

Student Name: Riley Taylor

Medical Diagnosis/Disease: Chronic Obstructive Pulmonary Disease (COPD)

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

- | | |
|---|---|
| <p><u>Upper</u></p> <ul style="list-style-type: none"> - nasal cavity - pharynx - larynx | <p><u>Lower</u></p> <ul style="list-style-type: none"> - trachea - bronchi - bronchioles - alveolar duct - alveoli |
|---|---|
- own circulation system
 - gas exchange & balances level of acidity in body

Pathophysiology of Disease

- persistent airflow limitation
- chronic inflammation of the airways, bronchioles & alveoli, and pulmonary blood vessels
- most often during forced exhalation, loss of elastic recoil from hypersecretion of mucous and mucosal edema
- chronic inflammation cause destruction of tissues and stops normal defense mechanisms...

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics

- Labs
- ABG's *
 - CBC's *
 - CMP *
- Additional Diagnostics
- Chest X-RAY *
 - Lung volumes
 - HBP
 - ECG
 - Walk test

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- Age *
- Smoking *
- alcohol use *
- Coexisting problems
- gender
- Infection
- Air pollution
- Genetics
- Asthma

Signs and Symptoms

- SOB
- dyspnea
- headache
- confusion
- chest tightness
- use of accessory muscles

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures

- Non-surgical
- O₂ therapy *
 - suction
 - thoracentesis *
- Surgical
- long volume reduction
 - Bullectomy
 - Lung transplant

Prevention of Complications

- (What are some potential complications associated with this disease process)
- pneumothorax
 - pneumonia
 - respiratory failure
 - pleural effusion *
 - HF
 - Hypoxemia

NCLEX IV (6): Pharmacological and Parenteral Therapies

Anticipated Medication Management

- SAMA /SABA, nebulizer *
- LAMA /LABA
- inhalers *

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

- Incentive Spirometer *
- deep breathing
- coughing

NCLEX III (4): Psychosocial/Holistic Care Needs

What stressors might a patient with this diagnosis be experiencing?

- Anxiety
- Deficient knowledge
- concerns of treatment
- guilt
- depression
- loneliness

Client/Family Education

List 3 potential teaching topics/areas

- deep breathing technique
- How to use an inhaler
- High caloric diet / proper nutrition *

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

- | | |
|---------------|-------------|
| - Nurse | - family |
| - Provider | - nutrition |
| - radiology | - PT |
| - respiratory | - OT |

Preconference Form

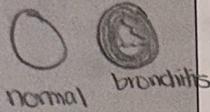
Student Name: Riley Taylor

Medical Diagnosis/Disease: Chronic Obstructive Pulmonary Disease (COPD)

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

- diaphragm pulls down, allowing more space in lungs
- chronic enhanced inflammatory response to noxious particles or gases
- airways are inflamed



Pathophysiology of Disease

- Inflammatory cells: neutrophils, lymphocytes, & macrophages
- Inflammatory process is increased by oxidants which stimulate mucous secretion & increase fluid
- balance of protease/antiprotease is made to promote alveolar destruction...
- main site is bronchioles & smaller airways
- FRC is increased

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics

Labs

Additional Diagnostics

- Spirometry
- COPD assessment test

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- occupational chemicals and dusts

Signs and Symptoms

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

Surgical

Prevention of Complications

(What are some potential complications associated with this disease process)

- Pulmonary hypertension
- Cor pulmonale
- acute exacerbations
- ARF

NCLEX IV (6): Pharmacological and Parenteral Therapies

Anticipated Medication Management

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

NCLEX III (4): Psychosocial/Holistic Care Needs

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Client/Family Education

List 3 potential teaching topics/areas

-
-
-

NCLEX I (1): Safe and Effective Care Environment

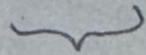
Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

Patho

Bullae - large air spaces in parenchyma

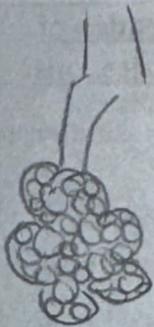
Blebs - air spaces next to ~~the~~ pleurae



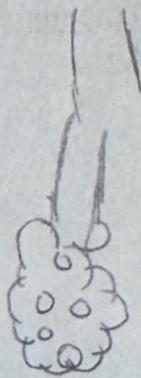
V/Q mismatch \rightarrow hypoxemia result

- can have sputum production

Anatomy



normal



emphysema

collapsed
alveolar
ducts

- bronchioles lose their shape
 \rightarrow become clogged w/ mucous
- alveoli walls are destroyed
which creates less alveoli

Nursing Problem Worksheet

Name: Riley Taylor

Anticipated Patient Problem and Goals	Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include frequencies	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Problem: Impaired Gas Exchange Reasoning: COPD, low O ₂ sats Goal: O ₂ sat will stay above 91% during my care Goal: Incentive spirometer will be used 10 times per hour during my care	Assess for S/S of hypoxia q 4 hrs or PRN	Encourage use of Incentive Spirometer ten times every hour *
	Auscultate breath sounds q 4 hrs.	Encourage deep breathing & splinting when coughing
	Monitor pulse ox continuously	Apply supplemental O ₂ NC when needed, less than 92% *
	Assess ABG values when results are present	Elevate HOB to increase gas exchange *
	Assess respiratory rate q 4 hrs or PRN	Ensure Respiratory administers ordered inhalers and nebulizer treatments when they are due *

Anticipated Patient Problem and Goals	Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include frequencies	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Problem: Deficient knowledge of Diagnosis Reasoning: unfamiliarity of S/S and interventions/treatments Goal: Patient will verbalize understanding of diagnosis during my care Goal: Patient will verbalize immediate to report at the beginning of my care	Observe patient's knowledge before teaching to see what they know & what they don't	Provide a devoted time to talk about any questions the patient might have
	Assess patient's literacy level & understanding once before teaching	Print out education papers at their literacy level so they have to look back at
	Assess patient's first language once before teaching	Contact a certified interpreter if needed for communication
	Assess for any family, caregivers, or advance directives that may need to be included before education	Ensure it is a good time to teach, not during severe pain, rest, or visitations
	Discuss importance of meds and stopping smoking and drinking when needed	Patient will verbalize they understand, if not, teach again at a later time

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME Riley Taylor

MEDICATION Acetaminophen (Tylenol)

REVIEW MODULE CHAPTER _____

CATEGORY CLASS Central Analgesic, Antipyretic

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Activates descending serotonergic inhibitory pathways in CNS
- Inhibits hypothalamic heat regulating center

Therapeutic Use

- Temporary reduction of fever
- Management of mild to moderate pain in patients 2 years or older

Complications

Rarely a hypersensitivity reaction, not many side effects to this medication... can cause hepatic impairment for long term use

Medication Administration

Over the counter use should be limited to 3,000 mg/day
PO: 13 years and older, 325-650 mg q 4-6 hrs, max 3,250 mg/day
Extra strength- 1,000 mg q 6 hrs
Extended Release- 1,300 mg q 8 hrs

Contraindications/Precautions

Contraindications: severe hepatic impairment, severe active liver disease

Precautions: severe renal impairment, alcohol dependency, hepatic impairment, chronic malnutrition, hypovolemia

Nursing Interventions

Assess pain, type, location..
Assess for fever
Assess LFT in patients with chronic usage
Assess for alcohol abuse
Assess for clinical improvement of pain and/or fever

Interactions

Alcohol, hepatotoxic medications, strong CYP3A4 inhibitors, Dasatinib, probencid
Food may decrease rate of absorption
May increase ALT, AST, bilirubin, and prothrombin levels

Client Education

Do not take more than 4 g per day
Consult physician for children younger than 2 years
Report severe recurrent pain or high and continuous fever

Evaluation of Medication Effectiveness

Pain will be relieved or fever will be reduced..

ACTIVE LEARNING TEMPLATE: **Medication**

STUDENT NAME Riley Taylor

MEDICATION Ceftriaxone

REVIEW MODULE CHAPTER _____

CATEGORY CLASS Third Generation Cephalosporin, Antibiotic

PURPOSE OF MEDICATION

Expected Pharmacological Action
Binds to bacterial cell membranes.
Inhibits cell wall synthesis

Therapeutic Use
treatment of susceptible infections due to gram-negative aerobic organisms... including bloodstream infections, bone and joint infections

Complications
- oral candidiasis
- mild diarrhea
- abdominal cramping
- occasional nausea
- rare allergic reaction

Medication Administration
IV: Adults - 1-2 g q 12-24 hr.
Children - 50-75 mg/kg/dose q 24 hr.
- infuse over 30 min
- stable 2 days room temp.
- 10 days refrigerated
- reconstitution

Contraindications/Precautions
- Cephalosporines, do not admin w/ calcium containing IV solutions, including continuous calcium infusions, hyperbilirubinemic neonates
- hepatic impairment, GI disease, history of penicillin allergy

Nursing Interventions
- CBC's, renal function test, allergies
- Assess oral cavity
- Assess bowel activity
- Alert for superinfection
- Monitor I & O's

Interactions
Probenecid, calcium salts.
Amphotericin B complex, famotidine, labetalol, Lactated Ringers injection, Fluconazole, vancomycin
may increase BUN, alkaline phosphatase, bilirubin, creatinine, LDH, ALT, AST

Client Education
- Continue antibiotic therapy for full course
- Educated about GI complications & renal impairment- possibility
- Educate SIS to report

Evaluation of Medication Effectiveness
Infection will decrease...

Compatibility

Diltiazem, heparin, lidocaine, morphine, propofol, metronidazole

Amount

- 1-2 g q 12-24 hrs for adults
- 50-75 mg/kg/dose q 24 hrs for children

Rate of Administration

Infuse over 30 min

1g IV bolus q 12 hrs.
admin over 30-60 min.

Diluent

light yellow to amber. use sterile water or piggy back bag

Site, supplies, storage, stability

Powder for reconstitution, stable for 2 days room temp.,
10 days refrigerated