

Read the instructions for use carefully before application!

Product description:

The Veress needle used in the Veress Needle Drainage Kit consists of an outer needle with a sharp tip, an internal, retractable needle with an open or rounded end and a Luer-Lock connection (female). Syringes, stopcocks, suction tubes and collection bags, for example, can be connected to this Luer-Lock connection (female). The functional feature of the veress needle is that the inner,atraumatic cannula retracts during puncture thanks to a damping device. After penetration during puncture and reaching the target area, the inner cannula returns to its original position, preventing perforation of the internal organs. The inner cannula is also equipped with different opening typologies so that optimal suction results can be achieved. In the rest position, the atraumatic part of the needle extends beyond the sharp tip, which provides greater safety against accidental stitches or injuries. The rear part of the needle has a transparent connector that allows the user to see the positioning of the tip at all stages of the operation and to reach the thoracic or abdominal cavity by means of a red indicator. Depth indicators are provided on the needle's external cannula at 1 cm intervals. The 5 and 10 cm indicators are marked in an even clearer manner. To adjust the depth of penetration, before inserting the device, the user can adjust the slide stopper present on the external cannula accordingly. The veress needle drainage kits can contain various components that are considered necessary for the surgically invasive procedure.

Packaging content:

The contents of the packaging and the specifications of the individual components are indicated on the packaging and the label.

Valid for:

Veress-Needle Drainage Kit

Indications and Medical Purpose:

The Veress-Needle Drainage Kits for Thoracentesis, Paracentesis and Gas Insufflation during Laparoscopy are used to aspirate unwanted effusions of all kinds from the pleural cavity (pleural effusion), from the abdominal cavity (ascites) or to remove air or gases from the pleural cavity (pneumothorax (spontaneous, traumatic, iatrogenic)) or for the injection of gases into the abdominal cavity during laparoscopy. Pleural puncture (thoracentesis) and ascites puncture (paracentesis) can be used for diagnostic or therapeutic purposes. The aims of the application are to initiate further therapeutic measures, in the case of thoracentesis, among other things, to restore the physiological pressure conditions of the pleural cavity and to relieve symptoms, and in the case of ascites puncture, among other things, to relieve symptoms by draining free fluids (ascites).

Application duration:

The product is exclusively suitable for short term (< 30 days) use.

Contraindications pleural puncture:

There are no absolute contraindications, especially in case of vital (life-threatening) indication. It is at the discretion of the attending Healthcare Professional to assess this.

Relative contraindications pleural puncture:

It is necessary to weigh the benefit against the risk by the user!

Unwilling uncooperative patient; Coagulopathy / haemorrhagic diathesis; Anticoagulation; Severe decompensation; Infections / inflammations (e.g. infections of the pleural cavity, florid skin infections in the area of the puncture site); Restricted access route to the pleural cavity (e.g. adhesions in the pleural space, malformation of the cardiac vessels, Altered anatomy of the chest wall); Chylothorax; Emphysema of the lung

Contraindications ascites puncture:

There are no absolute contraindications, especially in case of vital (life-threatening) indication. It is at the discretion of the attending Healthcare Professional to assess this.

Relative contraindications ascites puncture:

It is necessary to weigh the benefit against the risk by the user!

Unwilling, uncooperative patient; Coagulopathy / haemorrhagic diathesis; Anticoagulation; Severe decompensation; Infections / inflammations (e.g. peritonitis, florid skin infections in the area of the puncture site); Restricted access route to the abdominal cavity as well as pathological anatomical conditions that make drainage placement difficult (e.g. massively dilated intestinal loops, pronounced organomegaly, hydronephrosis, pregnancy, intestinal adhesions to the abdominal wall); decompensated liver cirrhosis; presence of chambered ascites; clinically detectable fibrinolysis

Intended user and patient target group:

The product may only be inserted, applied and removed by Healthcare Professionals, i.e. by qualified physicians or by qualified medical personnel under the instruction of a qualified physician. Of particular importance are the procedures in anaesthesia, intensive care, internal medicine, surgery and emergency medicine and for all other patients with the listed indications and where the user with the required qualifications considers this necessary. The medical device can be used on both adults and children without any fundamental distinction as to age, anatomy or physiology, taking into account the contraindications. The anatomical and physiological conditions of the patient must be checked by the attending Healthcare Professional before using the product.

General notes and precautions:

- **The product is to be used sterile only!**
- If the product is delivered in a non-sterile state, the **sterilization instructions** must be taken into account (the sterilization instructions do not apply to products delivered in a sterile state in which the sterile state is no longer given (e.g. due to damage to the sterile barrier system or use of the product)).
- The product is intended for single use only and must not be resterilized. In case of reuse or resterilization, it cannot be guaranteed that biological, physical, chemical and functional properties of the product are still given. Reuse or resterilization may lead to malfunction of the product, which in turn may lead to injury, illness or death of the patient.
- The Veress needle contains ferromagnetic materials and must not be used in an MR (magnetic resonance) environment. The materials can move and/or heat up in magnetic fields. This can lead to catastrophic complications.
- The product may only be used under absolutely aseptic conditions.
- The product may only be used in accordance with the intended purpose described.
- The medical methods and procedures described in this manual do not reflect all accepted medical practices, nor are they a substitute for the experience and judgment of the physician in treating his or her patients.
- Users must be aware of the risks, complications, and undesirable side effects associated with pleural and ascites puncture procedures, including but not limited to those listed in this Instructions for Use.
- In case of pregnant women, the use of the product must be checked by a doctor before application.
- Do not use damaged products or products from damaged packaging, as this could result in the product no longer functioning properly, parts getting into the patient's body or the sterile barrier system no longer being intact with the consequence that sterility is no longer guaranteed.
- Do not use products that have exceeded the expiry date on the packaging (label).

- When using additional or other components that are not included in the packaging, care must be taken to ensure safe and firm connection, compatibility with the components contained in the packaging, as well as the instructions of the respective manufacturers.
- The connections may have become loose during transport and storage or during the sterilization process. Check all connections before use and tighten the connections if necessary.
- If a **malfunction** of the medical device occurs, the application must be stopped immediately and the manufacturer must be informed. Defective products must be kept and sent to the manufacturer for investigation.
- **Serious incidents** related to the medical device must be reported immediately to the manufacturer and the competent authorities, and the products must be kept and sent to the manufacturer for investigation.

Possible side effects:

- Potential allergic reaction to materials with significant body contact: veress needle (stainless steel)

Possible risks, complications and further notes on pleural puncture:

- (a) Malposition of the pleural drainage: 1. Insertion too deep: The drainage causes chest or shoulder pain when pressure is applied to the patient's pleura; in addition, the drainage function is impaired. 2. Extrathoracic malposition: The drainage has slipped past the pleura and is now in the subcutaneous or submuscular tissue → This is noticeable by the fact that the fluid column in the drainage system no longer moves in breath-synchronous; 3. Intrapulmonary malposition: This malposition is especially possible with adhesions and represents a lung injury; 4. Injury to intercostal nerves and vessels running along the lower edge of each rib. **Recommendation:** The chest drain should always be placed at the upper edge of the rib in order not to injure the nerves and vessels; (b) Sagging of the tubes / suction reduction: Make sure that the tubes do not sag, as liquids or secretions collect in the loops (syphon), which reduces the suction; (c) Infections / inflammations (e.g. at the puncture site, intrapleural wound infection); (d) Skin emphysema; (e) Injury to intra-abdominal or intrathoracic organs (visceral injuries) (e.g. heart, lungs, lung parenchyma, diaphragm); (f) Intrapleural injury or nerve damage; (g) Bleeding; (h) Circulatory problems when aspirating large amounts of pleural effusion; (i) Pneumothorax in case of incorrect use; (j) In the case of pleural drainage, a suction of -10 to -20 cm H₂O on the patient is sufficient for suction as well as for maintaining the intrapleural pressure. Unless clinically necessary, negative pressures greater than -50 cm H₂O should not be applied to the patient. A lower suction level may be necessary when used on children and newborns. It is recommended to apply a suction of -5 to -10 cm H₂O to the patient in children and newborns. Too much suction during drainage may cause severe pain, lung injury, injury to surrounding blood vessels, syncope, or re-expansion edema.

- (k) **Alternative treatment options:** (k1) For effusions < 100 ml in the pleural cavity, drug therapy should be considered as an alternative treatment option; (k2) For effusions in the pleural cavity: Thick fluids may cause blockages of the drainage system. In this case, the use of larger diameter drains is recommended (e.g. PNEUMOCATH®); (k3) Alternatively, the use of a minithoracotomy in combination with upstream imaging for exploration of the pleural cavity can provide essential information about the intrathoracic findings, with the possibility of placing a drain immediately

Possible risks, complications and further notes on ascites puncture:

- (a) Sagging of the tubes / suction reduction: Make sure that the tubes do not sag, as liquids or secretions collect in the loops (syphon), which reduces the suction; (b) Bleeding; (c) Restricted access route into the abdominal cavity filled with ascites due to enlarged organs (e.g. hepatosplenomegaly, cystic kidneys), tumours, pregnancy or strongly filled hollow organs (e.g. air-filled intestinal loops in ileus, intestinal adhesions to the abdominal wall, urinary bladder atony, urinary outlet obstruction); (d) Injuries to abdominal organs (resulting in e.g. abdominal wall abscess after intestinal perforation). **Recommendation:** Ultrasound-guided punctures to avoid organ injuries; (e) Syncope; (f) Infections (e.g. peritonitis); (g) Fistula formation; (h) Hepatorenal syndrome (can be triggered e.g. by massive decompression puncture); (i) Prophylactic leakage of ascites through the stitch canal. **Recommendation:** Can be prevented by positioning the patient on the side opposite the stitch canal, choosing an oblique stitch canal, draining the ascites completely or, if necessary, using a tobacco bag suture; (j) In cases of decompensated cirrhosis and pre-existing clouding of consciousness, draining excessive volumes of ascites may worsen the clinical situation.

Application steps:

1. Open the packaging and remove the components.
2. Determine the puncture site depending on the indication and the previously determined localization of the medium to be aspirated (e.g. by imaging procedures).
3. Disinfect the puncture site and administer local anaesthesia.
4. Remove the plastic protective cap of the veress needle.
5. If necessary, set the desired penetration depth with the existing slide stopper on the outer cannula of the veress needle.
6. Perform the puncture, making sure that the inner cannula retracts completely.
7. Check the positioning by means of the indicator that can be seen through the transparent connector. When the red indicator returns to the initial position, the inner cannula has been released and is in the operating position.
8. Connect the desired components for drainage/gas insufflation (e.g. connection tube, three-way-stopcock, syringe, collection bag) (if not already connected) and start the application.

Attention: Close the bottom drain valve of the collection bag before use!

9. When the application is complete, withdraw the needle from the patient and protect the puncture site immediately afterwards (e.g. with gauze swab and dressing).

Attention: Immediate closure of the puncture site (e.g. with gauze swab and dressing) is essential to avoid a recurrence of a pneumothorax and infections.
Disposal:

After use, the product must be disposed of in accordance with the regulations for infectious waste or in accordance with national or regional regulations. When disposing of sharp-edged products (e.g. puncture needle), there is a risk of cutting resulting in potential infections and microbiological hazards.

Excluding of liability:

Due to the biological differences of the patients, the effectiveness cannot be fully guaranteed. As we have no control over the conditions of use, diagnosis and indication as well as application and use of the product, we can neither guarantee success nor can we exclude the occurrence of side effects. **intra special catheters GmbH** accepts no liability for damage or injury of any kind resulting from improper use, reuse or modification of the product.

Symbols:

Not all of the following listed symbols are necessarily applicable to a product. The labeling of the product is authoritative. The symbols used on the packaging and label have the following meaning:



