



Securing the chest tube: in search of the elusive solution

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In addition to suturing small-bore chest tubes, integrated devices such as inflatable balloons can also be used to further prevent the risk of tube dislodgment <https://bit.ly/3HPrzFf>

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Chest tubes are frequently indicated for removing accumulated air or fluid from the pleural space due to a variety of conditions, such as pneumothorax, empyema, haemothorax or malignant pleural effusions for which a bedside pleurodesis procedure is planned [1]. Small-bore chest tubes (SBCT), defined as those having an outer diameter of 14 Fr or less, are recommended as a first-line approach in most situations, with the possible exception of haemothoraces. They are ordinarily placed by utilising the Seldinger technique and then secured after insertion to prevent accidental removal [2]. Properly securing a SBCT is commonly achieved by a fixation suture (*e.g.* number 1 or 0 silk) or, less commonly, a commercial chest tube holder. Even so, accidental dislodgment may occur and complicate further management, particularly if the primary process is not completely resolved and the pleural space has decreased so as to make insertion of a new catheter technically difficult or risky; not to mention the possibility of subcutaneous emphysema or pneumothorax that displacement of proximal holes entails. In a retrospective analysis of 1092 SBCT secured to the skin, dislodgment leading to drainage failure was reported in 5.4% of the cases [3]. In another retrospective study of 369 chest drains, mostly SBCT, unsutured ones were more likely to become dislodged (14.8% *versus* 6.6%) [4]. With this background, any further attempt to minimise the possibility of the SBCT from falling out should be perceived as relevant to clinical practice.