NEEDLE ASSEMBLY FOR RELIEVING A PNEUMOTHORAX

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HINTERGRUND

The standard procedure to treat a pneumothorax is a mini-thoracotomy i.e. a medical surgery to open the thoracic cavity wall with a scalpel or scissors followed by introduction of a flexible tube into the pleural cavity to reinstate the vacuum. In the life-threatening event of a tension pneumothorax, the thorax will first be punctured with a needle, followed by a mini-thoracotomy. The mini-thoracotomy is time consuming, complex and needs experienced personnel.

LÖSUNG

The innovative needle assembly here is one simple medical instrument that provides all processing steps needed to relieve a pneumothorax and directly allows a safe patient transport without any additional procedures. The needle assembly comprises a double-curved Veress cannula with a cutting end for puncturing the thoracic cavity. Inadvertently cutting of the lung is avoided by the safety mechanism of the cannula. A fixing bulge holds the device in its position and seals the incision. The proximal end portion of the needle assembly can be connected to a suction tube to remove fluid or gas from the cavity while the intrusion of air into the pleural cavity is prevented by a one-way valve.
VORTEILE

Major advantages of the new device are:

- The pneumothorax can be relieved with only one medical instrument which is crucial in emergency situations, lacking fully medical trained personnel, time and surgical equipment
- One fast step, directly enabling a safe patient transport
- The device can equally be used for relieving an accumulation of liquid in the pleural cavity (e.g. a hemothorax)
- The design prevents serious inadvertent injuries by the cutting end during movement of the thoracic cavity or lung and guides the unexperienced user