and empyema after surgical tube thoracostomy failure in children: A retrospective study. *Diagnostic and Interventional Radiology*, 27(3), 401–407. <https://doi.org/10.5152/dir.2021.20331>

Cleveland Clinic. (2022). *Lactate dehydrogenase test: What it is and results*.

<https://my.clevelandclinic.org/health/diagnostics/22736-lactate-dehydrogenase-ldh-test>

Garvia, V., & Paul, M. (2022). *Empyema*. National Library of Medicine.

<https://www.ncbi.nlm.nih.gov/books/NBK459237/>

Iguina, M. M., & Danckers, M. (2022). *Thoracic empyema*. National Library of Medicine.

<https://www.ncbi.nlm.nih.gov/books/NBK544279/>

Shebl, E., & Paul, M. (2022). *Parapneumonic pleural effusions and empyema thoracis*. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/books/NBK534297/>

**Active Orders (2 points)**

<b>Order(s)</b>	<b>Comments/Results/Completion</b>
<b>Activity:</b> Ambulate around the unit	Light exercise helps to expand the lungs.
<b>Diet/Nutrition:</b> Regular diet	The patient has no dietary restrictions.
<b>Frequent Assessments:</b> Vital	HR, RR, O2 Sat, temp, BP q4 while awake
<b>Labs/Diagnostic Tests:</b> Daily labs	(CRP, Procalcitonin, CMP, and CBC with

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	differential) AM Routine to monitor infection status.
<b>Treatments:</b> Anesthetic spray	Instant topical anesthetic spray prior to lab draws to minimize pain.
<b>Other:</b>	
<b>New Order(s) for Clinical Day</b>	
<b>Order(s)</b>	<b>Comments/Results/Completion</b>
Discontinue: famotidine (Pepcid) oral suspension 9.84 mg	The provider discontinued the order.
Pigtail catheter removal	The provider ordered removal with drainage <30 mL.
Incentive spirometer	The patient demonstrated the ability to inhale 10 deep breaths using the incentive spirometer.

## Laboratory Data (15 points)

**CBC Highlight All Abnormal Labs**—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range (specific to the age of the child)	Admission or Prior Value	Today's Value	Reason for Abnormal Value
<b>RBC</b>	3.90-4.96 10 <sup>6</sup> /uL	3.52	3.61	Dietary deficiency of vitamin B12 or folic acid can lead to vitamin deficiency anemia. Vitamin deficiency anemia is likely due to the patient's nausea, vomiting, and diarrhea (Pagana et al., 2022). Cephalosporin

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				induced hemolytic anemia may also contribute to the decrease in RBC due to destruction of RBC outpacing bone marrow synthesis (Capriotti, 2020).
<b>Hgb</b>	10.6-13.2 d/dL	9.6	9.6	Cephalosporins, a class of antibiotics, can induce hemolytic anemia. Decrease in RBCs lead to decreased oxygen carrying capacity (Pagana et al., 2022).
<b>Hct</b>	32.4-39.5%	28.5	29.9	
<b>Platelets</b>	199-367 10 <sup>3</sup> /uL	274	1116	Secondary thrombocytosis is due to an underlying infection, acute bacterial and viral infections. Pneumonia of an unspecified organism may cause the infection leading to elevated platelets (Capriotti, 2020).
<b>WBC</b>	4.27-11.40 10 <sup>3</sup> /uL	31.5	22.7	Elevated WBC indicates an infection. The patient's infection is due to pneumonia of an unspecified organism (Pagana et al., 2022).
<b>Neutrophils</b>	1.64-7.87	29.86	14.49	Increased WBC indicates acute suppurative infection. The patient is receiving treatment for empyema due to pneumonia. Empyema is a suppurative infection involving the accumulation of pus in the pleural cavity (Pagana et al., 2022).
<b>Lymphocytes</b>	(Did not see)	0.9	25.9	
<b>Monocytes</b>	2-8%	4.3	8.0	
<b>Eosinophils</b>	0-4%	0.0	0.5	
<b>Basophils</b>	0.5-1%	0.0	0.4	
<b>Bands</b>	0.0-10.0%	4.3	N/A	

**Chemistry Highlight All Abnormal Labs**—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission or Prior Value	Today's Value	Reason For Abnormal
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<b>Na-</b>	136-145	134	140	The patient presented with nausea, vomiting, and diarrhea, which could contribute to a deficient dietary intake of sodium, resulting in a slightly decreased value (Pagana et al., 2022).
<b>K+</b>	3.5-5.1 mmol/L	2.9	3.9	The patient presented with nausea, vomiting, and diarrhea, which could contribute to a deficient dietary intake of potassium, resulting in a slightly decreased value (Pagana et al., 2022).
<b>Cl-</b>	98-107	97	109	The initial decrease in chloride may be related to vomiting experienced by the patient. The more recent lab showing a slight increase may be due to excessive infusion of normal saline (Pagana et al., 2022).
<b>Glucose</b>	74-100 mg/dL	99	95	
<b>BUN</b>	7-17 mg/dL	28	6	Increased BUN level can indicate sepsis and dehydration, both of which the patient was experiencing on admission. A slight decrease in BUN may be related to hydration status or lack of protein in the diet (Pagana et al., 2022).
<b>Creatinine</b>	0.55-1.02 mg/dL	0.98	0.44	A decrease in creatinine may be due to muscle loss or low dietary intake of protein (Capriotti, 2020).
<b>Albumin</b>	3.8-5.4 g/dL	2.3	2.6	A decrease in albumin may result from acute infection (Pagana et al., 2022).
<b>Total Protein</b>	6.0-8.0 g/dL	6.9	6.5	
<b>Calcium</b>	8.8-10.8 mg/dL	9.0	8.9	
<b>Bilirubin</b>	0.2-1.2 mg/dL	0.5	0.5	
<b>Alk Phos</b>	9-500 U/L	214	135	
<b>AST</b>	5-34 U/L	22	19	

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<b>ALT</b>	0-55 U/L	11	13	
<b>Amylase</b>	6-65 U/L	24 U/L	Not tested	
<b>Lipase</b>	8-78 U/L	Not tested	8	
<b>Magnesium</b>	1.6-2.6 mg/dL	2.5	2.0	

Other Tests **Highlight All Abnormal Labs**—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Admission or Prior Value	Today's Value	Reason for Abnormal
<b>ESR</b>	3-13 mm/h	114	92	Elevated RBCs due to infection causes an increase in the number of fibrinogens in the blood. Fibrinogen binds to RBCs, fixes them in stacks, increases their weight, and causes them to descend faster (Capriotti, 2020).
<b>CRP</b>	0.0-0.50 mg/dL	47.77	20.20	Elevation of CRP in the bloodstream indicates that active inflammation is occurring. CRP is a key acute phase protein that is integral to marking foreign material for phagocytosis (Capriotti, 2020).
<b>Hgb A1c</b>	N/A			
<b>TSH</b>	N/A			
<b>Procalcitonin (PCT)</b>	<0.5 ng/mL	29.59	49.76	Infection is the primary trigger for procalcitonin. It is an important biomarker for the early detection of systemic bacterial infection and differentiates it from other non-infectious causes. In normal physiologic conditions, PCT is undetectable in the serum in healthy patients, but proinflammatory cytokines trigger PCT production in bacterial infection (Downes et al., 2020).

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Urinalysis **Highlight All Abnormal Labs**—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Admission or Prior Value	Today's Value	Reason for Abnormal
Color & Clarity	Yellow, clear	Yellow, clear	Not collected	
pH	4.6-8.0	7.0		
Specific Gravity	1.000-1.030	1.010		
Glucose	Negative	Negative		
Protein	Negative	30		Conditions such as dehydration and inflammation can cause a temporary rise in the levels of protein (Cleveland Clinic, 2022).
Ketones	Negative	Negative		
WBC	0-25/UL	12		
RBC	0-20/UL	6		
Leukoesterase	Negative	Small		This test indicates a urinary tract infection (Pagana et al., 2022).

Cultures **Highlight All Abnormal Labs**—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Admission or Prior Value	Today's Value	Explanation of Findings
Urine Culture UA w/reflex culture	No growth	No significant growth detected		
Blood Culture	Not performed			
Sputum Culture	Not performed			
Stool Culture	Not performed			
Respiratory ID Panel	Negative	Nothing detected		
COVID-19 Screen	Negative	Not detected		

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**Lab Correlations Reference (1) (APA):**

Cleveland Clinic. (2022). *Proteinuria: Causes, symptoms, tests & treatment*.

<https://my.clevelandclinic.org/health/diseases/16428-proteinuria>

Downes, K. J., Fitzgerald, J. C., & Weiss, S. L. (2020). Utility of procalcitonin as a biomarker

for sepsis in children. *Journal of Clinical Microbiology*, 58(7), e01851-19. [https://](https://doi.org/10.1128/jcm.01851-19)

[doi.org/10.1128/jcm.01851-19](https://doi.org/10.1128/jcm.01851-19)

Pagana, K. D., Pagana, T. J., Pagana, T. N., & Pagana, K. D. (2022). *Mosby's manual of*

diagnostic and laboratory tests. Elsevier.

**Diagnostic Imaging**

**All Other Diagnostic Tests (5 points):** Chest x-ray was significant for right middle lobe

pneumonia.

**Diagnostic Test Correlation (5 points):**

The chest x-ray was a diagnostic procedure for evaluating lung inflammation and visualizing

fluid accumulation. The x-ray was significant for right middle lobe pneumonia and the

possibility of pneumonia developing in the left lobe of the lungs.

**Diagnostic Test Reference (1) (APA):**

Pagana, K. D., Pagana, T. J., Pagana, T. N., & Pagana, K. D. (2022). *Mosby's manual of*

diagnostic and laboratory tests. Elsevier.

**Current Medications (8 points)**

**\*\*Complete ALL of your Client's medications\*\***

<b>Brand/ Generic</b>	Ceftriaxone	lactobacillus rhamnosus (Culturelle)	Vancomycin		
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<b>Dose</b>	1000 mg in 0.9% NaCl 25 ml	10 billion cells	75 mg/kg/day 1470 mg/day <b>367.5 mg in 0.9% NaCL</b>		
<b>Frequency</b>	q12h	Daily	q6h		
<b>Route</b>	IVPB	Oral	IVPB		
<b>Classification</b>	<u>Pharmacologic class:</u> Cephalosporin antibiotics – 3 <sup>rd</sup> generation <u>Therapeutic class:</u> Antibiotic	<u>Pharmacologic class:</u> Antidiarrheal microorganism agents <u>Therapeutic class:</u> Probiotic	<u>Pharmacologic class:</u> Glycopeptide <u>Therapeutic class:</u> Antibiotic		
<b>Mechanism of Action</b>	Interferes with bacterial cell wall synthesis by inhibiting cross-linking of peptidoglycan strands. Peptidoglycan makes the cell membrane rigid and protective. Without it, bacterial cells rupture and die (Jones & Bartlett Learning, 2022).	Lactobacillus rhamnosus works by restoring normal flora in the gastrointestinal tract with different microorganisms that are naturally found in the stomach and intestines. It is used to treat bowel problems such as diarrhea and irritable bowel syndrome (WebMD., n.d.).	Inhibits bacterial cell wall synthesis, blocks glycoproteins (Skidmore-Roth, L., 2022).		
<b>Reason Client Taking</b>	Bacterial septicemia	Diarrhea	Sepsis		
<b>Concentration Available</b>	1g	10 billion cells	500 mg		
<b>Safe Dose Range Calculation</b>	50 to 75 mg/kg daily or in equally divided doses every 12 hour 980-1470 mg/day	1 capsule per day	40-60 mg/kg/day divided q6-8hr 784-1176 mg/day		
<b>Maximum 24-hour Dose</b>	4g	1 capsule (10 billion cells)	2g		
<b>Contraindications (2)</b>	Hypersensitivity to penicillins or cephalosporins, hyperbilirubinemia	May lessen effects of antibiotics, high fever for more than 2 days	Hypersensitivity to this product or corn		
<b>Side Effects/ Adverse Reactions (2)</b>	Clostridium difficile-associated diarrhea, nephrotoxicity	Stomach bloating, gas Allergic reaction	Nausea, nephrotoxicity		

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		(rash, itching, swelling)		
<b>Nursing Considerations (2)</b>	Obtain culture and sensitivity results before giving the drug.  Monitor BUN and serum creatinine levels to detect early signs of nephrotoxicity (Jones & Bartlett Learning, 2022).	Assess for allergies, assess for certain medical conditions such as, short bowel syndrome or a weak immune system (Drugs.com., n.d.).	Check CBC results, BUN and serum creatinine levels during therapy, observe IV infusion site for extravasation, including necrosis, pain, tenderness, and thrombophlebitis (Jones & Bartlett Learning, 2022).	
<b>Client Teaching needs (2)</b>	Urge the patient to report watery, bloody stools immediately, even up to 2 months after drug therapy.  Advise the patient to report any hypersensitivity reactions, such as a rash, itching skin, or hives (Skidmore-Roth, L., 2022).	Take probiotics at least 2-3 hours before or after taking antibiotics.  If the patient misses a dose, take it as soon as you remember. Take the next dose at the regular time. Do not double dose to catch up (WebMD., n.d.).	Instruct the patient to notify the prescriber if she develops persistent or severe diarrhea.  Instruct the patient to keep follow-up appointments during and after treatment (Jones & Bartlett Learning, 2022).	

**Medication Reference (1) (APA):**

Drugs.com. (2022). *Lactobacillus rhamnosus gg*.

<https://www.drugs.com/mtm/lactobacillus-rhamnosus-gg.html>

Jones & Bartlett Learning. (2022). *Nurse's Drug Handbook 2022* (21<sup>st</sup> ed.).

Skidmore-Roth, L. (2022). *Mosby's 2022 nursing drug reference*. Elsevier.

WebMD. (2022). *Lactobacillus rhamnosus gg oral: Uses, side effects, interactions, pictures, warnings & dosing*.

<https://www.webmd.com/drugs/2/drug-18145/lactobacillus-rhamnosus-gg-oral/details>

**Assessment**

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The client was lying in bed playing games on her iPad. The client is alert and oriented x4, well groomed, and without respiratory distress—skin temperature warm, dry, and without any sign of cyanosis, edema, or clubbing. IV on the right antecubital with a 24G is infusing vancomycin 367.5 mg in 0.9% NaCl 100 mL, and the dressing is clean and dry. The client’s trachea is midline, the thyroid is nonpalpable, and the head is without trauma. Pinna is normal size and shape, EOM and PERRLA intact bilaterally, conjunctiva clear, and the septum is midline. The client uses eyeglasses for hyperopia. Clear S1 and S2 sounds with regular rate and rhythm, peripheral pulses 2+ bilaterally fingers and toes, capillary refill less than three seconds bilaterally fingers and toes. Respirations are symmetrical and non-labored bilaterally without crackles, wheezes, or rhonchi. There are some decreased breath sounds on the right lower lobe. There is a size 10.2 Fr pigtail catheter in the right pleural space. The dressing is clean, dry, and intact. Normoactive bowel sounds in all four quadrants without distention. The abdomen is soft, non-tender, and without masses or organomegaly. Urine is clear and yellow without odor. The patient has voided 100 mL. The client has a normal range of motion in all four extremities, strong hand grips, and pedal pushes bilaterally. Speech is clear, at a regular rate and rhythm, and age-appropriate. The patient is eating well. The bed is in the lowest position.

**Physical Exam (18 points) Highlight Abnormal Pertinent Assessment Findings**

<b>GENERAL:</b> <b>Alertness:</b> <b>Orientation:</b> <b>Distress:</b> <b>Overall appearance:</b>	Playing games comfortably on her iPad Alert and oriented x4 Active in the bed No respiratory distress Well groomed
<b>INTEGUMENTARY:</b> <b>Skin color:</b> <b>Character:</b> <b>Temperature:</b> <b>Turgor:</b> <b>Rashes:</b> <b>Bruises:</b> <b>Wounds:</b>	Normal No cyanosis, edema, or clubbing Warm  Gluteal rash forming, slightly raised bumps, non-reddened. Sensi-care applied 10/26 No bruises, wounds

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<b>Braden Score:</b> <b>Drains present:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Type:</b> <b>IV Assessment (If applicable to child):</b> <b>Size of IV:</b> <b>Location of IV:</b> <b>Date on IV:</b> <b>Patency of IV:</b> <b>Signs of erythema, drainage, etc.:</b> <b>IV dressing assessment:</b> <b>IV Fluid Rate or Saline Lock:</b>	22  24G Right AC 10/25 0520 Infusing vancomycin 367.5 mg in 0.9% NaCl 100 mL No signs of erythema or drainage Clean, dry
<b>HEENT:</b> <b>Head/Neck:</b> <b>Ears:</b> <b>Eyes:</b> <b>Nose:</b> <b>Teeth:</b> <b>Thyroid:</b>	Normocephalic, trachea midline Atraumatic Pinna is normal size and shape, without drainage EOM intact bilaterally, conjunctiva clear Septum midline Intact Nonpalpable
<b>CARDIOVASCULAR:</b> <b>Heart sounds:</b> <b>S1, S2, S3, S4, murmur etc.</b> <b>Cardiac rhythm (if applicable):</b> <b>Peripheral Pulses:</b> <b>Capillary refill:</b> <b>Neck Vein Distention:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Edema</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Location of Edema:</b>	Normal rate and rhythm S1 and S2 present without murmurs  2+ bilateral palpable < 3 seconds bilateral fingers and toes
<b>RESPIRATORY:</b> <b>Accessory muscle use:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Breath Sounds: Location, character</b>	Respirations are symmetrical and non-labored on auscultation without crackles, wheezes or rhonchi.  Decreased breath sounds at the right lower lobe. Pigtail catheter 10.2 Fr in the right pleural space placed on 10/21. Suction drainage with serosanguinous drainage. The dressing is clean, dry, and intact.
<b>GASTROINTESTINAL:</b> <b>Diet at home:</b> <b>Current diet:</b> <b>Height (in cm):</b> <b>Auscultation Bowel sounds:</b> <b>Last BM:</b> <b>Palpation: Pain, Mass etc.:</b> <b>Inspection:</b> <b>Distention:</b> <b>Incisions:</b>	Normal diet, no restrictions, supplement with Pediasure Vanilla Diet as tolerated 111.8 cm Normoactive bowel 10/27 2000 Type 7 brown, loose Soft, nontender, nondistended without masses or organomegaly Normal bowel sounds in all four quadrants. No distention

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<b>Scars:</b> <b>Drains:</b> <b>Wounds:</b> <b>Ostomy:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Nasogastric:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Size:</b> <b>Feeding tubes/PEG tube</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Type:</b>	No incisions, scars, drains, wounds
<b>GENITOURINARY:</b> <b>Color:</b> <b>Character:</b> <b>Quantity of urine:</b> <b>Pain with urination:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Dialysis:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Inspection of genitals:</b> <b>Catheter:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Type:</b> <b>Size:</b>	The patient is voiding normally without assistance. Yellow, without odor 100 mL  No dialysis, no urinary catheter.
<b>MUSCULOSKELETAL:</b> <b>Neurovascular status:</b> <b>ROM:</b> <b>Supportive devices:</b> <b>Strength:</b> <b>ADL Assistance:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Fall Risk:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>Fall Score:</b> <b>Activity/Mobility Status:</b> <b>Independent (up ad lib)</b> <input type="checkbox"/> <b>Needs assistance with equipment</b> <input type="checkbox"/> <b>Needs support to stand and walk</b> <input type="checkbox"/>	Normal ROM in all four extremities No supportive devices Normal strength  35. The patient has an IV and a secondary diagnosis. Independent
<b>NEUROLOGICAL:</b> <b>MAEW:</b> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> <b>PERLA:</b> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> <b>Strength Equal:</b> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> if no - <b>Legs</b> <input type="checkbox"/> <b>Arms</b> <input type="checkbox"/> <b>Both</b> <input type="checkbox"/> <b>Orientation:</b> <b>Mental Status:</b> <b>Speech:</b> <b>Sensory:</b> <b>LOC:</b>	The client has normal range of motion in all four extremities, strong hand grips and pedal pushes bilaterally.  Oriented to person, place, and time.  Speech clear, at a normal rate, and age-appropriate. The patient is alert.
<b>PSYCHOSOCIAL/CULTURAL:</b> <b>Coping method(s) of caregiver(s):</b> <b>Social needs (transportation, food,</b>	Strong family support, living between mom and dad with 2 older sisters 10 & 12 and an older

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<b>medication assistance, home equipment/care):</b> <b>Personal/Family Data (Think about home environment, family structure, and available family support):</b>	brother.
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**Vital Signs, 2 sets – (2.5 points) Highlight All Abnormal Vital Signs**

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
07:11	128	128/82	42	37.1	100
11:45	124	123/75	44	37.2	98

**Vital Sign Trends:**

The patient stable with little variation in the vital signs taken 4 hours apart. Respirations are above normal reference range of 14-22 breaths per minute. Pulse and blood pressure are above normal reference range. Temperature and oxygen saturation are within normal range.

**Normal Vital Sign Ranges (2.5 points)**  
**\*\*Need to be specific to the age of the child\*\***

<b>Pulse Rate</b>	60-100 BPM
<b>Blood Pressure</b>	94/56
<b>Respiratory Rate</b>	14-22
<b>Temperature</b>	36.6° C
<b>Oxygen Saturation</b>	95-100%

**Normal Vital Sign Range Reference (1) (APA):****Pain Assessment, 2 sets (2 points)**

Time	Scale	Location	Severity	Characteristics	Interventions

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0850	rFLACC	Chest	0	N/A	Distraction with iPad, television, and stuffed animals.
<b>Evaluation of pain status <i>after</i> intervention</b>	FACES	Chest	6	Sharp pain when breathing deeply.	Distraction with iPad, talking with mom, and a soda.
<p><b>Precipitating factors:</b> Pigtail catheter removal  <b>Physiological/behavioral signs:</b> The client sitting in the chair playing with her iPad, talking with mom, and drinking a soda.</p>					

**Intake and Output (1 points)**

<b>Intake (in mL)</b>	<b>Output (in mL)</b>
Water: 240 mL	Urine: 862 mL
Pediasure: 240 mL	Chest tube drainage: 10 mL
232.9 Vanco 367.5 mg in 0.9% NaCl 100 mL	
D5 0/9% NaCl w/KCl 20 mEq 8.5 mL	
<b>Total intake: 588.5 mL</b>	<b>Total output: 872 mL</b>

**Developmental Assessment (6 points)**

**\*Be sure to highlight the achievements of any milestone if noted in your child. Be sure to highlight any use of diversional activity if utilized during clinical. There should be a minimum of 3 descriptors under each heading\***

**Age Appropriate Growth & Development Milestones**

1. Fear of body mutilation (pigtail catheter removal). School-age children are very interested in peers' views.
2. Able to negotiate solutions to conflicts. The patient agreed to have breakfast before candy.

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3. Can reverse the thought process. The was not focused on the playroom but understood she had to eat to have energy to play.

### **Age Appropriate Diversional Activities**

1. Ipad
2. Television
3. Stuffed animals

### **Psychosocial Development:**

**Which of Erikson's stages does this child fit?** Industry vs. Inferiority

**What behaviors would you expect?** Expected behaviors of a child in this stage of development include winning approval from peers and adults. Self esteem is developed during this period as children feel a sense of self-worth and level of competence.

**What did you observe?** The patient was brave during the removal of the pigtail catheter. The doctor helped build the patient's confidence and trust in her during the removal process.

### **Cognitive Development:**

**Which stage does this child fit, using Piaget as a reference?** Preoperational stage

**What behaviors would you expect?** Expected behaviors include an understanding of right and wrong, knowing acceptable cultural rules, and may begin to question parents' values.

**What did you observe?** The child was upset and crying because mom said she cannot have candy or go to the playroom before breakfast.

**Vocalization/Vocabulary:** The child was able to follow along with all instruction from mom, nurses, doctors.

**Development expected for child's age and any concerns?** A 6 year old is expected to develop language skills and expand vocabulary. School-aged children begin to use more complex grammatical forms such as plurals and pronouns.

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**Any concerns regarding growth and development?** No concerns according to mom.

**Developmental Assessment Reference (1) (APA):**

Ricci, S. S., Kyle, T., & Carman, S. (2021). *Maternity and pediatric nursing* (4th ed.). Wolters Kluwer.

**Nursing Diagnosis (15 points)**

**\*Must be NANDA approved nursing diagnosis and listed in order of priority\***

<b>Nursing Diagnosis</b> <ul style="list-style-type: none"> <li>● Include full nursing diagnosis with “related to” and “as evidenced by” components</li> <li>● Listed in order by priority – highest priority to lowest priority pertinent to this client.</li> </ul>	<b>Rational</b> <ul style="list-style-type: none"> <li>● Explain why the nursing diagnosis was chosen</li> </ul>	<b>Interventions (2 per dx)</b>	<b>Outcomes</b>	<b>Evaluation</b> <ul style="list-style-type: none"> <li>● How did the Client/family respond to the nurse’s actions?</li> <li>● Client response, status of goals and outcomes, modifications to plan.</li> </ul>
1. Risk for systemic infection progression related to inflammatory and infectious processes as evidenced by diminished lung sound in RLL, elevated WBC and platelet count.	Procalcitonin level above reference range <0.5 ng/mL. The patient’s procalcitonin value on 10/27 49.76 ng/mL.	1. Encourage the use of an incentive spirometer 10 times every hour while awake.  2. Maintain sterile technique when changing dressings and providing IV site care (Doenges et al., 2019).	1. The client will demonstrate proper use of the incentive spirometer every hour while awake. Lung sound will become clearer in the right lower lobe.	The client is compliant and removal of the pigtail catheter was removed once the drainage was < 30 mL. Incentive spirometers improve lung function and prevent mucus and fluids from building up.
2. Risk for electrolyte imbalance related to hypokalemia as evidenced by potassium level	Potassium level below normal range 3.5-5.1 mmol/L. The patient’s value on admission	1. Daily lab draws to monitor blood levels (Doenges et al., 2019).	1. Potassium blood level will be within the normal reference range between	The client and client’s mom understands the need for daily lab draws to monitor labs, including

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below normal range, 2.9 mmol/L.	was 2.9 mmol/L.	2. Review client's food intake. Note if the patient has been vomiting (Doenges et al., 2019).	3.5-5.1 mmol/L.	monitoring potassium levels. The client's most recent potassium level is within normal range, 3.9 mmol/L.
3. Deficiency of diversional activity related to environmental lack of diversional activity as evidenced by patient verbal reports of boredom and desire to go to the playroom.	The 6 year old client has been hospitalized for 10 days with limited interaction with peers.	1. Assess impact of illness on lifestyle (Doenges et al., 2019). 2. Encourage a mix of desired age-appropriate activities and stimuli such as games, toys, puzzles, phone games, television, music, and utilize Child Life Services (Doenges et al., 2019).	1. The child will describe their interests to the Child Life Specialist and the nurses to come up with an activity schedule by the end of the day.	The patient will have a variety of activities to choose from and will continue the plan until discharge.
4. Risk for fear related to unfamiliarity with hospital experience as evidenced by patient expression of fear of the intravenous line and catheter.	The patient was scared and crying during the removal of the pigtail catheter in anticipation of pain.	1. Ensure the client of her safety and security; allow her to express her fears, identify needs, and be available for support (Doenges et al., 2019). 2. Establish an atmosphere of calmness, trust, and genuine positive regard (Doenges et al.,	1. The client will listen, ask questions, and remain calm during procedures such as dressing changes, IV medication administration, and the catheter removal process with the nurses or the doctor.	The client was scared but allowed the doctor to walk her through the catheter removal process. The doctor was playful with the client and allowed her to choose bandaids as a diversion.

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**Other References (APA):**

Doenges, M. E., Moorhouse, M. F., & Murr, A. C. (2019). *Nursing care plans: Guidelines for individualizing client care across the life span*. F.A. Davis.

**Concept Map (20 Points):**

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**Objective Data**

The patient was transported from Carle Clinic to the ED via ambulance. The PCP noted retractions, nasal flaring, trouble talking, and diminished breath sounds. In the ED, the patient was febrile to 39.4 °C, tachycardic to 159, and tachypneic to 50-the 60s. The patient was admitted for respiratory distress. Chest x-ray was significant for right middle lobe pneumonia. WBC were elevated 31.5, neutrophils 29.86, potassium 2.9, BUN 28, albumin 2.3, ESR 114, CRP 47.77, and PCT 29.59

**Subjective Data**

Mom states the patient was “her normal self until 10/13.” When asked about allergies, the mom states that the patient has “no allergies that I know of.” Mom states the client’s illness began on 10/13 with vomiting, diarrhea, cough, and congestion. Mom states the client reports pain in the right side under her ribcage. Mom says the client’s temperature reached 40°C on 10/18 between 2-5 am.

**Client Information**

Six year old female with no past medical issues. The client presents to the ED with respiratory distress, febrile to 39.4 °C, tachycardic to 159, and tachypneic to 50-the 60s. The patient was discharge 4 days ago from the ED with suspected viral illness. The symptoms have worsened with diminished breath sounds, nasal flaring, breathlessness and retractions.

**Nursing Diagnosis/Outcomes**

1. **Risk for systemic infection progression related to inflammatory and infectious processes as evidenced by diminished lung sound in RLL, elevated WBC and platelet count.**  
Outcome: The client will demonstrate proper use of the incentive spirometer every hour while awake. Lung sound will become clearer in the right lower lobe.
2. **Risk for electrolyte imbalance related to hypokalemia as evidenced by potassium level below normal range, 2.9 mmol/L.**  
Outcome: Potassium blood level will be within the normal reference range between 3.5-5.1 mmol/L.
3. **Deficiency of diversional activity related to environmental lack of diversional activity as evidenced by patient verbal reports of boredom and desire to go to the playroom.**  
Outcome: The child will describe their interests to the Child Life Specialist and the nurses to come up with an activity schedule by the end of the day.
4. **Risk for fear related to unfamiliarity with hospital experience as evidenced by patient expression of fear of the intravenous line and catheter.**  
Outcome: The client will listen, ask questions, and remain calm during procedures such as dressing changes, IV medication administration, and the catheter removal process with the nurses or the doctor.

**Nursing Interventions**

**Risk for systemic infection progression**

- Encourage the use of an incentive spirometer 10 times every hour while awake.
- Maintain sterile technique when changing dressings and providing IV site care (Doenges et al., 2019).

**Risk for electrolyte imbalance**

- Daily lab draws to monitor blood levels (Doenges et al., 2019).
- Review client’s food intake. Note if the patient has been vomiting (Doenges et al., 2019).

**Deficiency of diversional activity**

- Assess impact of illness on lifestyle (Doenges et al., 2019).
- Encourage a mix of desired age-appropriate activities and stimuli such as games, toys, puzzles, phone games, television, music, and utilize Child Life Services (Doenges et al., 2019).

**Risk for fear**

- Ensure the client of her safety and security; allow her to express her fears, identify needs, and be available for support (Doenges et al., 2019).
- Establish an atmosphere of calmness, trust, and genuine positive regard (Doenges et al., 2019).