

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

- air inhaled via nose or mouth, goes through the pharynx, past the epiglottis, down the trachea where it reaches the carina and goes into the right and left bronchi to the bronchioles and then to the alveoli and alveolar ducts
- airway wall is lined with a thin layer of mucus
- mucus secretions are normally slippery and thin
- diffusion and osmosis allow cells to easily move salt and water
- may carry gene mutation but not affected
- exocrine glands secrete substances through ducts internally glands in the lungs and externally which are our sweat glands
- lungs and immune system able to recognize and fight illnesses without any major complications, cilia functions to move forward mucus contents
- lungs should inflate and deflate easily with breathing, alveoli intact and functional (where gas exchange takes place), surfactant keeps from collapsing
- sinuses air-filled spaces, warm and humidify air we breathe, traps particles like bacteria and dust
- mucus membranes in the nose are normally thin, moist, free of polyps, able to inhale easily to breath
- nails are flat with minimal/ to no curve
- GI the stomach and intestines should easily digest food and absorb nutrients. Peristalsis moves food throughout our GI tract. (in order-mouth, esophagus, stomach, small intestine, large intestine, rectum, and anus)

NCLEX IV (7): Reduction of Risk

Pathophysiology of Disease

- autosomal recessive genetic disorder (both parents must have the gene to be able to pass it)
- chromosome 7 is affected and causes the mutation of the gene for protein CFRT
- slowly progressive and can lead to chronic lung damage causing a decrease in the effectiveness of water and salt to move freely around
- airway walls dilate, inflammation of alveoli of lungs, and thick mucus blocks the airway which can cause dysfunctional cilia
- blood in mucus and bacterial infections can be present in airways
- bronchiectasis with a decreased surface for gas exchange leading to loss of lung function
- exocrine gland secretions become abnormally thick and can clog vital areas of the body causing obstructions, inflammation, and irritation putting individuals at high risk for infection
- Other organs affected-
- Sinus infections, sweat glands can produce abnormally high chloride causing secretions to be very salty, blocked biliary ducts, portal htn, blocked pancreatic ducts, intestines cannot fully absorb nutrients, arthritis, osteoporosis

To Be Completed Before the Simulation

Anticipated Patient Problem: Ineffective airway clearance

Goal 1: Lungs and airway will be clear of mucus, fluids, and secretions with the absence of crackles/wheezing 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 lung sounds q4 hour and PRN.	Apply supplemental oxygen via NC or non-rebreather mask as ordered.
Monitor RR, rhythm, depth, and use of accessory muscles q2 hour and PRN.	Provide adequate rest between activities and at bedtime.
Assess SpO2 q2 hour and PRN.	Administer bronchodilators such as albuterol as prescribed.
Assess sputum and secretions for color, consistency, and odor q2 hour and PRN.	Administer nebulizer treatments as prescribed.
Assess for signs of hypoxia such as cyanosis or altered mental status q4 hour and PRN.	Educate the importance of maintaining oxygen saturation greater than 93% and how to monitor oxygen saturation at home prior to discharge.
Assess cough for effectiveness q2 hour and PRN.	Instruct the importance of using your abdominal muscles to cough up secretions q2hour and PRN.

Goal 2: Will maintain optimal gas exchange of 90% RA or higher during my time of care.

To Be Completed Before the Simulation

Anticipated Patient Problem: Imbalanced nutrition: Less than body requirements

Goal 1: Will have a BMI and weight WNL for the clients age prior to discharge.

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?
Monitor weight daily.	Provide high protein snacks and ensure nutritional drinks qshift and PRN.
Assess preferred foods and dietary habits on admission.	Encourage 4-5 high calorie small meals throughout day during my time of care.
Assess food and fluid intake after meals and snacks.	Educate the amount of calories and proteins required per meal/day qshift and PRN.
Assess lab values serum albumin, serum electrolytes, RBC, WBC, and transferrin q shift.	Administer all fat soluble vitamins with meals and enzymes PRN.
Observe stool patterns for frequency, odor, consistency PRN.	Avoid carbonated beverages and fatty/greasy foods that produce gas during my time of care.
Assess nutritional status q shift and PRN.	Encourage to keep a food diary of likes/dislikes of foods and how they make you feel during my time of care .

Goal 2: Will consume adequate nutrition and intake $\geq 70\%$ of meals and snacks during my time of care.

To Be Completed During the Simulation:

Actual Patient Problem: Ineffective airway clearance

Goal: CS Lungs and airway will be clear of mucus, fluids, and secretions with the absence of lung crackles/wheezing during my time of care. (UNMET)

Goal: CS will demonstrate proper use of chest physiotherapy and mucus-clearing devices prior to discharge. (MET)

Actual Patient Problem: Imbalance nutrition: Less than body requirement

Goal: CS will keep a food diary with foods she likes and dislikes and how they make her feel during my time of care. (MET)

Goal: CS will be able to demonstrate healthy eating habits and maintenance of adequate nutritional status prior to discharge. (MET)

Additional Patient Problems:

Deficient knowledge

Anxiety

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
1,3,4	Day 1 0800	Cough developed 3 weeks ago and sweat chloride test positive	0815	Contacted the family and scheduled a home health appointment	0815	Mother stated "We are anxious for you to come up and help us understand all of this" Scheduled appointment for 1000
3,4	Day 2 1000	Mother stated "We probably seemed overwhelmed when we were in the office" Father stated "It was a lot of information very quickly"	1005	Used active listening and offered education to answer any questions	1010	Mother stated "That's a relief"
1,2	Day 2 1030	Mother stated CS doesn't want to eat much and is a very picky eater Father stated CS has a cough that doesn't go away	1032	Explored recent visit to doctor	1040	Doctor prescribed medications and respiratory treatments

		and gets worse when she lays down				
1	Day 2 1045	Coarse crackles in lungs bilaterally, CS stated "I play softball, and I have to run a lot, so I cough a lot. I cough every day and I find it hard to breathe when I have to run a lot."	1050	Schedules additional appointment	1050	Mother and father agree to follow up appointment tomorrow
3,4	Day 3 1000	Mother stated that she is worried that kids are going to treat CS differently	1010	Explained the importance of the school RN being informed	1020	Mother and father agree that CS can inform the school RN and other
1,2,3	Day 3 1025	CS stated "I'm going back to school tomorrow and I'm going to tell all my friends about cystic fibrosis"	1030	Provided handouts and education on overview of CF how the body can make thick secretions that get stuck in the air passages of the lungs	1043	Father stated "You made it clear how cystic fibrosis affects the body"
2,3,4	Day 3 1050	Mother stated "My biggest concern is Courtneys diet"	1051	Offers to schedule an appointment for next visit	1055	Accepted handouts on diet for CF
1,2,3	Day 4 1500	CS stated "I know I take vitamins in the morning, but that Creon that I take with meal is so hard to swallow."	1505	Educated on alternative methods for taking Creon explained that you can sprinkle the capsule in applesauce	1520	CS stated "Yes, I like apple sauce."
2,3	Day 4 1530	Mother stated "Can we talk about her diet she's so skinny and I'm not sure what to do."	1535	Educated that 150% of normal diet is required CS needs to ingest more calories to account for the energy that she uses to breath	1546	Mother shook her head in understanding
2,3	Day 4 1600	CS stated "I'm not hungry and I don't like a lot of foods"	1605	Asked about food preferences and educated on eating smalls meals throughout the day and taking Creon	1612	CS got a pen and paper so she can make a list of likes and dislikes

				with food		
1,3	Day 5 1515	Mother stated "She's on two different respiratory medications. That seems like a lot. I don't understand what these do."	1520	Provided education on Levalbuterol and Dornase alfa. Asked if there were any more questions	1530	Mother stated she understood
1,3	Day 6 1525	CS stated "I think I'm coughing even more." Productive cough with yellow sputum	1530	Taught family about percussion, vibration, and postural drainage therapy when CS is experiencing an increase in cough and the frequency of these treatments should be increased when sick up to 4 times a day and before meals	1541	Mother stated she would do anything to keep CS healthy
1,3	Day 7 1700	CS stated "I got tired from running the bases and would cough a lot"	1712	Educated on taking breaks when she feels tired/difficult to breath but continue to play softball.	1715	CS very happy that she still able to play softball
3	Day 7 1720	Coach requested more information and resources on CF	1722	Referred to school nurse and encouraged coach to follow up for additional information	1725	Coach agreed
2,3,4	Day 8 1400	Mother asked about other health concerns r/t CF	1402	Provided education on health concerns including growth delay, diabetes, osteoporosis, and delayed puberty	1410	Mother seems overwhelmed but verbalizes an understanding on education and is eager to learn
1,3	Day 8 1415	CS is upset she had to come home for respiratory treatments and asks if she has to do therapy today	1420	Taught the importance of following the physiotherapy/medication regimen for optimal health	1430	Mothers body language showed she agreed
3	Day 9 1515	No further questions from CS and family	1530	Encouraged family to reach out with any questions and provided information on CF	1545	Mother stated "We will definitely be attending these meetings" and father thanked that

				support groups		has been provided them
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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 chloride sweat test
- small for age but being overall healthy
- genetic testing

NCLEX II (3): Health Promotion and Maintenance

Signs and Symptoms

- yellow sputum
- productive cough
- weight loss
- decreased appetite
- coarse crackles/wheezing in lungs bilaterally
- cough increase with activity and lying down
- difficulty breathing

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- genetic disorder
- caucasian
- hx of frequent colds
- weight loss/underweight
- decreased appetite
- family hx
- productive cough/ yellow sputum

NCLEX IV (7): Reduction of Risk

Therapeutic Procedures

Non-surgical

- mucus-clearing device
- chest physiotherapy
- nebulizer
- medications

Surgical

N/A

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

- immunization hx (meningococcal, dtap, IPV, HIB, hepB, MMR, varicella)
- osteoporosis
- malnourished/underweight
- compliance with medications
- delayed puberty/growth
- GERD
- DM

NCLEX IV (6): Pharmacological and Parenteral Therapies

Medication Management

- pancrelipase 3 capsules w/ meals, 1-2 PO w/ snacks
- azithromycin 5mg/kg/day PO @ 1200
- dornase alpha 2.5 mg via nebulizer daily
- levalbuterol 2.5 mg via nebulizer QID
- vitamin E 400 IU daily
- multivitamin 2 tablets PO daily

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

- respiratory chest physiotherapy
- mucus clearance device
- continue exercise as tolerated
- support groups

NCLEX III (4): Psychosocial/Holistic Care Needs

Stressors the client experienced?

- comparing self to friends
- change in activity level with softball
- size of medications
- parental concern
- being underweight/lack of appetite
- unfamiliar with the disease

Client/Family Education

Document 3 teaching topics specific for this client.

- Respiratory therapy treatments
- Diet, exercise, and medications that will best fit her plan of care.
- What to do in case of an emergency including signs and symptoms of when they should seek

NCLEX I (1): Safe and Effective Care Environment

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

- school nurse
- coach
- Home Health RN Molly
- family
- PCP Dr. Nelson

urgent care.

Patient Resources

-home health
-pharmacy
-support group for child and parents

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 take away from participating in the care of this client is how resilient kids can be. Courtney was diagnosed with a serious chronic illness, yet she was very open and excited to learn about her plan of care. Considering the plan of care another take away to consider is how important it is to involve the whole family when educating. When diagnosed with an illness or a life-altering event it can affect many people within a household. The mother and father were anxious but very eager about how to keep their daughter healthy. Nurse Molly ensured that they had all their questions answered and resources available. There were many times the family and patient would get overwhelmed, but they stayed with it and were open to all education and information provided. One of the biggest roles for nurses is education we need to make sure our clients understand everything about their care and what’s to come.

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

Something that surprised me about this client is how open and welcoming she was to change. From the minute that nurse Molly met Courtney she was very excited to learn about the new diagnosis. Courtney always listened to her parents, coach, and nurse when it came to her care. Many other kids Courtney's age may not be as compliant with care and angry about the diagnosis, but Courtney accepted that this was a challenge she and her family were going to live with and manage together.

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

Something I would do differently is include virtual appointments in the plan of care. Granted this an ATI simulation realistically if home health visits are not based on physical needs or intakes, questions are answered and resources are given virtually. As well as online resources given to our clients. In this simulation education was given in handouts. Handouts are a great source but young families eager to learn with many questions may benefit from online resources and virtual home health access.

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

This simulation experience will impact my nursing practice by always sharing all my knowledge with my clients and making them prepared for their care in the future. As well as supporting my clients emotionally throughout my care will always be a top priority. It is imperative to ensure that the client and their families understand the diagnosis and medication management. There were multiple medications and therapies that my client had undergone that needed explaining and support. Teach back is an extremely useful tool when educating so you clearly know your client understands what you’re teaching them. I look forward to being a resource to my clients in the future and if I don’t know the answer I will always direct them to the appropriate resources.

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

During the simulation, Courtney physically was falling behind in development due to the diagnosis of cystic fibrosis she was underweight and did not have adequate nutritional habits. Although mentally Courtney was very mature for her age and was involved in her own care. According to her school age I feel that she is right on target and developing adequate social skills and friends.