

ATI Real Life Student Packet
N201 Nursing Care of Special Populations
2022

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ATI Scenario: Peds 1: 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

- Lungs divide into lobes; right side has 3 lobes and the left side has 2 lobes
- Lungs are separated by a midsternal line
- Facilitates gas exchange occurring in the alveoli
- Area contains heart, trachea, esophagus, and lymph nodes
- Lungs connected to trachea by right and left bronchi and the lungs are bordered by the diaphragm
- Bronchi carry air to the lungs
- Bronchioles carry air to alveoli and cleans inspired air
- Removes CO₂ by exhaling
- Replenishes O₂ by inhaling
- Lungs have 2 layers; the visceral pleura layer (surrounds the lungs) and the parietal pleura (attaches to thoracic cavity); serous fluid is in between these 2 layers of the lungs

NCLEX IV (7): Reduction of Risk

Pathophysiology of Disease

- Inherited disease where the exocrine glands are disrupted throughout the body
- Affects the respiratory system by causing an accumulation of viscous mucus in the respiratory airway
- The mucus clogs the respiratory tubes and acts as a feeding ground for bacteria
- The defect in this gene prevents the formation of a membrane channel protein that carries chloride ions out of epithelial cells
- Increased viscosity of mucous gland and secretions that causes obstructions
- Increased electrolytes in sweat and saliva
- Dry mouth
- Changes in the autonomic nervous system
- The CF gene is found on chromosome 7, which makes a protein called CF transmembrane conductance regulator (CFTR)
- CFTR localizes to the epithelial surface of the airways, GI tract, and ducts of the liver, pancreas, and sweat glands
- cells that line the passageways of the lungs, pancreas, intestines and other organs make secretions that are low in sodium chloride content (which means low in water content making the mucous extra viscous)
- the mucus plugs up the ducts and causes scarring in these organs and results in organ failure
- can affect both upper and lower respiratory tracts
- CF progresses from a disease of the smaller airways to involvement of larger airways that causes destruction of lung tissue
- Cilia motility is decreased which causes

	<p>mucus to adhere to the airways</p> <ul style="list-style-type: none">- Bronchioles become obstructed with thick secretions leading to scarring of the airways, air trapping and hyperinflation of the lungs- Characterized by a chronic lung infection that cannot be cured- Most common agent is <i>P. aeruginosa</i>; other agents include <i>Staphylococcus aureus</i>, <i>H. influenzae</i>, and <i>Burkholderia cepacia</i>- Pulmonary inflammation is associated with the chronic lung infection and can cause a decrease in respiratory function- Initially, chronic bronchiolitis and bronchiectasis occur followed by pulmonary hypertension, enlarged pulmonary arteries and cor pulmonale- Pancreatic insufficiency is caused by the mucus plugging of the pancreatic exocrine ducts; resulting in atrophy of the gland and progressive fibrotic cyst formation- Pancreatic function may be completely lost and because of this lipase, amylase, and proteases are not made in sufficient amounts to allow for absorption of nutrients- People with CF often have other GI problems including GERD, gallstones, and pancreatitis- The liver and gallbladder can be damaged by mucus deposits in the ducts- Liver enzymes may be chronically elevated with cirrhosis developing over time- Portal hypertension can occur- Distal intestinal obstruction syndrome results from an intermittent obstruction
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** This worksheet should be completed before you begin the ATI simulation.

Problem #1: ___Impaired Airway Clearance

Patient Goals:

1. ___Patient will maintain clear, open airways as evidenced by normal breath sounds, normal rate and depth of respirations during my time of care.
2. ___Patient will effectively cough up secretions after treatments and deep breaths during my time of care.

Assessments:

- ___Assess airway for patency q 2 hrs, assess breath sounds and work of breathing q 2 hrs, assess respirations noting the quality, rhythm, depth, and use of accessory muscles q 2 hrs, assess change in LOC q 2 hrs, assess changes in HR, BP, and temperature q 4 hrs, assess cough for productivity and effectiveness q 2 hrs, assess secretions noting the color, odor, amount, and viscosity q 2 hrs, assess hydration status including skin turgor, MM, and tongue q 4 hrs

Interventions (In priority order):

1. ___Assist the patient in performing coughing and breathing maneuvers during my time of care.
2. Maintain humidified oxygen as prescribed.
3. ___Maintain the HOB in a high fowlers position for optimal ventilation and perfusion prn.
4. ___Encourage use of incentive spirometry q 1 hr.
5. ___Encouraged increase fluid intake within the limits of cardiac and renal function during my care.
6. ___Maintain planned rest periods and cluster care during my time of care.

Problem #2: ___Imbalanced Nutritional Status: Less than body requirements

Patient Goals:

1. ___Patient demonstrates or verbalizes selections of foods that will achieve a cessation of weight loss during my care.
2. ___Patient weighs within 10% of ideal body weight range by the end of my time of care.

Assessments:

- __ assess weight and height q shift, assess the environment in which eating occurs q meal, assess physical signs of poor nutritional intake q shift, assess attitudes and beliefs towards eating and food q shift, assess factors contributing to poor nutritional intake q shift and assess a nutritional history during my care

Interventions (In priority order):

1. _Encourage the use of nutritional supplements between meal times during my care.
 2. Establish short and long term goals during my time of care.
 3. ___Provide a pleasant environment and companionship during mealtime.
 4. _Encourage the family to bring food from home as appropriate q meal.
 5. Encourage the use of seasonings if there is a loss of taste to make food more enjoyable during my care.
 6. Discourage beverages that are caffeinated or carbonated during my time of care.
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To Be Completed During the Simulation
Nursing Notes

Time	I or E	Notes	Specify NDx #
3/11 100 0	E	Home health evaluation, sitting with parents on couch, mother stated “she’s a very picky eater though, she doesn’t want to eat much”, father stated “ she had a cough that just wasn’t going away, every night when she laid down it got so much worse, it lasted for quite some time and we thought we should see someone about it”, provider recommended a sweat test, father stated “ We got the result back yesterday and it was positive. The doctor prescribed some medication as well as some respiratory treatments”, enthusiastic about auscultating heart, course crackles present in posterior lower lobes, stated “I cough every day” and “sometimes I find it hard to breathe when I have to run a lot” mother stated “I have so many questions about activities, diet, exercise, cystic fibrosis...”	1,2
110 0	I	Scheduled another visit for tomorrow at 1000 for follow up questions	1,2
3/12 100 0	E	Stated “I’m going back to school tomorrow. I’m going to tell all my friends about my cystic fibrosis” mother states “ I don’t know if we should tell anyone, I don’t want kids treating her differently”	1
101	I	Educated that the school nurse should be made aware of the cystic	2

5		fibrosis	
1020	E	Stated “What do I tell my friends?”	2
1025	I	Educated on the pathophysiology of cystic fibrosis, explained that there is a higher concentration of chloride in sweat	2
1025	E	stated “So why is it hard for me to breathe?”	1,2
1028	I	Explained that someone with cystic fibrosis makes thick secretions that get stuck in the air passageways of the lungs and it becomes difficult to cough up, which is why it is important to take medication and respiratory treatment as prescribed	1,2
1035	E	Mother stated “My biggest concern now is her diet”	3
1040	I	Made next home health appointment to further discuss medication and diet regimen	2,3
3/130800	E	In school nurse’s office telling school nurse about cystic fibrosis diagnosis and giving medication and medical forms	1
1530 (a few days later)	E	“I told my friends and my teacher” and “My friends didn’t know anything about it and I’m trying to teach them, they want to come over and see my treatment machine” and “It’s so hard to swallow that creon”	1
1544	I	Educated that creon is a capsule and can be opened and put into applesauce	2
1600	E	Stated “I like applesauce, that’ll work great” mother stated “Can we talk about her diet? She’s so skinny, I’m not sure what to do”	3
1605	I	Educated that 150% of the recommended daily food requirements for the specific age and size should be consumed and that creon should be taken with meals and snacks due to level of activity of calories needed for growth	3
1610	E	Stated “It’s just, I’m not hungry. I don’t like lots of foods”	3
1615	I	Explained that multiple meals throughout the day can be eaten to avoid feeling overly full	2,3
1530	E	Father stated “I think we understand Courtney’s diet and her creon, but what about the medication she’s taking for her lungs?” mother stated “She’s on two different respiratory medications, that seems like a lot. I don’t understand what these do?”	2
1540	I	Explained respiratory medications and what they do	2

154 5	E	Stated “I think I’m coughing even more.” And “It’s kind of yellowish”	1
155 0	I	Discussed percussion, vibration, and postural drainage when experienced an increase in cough	1,2
155 5	E	Stated “Sometimes I get tired from all that pounding and coughing” and mother stated “It takes a long time to do this”	1,4
160 0	I	Educated on complications that arise from stopping the treatment of percussion, vibration, and postural drainage	2,4
173 0	E	Next home health visit: in softball uniform talking about softball game and stated “I got tired from running bases, though my coach makes us run at every practice. I cough afterwards”	1
174 5	I	Discussed activity level with parents and softball coach and educated that activity should be encouraged as much as pulmonary health allows	1,2
180 0	E	Stated “I’m so glad I get to keep playing”	1
180 5	I	Educated to make sure to alert parents or coach when not feeling well	2
153 0	E	Parents stated “We understand that cystic fibrosis puts her at risk for other health concerns, what are those?”	1,2
154 0	I	Educated that patients with CF are at greater risk for developing osteoporosis due to pancreatic insufficiency and steroid use, delayed growth, delayed puberty, diabetes, and GERD	2
154 5	E	Walks in the door, apathetic face and when asked how she was stated “Ok, I guess. Well I was at my friends house and I had to come home before dinner to do my therapy. My friend doesn’t have to bother with this.” And “Mommy, do I have to do my therapy today?”	1,4
153 0	E	Stated “What are you going to discuss with us today?”	1,2
153 5	I	Explained that education has been completed unless there are further questions	1,2
154 0	E	Stated “I know everything.”	1,2

Initials/ Signature A.D. Abigail Derrickson

Actual Patient Problems & Goals

** This worksheet should be completed after you complete the ATI simulation.

Problem #1: Impaired Gas Exchange

Patient Goals:

1. __C.S. will maintain a clear, open airway as evidenced by clear breath sounds and a respiratory rate between 12-20 bpm during my care.
 _____ Met
 _____ Unmet
2. __C.S. will effectively cough up any secretions during treatments, taking medications, or doing daily activities throughout my care.
 _____ Met
 _____ Unmet

Problem #2: __Deficient Knowledge: Cystic Fibrosis

Patient Goals:

1. __C.S. will verbalize understanding of what cystic fibrosis is during my time of care.
 _____ Met
 _____ Unmet
2. __C.S. will verbalize understanding of medication and treatment regimen necessary for cystic fibrosis during my care. _____ Met
 _____ Unmet

Problem #3: __Imbalanced Nutrition: Less than body requirements

Patient Goals:

1. ____C.S. will verbalize understanding that she needs to eat 150% of the daily recommended food intake for her specific size and age during my care.
 _____ Met
 _____ Unmet
2. __C.S. will verbalize foods to be consumed that will aid in optimal nutritional outcome during my care. _____ Met
 _____ Unmet

Problem #4: ____Fatigue: Cystic Fibrosis

Patient Goals:

1. __C.S. will have no complaints of fatigue during my time of care. _____ Met
 _____ Unmet
2. __C.S. will demonstrate ways to conserve energy during my time of care. _____ Met
 _____ Unmet

Problem #5: __N/A

Patient Goals:

1. _____ Met
 _____ Unmet

2. _____ Met
Unmet

Patient Resources: __Community support group that has other kids with cystic fibrosis_____

Patient Teaching: _Activity, diet, medication, and respiratory device information._____

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
 - Positive sweat test

NCLEX II (3): Health Promotion and Maintenance

Signs and Symptoms
 - Persistent cough
 - Weight loss
 - Difficulty breathing on exertion

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors
 - Both parents had the defective gene that contributes to this autosomal recessive disorder

Therapeutic Procedures
Non-surgical
 - Respiratory chest physiotherapy
Surgical
 N/A

NCLEX IV (7): Reduction of Risk

Prevention of Complications
 (Any complications associated with the client's disease process? If not what are some complications you anticipate)
 - Osteoporosis
 - Diabetes
 - GERD
 - Delayed growth
 - Delayed puberty

NCLEX IV (6): Pharmacological and Parenteral Therapies

Medication Management
 - Azithromycin 5mg/kg
 - Pancrelipase 3 capsules PO with meals, 1-2 with

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures
 - Respiratory chest physiotherapy

NCLEX III (4): Psychosocial/Holistic Care Needs

Stressors the client experienced?
 - Being different from

snacks

- Dornase alfa 2.5 mg via nebulizer every day
- Levalbuterol 2.5 mg via nebulizer 4 times per day
- Vitamin E 400 international units PO everyday
- Multivitamin 2 tablets PO everyday

- Mucus clearing device

her friends

- Being tired from the respiratory chest physiotherapy
- new information
- size of the medication capsules

Client/Family Education

NCLEX I (1): Safe and Effective Care Environment

Document 3 teaching topics specific for this client.

- Activity level: should be encouraged as much as pulmonary health allows
- Creon 3 capsules should be taken with meals and 1-2 capsules with snacks
- Respiratory chest physiotherapy should be consistent in order to have the most optimal outcome on overall health

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

- Home health nurse
- School nurse
- Physician
- Softball coach

Reflection Paper

Directions: Write a 1-page reflection paper for each patient using Times New Roman, 12 pt. font and double-spaced. Include the following:

1. Describe an “Aha” moment you experienced during this learning experience.
2. What were the most important aspects of this simulation and what did you learn?
3. How will this simulation experience impact your nursing practice?

Throughout the simulation experience of Courtney Smith having a new diagnosis of cystic fibrosis, there were many new things I learned. While there were many “aha” moments, the biggest “aha” moment I had was that a child with cystic fibrosis can still do most things that children can do that do

not have cystic fibrosis. For example, I thought when someone had cystic fibrosis it meant they would not be able to exercise or maintain any level of physical exertion due to the stress it would put on their already difficult breathing. This simulation taught me that children with cystic fibrosis can exercise and should be exercising as much as their pulmonary health will allow. Knowing this new piece of information, I feel like I will be able to lift the spirits in any child newly diagnosed with cystic fibrosis that thinks their life is over because they are no longer able to be active. I will educate them that they can still live a normal life with a few tweaks here and there that will make them feel better.

The most important aspects of this simulation were seeing how much education can be provided to the child and the family, as well as the importance of maintaining the respiratory chest physiotherapy is for the overall health of someone who has cystic fibrosis. From this, I learned that I could provide teaching on their activity level, their diet, medications they are taking, and even something as simple as explaining what their condition is and what it means for them. Most times it seems like the scariest part of a new diagnosis can be all the unknown factors. After completing this simulation, I will be able to ease some fear and anxiety that come along with a new diagnosis due to the surplus amount of education I now know that I can give.

Lastly, this simulation experience will impact my nursing practice by preparing me for what it will be like to have a newly diagnosed patient with cystic fibrosis. This simulation taught me potential questions asked by the child and the parents, concerns they might have, and what conflicts will arise throughout treatment. Being able to see how the nurse responds in all the above listed scenarios gives me a good understanding of an appropriate response in order to ease any worries the client or family might have. Overall, I feel more prepared on the diagnosis of cystic fibrosis and what it entails. I will be able to confidently care for future clients who present with this diagnosis and feel like I am giving them the best care possible because of background knowledge and experience that I have through this simulation.

