

# The Solution

Both the Russell PneumoFix® and Russell PneumoFix®-8 have been designed by clinicians who understand the reality of treating tension pneumothorax and who appreciate the importance of traditional failings of using improvised equipment not designed for purpose. The Russell PneumoFix® and the Russell PneumoFix®-8



both have many features that make them a truly useful tool for the emergency care provider. An overview of the simplicity of use of the Russell PneumoFix® and the Russell PneumoFix®-8 can be seen in Figure 1.

With no fuss and no over-engineering, the Russell PneumoFix® and the Russell PneumoFix®-8 provide a cost-effective, simple and intuitive solution to allow this life-threatening condition to be dealt with quickly and effectively for the benefit of the patient.

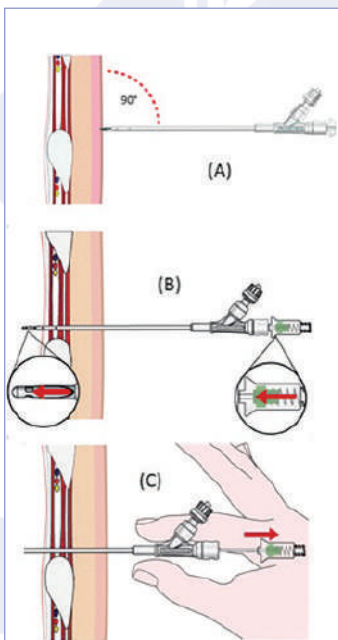


Figure 1. The Russell PneumoFix® is inserted into the intercostal space at a 90-degree angle to the chest wall and always away from the heart (A). On entering the pleural space there will be a sudden movement of the indicator towards the patient: this suggests that the needle tip is in the intrapleural space (B). If aspirating with a syringe, air or fluid might be withdrawn at this point. The needle should not be inserted any further and, for most adults, this will be approximately 3-4cm. Fixing the Veress needle at this depth, the catheter is advanced by grasping the plastic hub of the catheter labelled 'Prometheus' and advancing it 2-3cm into the patient (C). The Veress needle is withdrawn at this point leaving the catheter in place.



PROMETHEUS  
MEDICAL LTD



PROMETHEUS  
MEDICAL LTD

## Russell PneumoFix® and Russell PneumoFix®-8

[www.prometheusmed.com](http://www.prometheusmed.com)

The Old Rectory  
Hope-under-Dinmore  
Herefordshire  
HR6 0PW

Tel: +44 (0) 1568 613942  
Fax: +44 (0) 1568 620032



[www.prometheusmed.com](http://www.prometheusmed.com)

**The Russell PneumoFix® is a sterile chest decompression device designed for the management of tension pneumothorax, simple pneumothorax and pleural effusion by appropriately trained medical professionals.**

Designed by practising clinicians who understand the limitations of conventional equipment, it has the following features:

- 11cm long and 12-gauge catheter long enough to reach the pleural cavity of the vast majority of patients
- For medical professionals, use of the Russell PneumoFix® is quick, simple and intuitive
- Unlike the intravenous cannula, used historically in an improvised way for the management of tension pneumothorax, the Russell PneumoFix® is designed specifically for this purpose
- Catheter tip holes to maximize drainage ability and minimize tip occlusion
- Veress tip and indicator device assists safe insertion with minimal risk of injuring underlying lung
- Low pressure one-way valve permits release of tension pneumothorax, with minimal potential of subsequent air re-entry
- Graduated markings and X-ray detectable catheter - for depth recording and accurate localisation in hospital
- Material chosen which minimises the risk of kinking of the catheter
- Can be used in the second intercostal space in the anterior mid-clavicular line.

**Product code:** PDF102

Needle thoracocentesis (NT) is the insertion of a needle into the pleural space and the drainage of air that has accumulated. This can be life-saving when a patient has a tension pneumothorax as it allows decompression, restoration of the circulatory system and improvement in ventilation.

A needle is inserted into the chest in the 2nd intercostal space in the anterior mid-clavicular line. It is inserted perpendicularly to the chest wall, just above the 3rd rib (to avoid the intercostal neurovascular bundle - a simple schematic is shown Figure 2).

A significant advantage is that it is long enough to reach into the pleural cavity in the vast majority of patients. Other marketed products may be too short and some have cannulae that kink easily, which may lead to a further reduction in product effectiveness. There are many published studies documenting the failure of other devices (including improvised cannulae) 1-5. The Russell PneumoFix® and the Russell PneumoFix®-8 have been developed to tackle these known shortcomings in order to provide a new standard of tension pneumothorax management.

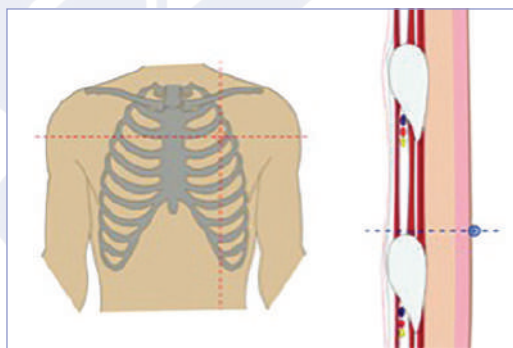


Figure 2. The insertion site should be just above the upper border of the third rib (i.e. into the second intercostal space) in the anterior mid-clavicular line, to avoid the intercostal neurovascular bundle.

**As with the Russell PneumoFix® the Russell PneumoFix®-8 is also a sterile chest decompression device, however the Russell PneumoFix®-8 has an 8cm, 14-gauge catheter.**

It was developed following on from a demand for a shorter needle, it has the following features:

- 8cm and 14-gauge catheter allows for rapid venting of air in tension pneumothorax
- For medical professionals, use of the Russell PneumoFix®-8 is quick, simple and intuitive
- Unlike the intravenous cannula, used historically in an improvised way for the management of tension pneumothorax, the Russell PneumoFix®-8 is designed specifically for this purpose
- Catheter tip holes to maximize drainage ability and minimize tip occlusion
- Veress tip and indicator device assists safe insertion with minimal risk of injuring underlying lung
- Low pressure one-way valve permits release of tension pneumothorax, with minimal potential of subsequent air re-entry
- Graduated markings and X-ray detectable catheter - for depth recording and accurate localisation at hospital
- Material chosen which minimises the risk of kinking of the catheter
- Twist lock connection between needle and hub allows easy handling
- Can be used in the into the second intercostal space in the anterior mid-clavicular line and the fifth intercostal space in the anterior axillary line.

**Product code:** PDF109