trucorp

TruNerveBlock User Manual

Part of the TruUltra product range, TruNerveBlock is an innovative 3-in-1 ultrasound training model providing users with hands on training in:

Ultrasound-guided regional anaesthesia administration

Ultrasound-guided IV cannulation with realistic blood flashback

Ultrasound bone imaging to diagnose a fractured bone structure

truultra®

Contents

Important safety information

1. Please ensure the voltage on the label of the plug corresponds to the voltage of the electricity supply. The device must be powered by a differential switch which has a nominal current equal to or lower than 30mA
2. The plug must *not* be switched on until *after* the fluid system has been set-up (please refer to page 5) to avoid inflicting damage to internal fluid system
3. Please ensure there is no damage to the plug or the cable before connecting to the mains power
4. The internal pump which circulates fluid throughout the model has a USB A to USB C Cable.
5. ATTENTION: Ensure to disconnect all submersed electrical products before doing any maintenance to any appliance in the water or dipping the hand in the water. If the plug or the electric outlet is wet, disconnect the general switch before disconnecting the electric supply cable
6. The product can be used in appropriate liquids with a temperature not higher than 35 degrees or 95 degrees Fahrenheit
7. Avoid using the product with corrosive and abrasive liquids
8. Do not use the product for uses different to those for which it has been designed for
9. The product has not been designed for people with disabilities and/or children if they are not supervised by a person responsible for their safety
10. The fluid system pump arrives submerged in the encased box. The internal pump is not to be removed and TruCorp take no responsibility for any damage caused by anybody that removes it unwilfully

Product specifications

Product Code: TNB110

TruNerveBlock weight: Approx. 1.8kg

TruNerveBlock dimensions: 35 x 15 x 11cm

Full shipment weight: Approx. 5kg

Full shipment dimensions: 40 x 24 x 22cm

Package contents

- 1 x TruNerveBlock unit (TNB110)
- 1 x TruNerveBlock carrier case
- 2 x 250ml bottles of TruUltra Gel (TNGEL100)
- 2 x 250ml concentrated blood (CVB250)
- 1 x USB A to USB C Cable
- 2 x luer lock syringes and adapters

Recommended equipment sizes

- Size 21G needle for IV cannulation
- Sizes 21-22G needle for simulated regional anaesthesia administration
- Using equipment sizes outside of TruCorp's recommendations can cause permanent damage to the model and the product warranty will be void (please refer to page 16 for warranty information)

The TruNerve Block is ideal for training a range of techniques including:

Nerve Bundle

- Practice probe positioning and movement, recognition of arterial and vein vessels and nerves in soft responsive tissue. Using ultrasound to target the vessels and nerves for ultrasound guided regional anaesthesia and vascular access procedures.
- Surrounding vessels are used as reference points to differentiate from the nerve.
- Simulated anaesthetics can be injected into the model with visual air and fluid retention possible alongside the nerve.
- Ability to verify needle tip location and to practice the entire regional anaesthesia procedure.
- Fluids can be easily removed from the product through our self-contained innovative fluid management system so that the product can be used repeatedly for training.
- Using TruCorp's' unique ultrasound gel this creates a perfect medium to allow fluid retention and realistic muscle fluid absorption.
- This ultrasound gel can be removed upon fluid build-up easily with a syringe and new gel inserted easily.
- When users accurately access the vessels within the model, positive fluid flow provides the user with positive feedback that they have cannulated the targeted vessel.
- Visualizing of the artery and vein laterally beside the nerve

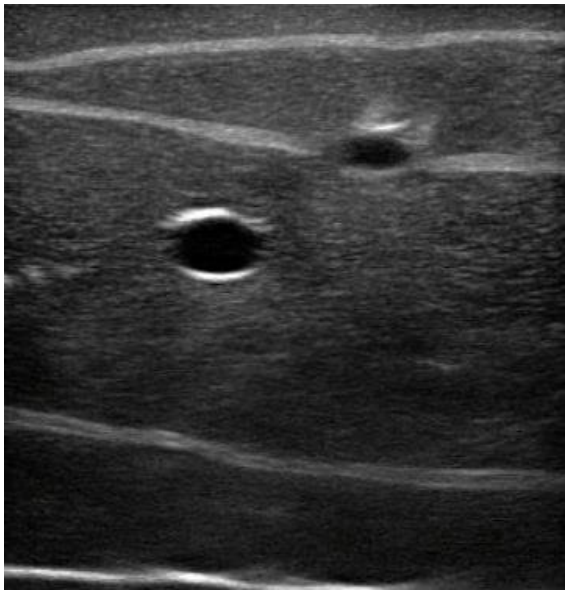
IV

- High frequency linear array ultrasound probe can be used on the model
- Colour Doppler detection of blood flow
- Realistic flashback upon entry into the vessel
- Two embedded vessels, small/large and shallow/deep
- Real feel vascular 'tenting' upon entry into the vessel
- Self-healing 'TruUltra' material that leaves minimal marks and self-regeneration

Bone

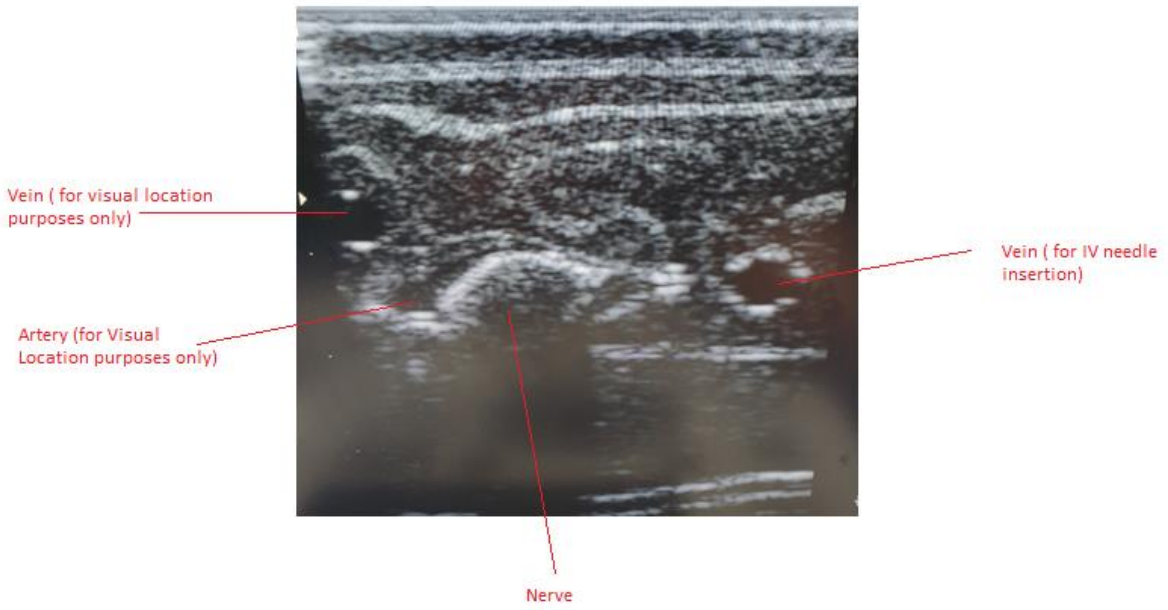
- An acoustic shadow artifact in the hypoechoic region deep to a hyperechoic bone outline
- Fracture assessment detection of a fracture and diagnosing bone stress

IV vessels

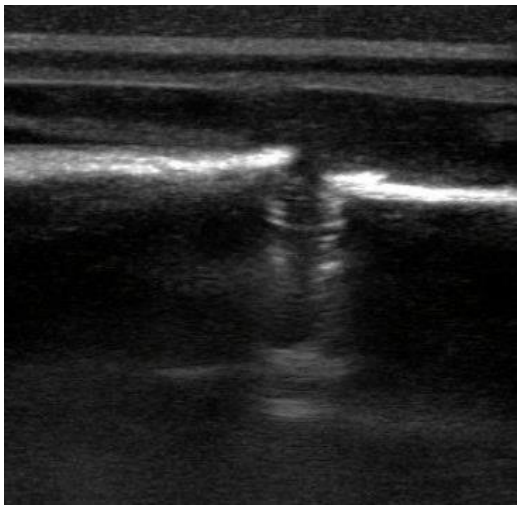


Nerve Block Use – It's vital that the Nerve Block part of the model is only used to administer 'artificial' anaesthesia around the nerve. The vein and artery beside the nerve is only for visual use and should not be penetrated with a needle. Any damage occurred here will not validate a warranty replacement.

Nerve bundle with surrounding vein and artery



Bone Fracture



Before you begin

- Ensure the model is placed on a dry and flat surface
- Fill up the blood reservoir by using the blood concentrate to the levels needed (instructions on the bottle)
- Insert 6 AA batteries into the battery holder or connect the USB cable

- Spray generous amounts of ultrasound gel on the product to ensure good probe imagery
- Ensure your Ultrasound machine is placed close by to the product
- You are now ready to use the mode

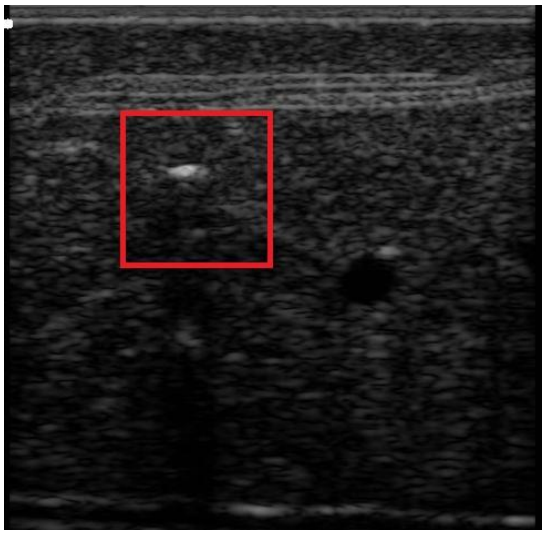
Initial set-up:

1. The product comes ready to use for Nerve Block training (the TruUltra gel is pre-filled). This procedure can be practised without power.
2. For IV use, you need to prepare the mock blood (approx.200ml to fill the blood reservoir container to the maximum level) and pour the blood into the black base using input labelled blood in.

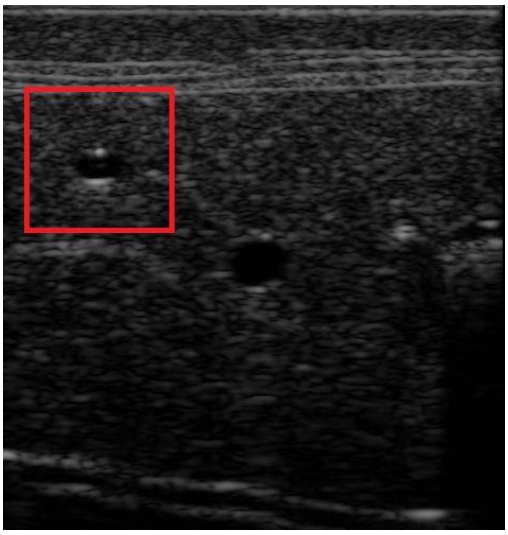
3. Turn on the product using the push button switch.

For initial set-up please wait a few minutes to allow the product to fill the blood completely. If the ultrasound image is not clear for IV, compress the insert and try again.

Before:



After:



Compressing:

Replacing the insert.

1. To replace the insert, turn off the pump and remove the fluids.
2. To remove the insert gently bend and lift the insert, disconnect from the 'gel in' side first.

3. Disconnect all connectors.

4. Repeat the procedure on the other side, please note some blood spillage may occur.

5. Take the new insert and attach it to the connectors on the base, connect the "gel out" side first. When connecting, always connect the most central, then repeat the process until all connectors are secure.

6. Slide the insert back in place on the base.

7. Repeat the process on the second side.

8. The product is ready to re-use.

9. The insert has been designed for a single connection only, please do not connect/ disconnect unnecessarily.

Replacing the TruUltra Gel

1. To replace the TruUltra gel inside the insert you will need: 2x 20ml luer lock syringes with the luer lock adaptors connected, black tubes and the TruUltra gel.
2. The gel will need replaced when approximately 20 ml of fluid has been introduced into the nerve area. Before replacing the gel, you need to fill the long black tubes with gel first, otherwise, you will give the machine an air embolism.
3. Connect the empty syringe to the 'gel out' connector and extract approx. 20ml of fluid. If there you are unable to extract the gel, use an ultrasound probe to gently guide the gel to the area in a leftwards motion.
4. Introduce approx. 5-7 ml of new TruUltra gel using the syringe, to the area labelled 'gel in'.

When connecting the black tube to the base, a click will indicate secure connection.

To disconnect the black tube push down the base connector around the tube and pull out the black tube.

Removing fluids

To remove the fluids, turn off the product.

Hold the base above the empty container and remove the black silicone cap and wait for all the liquid to drain out. Please do not turn the model upside down to remove the fluids as this may affect the internal power system.

Care and maintenance

Store the product in clean, dry conditions away from heat and direct sunlight; avoid contact with metals, solvents, oils or greases and strong detergents. When the product is not in use, please store in the black carrier case provided.

Gently wash the ultrasound insert after use. Please use alcohol wipes, warm soapy water or similar, until all visible foreign matter and residue are removed.

Mild detergents or enzymatic cleaning agents may be used on the insert in accordance with the manufacturer's instructions and at the proper dilution. The detergent must not contain skin or mucous membrane irritants.

Please do not use any of the following when cleaning the product range

- Germicides, disinfectants, or chemical agents such as glutaraldehyde (e.g., Cidex®),
- Ethylene oxide, phenol-based cleaners or iodine-containing cleaners

In response to the recent COVID-19 pandemic, we recommend this additional step to ensure the product is fully sanitised:

Use alcohol spray (minimum 75%) and wipe off. Repeat this for 3-4 times to ensure to kill the virus completely.

Warranty

TruCorp warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 1-year from the date of delivery. This ensures that our customers receive maximum coverage on each product. If the unit should malfunction it must be returned to the factory for evaluation. Upon examination by TruCorp, if the unit is found to be defective it will be repaired or replaced at no charge.

TruCorp will pay for the freight/delivery and the actual parts needed free of charge if any part of the product fails within the 1-year period.

However, these warranties are VOID, if; the unit shows evidence of having been tampered with or shows evidence of having been damaged by excessive heat, the use of sharp instruments, misapplication, misuse or other operating conditions outside of TruCorp' s control. Additionally, continuous penetration of a needle into the artery or vein section of the nerve bundle will cause internal damage and will not be covered by warranty if this area leaks. Components which wear or are damaged by misuse are not warranted and will be charged for if repair has been approved. Please ensure to strictly follow the recommended equipment sizes on page 4. Warranty is void if third party products are seen to have damaged or caused failure of the TruCorp models.

Please direct all warranty and repair inquiries to:

TruCorp Ltd
33 Waringstown Road
Lurgan, Co. Armagh
BT66 7HH
N. Ireland
info@trucorp.com
Tel: +44 (0) 28 3888 2714