Medications

Acetaminophen (Tylenol)

PO, 1,000 mg, Q6Hrs for pain. Nonsalicylate, para-aminophenol derivative, antipyretic, nonopioid analgesic (Jones & Bartlett Learning, 2020).

Key nursing assessments: Ask the patient about pain level before administration (Jones & Bartlett Learning, 2020). Monitor the patient's liver labs (Jones & Bartlett Learning, 2020).

Methocarbamol (Robaxin)

PO, 750 mg, Q6Hrs to help relieve discomfort caused by acute, painful musculoskeletal trauma from the pneumothorax. Carbamate derivate, skeletal muscle relaxant (Jones & Bartlett Learning, 2020).

Key nursing assessment: Make sure the patient does not have any kidney disease, seizures, or myasthenia gravis prior to administration (Durbin, 2021). Ensure it does not interact with other medications (Durbin, 2021).

Polyethylene glycol oral (MiraLAX)

PO, 17g mixed with fluids, daily at 0900 for routine post-surgery. Laxative (Sinha, 2021).

Kay nursing assessments: Make sure the patient does not have loose stools, and the medication does not interact with other medications (Sinha, 2021).

Demographic Data

Admitting diagnosis: Right Pneumothorax (Ricci et al., 2020).

Psychosocial Developmental Stage: Identity vs. Role Confusion (Ricci et al., 2020).

Cognitive Development Stage: Formal Operational

Age of client: 17 years old

Sex: Male

Weight in kgs: 61.5 kg

Allergies: No known allergies.

Date of admission: 06-27-2022

Admission History

A 17-year-old male POD20 s/p bilateral VATS, bilateral apical lung restriction, and bilateral mechanical pleurodesis was presenting to standard postop at the clinic on 06-27-2022 when he was detected to have a recurrent right pneumothorax. Pt had a pre-clinic visit CXR ordered. He reported being asymptomatic this past week while at home and presented asymptomatic in the emergency department. Upon arrival, an ED provider assisted with sedation, and staff placed a cook catheter. Shortly after his arrival, his father obtained and verified his history. Pt denies any SOB or chest pain. Pt was in disbelief of his pneumothorax until he saw the image of the chest x-ray. Pt denies any recent heavy lifting, scuba diving, airplane travel, or other activity where pt was otherwise exposed to high atmospheric pressure.

Pathophysiology

Disease process: A pneumothorax is a collapsed lung (Capriotti, 2020). A pneumothorax occurs when air leaks into the space between your lung and chest wall (Capriotti, 2020). This air pushes on the outside of your lung and makes it collapse (Capriotti, 2020). A pneumothorax can be a complete lung collapse or a collapse of only a portion of the lung (Capriotti, 2020). A pneumothorax can be caused by a blunt or penetrating chest injury, specific medical procedures, or damage from underlying lung disease (Capriotti, 2020). Alternatively, it may occur for no apparent reason.

S/S of disease: The main symptoms of a pneumothorax are sudden chest pain and shortness of breath (Capriotti, 2020). The severity of symptoms may depend on how much the lung is collapsed.

Method of Diagnosis: A pneumothorax is diagnosed using a chest X-ray (Capriotti, 2020). In some cases, a computerized tomography (CT) scan may be needed to provide more-detailed images (Capriotti, 2020). Ultrasound imaging also may be used to identify pneumothorax (Capriotti, 2020).

Treatment of disease: Treatment options may include observation, needle aspiration, chest tube insertion, nonsurgical repair, or surgery (Capriotti, 2020). You may receive supplemental oxygen therapy to speed air reabsorption and lung expansion.

Relevant Lab Values/Diagnostics

- Per chart patient did not have any labs drawn.
- XR chest AP or PA only on 06-27-2022

Per the chart, the impression reads, “Increased right pneumothorax displacing the mediastinum/heart toward the left suggesting tension pneumothorax”.

Medical History

Previous Medical History:

Spontaneous left pneumothorax on 11-16-2021

Prior Hospitalizations:

Thoracoscopy of the left lung on 11-16-2021, Thoracoscopy bilaterally on 06-07-2022.

Past Surgical History:

Thoracoscopy of the left lung on 11-16-2021, Thoracoscopy bilaterally on 06-07-2022, unspecified date of circumcision, unspecified dental surgery.

Social needs: The patient has no smoking exposure, and the patient does not drink. The mother and patient asked appropriate questions. The patient will need to see a respiratory therapist.

Active Orders

- Incentive spirometer Q1Hr
- Chest tube care
- Vitals Q4hrs
- Activity Ambulate
- I & O per protocol
- Oxygen therapy per protocol
- XR chest AP or PA only on 07-07-2022

These orders are pertinent to this patient because we need to ensure that he will show proper lung expansion and not have a recurrent pneumothorax. Early ambulation will help with the prevention of blood clots. Chest tube care is vital to ensure proper suction. I & O’s are always crucial to pediatrics to prevent dehydration. Oxygen therapy is ordered in case the patient becomes short of breath.

Assessment										
General	**Integument**	**HEENT**	**Cardiovascular**	**Respiratory**	**Genitourinary**	**Gastrointestinal**	**Musculoskeletal**	**Neurological**	**Most recent VS (highlight if abnormal)**	**Pain and Pain Scale Used**
Pt appears alert and oriented to person, place, time, and situation (A & Ox4). Pt was well-groomed and in no acute distress.	All extremities are normal for ethnicity warm, dry, and symmetrical. Pulses 2+ throughout bilaterally. Capillary refill less than 3 seconds in fingers and toes bilaterally normal skin turgor. No edema is present in the upper and lower extremities bilaterally. Epitrochlear lymph nodes are nonpalpable bilaterally. Pt had a negative Homan's sign. Pt had no rashes, lesions, or bruises. Pt also scored a Braden Score of 4. Pt has a chest tube on the right upper chest area.	The head and neck are symmetrical; the trachea is midline without deviation; the thyroid is not palpable, no noted nodules. Bilateral carotid pulses are palpable, and 2+—no lymphadenopathy in the head or neck. No scars were noted. —bilateral sclera white, bilateral cornea clear, bilateral conjunctiva pink, no visible drainage from eyes. Bilateral lids are moist and pink without lesions or discharge noted. PERRLA bilaterally, red light reflex, and Rosenberg 20/20 were unable to obtain due to not having the proper equipment. EOMs are intact bilaterally. Bilateral auricles are moist and pink without lesions. I did not have the appropriate equipment to look in pt ear canals in the septum. The septum is midline with no deviation, no bleeding noted, and I could not see polyps due to not being able to see inside the septum. Bilateral sinuses are nontender to palpation. Overall, the oral mucosa is moist and pink without lesions, and the uvula is midline; the soft palate rises and falls symmetrically. Pt has white teeth.	Clear S1 & S2 without murmurs, gallops, or rubs. PMI palpable at 5th intercostal space at MCL. Normal rate and rhythm. Pulses are 2+ throughout bilaterally. Capillary refill is less than 3 seconds in fingers and toes bilaterally. Pt had no edema in the lower and upper extremities. No neck vein distention as well.	Normal rate and pattern of respirations, symmetrical and non-labored, lungs sounded clear throughout anterior/posterior on the left side of the lung, the RLL lung sounds are diminished, and no wheezes, crackles, or rhonchi were noted.	Pt's urine is clear and yellow. Pt had no pain upon urination. Pt voided a few times during the shift by himself.	The patient is on a regular diet. Pt's height is 182.9 cm, and his weight is 61.5 kg. The abdomen is soft and non-tender upon light palpation of all four quadrants. No organomegaly or masses were noted in all four quadrants—no CVA tenderness. Bowel sounds are normoactive in all four quadrants; pt's last bowel movement was the night before.	The patient moves all extremities independently. Push and pulls were equal bilaterally. Pt does have glasses; he needs no assistance moving or ambulating. His Cummings Pediatric Fall Score was a 5.	All extremities have a full range of motion (ROM). Hand grips and pedal pushes and pulls demonstrated normal and equal strength. Pt's balance was steady. Pt is A & Ox4. PERRLA intact bilaterally. Pt was able to talk with me and others. Pt did not have sensory abnormalities, and pt never LOC.	**Time:** 0803 **Temperature:** 97.5 F **Route:** Oral **RR:** 17 **HR:** 74 **BP and MAP:** 121/77 (95) **Oxygen saturation:** 97% **Oxygen needs:** Room air, no O2 required.	Numeric Rating Pain Scale. The patient denies pain. 0/10 0, verbally & nonverbally.

Nursing Diagnosis 1 Risk for impaired spontaneous ventilation related to collapsed lung as evidenced by decreased oxygen saturation and increase in respirations.	**Nursing Diagnosis 2** Hopelessness related to social isolation as evidenced by nonverbal cues, such as avoiding eye contact and turning away from nursing staff.	**Nursing Diagnosis 3** Fear related to collapsed lung as evidenced by being asymptomatic previously.
Rationale This rationale was chosen due to the patient having multiple spontaneous pneumothoraxes.	**Rationale** This rationale was chosen because the patient avoided eye contact, turned away from nursing staff, and answered the bare minimum of questions asked.	**Rationale** This rationale was chosen because the patient is in shock about this current pneumothorax and is afraid of it happening again.
Interventions **Intervention 1:** Monitor the patient for nasal flaring, change in depth and pattern of breathing, use of accessory muscles, and cyanosis (Ackley et al., 2020). **Intervention 2:** Monitor the patient's vital signs every 15 min to 1 hour (Ackley et al., 2020).	**Interventions** **Intervention 1:** Identify the patient's strengths and encourage putting his strengths to use (Ackley et al., 2020). **Intervention 2:** Encourage the patient to identify enjoyable diversions and to participate in them (Ackley et al., 2020).	**Interventions** **Intervention 1:** Help the teen identify the fear and assess the patient's understanding of the situation (Ackley et al., 2020). **Intervention 2:** Involve the patient in planning care and setting goals (Ackley et al., 2020).
Evaluation of Interventions The patient's breathing pattern will be normal, as well as respiratory rates, the reasoning being early signs of respiratory distress (Ackley et al., 2020). The patient's vitals will remain normal due to tachypnea, and tachycardia is an early indication of respiratory distress (Ackley et al., 2020).	**Evaluation of Interventions** The patient will interact with others and regain involvement in life experiences (Ackley et al., 2020). The patient acknowledges self-belief and demonstrates increased energy (Ackley et al., 2020).	**Evaluation of Interventions** The patient will be less fearful (Ackley et al., 2020). The patient will demonstrate using at least one coping mechanism daily to help reduce fear (Ackley et al., 2020). Involvement in care will help confidence and give a sense of control over the situation (Ackley et al., 2020).

References (3):

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