

Chest tube insertion (trauma)

Inhoudstafel

This video will show you how to insert a chest tube for a pneumothorax

This patient has multiple rib fractures

They caused a pneumothorax with a midline shift forming a beginning tension pneumothorax

Sterility is very important so make sure You know and follow the standard operating procedures of Your hospital.

Prepare Your table with sterile instruments

We'll be using a surgical clamp, scalpel and surgical sutures.

Use lidocaine one or two percent determine the right chest tube size.

The preferred patient position is half seated with the arm lying aside and at shoulder level.

Desinfect the thorax broadly to prevent decontamination

Before draping the patient define intercostal level 4 to 5 to place the chest tube.

Preferably use a broad sterile drape with a central opening.

Anesthetize the skin covering the rib that you're using as a reference.

Now anesthetize the deeper layers above the rib.

Then infiltrate the intercostal muscles till you enter the thoracic cavity with the needle.

Make your skin incision 2 to 4 centimetres long and parallel to the rib.

Now use your surgical clamp to dissect the subcutaneous tissue.

Perforate the pleural membrane using your surgical clamp . You can use your index finger to prevent deep perforation that might damage the liver or other tissues.

Now widen the intercostal wound using your index finger.

Introduce the tube in the thoracic cave. You can see and hear air escaping through the tube.

The tube is oriented in posterior and upward direction.

Use suturing wire to keep the tube into position.

Place enough sutures to prevent air suction.

Keep sterility in mind when connecting the tubes.

Beware to fill the drainage canister device beforehand.

Start the vacuum and see how the air bubbles in your canister device

Adapt the vacuum if necessary.

Take a new x ray to check for the tube position and the lung expansion.

For more information visit <http://www.medics4medics.com> [1]

Indication for chest tube insertion:-> 30% collapse

- pressure pneumothorax: risk/suspicion

- pneumothorax in mechanically ventilated patient

- secondary pneumothorax-> pneumothorax after trauma: penetrating (gunshot wound thorax) or stab

- size of drain:

- primary pneumothorax: small diameter: 7-14 Fr

- secondary spontaneous pneumothorax: 20-28 Fr

thick-drain: > 28 Fr

indications:-pleural fluid

- ventilated patient

with water lock on-20 cm H₂O or with a Heimlich valve

References:

https://en.wikipedia.org/wiki/Chest_tube [2]

<http://www.healthline.com/health/chest-tube-insertion> [3]

<http://emedicine.medscape.com/article/80678-overview> [4]

<https://medlineplus.gov/ency/article/002947.htm> [5]

<http://www.trauma.org/archive/thoracic/CHESTdrain.html> [6]

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Bron-URL: <https://www.medics4medics.com/nl/traumatologie/chest-tube-insertion-trauma>

Links

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[3] <http://www.healthline.com/health/chest-tube-insertion>

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