ATI Real Life Student Packet
N201 Nursing Care of Special Populations
2024

Student Name: Nicholas Vitella

ATI Scenario: Cystic Fibrosis Inpatient

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: Bronchi and bronchioles are lined with cilia and a thin layer of mucus. This will trap bacteria and other foreign objects and then move mucus out of airways. The alveoli is where oxygen is exchanged with carbon dioxide.
Digestive System: Pancreas produces enzymes that help digest fats, proteins, and carbohydrates. The enzymes are stored into the small intestine to break down food for absorption. The small intestine absorbs nutrients to digest food and the large intestine absorbs water and forms waste.
Integumentary System: Sweat glands help regulate body temperature by reabsorbing sodium and chloride in the sweat ducts to conserve water.
Reproductive System: For males the vas deferens carries sperm from the testicles and for females mucus levels are balanced to allow fertility to occur.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

Cystic Fibrosis is caused by the Cystic Fibrosis transmembrane Conductance Regulator. This gene controls the flow of chloride ions that go in and out of cells and for cystic fibrosis the protein is absent or not working properly which leads to thick and sticky mucus production that occurs in various organs. For the respiratory system mucus in the lungs becomes more thick and causes blockage in the airways that now traps bacteria resulting in difficulty to clear the airways as well as bronchiectasis, chronic inflammation and infections. Ultimately respiratory failure and lung damage can occur. The function of cilia is also impaired from the thick mucus. In the digestive system the pancreas has ducts that are now blocked from the mucus inhibiting the digestive enzymes to transport to the small intestine. Now the body is unable to properly digest nutrients and lead to malabsorption and malnutrition. Infants can also have meconium ileus which is thickened meconium that blocks intestines. With the integumentary system, cystic fibrosis prevents chloride and sodium from being reabsorbed. This leads to high salt levels in patients and their skin can be “salt-tasting.” This can lead to dehydration and electrolyte imbalances. For the reproductive system can cause male infertility by blocking the vas deferens and for females the cervical mucus can be thickened making it harder for sperm to reach the egg.

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To Be Completed Before the Simulation

Anticipated Patient Problem: Ineffective Airway Clearance

Goal 1: Gary will demonstrate effective airway clearance, as evidence by improved work of breathing, breath sounds, and O2 saturation by the end of my care

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 respiratory rate, breath sounds, and oxygen saturation q 4 hr	Administer supplemental O2 at 2L NC q 2 hr PRN
Assess sputum characteristics (color, amount, consistency) PRN	Administer Antibiotics PRN/as ordered
Assess with CXR PRN/as ordered	Administer Nebulized Bronchodilators PRN/as ordered
Assess quality and frequency of cough q 2 hr PRN	Perform Chest Physiotherapy q 2 hr
Assess chest symmetry and use of accessory muscles q 4 hr	Educate/encourage use of incentive spirometer 10x every 1 hr
Assess hydration status q 4 hr	Encourage adequate fluid intake q 4 hr

Goal 2: Gary will be free from respiratory infections during my time of care

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To Be Completed Before the Simulation

Anticipated Patient Problem: Imbalanced Nutrition: less than body requirements

Goal 1: Gary will demonstrate improved nutrient absorption as evidenced by weight gain/stable weight within normal range of growth patterns by the end of my care

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 daily	Pancreatic enzyme replacement therapy with every meal
Assess nutritional intake q 4 hr	Consult with dietitian daily
Assess stool characteristics daily/PRN	Monitor blood glucose levels PRN/daily
Assess vitamin levels PRN/as ordered	Administer fat-soluble vitamins daily
Assess growth trends/parameters daily	Educated on nutrition treatment q 4 hr
Assess pancreatic enzyme/high caloric intake q 4 hr	Provide oral nutritional supplements q 6 hr

Goal 2: Gary will adhere to pancreatic enzyme supplementation and a high-caloric diet by end of my care

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To Be Completed During the Simulation:

Actual Patient Problem #1: Ineffective Airway Clearance
Goal: Gary will demonstrate effective airway clearance, as evidence by improved work of breathing, breath sounds, and O2 saturation by the end of my care Met: ☐ Unmet:☐
Goal:Gary will be free from respiratory infections during my time of care Met: ☐ Unmet:☐

Actual Patient Problem #2: Imbalanced Nutrition: less than body requirements
Goal:Gary will demonstrate improved nutrient absorption as evidenced by weight gain/stable weight within normal range of growth patterns by the end of hospitalization Met: ☐ Unmet:☐
Goal: Gary will adhere to pancreatic enzyme supplementation and a high-caloric diet by end of my care Met: ☐ Unmet:☐

Additional Patient Problems:
#3 Deficient Knowledge
#4
#5
#6

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
#3	0800	Contacted B. Cepacia	0815	educated on isolation precautions	0820	"I'm going to get so bored in this room"
#1	0830	Cough and wheezes, B. Cepacia	0900	administered IV tobramycin infuse over 20 min	0930	persistent cough
#1	0830	Cough and wheezes, B. Cepacia	0900	administered gentamicin 220mL/hr	0930	persistent cough
#1	0830	Cough and wheezes, B. Cepacia	1000	consult with respiratory therapist to perform CPT	1030	mucus plugs, ineffective coughing, decreased wheezes
#2	0845	10th percentile in BMI	1030	enteral feeding bolus Pancreaze	1100	sitting comfortably in bed
#1	1100	cough, wheezes, green sputum	1105	educated on procedure and obtained sputum cx	1105	"my sputum is green"
#2	0845	below on stature for age and weight for age percentile	1130	Provided meal and Pancrelipase	1130	sitting comfortably in bed

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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
CBC
BMP
Pt/PPT
Serum quantitative IgE
Urinalysis

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

Signs and Symptoms
Wheezes
Cough
Green sputum
BMI & age/weight below percentile
Barrel chest

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

Contributing Risk Factors
Inadequate weight maintenance
failure to thrive

NCLEX IV *(7)*: Reduction of Risk

Therapeutic Procedures
Non-surgical
CPT
isolation precautions
Surgical

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

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

Medication Management
Vitamin ADEK
Pancrelipase
Dornase alfa
Tobramycin
Budesonide
Albuterol
Zosyn
Gentamicin

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

Non-Pharmacologic Care Measures

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

Stressors the client experienced?
fear, anxiety, boredom, stress, depression

Client/Family Education

Document 3 teaching topics specific for this client.

- educated on isolation precautions/assessment
- educated on disease and treatment
- education on nutritional supplementation

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

Multidisciplinary Team Involvement
(Which other disciplines were involved in caring for this client?)
Respiratory therapist, provider, dietitian/nutritionist

Patient Resources

Reflection Questions

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 was how dynamic the care of a patient with cystic fibrosis is. How the disease affects multiple body systems and the treatment that is required as well.

2. What was something that surprised you in the care of this patient?
   What surprised me was how the client needed to be on isolation precautions from contracting the infection and how that must affect Gary compounded with his disease he already has to manage.

3. What is something you would do differently with the care of this client?
   I think what I would do differently is provide more education to Gary and his parents because it seems he has deficient knowledge from the report of inadequate care previously done at home.

4. How will this simulation experience impact your nursing practice?
   I think it impacts my nursing practice by reinforcing the importance of education because not only is care inpatient care, but how to give them the tools to succeed outside in regular life.

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

   I feel Gary would have developmental delays from the disease resulting in malnutrition. Also his social development can be impaired for having the disease and recurrent hospitalizations. All of this can impact his emotional status as well.