Chest Tube Questions

1. You are providing care to a patient with a chest tube. On assessment of the drainage system, you note continuous bubbling in the water seal chamber and oscillation. Which of the following is the CORRECT nursing intervention for this type of finding?

A. Reposition the patient because the tubing is kinked.

B. Continue to monitor the drainage system.

C. Increase the suction to the drainage system until the bubbling stops.

D. Check the drainage system for an air leak.

Continuous bubbling in the water seal chamber is NOT normal and indicates there is an air leak. However, oscillation of the water in the water seal chamber is normal.

2. A patient is receiving positive pressure mechanical ventilation and has a chest tube. When assessing the water seal chamber what do you expect to find?

A. The water in the chamber will increase during inspiration and decrease during expiration.

B. There will be continuous bubbling noted in the chamber.

C. The water in the chamber will decrease during inspiration and increase during expiration.

D. The water in the chamber will not move.

When a patient is receiving mechanical ventilation the water in the water seal chamber will oscillate oppositely than if the patient were breathing on their own. Therefore, the water in the chamber will decrease during inspiration and increase during expiration.

3. What type of chest tube system does this statement describe? This chest drainage system has no water column to control suction but uses a suction monitor bellow that balances the wall suction and you can adjust water suction pressure using the rotary suction dial on the side of the system. It allows for higher suction pressure levels, has no bubbling sounds, and water does not evaporate from it as with other systems.

A. Mediastinal chest tube system

B. Dry suction chest tube system

C. Wet suction chest tube system

D. Dry-Wet suction chest tube system

4. The patient in room 2569 calls on the call light to tell you something is wrong with his chest tube. When you arrive to the room you note that the drainage system has fallen on its side and is leaking drainage onto the floor from a crack in the system. What is your next PRIORITY?

A. Place the patient in supine position and clamp the tubing.

B. Notify the physician immediately.

C. Disconnect the drainage system and get a new one.

D. Disconnect the tubing from the drainage system and insert the tubing 1 inch into a bottle of sterile water and obtain a new system.

Option D is the best choice. A new system needs to be obtained, however, in order to maintain a water seal until the new system arrives you will need to place the tubing 1 inch in sterile water or sterile saline to regain a water seal.

5. You're assessing a patient who is post-opt from a chest tube insertion. On assessment, you note there is 50 cc of serosanguinous fluid in the drainage chamber, fluctuation of water in the water seal chamber when the patient breathes in and out, and bubbling in the suction control chamber. Which of the following is the most appropriate nursing intervention?

A. Document your findings as normal.

B. Assess for an air leak due to bubbling noted in the suction chamber.

C. Notify the physician about the drainage.

D. Milk the tubing to ensure patency of the tubes.

The assessment findings are normal. All the other options are incorrect.

6. A patient is recovering from a pneumothorax and has a chest tube present. Which of the following is an appropriate finding when assessing the chest tube drainage system?

A. Intermittent bubbling may be noted in the water seal chamber.

B. 200 cc of drainage per hour is expected during recovery of a pneumothorax.

C. The chest tube is positioned at the patient's chest level to facilitate drainage.

D. All of these options are appropriate findings.

The answer is A. It is normal to find intermittent (NOT CONTINUOUS) bubbling in the water seal chamber if the patient is recovery from a pneumothorax. Remember that a pneumothorax is an AIR leak between the lung and chest wall....therefore air will escape into the water seal chamber causing intermittent bubbles.

7. While helping a patient with a chest tube reposition in the bed, the chest tube becomes dislodged. What is your immediate nursing intervention?

A. Stay with the patient and monitor their vital signs while another nurse notifies the physician.

B. Place a sterile dressing over the site and tape it on three sides and notify the physician.

C. Attempt to re-insert the tube.

D. Keep the site open to air and notify the physician.

8. A patient is about to have their chest tube removed by the physician. As the nurse assisting with the removal, which of the following actions will you perform? Select-all-that-apply:

A. Educate the patient how to take a deep breath out and inhale rapidly while the tube in being removed.

B. Gather supplies needed which will include a petroleum gauze dressing per physician preference.

C. Place the patient in Semi-Fowler's position.

D. Have the patient take a deep breath, exhale, and bear down during removal of the tube.

E. Pre-medicate prior to removal as ordered by the physician.

F. Place the patient is prone position after removal.

Option A: is wrong because this is not how the Valsalva Maneuver is performed (the correct way is detailed in option D). Option F: is wrong as well because this position would not facilitate breathing...Fowler's position is best after removal.

9. A patient with a chest tube has no fluctuation of water in the water seal chamber. What could be the cause of this?

A. This is an expected finding.

B. The lung may have re-expanded or there is a kink in the system.

C. The system is broken and needs to be replaced.

D. There is an air leak in the tubing.

Additional Question:

10. The nurse is caring for a patient with a closed-chest drainage system with chest tubes. Which observation confirms that the system is intact and working?
a. The water level in the water-seal chamber fluctuates.
b. The level of fluid in the collection chamber rises.
c. There are constant bubbles in the water-seal chamber.
d. The suction has been attached.

ANS: A
If the level of the water in the water-seal chamber rises and falls with the patient's respiration, the system is intact. Constant bubbles in the water-seal chamber indicate a leak in the system. The fluid in the collection container drains by gravity whether the closed-chest drainage system is intact or not. Suction is not significant with respect to whether the system is intact.

11. The healthcare provider is caring for a patient who has a pneumothorax. When assessing the patient and the chest tube drainage system, a large fibrin clot is noted in the tubing. Which additional assessment finding requires immediate action by the healthcare provider?

a. Increasing pain at the insertion site
b. A downward trend in blood pressure
c. Decreased water in the suction control chamber
d. Fluctuations in the water seal chamber

12. A patient who is attached to a chest tube drainage unit is being transported from the emergency department to the respiratory care unit. Which of these actions should be performed by the healthcare provider in preparation for the transport?

a. Clamp the chest tube with a padded hemostat.

b. Disconnect the chest tube unit during transport.

c. Secure the chest tube unit on the gurney.

d. Stabilize the chest tube drainage unit on the patient's bed.

13. When caring for a patient who has a pneumothorax, which of these actions should the healthcare provider include in the patient's plan of care?

a. Empty the drainage chamber every shift and record the amount.

b. Vigorously massage the tube every 2 hours to promote drainage.

c. Encourage the patient to breathe deeply and cough regularly.

d. Change the insertion site dressing daily using aseptic technique.

14. A patient has undergone open heart surgery for a congenital heart defect and has a chest tube drainage system in place. If there is damage to the thoracic duct during the procedure, what type of fluid will the healthcare provider observe in the collection chamber?

a. Milky white

b. Serosanguineous

c. Yellow

d. Clear

15. A nurse preparing to care for a client following chest tube placement. Which of the following items should be available in the client's room? (Select all that apply)

a. Oxygen
b. Sterile water
c. Enclosed hemostat clamps

d. Indwelling urinary catheter
e. Occlusive dressing

ANS: A, B, C, E
Oxygen should be readily available in case the client develops respiratory distress following chest tube placement. If the chest tube becomes disconnected, the end of the tubing should be placed in sterile water to restore the water seal. Hemostat clamps should be available for the nurse to use to check air leaks. Immediately place an occlusive dressing over the chest tube insertion site if becomes disconnected. This allows air to escape and reduces the risk for a tension pneumothorax

16. A nurse is caring for a client who has a chest tube and drainage system in place. The nurse observes that the client's chest tube was accidentally removed. Which of the following actions should the nurse take first?

a. Place the tubing in sterile water to restore the water seal
b. Apply sterile gauze to the insertion site
c. Place tape around the insertion site
d. Assess the client's respiratory status

ANS: B
Using ABC priority framework, the application of a sterile gauze to the site should be the first action for the nurse to take. This allows the air to escape and reduces the risk of the tension pneumothorax.

17. A nurse is assessing a client who has a chest tube and drainage system in place. Which of the following are expected findings? (Select all that apply)

a. Continuous bubbling in the water seal chamber
b. Gentle constant bubbling in the suction control chamber
c. Rise and fall in the level of water in the water seal chamber with inspiration
d. Exposed sutures without dressing
e. Drainage system upright at chest level

ANS: B, C
Gentle bubbling in the suction control chamber is an expected finding as air is being removed.
A rise and fall of the fluid level in the water seal chamber upon inspiration and expiration indicate that the drainage system is functioning properly.

18. A nurse is assisting a provider with the removal of a chest tube. Which of the following should the nurse instruct the client to do?

a. Lie on his left side
b. Use the incentive spirometer
c. Cough at regular intervals
d. Perform the Valsalva maneuver

ANS: D
The client should be instructed to take a deep breath, exhale, and bear down as the chest tube is being removed. This increases intrathoracic pressure and reduces the risk of an air embolism.

19. A nurse is planning care for a client following the insertion of a chest tube and drainage system. Which of the following should be included in the plan of care? (Select all that apply)

a. Encourage the client to cough every 2 hours
b. Check for continuous bubbling in the suction chamber
c. Strip the drainage tubing every 4 hours
d. Clamp the tube once a day
e. Obtain a chest x ray

ANS: A, B, E
Cough every 2 hours to promote oxygenation and lung re-expansion. Check for continuous bubbling in the suction chamber to verify that suction is being maintained at an appropriate level. A chest x ray is obtained following the procedure to verify chest tube placement.

20. A client has had a chest tube placed for 10 hours and the nurse is assessing the color of the drainage. Which color would be concerning to the nurse?

Answer: Bright red