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

Student Name: Elani Russell

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

CF affects multiple organ systems—the lungs, pancreas, upper airways, liver, intestine, and reproductive organs. The lungs are the major organs of the respiratory system, and are divided into sections, or lobes. The right lung has three lobes and is slightly larger than the left lung, which has two lobes. The lungs are separated by the mediastinum. This area contains the heart, trachea, esophagus, and many lymph nodes. The lungs are covered by a protective membrane known as the pleura and are separated from the abdominal cavity by the muscular diaphragm. With each inhalation, air is pulled through the windpipe (trachea) and the branching passageways of the lungs (the bronchi), filling thousands of tiny air sacs (alveoli) at the ends of the bronchi. These sacs, which resemble bunches of grapes, are surrounded by small blood vessels (capillaries). Oxygen passes through the thin membranes of the alveoli and into the bloodstream. The red blood cells pick up the oxygen and carry it to the body's organs and tissues. As the blood cells release the oxygen they pick up carbon dioxide, a waste product of metabolism. The carbon dioxide is then carried back to the lungs and released into the alveoli. With each exhalation, carbon dioxide is expelled from the bronchi out through the trachea. The pancreas lies transversely in the upper abdomen between the duodenum on the right and the spleen on the left. It is divided into the head, neck, body, and tail. The head lies on the inferior vena cava and the renal vein and is surrounded by the C loop of the duodenum. The liver is located in the upper right-hand portion of the abdominal cavity, beneath the diaphragm, and on top of the stomach, right kidney, and intestines. Shaped like a cone, the liver is a dark reddish-brown organ that weighs about 3 pounds. The liver is a critical organ in the human body that is responsible for an array of functions that help support metabolism, immunity, digestion, detoxification, vitamin storage among other functions. The male reproductive system includes the testes (which produce sperm), penis, epididymis, vas deferens, ejaculatory ducts and urethra. The female reproductive system consists of the ovaries (which produce eggs or oocytes), fallopian tubes, uterus, cervix, vagina and vulva. The reproductive system is a collection of organs and a network of hormone production in men and women that enable a man to impregnate a woman who gives birth to a child. During conception, a sperm cell from the man fuses with an egg cell in the woman, creating a fertilized egg (embryo) that implants and grows in the uterus during pregnancy.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

With the discovery of the CFTR gene, research is continuing to determine its multisystem effects on the body. Several clinical features characterize CF: increased viscosity of mucous gland secretions, a striking elevation of sweat electrolytes, an increase in several organic and enzymatic constituents of saliva, and abnormalities in autonomic nervous system function. Although sodium and chloride are affected the defect appears to be primarily a result of abnormal chloride movement. Children with CF demonstrate decreased pancreatic secretion of bicarbonate and chloride and an increase in sodium and chloride in both saliva and sweat. The sweat electrolyte abnormality is present from birth, continues throughout life, and is unrelated to the severity of the disease or the extent to which other organs are involved. The primary factor is mechanical obstruction caused by the increased viscosity of mucous gland secretion, the mucous glands produce a thick mucoprotein that accumulates and dilates them. Small passages in organs such as the pancreas and bronchioles become obstructed as secretions precipitate or coagulate to form concretions in glands and ducts. The incidence of DM is increased in children with CF than in the general population. Pulmonary complications are present in almost all children with CF, but the onset and extent of involvement are variable. Symptoms are produced by stagnation of mucus in the airways, with eventual bacterial colonization leading to destruction of lunch tissue. The reproductive systems of both males and females with CF are adversely affected with CF. The glands of the uterine cervix are often filled with mucus, and copious amounts of mucus may block the cervical canal and prevent sperm entry.

To Be Completed Before the Simulation

Anticipated Patient Problem: Ineffective airway clearance

Goal 1: Patient will maintain a patent airway as evidenced by clear breath sounds, oxygen saturation within normal limits, and the ability to cough to clear secretions during my time of care.

Goal 2: Patient will demonstrate techniques to effectively clear secretions

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess lung sounds q4hr	Maintain elevated HOB prn
Assess respiration rate q4hr	Suction secretions prn
Assess ability to swallow or cough q shift	Administer ordered respiratory treatments as ordered
Assess oxygen saturation via pulse ox q4hr	Encourage increased fluid intake q shift
Assess sputum color and consistency q shift	Obtain sputum sample q shift
Assess mental status and restlessness PRN	Educate on signs and symptoms of ineffective airway clearance and prevention techniques

To Be Completed Before the Simulation

Anticipated Patient Problem: Imbalanced Nutrition: less than body requirements

Goal 1: Patient will maintain weight wnl prior to discharge.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess weight q shift	Provide pleasant and quiet environment during breakfast, lunch, and dinner
Assess favorite foods q shift.	Encourage snacks between meals q shift.
Assess HR, and BP q 4hr	Provide good oral hygiene QID
Assess serum albumin, RBC, and WBC prn	Provide companionship during breakfast, lunch and dinner
Assess serum electrolyte levels prn	Encourage family members to bring food from home.
Assess eating pattern during breakfast, lunch, and dinner.	Discourage carbonated beverages q shift.

Goal 2: Patient will increase nutritional intake during my time of care.

To Be Completed During the Simulation:

Actual Patient Problem: Ineffective airway clearance
Goal: Courtney will maintain a patent airway as evidenced by clear breath sounds, oxygen saturation within normal limits, and the ability to cough to clear secretions during my time of care Met: ☐ Unmet:☐
Goal:Courtney will demonstrate techniques to clear secretions during my time of care. Met: ☐ Unmet:☐

Actual Patient Problem: Impaired nutritional intake: less than bodies requirements
Goal: Courtney will increase meals by eating smaller portions at a time daily. Met: ☐ Unmet:☐
Goal:Courtney will maintain a normal weight for a 10 y/o during my time of care. Met: ☐ Unmet:☐

Additional Patient Problems: Readiness for enhanced knowledge (3)

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	Day 1	Positive sweat chloride test	Day 1	Called parent to verify referral and set up home health visit for courtney	Day 2	Upon evaluation at home, heart sounds were normal, crackles in lungs bilaterally anterior and posterior.
3	Day 3	Patient and parents eager to learn more about cystic fibrosis	Day 3	Teaches patient and parents about physical effect of cystic fibrosis on the body and clarifies any follow up questions, and provided handouts with detailed information.	Day 3	Verbalized understanding of teaching by stating "you made it so clear about what cystic fibrosis is and how it affects the body."
1,2	Day 4	Upon arrival Courtney is eager to learn about treatment and medications, Courtney does not like a lot of foods.	Day 4	Teaches how to take pancrelipase capsules, with applesauce to reduce difficulty taking medication, also teaches to take more frequent smaller meals a day	Day 4	Patient understands teaching by saying "I like applesauce that will work great, and I will make a list of what I like to eat."
1	Day 5	Courtney and family eager to learn about	Day 5	Teaches Courtney and parents about respiratory	Day 5	Courtney and parents verbalize understanding

		respiratory treatments.		medications		
1,2	Day 5	Assess Courtney's cough and sputum color is yellow	Day 5	Teaches percussion, vibration, and postural drainage therapy should be done 4 times a day and before meals	Day 5	Verbalizes understanding, and states "we are going to do everything possible to make sure that Courtney stays healthy.
1	Day 6	Courtney and parents are worried she will not be able to play softball	Day 6	Teaches Courtney and parents and the coach it is okay if Courtney plays softball as long as her breathing allows her to.	Day 6	Coach, parents and Courtney all verbalized understanding, coach stated "I will change some of the warm ups for Courtney"
3	Day 7	Assess end of home health care	Day 7	Clarifies any additional questions, and notifies parents of community support groups for the parents and provides a handout with times.		

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

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

Signs and Symptoms
Cough
SOB on excertion
Wheezing, and crackles in lungs
Hyperactive bowel sounds
Loose frothy stools

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

Contributing Risk Factors
Genetic

NCLEX IV *(7)*: Reduction of Risk

Therapeutic Procedures
Non-surgical
Chest physiotherapy

Surgical
Placing of feeding tube
Removal of surgical polyps if they arise

Prevention of Complications
(Any complications associated with the client's disease process? If not what are some complications you anticipate)
Activity intolerance
Osteoporosis
Delayed growth
Delayed puberty
DM
Gastroesophageal reflux

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

Medication Management
Azithromycin 5mg/kg/day or 160mg/day for Courtney
Pancrelipase 3 capsules PO with meals
Dornase alfa 2.5 mg via nebulizer every day
Levalbuterol 2.5 mg via nebulizer 4 times a day
Multivitamin 2 tablets PO daily

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?
Feeling different than other kids at school
Not being able to play softball
Friends not having to leave social gatherings early for medication purposes.

Client/Family Education

Document 3 teaching topics specific for this client.
- Teaching what cystic fibrosis is and how it affects the body
- Educate on diet
- Educate on respiratory therapy

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 agency administrator, RN

Patient Resources

Home health agency, school nurse, handout on cystic fibrosis, parent community support group

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 patient was how beneficial care can be even when you are just receiving teaching. The patient had a disease and as there was nursing interventions with medications and such, majority of the care provided from the nurse was teaching the client and the clients family. This shows how important it is to understanding teaching as the client, how important it is to teach the client as the nurse, and how important it is to have support from family at home.

2. What was something that surprised you in the care of this patient?
   As I did my research I was expecting this patient to be in the hospital very sick, barely able to breathe and very skinny. As I was understanding that all this patient needed was a home health nurse and she was in a great shape and able to still play sports, it surprised me how healthy she still was. Also how healthy she still can be with the proper interventions and care that can all be maintained at home on a daily basis.

3. What is something you would do differently with the care of this client?
   Honestly, there is nothing I would do differently with the care of this client. I think the nurse used great therapeutic communication throughout the whole simulation, and all the topics that needed to be taught were. The nurse did a great job of making the parents an important part of their daughters care .

4. How will this simulation experience impact your nursing practice?
   This simulation will impact my nursing practice positively. I knew prior to this how important teaching was, and how important family members support is for the benefit of the clients care. After seeing it in action, it gave me some great tips and ways to teach my patient or my patients family to make sure they get the best care they can and have all of the resources they might need to continue there care after they are not under my direct care.

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

   This patient was 10 years old, who is currently in the school age stage. Courtney did not show any deviations of growth and development, she talked about her friends constantly and how she wanted to tell all of her friends about her new diagnosis, she had no speech concerns that I noticed, she loved softball and played that daily which is important at this age to find an activity outside of school that they like and can participate in. Later on if softball for some reason becomes harder for her because of her breathing difficulties then she might not be able to play and this could affect some of her growth and development. There is always the risk in children with Cystic Fibrosis that they have a growth and development delay.