

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

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ATI Scenario: Cystic Fibrosis Community Care

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

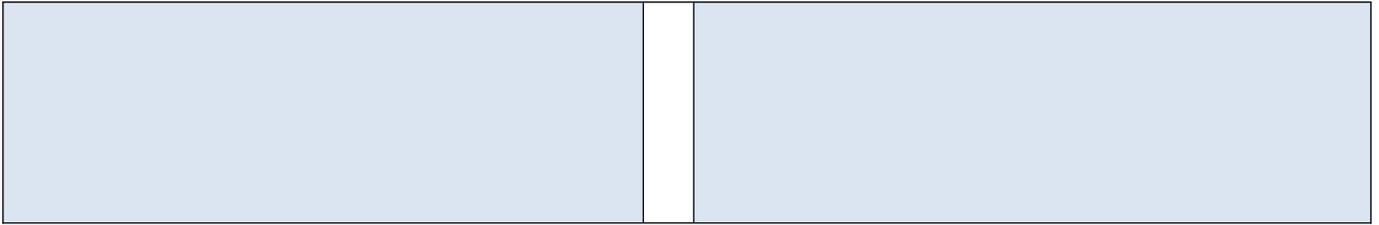
Normal Structures

Respiratory system: lungs are pair of spongy air-filled organs located on either side of chest; trachea conducts inhaled lungs in tubular branches called bronchi. Bronchi then divides to bronchioles then alveoli. In alveoli oxygen from the air is absorbs in blood, carbon dioxide travels from blood to alveoli, where it can be exhaled. In cystic fibrosis it affects many parts of the body but mostly the respiratory system. In CF it prevents the body from effectively moving salt and water in and out of the cells. Which causes a buildup of thick mucus and is sticker than normal. It makes it difficult to excrete the mucus out and more susceptible to an infection. Infection causes the lining of airway to become swollen and produce more sticky mucus. Then the mucus blocks the airway making it harder to breathe. Not only does CF affect the respiratory system but it also affects the digestive system. The digestive system function by taking food in, breaking it down physically and chemically, and getting rid of it. It consists of the oral cavity, pharynx, esophagus, stomach, small intestine, large intestine, and anal canal. The sticky mucus from CF blocks ducts in the pancreas and prevents enzymes from reaching the small intestine to digest food. CF also affects the reproductive system. The reproductive system consists of fallopian tube, uterus, vagina, and penis. The reproductive system produces egg and sperm, transport and sustain cells, nurture developing offspring, and produce hormones. CF can cause genetic risks to offspring, delay sexual maturation, and reduced fertility.

NCLEX IV (7): Reduction of Risk

Pathophysiology of Disease

Characterized by exocrine (or mucus-producing) gland dysfunction that produces multisystem involvement, especially in the pulmonary and digestive systems. Affected child inherits the autosomal recessive defective gene from both parents. Several clinical features characterized CF: increased viscosity of mucous gland secretion, striking elevation of sweat electrolytes, increase in several organic and enzymatic constituents of saliva and abnormalities in ANS function. Although sodium and chloride are affected the defect appears to be primarily in a result of abnormal chloride movement. Children with CF demonstrate decreased pancreatic secretion of bicarb and chloride and an increase in sodium and chloride in both saliva and sweat. Last characteristic is the sweat chloride diagnostic test. Sweat electrolyte is present from birth. The primary factor for clinical manifestation is mechanical obstruction caused by increased viscosity of mucous gland secretions. The mucus gland produce thick mucoprotein that accumulates and dilates them. Small passages in the pancreas and bronchioles become obstructed as secretions precipitate or coagulate to form concretions in glands in ducts. Thick secretions lead to pancreatic fibrosis caused by cystic dilations of the acini (small lobes of glands) that undergo degeneration and progressive diffuse fibrosis. Blockage prevents pancreatic enzyme to reach to the duodenum, which causes impairment in digestion and absorption of nutrients. Steatorrhea and foul-smelling protein from putrefied protein (azotorrhea).



To Be Completed Before the Simulation

Anticipated Patient Problem: Impaired Gas Exchange

Goal 1: The patient will maintain optimal gas exchange as evidenced by unlabored respirations 12 to 20 breaths per minute, SPO2 greater 93% on RA, and HR 60-100 bpm during my time of care

Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include timeframes	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Monitor HR (60-100 bpm) and RR (12-20 breaths/min) q 4 hr	Provide adequate rest between activities during the day in my time of care
Assess cough pattern q 4 hr	Give mucolytics/ bronchodilators as prescribed in my time of care
Monitor O2 saturation (greater than 93%) q 2 hr	Raise HOB to semi fowler when SPO2 is less than 93% in my time of care, Apply O2 via NC PRN, teach cough and DB q 4 hr
Assess sputum for color, amount, and consistency q 4 hr	Encourage chest physiotherapy q 4 hr
Assess bilateral lungs sounds anterior and posterior q 4hr	Notify provider if lungs sounds are adventitious breath sounds (crackle and wheezes) q 4 hr
Assess if patient LOC q 4 hr	If LOC is worse from baseline notify provider during my time of care

Goal 2: The Pt will maintain clear lung fields and remain free of signs of respiratory distress during my care.

To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for infection

Goal 1: The patient's temperature is going to remain 36-38 C*, HR is going to be between 60-100 bpm and respiration is going to be 12-20 breaths in 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 temp (36-38 C'), HR: 60-100bpm; RR: 12-20 breaths per min q 4 hr	Administer antipyretic if temp is greater than or equal to 100.4 F' in my care
Monitor O2 Sat (greater than 93%) q 4 hr and the presence of barrel chest in my care	Apply 3L of O2 via NC in my care
Monitor WBC (4,500-11,000) during my time of care	Administer IV abx based on provider's order during my care
Assess Pt's hygiene level q shift	Encourage strict handwashing to patient, visitors, and medical staff q shift
Assess LOC q 4hr	Notify MD if patient is confused during my shift
Assess sputum color, amount, and if it's purulent q 4hr	Notify provider if there has been an increase in sputum and if its purulent in my time of care.

Goal 2: The patient will have an improved WBC count (4,500-11,000) during my time of care.

To Be Completed During the Simulation:

Actual Patient Problem: Impaired Gas exchange
 Goal: Courtney will have clear bilateral lungs, with no presence of wheezing and crackles during my time of care. Met: Unmet:

Goal: Courtney will not have a productive cough and the amount that she is coughing won't increase after softball practice during my time of care. Met: Unmet:

Actual Patient Problem: Deficient knowledge: Cystic Fibrosis
 Goal: Courtney will verbalize how to properly administer pancrelipase during my time of care Met: Unmet:

Goal: Courtney and her parents are going to be asking questions and having concerns about cystic fibrosis in my time of care. Met: Unmet:

Additional Patient Problems:

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
2	Day 1 08:00	Dr Katherine Nelson required to provide teaching to Courtney's family about cystic fibrosis	Day 1 08:05	Molly Thompson called the family to set up a home visit	Day 1 08:06	The mother was compliant and set an appointment at 10 am
1,2	Day 2 10:00	Richard the father stated that Courtney had a cough that wouldn't go away stated that doctor did a sweat test	Day 2 10:02	Molly offered support and stated, "I can help answer any questions that you have now" and allowed Courtney to listen to the stethoscope	Day 2 10:05	Coarse crackles on bilateral lobes, Courtney states that she coughs a lot every day and stated that she finds it difficult to breathe
2	Day 2 10:10	Richard stated that Courtney is a picky eater, hardly eats anything, mother concern about cystic fibrosis	Day 2 10:12	Molly set up another appt to meet with the family again	Day 3 10:00	Molly went to see the family again the next day
2	Day 3	Courtney said that she wants to tell	Day 3 10:	Molly encouraged the	Day 3 10: 08	Richard said that it's important for

	10:05	her friends about cystic fibrosis, mother concern that kids would make fun of her	06	parents to the let the nurse know about Courtney's condition/ taught the patho of cystic fibrosis and provided a handout		others to know Courtney's health status/ Richard stated "you made it so clear about what cystic fibrosis is and how it affects the body"
1,2	Day 4 08:30	Courtney gave her medications for the school nurse to review	Day 4 9:00	School nurse called Molly and requested for Courtney to join support group and asked how to use mucus clearance device	Day 4 9:05	Molly stated that it's a device that facilitates removal of mucus
1,2	Day 5 10:00	Mother has concern about diet and medications	Day 5 10:05	Molly taught how to administer pancrelipase/ taught about Creon and should take it with food/ provided info of levalbuterol and dornase	Day 5 10:10	Courtney said she likes applesauce and that method for the medication works great
1,2	Day 6 10:05	Courtney stated that she's coughing more and having yellowish sputum	Day 6 10:10	Molly provided information about percussion, vibration, and postural drainage with an increase cough for 45 mins long	Day 6 10:11	Family thought that 45 mins is a lot but is going to do anything to keep Courtney healthy
1,2	Day 7 10:00_	Courtney stated during softball game she coughs afterward	Day 7 10:10	Molly talked to the coach about Cystic fibrosis and her chest physiotherapy/ taught Courtney to still continue to play as long as her pulmonary health allows it	Day 7 10:20	Courtney stated "I'm so glad I get to keep playing", coach said that he will modify warm up activity
2	Day 8 10:00 -	Mother concerned about contributing risk factors	Day 8 10:05_	Molly taught the risk factors	Day 8 10:06	Molly stated that its overwhelming to consider the risk factors

1,2	Day 9 10:00	Courtney stated that she is doing okay and doesn't want to do her therapy today	Day 9 10:10	Molly told parents that it's important to adhere medical regimen to promote optimal health/ provide a handout about community support group	Day 9 10:15	Parents and Courtney were grateful to have Molly teach about cystic fibrosis

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

Increased Na and Cl content of their sweat

NCLEX II (3): Health Promotion and Maintenance

Signs and Symptoms

Crackles
 Productive cough (especially after running when playing softball)
 Hyperactive bowel sounds (loose frothy stool)
 SOB
 Thick secretions that get stuck in air passages difficult to cough up secretions

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

Family hx

NCLEX IV (7): Reduction of Risk

Therapeutic Procedures

Non-surgical

Respiratory chest physiotherapy
 Mucus clearance device

Surgical

Prevention of Complications

(Any complications associated with the client's disease process? If not what are some complications you anticipate)

Osteoporosis
 Delayed growth
 GI reflex
 Diabetes

NCLEX IV (6): Pharmacological and Parenteral Therapies

Medication Management

Pancrelipase
 Azithromycin
 Dornase Alfa
 Levalbuterol

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

Respiratory chest physiotherapy
 Mucus clearance device

NCLEX III (4): Psychosocial/Holistic Care Needs

Stressors the client experienced?

Stress
 Anxiety
 Tired
 SOB
 Said that friend hasn't have to deal with her leaving early to do her therapy

Client/Family Education

Document 3 teaching topics specific for this client.

- Teach how to properly administer Pancrelipase
- Teach about the medication Levalbuterol
- Teach about the diet regimen for CF (eat 150% RDA for age and size)

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement

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

Coach
 School nurse
 Home health nurse
 Respiratory therapist

Patient Resources

Community support groups
 Handouts about CF and community groups

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 about participating this care is that it showed how it’s important for the family to know about the disease that their child is experiencing. Once Molly came over the house and explained to the family what Cystic fibrosis is, the family’s anxiety dropped a lot and by the end the family was prepared and knew what to do.

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

What surprised me during this care of the patient is that Molly gave incorrect information regarding a medication. The good thing about it is that she recognized it and let the family know that she gave incorrect information which was a good thing and then provided correct information.

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

Something I would do differently with the care of this client is research more about the medication levalbuterol. It’s important that we as nurses are providing correct information to the client. Another thing that I would change during the care of the client is for Molly to actually show the school nurse how to use the mucus clearance device to ensure that he is doing it correct.

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

This stimulation will impact my experience by providing more teaching and providing resources. Throughout this whole stimulation Molly provided a lot of teaching. With the teaching the family was able to gain a better understanding of what cystic fibrosis is and how to treat it properly. This stimulation also show how important it is for the child to be there throughout the teaching. Not only is it important for the parents to be involved but also the child so they know what to expect.

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

The normal part of growth and development that was experienced during this stimulation is that Courtney was asking questions, was willing to discuss cystic fibrosis with her friends, was responsible and told the school nurse about her medications that she needs to take. Courtney was also respecting parental control and was cooperating.