

ATI Real Life Student Packet  
N201 Nursing Care of Special Populations  
2023

Student Name: \_Sophia Fidler\_\_\_\_\_

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**

**NCLEX IV (7): Reduction of Risk**

<u>Anatomy and Physiology</u>	<u>Pathophysiology of Disease</u>
<p style="text-align: center;"><u>Normal Structures</u></p> <p>The respiratory tract is divided into two parts: the upper and lower. The upper respiratory tract includes the nose, mouth, pharynx, epiglottis, larynx, and trachea. Air enters the respiratory tract through the nose. The nose is made of bone and cartilage. The nasal cavity connects with the pharynx. The nose functions to protect the lower airway by warming and humidifying air and filtering small particles before air enters the lungs. The olfactory nerve is responsible for the sense of smell. Air moves through the oropharynx to the laryngopharynx. It then travels to the epiglottis into the larynx before moving into the trachea. The vocal cords are in the larynx. Air passes through the glottis and into the trachea. The trachea bifurcates into the right and left main-stem bronchi at a point called the carina. The carina is located at the angle of Louis which is at the level of the 4<sup>th</sup> and 5<sup>th</sup> thoracic vertebrae. Once air passes the carina, it is in the lower respiratory tract. The lower respiratory tract consists of the bronchi, bronchioles, alveolar ducts, and alveoli. All lower airway structures are found within the lungs. The right lung is divided into three lobes and the left lung into two lobes. The mainstem bronchi, pulmonary vessels, and nerves enter the lungs through a slit called the hilus. The right mainstem bronchus is shorter, wider, and straighter than the left mainstem bronchus. The mainstem bronchi subdivide several times to form the lobar, segmental, and subsegmental bronchi. Further divisions form in the bronchioles.</p>	<p>CF is an autosomal recessive disease caused by a mutation in the CF transmembrane conductance regulator gene (CFTR) gene resulting in multisystem dysfunction. The CFTR protein produced by this gene regulates the movement of chloride and sodium ions across epithelial cell membranes. When mutations occur in one or both copies of the gene, ion transport is defective, and results in a buildup of thick mucus throughout the body, leading to respiratory insufficiency, along with many other systemic obstructions and abnormalities. A combination of decreased mucociliary clearance and an altered ion transport allow for bacterial colonization of the respiratory tract, most commonly Pseudomonas, Hemophilus influenza, and Staphylococcus aureus. These pathogens cause an overwhelming inflammatory response. Ultimately, chronic infection and this repetitive inflammatory disease can lead to airway destruction.</p>

**To Be Completed Before the Simulation**

Anticipated Patient Problem: Ineffective airway clearance

Goal 1: C.S. will maintain a patent airway during my time of care.

Goal 2: C.S. will effectively expectorate/clear secretions during my time of care.

<b>Relevant Assessments</b>  (Prewrite) What assessments pertain to your patient's problem? Include timeframes	<b>Multidisciplinary Team Intervention</b>  (Prewrite) What will you do if your assessment is abnormal?
Assess lung sounds q 2-3 hours.	Administer bronchodilators per MD order to further open airways
Assess sputum characteristics, color/amount/consistency, as they are produced.	Administer mucolytics per MD order to help thin the mucus production and make easier to cough up
Monitor respiratory rate and O2 saturation to determine if they are WNL q 2 hours.	Reposition according to where the most secretions are in the lungs; upright if in middle or lower lobes
Monitor ABG's as ordered/indicated for signs of a failing respiratory effort q shift.	Administer oxygen therapy as needed for a SpO2 <90%
Assess respiratory efforts; working hard to breathe or SOB upon exertion q shift.	Educate on breathing techniques/exercises and use of assistive devices to further enhance mucus clearance
Assess the need for a sweat test to rule out a diagnosis of cystic fibrosis upon a respiratory complication or exacerbation.	Provide education on what a new diagnosis could mean and administer the right treatment options that could help right away, like a mucolytic.

**To Be Completed Before the Simulation**

Anticipated Patient Problem: Imbalanced nutrition: less than body requirements

Goal 1: C.S. will maintain weight in desired goal range for her developmental stage during my time of care.

Goal 2: C.S. will be able understand it is important to consume the appropriate number of calories by eating several smaller meals throughout the day during my time of care.

<b>Relevant Assessments</b>	<b>Multidisciplinary Team Intervention</b>
(Prewrite) What assessments pertain to your patient's problem? Include timeframes	(Prewrite) What will you do if your assessment is abnormal?
Assess weight and growth according to developmental stage prior to providing care.	Educate family to allow child to eat anytime they are hungry, encourage flexibility to mealtimes
Observe stool characteristics, odor/appearance/consistency, as they pass.	Provide a high protein diet that encourages dairy, breaded meats, peanut butter, pasta, and eggs
Monitor lab work, liver enzymes/glucose levels/electrolyte levels, q shift.	Collaborate with the dietitian about adding additional supplements or vitamins to get labs WNL
Assess the skin's color, integrity, and turgor q 4 hours	Administer fluids for hydration per MD orders
Assess the abdomen for bloating, fullness, bowel sounds, or palpable stool mass q 4 hours	Administer a pancreatic enzyme per MD orders to ensure digestive enzymes are mixed with food in the duodenum to prevent constipation
Monitor for generalized muscle wasting and loss of subcutaneous fat q shift.	Administer a pancreatic enzyme per MD orders to ensure digestive enzymes are mixed with food in the duodenum

**To Be Completed During the Simulation:**

## 1. Actual Patient Problem: Ineffective airway clearance

Goal: C.S. will be compliant with medication management and treatments prior to discharge. Met: YES Unmet:   
 Goal: C.S. will maintain optimal gas exchange as evidenced by O2 sat of > 90%, relaxed breathing, and baseline HR of 60-100 during my time of care. Met: YES Unmet:

## 2. Actual Patient Problem: Readiness for enhanced knowledge

Goal: C.S. will be able to verbalize understand of the disease process and treatment regimen after the first couple sessions provided by the home health nurse. Met: YES Unmet:   
 Goal: C.S. will know limitations while exercising or practicing softball and when to take a break. Met: YES Unmet:

## Additional Patient Problems:

## 3. Imbalanced nutrition: less than body requirements

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
1,2	Day 1 (phone call) 0700	C.S. diagnosed with cystic fibrosis per sweat test	Day 1 (phone call) 0800	Home health nurse assigned to help her, and the family understand the new diagnosis	Day 1 (phone call) 0810	C.S. and the family have many questions regarding what the diagnosis means for the future
1,2	Day 2 (1 <sup>st</sup> meeting) 1000	Auscultation of the heart normal; coarse crackles heard with lung auscultation; reports coughing everyday and SOB upon exertion; parents report a limited diet, difficulty getting to eat certain nutritious foods	Day 3 (2 <sup>nd</sup> meeting) 1000	Educate about the diagnosis of cystic fibrosis and importance on telling the school nurse about health status; Taught importance on medication and treatment adherence and why playing softball/exercising makes it harder to breathe	Day 3 (2 <sup>nd</sup> meeting) 1045	C.S. said she will tell the school nurse about the cystic fibrosis diagnosis
3	Day 4 (3 <sup>rd</sup> meeting) 1000	Reports having a hard time taking Creon with meals and it being "hard to swallow"	Day 4 (3 <sup>rd</sup> meeting) 1000	Taught to open the capsule and sprinkle it over applesauce	Day 4 (3 <sup>rd</sup> meeting) 1030	States "I like applesauce so that makes it easy"
2,3	Day 4 (3 <sup>rd</sup> meeting)	Parents concerned about weight- C.S. reports not liking many foods and not feeling	Day 4 (3 <sup>rd</sup> meeting)	Encourages to write down on paper likes and dislikes of food to aid in grocery shopping; also encouraged to eat whenever hungry or	Day 5 (4 <sup>th</sup> meeting) 1500	Parents report understanding C.S.'s diet and medication regimen.

	1045	hungry most of the time	1045	at least several smaller portion sized meals throughout the day		
1,2	Day 5 (4 <sup>th</sup> meeting) 1530	C.S. reports increased productive coughing that consists of “yellowish” sputum	Day 5 (4 <sup>th</sup> meeting) 1530	Taught to do percussion, vibration, and postural drainage therapy twice a day and up to four when sick- and stopping treatments could lead to increased respiratory problems	Day 6 (5 <sup>th</sup> meeting) 1700	C.S. reports feeling SOB upon exertion at softball practice; parents express concern that if C.S. should continue to play- want to talk with the softball coach and home health nurse together
1,2	Day 6 (5 <sup>th</sup> meeting) 1700	C.S. reports feeling SOB upon exertion with softball games/practices; worried about not being able to play anymore	Day 6 (5 <sup>th</sup> meeting) 1730	Taught by home health nurse that C.S. can play as body allows and continue to do respiratory treatments; softball coach stated will do modified warm-up plan for C.S.	Day 6 (5 <sup>th</sup> meeting) 1740	C.S. excited to be able to keep playing softball and knows keep up with pulmonary hygiene
1,2	Day 7 (6 <sup>th</sup> meeting) 1600	C.S. upset to leave friends house to do respiratory therapy before dinner; asked if treatment could be skipped	Day 7 (6 <sup>th</sup> meeting) 1600	Home health nurse encouraged to stick to medication regimen to promote optimal health; also encouraged C.S.’s parents to attend a community support group with other parents whose kids who have cystic fibrosis and provides a handout with information.	Day 7 (6 <sup>th</sup> meeting) 1700	C.S. and parents had no further questions at this point; stated with call PCP or home health nurse as they come.

**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  
 -sweat chloride test  
 -labs to be drawn to determine complication risks at DR visits

**NCLEX II (3): Health Promotion and Maintenance**

Signs and Symptoms  
 -SOB upon exertion  
 -coughing  
 -course crackles in lungs  
 -poor weight gain/growth

**NCLEX II (3): Health Promotion and Maintenance**

Contributing Risk Factors  
 -Family hx (inherited disorder)  
 -Caucasian race  
 -Age 2-3 years

**NCLEX IV (7): Reduction of Risk**

Therapeutic Procedures  
Non-surgical  
 -noninvasive ventilation  
 -feeding tube  
  
Surgical  
 -lung transplant

Prevention of Complications  
 (Any complications associated with the client's disease process? If not what are some complications you anticipate)  
 -increase in respiratory problems when stopping medication therapy  
 -osteoporosis  
 -delayed health  
 -delayed puberty  
 -diabetes  
 -gastroesophageal reflux

**NCLEX IV (6): Pharmacological and Parenteral Therapies**

Medication Management  
 -multivitamin  
 -pancrelipase(creon)  
 -vitamin E  
 -levalbuterol  
 -dornase alpha  
 -azithromucin

**NCLEX IV (5): Basic Care and Comfort**

Non-Pharmacologic Care Measures  
 -mucus clearing device  
 -respiratory chest physiotherapy

**NCLEX III (4): Psychosocial/Holistic Care Needs**

Stressors the client experienced?  
 -limitations while playing softball or other sports  
 -new diagnosis  
 -fear of unknown or future outcomes  
 -friends don't have to do treatments

**Client/Family Education**

Document 3 teaching topics specific for this client.  
 • Medication and respiratory tx on regular basis  
 • Smaller portion sized foods throughout the day  
 • Teaching on patho and sx of cystic fibrosis

**NCLEX I (1): Safe and Effective Care Environment**

Multidisciplinary Team Involvement  
 (Which other disciplines were involved in caring for this client?)  
 -home health -PCP  
 -school nurse -family  
 -softball coach

Patient Resources

-written information about cystic fibrosis  
 -support groups for students with cystic fibrosis

## Reflection Paper

Directions: Write reflection including the following:

1. What was your biggest “take away” from participating in the care of this client?

My biggest takeaway from participating in the care of Courtney was how stressful it can be for the whole family to manage a new diagnosis and treatment plan, while trying to understand what the prognosis could mean in terms of going forth in the future. The home health nurse was a crucial asset in answering any questions the family had and providing them with the necessary/beneficial resources to further help.

2. What was something that surprised you in the care of this patient?

Something that surprised me was that there are support groups for students managing cystic fibrosis. I was also surprised to see what kind of questions/concerns the parents were asking to the nurse regarding how cystic fibrosis can affect Courtney’s diet, treatment plan, and social life. It was interesting to hear the responses the nurse gave back since I don’t really know much about how a diagnosis like cystic fibrosis can affect a school-age child, as well as her family and friends.

3. What is something you would do differently with the care of this client?

I would try to schedule longer visits with the patient and family, especially with the cystic fibrosis being a new diagnosis, I would anticipate the parents having multiple questions that should be addressed before a new visit a couple days to a week later. The future visits can be for discussing any of the follow up questions the parents might have about the treatment plan, as they have had a few days to work with it, or any concerns they would think of later.

4. How will this simulation experience impact your nursing practice?

This simulation will impact my nursing experience by allowing me to further see what home health nursing is like in regards to a normal family life being interrupted with a new diagnosis. The simulation included many multidisciplinary members, which allowed me to see what aspects of Courtney’s social life her diagnosis could be affecting, like in her school and home environments.

5. Discuss norms or deviations of growth and development that was experienced during the simulation, including developmental stage.

Courtney was experiencing some growth deviations due to being a “picky eater” and not having the urge of hunger most of the time. Normally kids in the school-age stage of development are in their ‘prime time’ for growth and should be eating more than enough calories to support their growing bodies. Courtney was taught in the scenario to eat several small portions of food that she likes throughout the day to receive the right number of calories that matches her body weight in order to maintain it as she continues to grow and develop.