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Suture-free Chest Tube Stabilizing Device

IP Status: US Patent Issued, Issued Patent No. 12,083,291

Requires no sutures; prevents tube dislodgement

A novel device secures a chest tube in place without sutures during tube thoracostomy (TT) and procedures involving indwelling tubes. Implementing the stabilizing device is fast and does not require daily management. The easy-to-use device keeps the chest tube in place under normal conditions, during patient movement and while stripping the tube. Patient satisfaction is high because it is reliable, comfortable and allows for greater patient movement. Tube removal is easy and safe, as it can prevent related skin necrosis and scarring. The device can be removed when the tube is removed or it can be left in place to protect the incision site and ensure proper healing.

The device attaches to the skin with an adhesive patch and two caps:

1. **Inserting the tube.** The first cap is used while inserting the tube and acts as a secondary mechanism for preventing infection and keeping the tube in place.
2. **Removing the tube.** The second cap is used when the tube is removed; it ensures an airtight seal of the incision to prevent infection.

Single-use design overcomes many issues with existing devices

Current suture-gauze methods used for anchoring chest tubes during tube thoracostomy (TT) face a number of issues: relatively long procedure times, tube dislodgement, skin necrosis, daily care, limited options for airtight removal and unpleasant scarring. This novel chest tube stabilizing device was designed to overcome these challenges. It is more reliable, easier and faster to implement, and more secure than traditional sutures. Its design expedites patient care and reduces adverse events caused by tube dislodgement.

Phase of Development

- Working prototype and initial pre-clinical evaluation.

Benefits

- Fast insertion
- Does not require daily management
- May shorten procedure time
- Increases patient mobility and comfort
- Easier and potentially safer tube removal
- May prevent related skin necrosis, tube dislodgement and scarring

Features

Technology ID
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Category
Life Sciences/Medical Devices

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- Secures chest tube without sutures
- Keeps the chest tube in place during surgery
- Airtight seal prevents infection and enhances healing
- Can remain in place after tube removal to promote incision site healing
- Attaches to the skin with an adhesive patch
- Two caps: one for inserting tube, one for removing tube
- Absorbent and anti-microbial
- Disposable, single-use
- Latex free

Applications

- Tube thoracostomy (TT)
- Chest tube insertions
- Thoracic drainage devices
- Medical devices

Researchers

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Interested in Licensing?

The University relies on industry partners to further develop and ultimately commercialize this technology. The license is for the sale, manufacture or use of products claimed by the patents. Please contact us to share your business needs and licensing and technical interests in this technology.