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Points for attention for chest tube drainage



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I 、 Purpose

We often place a chest tube in the pleural cavity or intra-cardiac apex after surgery of the chest, such as lobectomy or open heart surgery, in order to :

1. Drain the air and bloody discharge in the pleural cavity.
2. Re-establish the normal negative pressure in the pleural cavity.
3. Facilitate the normal lung expansion.
4. Keep the negative pressure balance of the bilateral lungs.

II 、 Points for attention:

1. The position of chest tube drainage equipment should always be lower than the intubation site.
2. Regarding the posture of the intubated patient.
 - (1) Remaining a sitting-lying position
 - A. to let the diaphragm drop, and promote the lung expansion
 - B. to facilitate breathing
 - C. to facilitate chest tube drainage
 - (2) To turn the body over every one to two hours
3. Keep the drainage tube patent

Often check whether the drainage tube is unobstructed or not. Make sure the drainage tube is not compressed by the body, neither distorted nor coming off. In the early days after the operation, you must extrude the drainage tube every 30 to 60 minutes.

4. Keep the drainage system airtight and prevent the air from permeating into the pleural cavity.
5. When the intubated patient moves, make sure that
 - (1) The chest bottle remains upright.
 - (2) The position of the chest bottle is lower than the patient's thorax.
 - (3) All connectors are connected tightly.
6. When the chest bottle is toppled:

Place the chest bottle upright immediately and breathe deeply once or twice in order to expel the air which might get into the pleural cavity when the chest the bottle is toppled.
7. The exercise that an intubated patient can practice:
 - (1) Deeply breathing and coughing
 - (2) Exercising the arm and the shoulder (as below):
 - A. Elevate your shoulder first. Try your best to adduct the shoulder and then abduct it.
 - B. Raise the arm straight upwards and keep the elbow joint as close to your ears as you can. Then stretch your arm to the level of the shoulder.
 - C. Put your hands on the waist. Do your best to square your shoulder.
 - D. Lift the arm directly upwards and then backward extended, then pull back the arm downward and backward extended.

- E. Sit straight on an armchair and prop up the body by pressing the side pieces with both arms. Keep the posture for several minutes and then sit back slowly.
- F. Stretch both hands upwards and hold each other. Keep the elbows flexed above the head. Then stretch the arm backward.
- G. Put the hand of the operated side on the stomach. Then hold the wrist with another hand. Lift it upwards above the head and then put it back.
- H. Hangs the hand down obliquely with the palm facing forward. Stretch it upwards in an arc shape and then resume the posture.
- I. Lift up the arm of operated side to the level of the shoulder with the elbow flexed 90 degrees. Then rotate the forearm upward and downward.

III · Timing of chest tube removal

1. The drainage amount is less than 200 cc per day.
2. The color of the drainage is light yellow.
3. No air leak from pleural cavity occurs within 48 hours.
4. No abnormal finding as auscultation, percussion, and chest X-ray examination.

IV ‧ Points for attention when the chest tube is removed:

1. Sit at the edge of the bed first or lying on the non-intubated side.
2. Breathe deeply twice, then hold your breath after the third deep inspiration; we will remove the chest tube then. It will prevent the air from being sucked into the pleural cavity when the chest tube is removed.
3. Cover the wound with Vaseline gauze and fixed it with wide fabric adhesive tape.
4. The chest X-ray will be arranged at 2-4 hours after extubation.
5. If any respiratory distress occurs, inform the medical personnel at once.

V ‧ Points for attention in self-care after chest tube removal

1. The wound may heal within 7 days. The stitches can be removed after one week.
2. Eat clean and fresh food with abundant proteins and vitamins. They may facilitate the wound healing. No particular food is forbidden.
3. If there are discharge and unusual signs such as redness, swelling, heat, and pain, etc, you must tell medical personnel immediately.
4. Prevent upper respiratory tract infection or any situations that may irritate the bronchi to avoid severe coughing.
5. If there is violent chest pain or difficulty in breathing, you must inform the medical personnel immediately.

