

ATI Real Life Student Packet
N201 Nursing Care of Special Populations
2025

Student Name: Jay

ATI Scenario: Cystic fibrosis

To Be Completed Before the Simulation

Blue boxes should be completed using textbook information. What do you expect to find? This information should be collected before you start the ATI simulation

Medical Diagnosis: Cystic fibrosis

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

Respiratory system:

Upper: nose (warms & moistens/hairs filter/smell). Mouth, nasopharynx, oropharynx, laryngopharynx, pharynx, larynx, epiglottis, trachea (divides between left and right is carina). Lower: bronchi (conduct gases to and from alveoli), bronchioles (smooth muscles that constrict and dilate with stimuli, bronchodilation, bronchoconstriction). Except for right and left mainstem bronchi, lower is in lungs. Alveolar ducts and alveoli -> small sacs, primary site of gas exchange for O₂ and CO₂ -> gases are exchanged across the alveolar-capillary membrane where the alveoli come in contact with pulmonary capillaries -> surfactant is a lipoprotein that decreases surface tension in alveoli, reduces amount of pressure needed to inflate the alveoli and less likely to collapse.

Diaphragm aids in breathing

Left lung: 2 lobes (due to space for heart)

Right lung: 3 lobes

Lungs are in pleural cavity

Blood supply:

Pulmonary- provides lungs with blood that takes part in gas exchange. Deoxygenated blood from R ventricle -> pulmonary artery -> pulmonary capillaries (lies directly alongside alveoli), O₂-CO₂ exchange occurs now. Pulmonary veins return oxygenated blood to the L atrium -> left ventricle -> systemic circulation

This is a closed circuit between heart and lungs.

Bronchial: thoracic aorta -> bronchial arteries (Does not take part in gas exchange, provides O₂ to bronchi and tissues in the lungs.

Deoxygenated blood returns from the bronchial circulation through the azygos vein -> superior

NCLEX IV (7): Reduction of Risk

Pathophysiology of Disease

- Cystic fibrosis is a heredity disorder (autosomal recessive disorder) characterized by lung congestion and infection and malabsorption of nutrients by the pancreas
- Mutations in the CFTR gene, leading to defective chloride ion transport, which results in thick, sticky mucus that obstructs airways, ducts, and glands across multiple organ systems
- The CFTR protein normally functions as a chloride ion channel on epithelial cell surfaces
- Mutations impair chloride and bicarbonate movement across cell membranes. This disrupts water transport, leaving mucus dehydrated, thick, and sticky
- Mucus blocks pancreatic ducts, preventing digestive enzymes from reaching the intestine
- - Increased viscosity of mucous gland secretions
 - Increased electrolytes in sweat
 - Changes in saliva (dry mouth)
 - Changes in autonomic nervous system functions
 - Thick secretions
 - Emphysema: long lungs
 - Atelectasis
 - Wheezing
 - Dry non-productive cough
 - Secondary infection
 - Decreased enzymes to digest fat, protein and carbohydrates
 - Stools: large, bulky, greasy, foul odor
 - Malnutrition: meconium ileus,

<p>vena cava. Mucus membranes -> cilia cover airways and move mucus. Allows tissues to move easily against each other.</p>	<p>obstructions</p> <ul style="list-style-type: none">- CL: Na is 2-5x elevated<ul style="list-style-type: none">- Salty- Decreased fertility due to thick vaginal mucus<ul style="list-style-type: none">- Decreased insulin production- High incidence of diabetes
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To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for impaired airway clearance

Goal 1: Adventitious breath sounds (wheezing, crackles, rhonchi) will decrease bilaterally during my time of care

Relevant Assessments	Multidisciplinary Team Intervention
(Prewrite) What assessments pertain to your patient's problem? Include timeframes	(Prewrite) What will you do if your assessment is abnormal?
Assess and auscultate breath sounds q 2 hrs	Educate and demonstrate deep breathing techniques with flutter mucus clearing device q 2 hrs
Assess RR, O2 sat and HR q 2hrs	Administer any respiratory treatments via nebulizer (ex: albuterol) per order or if in distress/STAT
Assess patient positioning q 1 hr	Position patient for postural drainage to help loosen and secrete mucus with gravity before meals prn
Assess mucus in airway (mouth) q 1 hr	Suction any visible mucus or secretions as needed
Assess ability to cough upon admission	Assist to high fowlers position to aid in lung expansion and educate huck cough q1hr prn
Assess rise and fall of chest bilaterally for symmetry q 2hrs	Notify provider for any concerning findings or call rapid response/code STAT

Goal 2: HR (60-100), RR (12-20), and O2 sat (95-100%) will remain within baseline limits during my care

To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for infection

Goal 1: Temperature will remain between 36.5 to 37.5C during my care

Relevant Assessments	Multidisciplinary Team Intervention
(Prewrite) What assessments pertain to your patient's problem? Include timeframes	(Prewrite) What will you do if your assessment is abnormal?
Assess sputum for color, odor, and consistency during coughing throughout shift/PRN	Administer ABX (ex: vancomycin, azithromycin) per order
Assess vitals, HR, Temperature, O2 sat q 2 hrs	Administer an antipruritic (acetaminophen) per order
Assess for any weakness, lethargy, malaise outside of baseline throughout shift	Notify provider of any concerning findings STAT
Assess breath sounds q 2hrs	Raise HOB to high fowlers to promote lung expansion and excretion of mucus q 1hr
Assess for any recent exposure to known illnesses upon first assessment	Initiate any precautions and test for possible illnesses q shift
Assess nutrition including fluid and diet upon first assessment	Encourage fluids and a well-rounded diet with any supplements with meals during shift

Goal 2: Sputum will not show signs of infection such as green color, odor or inconsistency by end of my care

To Be Completed During the Simulation:

Actual Patient Problem #1: Infection

Goal: Temperature will remain between 36.5 to 37.5C during my care Met: **Unmet:** Goal: Sputum will not show signs of infection such as green color, odor or inconsistency by end of my careMet: **Unmet:**

Actual Patient Problem #2: Risk for impaired airway clearance

Goal: Adventitious breath sounds (wheezing, crackles, rhonchi) will decrease bilaterally during my time of care **Met:** **Unmet:** Goal: HR (60-100), RR (12-20), and O2 sat (95-100%) will remain within baseline limits during my careMet: **Unmet:**

Additional Patient Problems:

#3 Ineffective coping

#4 Inadequate nutritional intake

#5 Deficient knowledge

#6

Below will be your notes, add more lines as needed. **Relevant Assessments:** Indicate pertinent assessment findings. **Multidisciplinary Team Intervention:** What interventions were done in response to your abnormal assessments? **Reassessment/Evaluation:** What was your patient's response to the intervention?

Patient Problem (#)	Time	Relevant Assessments	Time	Multidisciplinary Team Intervention	Time	Reassessment/Evaluation
Infection	0900	Positive for b cepacia	0900	Initiated standard precautions before arrival. Usage of gloves and gown when interacting with patient	0910	Patient in bed coughing
Ineffective coping	0910	"I'm going to be so bored in this room"	0910	Explained unable to visit game room but may be able to bring in some items to help keep busy and to do his schoolwork	0910	Stated unenthusiastically "I don't want to do that...great..."
Infection and Risk for impaired airway clearance	0915	Coughing while laying semi fowlers in bed, O2 sat 95% RA, RR 26, T 37.6C, HR 96	0915	Auscultated lungs with stethoscope on front and back	0915	Wheezes noted anteriorly and posteriorly
Infection and Risk for impaired airway clearance	0915	Noted wheezes in lungs	0920	RN notified respiratory therapist of findings and to come take a look	1100	Respiratory therapist arrives before feeding
Infection	0920	PICC placement	0930	Prepare to	1000	Respiratory status

		aligned well on radiology pictures		administer medications, IV fluids and IV tobramycin and gentamycin since Zosyn placed on hold due to allergies		improving, less noted coughs, RR 24, O2 sat 95%, HR 96, T 37.9C
Inadequate nutritional intake	1000	Pt hasn't been eating well at home since infection	1115	Give pancreaze 30 minutes before feeding, aspirate for residual contents before feed, administer enteral feeding bolus through PEG tube	1115	States wanting to order dinner and proper meal and gets chicken breast, pork, beans, chocolate milk and corn on the cob.
Infection and risk for impaired airway clearance	1100	Coughing in bed at semi fowlers	1110	RT performs chest physiotherapy before feeing	1110	Had a lot of mucus plugs but treatment helped move them, still coughing, not as much wheezing
Deficient knowledge, Infection	1115	Pt states he doesn't do treatments at home often	1115	Reminded importance of treatments at home to help with cystic fibrosis and preventing infections	1115	Open to receiving education on home therapy and understanding
Infection	1120	States sputum is "kinda green this time"	1120	Explained need for sputum culture	1120	Pt participated in culture retrieval
Deficient knowledge	1145	Mom asks nurse about chances of a new baby having cystic fibrosis since G has it	1145	Nurse will educate on chances and provide written handouts for mom to look over during communicating	1145	Mom extended thanks for everything

To Be Completed After the Simulation

The orange boxes should be filled out with your simulation patient's actual results, assessments, medications, and recommendations

NCLEX IV (7): Reduction of Risk

Actual Labs/ Diagnostics
 CBC:
 WBC 19.0/mm3
 Neutrophils: 76%
 Lymphocytes: 24%
 Creatinine: 1.1 mg/dL
 Chest R ray (1000): shows stable halir shadowing and bilateral peri bronchial thickening. Resolution of R lower lobe opacity
 CXR (1225): consistent with chronic inflammatory lung disease (client with a hx of cystic fibrosis) and right lower lobe pneumonia. Peripherally inserted central catheter is in place.
 Sputum C & S (results pending)

NCLEX II (3): Health Promotion and Maintenance

Signs and Symptoms
 Coughing, SOB
 Underweight
 Fatigue
 Sputum (green)
 Temp 37.9
 RR 26
 O2 sat 95% RA

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors
 Age
 Home health Nonadherence to home treatments
 Body mass index (under 18 and underweight)
 In school
 Thick mucus secretions
 Frequent hospitalizations (back to back)

NCLEX IV (7): Reduction of Risk

Therapeutic Procedures
Non-surgical
 Chest physiotherapy
 Fluids
 HOB raised semi-high fowlers
 CXR
 Stationary bicycle (in chart)
 ABX
Enteral nutrition
Surgical
 N/A

Prevention of Complications
 (Any complications associated with the client's disease process? If not what are some complications you anticipate)
Further infection: sputum culture
Inadequate nutrition

NCLEX IV (6): Pharmacological and Parenteral Therapies

Medication Management
 Pancrelipase 6 capsules PO with meals
 Tobramycin 300mg neb BID
 Budesonide 2 inhalations daily
 Albuterol 0.83% unit does neb QID
 Piperacillin tazobactam 2 gram IV bolus q 6 hrs (held)
 Gentamycin 130 mg Iv bolus q 8hr

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures
 Therapeutic communication
 Soft speaking to both pt and family
 Hospitalization
 Chest physiotherapy
 Positioning, HOB raised
 Nutritional feeds
 Contact precautions

NCLEX III (4): Psychosocial/Holistic Care Needs

Stressors the client experienced?
 School work
 Nothing to do in hospital
 New therapies
 Compliance with meds
 Family support/dynamic (divorced parents, possible new baby)

Client/Family Education

Document 3 teaching topics specific for this client.

- Education on continuing home health medications for cystic fibrosis
- Proper diet and nutrition
- Culturing sputum secretions to determine infection and properly treat

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines were involved in caring for this client?)

RN
Radiology
RT (R)
Doctor

Patient Resources

Handouts on medications
Written resources to help with therapies

Reflection Questions

Directions: Write reflection including the following:

1. What was your biggest “take away” from participating in the care of this client?
My biggest take away is that patient care may need to be slowed down and done smoothly. By taking more time with the patient and family, it made the stay easier on them. Education can also go a long way with family if the teenager is unable to put their health first and follow what they should do. Another key take away is involve who you can in care because more help never hurts and may provide treatments that help.
2. What was something that surprised you in the care of this patient?
I was surprised that the nurse didn't do anything after hearing wheezes in the chest of the patient and was just going to notify the RT. She could have taught him breathing techniques to aid in the wheezing. She also could have done more education to the family about reinforcing home medication treatments when she found out the patient isn't as compliant.
3. What is something you would do differently with the care of this client?
Something I would've done differently is more care and techniques as a nurse to help the patient feel better. Raising the bed higher, educate more positions to help with lung expansion, educate a huck cough to move secretions, educating the parents on ways to help prevent further infections and to monitor better at home to reduce hospital admissions in the future. With care of the patient I could've also explained healthier nutrition ideas that may be of interest to the adolescent.
4. How will this simulation experience impact your nursing practice?
This simulation will impact my nursing practice by knowing how to not only take care of a patient with cystic fibrosis, but also an adolescent that may have different factors impacting them and how to talk to them on their “level”. This also showed me that someone with an illness like this needs a whole team and family involvement around the clock to optimize their outcome.
5. Discuss norms or deviations of growth and development that was experienced during the simulation, including developmental stage.
15-year-old male, in stage 5: identity vs role confusion based off of Erikson. This stage they start identifying who they are experimenting which was show in the sim. You were able to see the pt show interest activities (even though not able to participate) and how they disliked school/schoolwork which is expected at this age. Was also able to see not adhering to home treatments and prioritizing health which can be seen in adolescents. Still showed signs of relying on mom to help answer questions related to health and how they are doing. However, the pt was underweight for development but this is due to poor nutrition, appetite and cystic fibrosis.