

TruPICC

User Manual



Part of the TruUltra product range, TruPICC is an anatomical adult male arm designed for teaching the skills associated with ultrasound guided PICC line and Intravenous (IV) techniques.

TruPICC develops the user's skills associated with needle placement, guidewires and catheters. The upper arm anatomy features the brachial, basilic, cephalic and median cubital veins, the superior vena cava and the brachial artery for vessel differentiation.

Contents

Product specifications	3
Package Contents	3
Recommended equipment sizes.....	3
Initial set-up information	4
Fluid system preparation	5
Re-filling the fluid system	7
IV cannulation	7
PICC line.....	8
Replacing the ultrasound insert.....	9
Removing excess fluid from the system	11
Removing all fluid from the system.....	14
FAQ and useful tips	15
Care and Maintenance	16
Warranty.....	16

Product specifications

Product Code: TPIC100

TruPICC weight: Approx. 6kg

TruPICC dimensions: 90 x 35 x 20cm

Full shipment weight: Approx. 8kg

Full shipment dimensions: 95 x 37 x 21cm

Package Contents

- 1 TruPICC model (TPIC100)
- 1 TruPICC carrier case
- 1 USB pen drive user manual
- 250ml bottle of artificial blood concentrate (CVB250)
- 1 luer lock syringe

Recommended equipment sizes

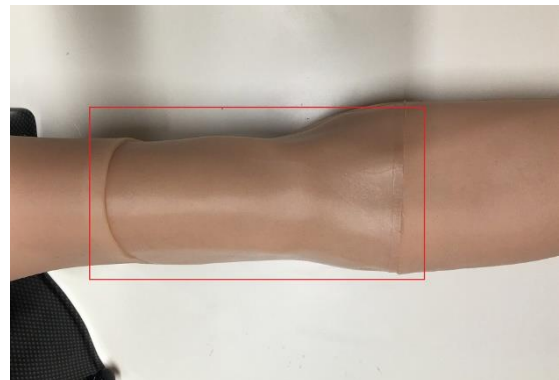
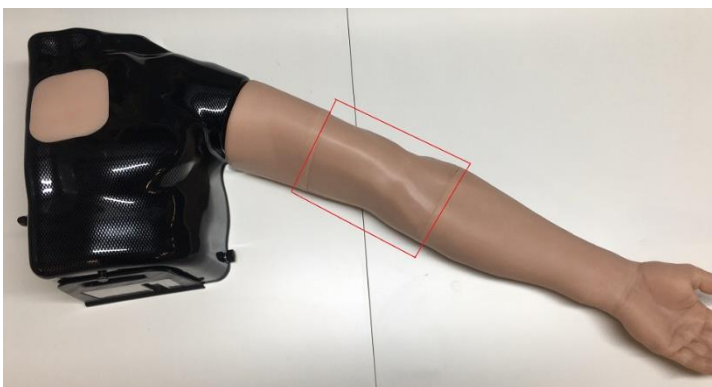
- Size 20G needle for IV cannulation is recommended for optimal performance. **Do not** use a needle larger than 18G
- Size 4F PICC catheter with soft tip guidewire, single lumen, and approx. 55-60cm length
- Using equipment sizes outside of TruCorp's recommendations can cause permanent damage to the model and the product warranty will be void (please refer to page 16 for warranty information)

Initial set-up information

1. Gently remove the model from the carrier case and place on a suitable flat surface



2. In line with clinical guidelines, ultrasound gel should be applied to the ultrasound probe prior to use to ensure a high-quality ultrasound image is obtained
3. Any brand of ultrasound machine can be used with this model. Adjust the depth and gain controls as required until the desired image is obtained
4. Needle penetration can be performed on the interchangeable ultrasound insert on the upper arm **only**. If damage occurs from needle penetration on other parts of the model, the product warranty will be void (please refer to page 16 for warranty information)



Needle penetration should only be carried within the area highlighted in red above (excluding the artery)

Fluid system preparation

1. Mix the required concentration of the artificial blood supplied with the model (product code: CVB250) as indicated on the bottle's instructions (ratio of blood to water is 1:9). Distilled water can be used as a substitute for blood if desired



2. Fill the syringe and switch the 'CEPHALIC' vein network to 'ON' to allow blood to be inserted into the cephalic vein:



3. Attach the blood-filled syringe to the connection point and **slowly** insert 60ml, ensuring the syringe does not contain air bubbles. Air bubbles will negatively impact upon the ultrasound image obtained:



4. Switch the 'CEPHALIC' vein network to 'OFF,' before switching the 'BASILIC' vein network to 'ON' to allow blood to be inserted into the basilic vein:



5. Re-fill the syringe with blood as required and **slowly** insert 60ml, ensuring the syringe does not contain air bubbles. Air bubbles will negatively impact upon the ultrasound image obtained:



6. Switch the 'BASILIC' vein network to 'OFF'
7. The basilic artery is pre-filled – you do not need to insert blood to the artery. Please **do not** penetrate the artery. If damage occurs from needle penetration on the artery, the product warranty will be void (please refer to page 16 for warranty information)
8. The purpose of the artery is to differentiate it from the veins – it will not be collapsible like a vein

Re-filling the fluid system

1. Users can remove fluid through the syringe after the veins have been cannulated to confirm correct needle placement. Please note that the volume of fluid previously withdrawn will need to be refilled to maintain a high-quality ultrasound image for further training
2. Follow steps 1-5 in the fluid system preparation section (please refer to page 5) to **slowly** re-fill approx. 15-20ml of blood into the veins (may be higher than 15-20ml depending on the previous volume of blood withdrawn)
3. Blood can be inserted directly back into the veins after withdrawal if desired. This will not cause damage to the veins, but please ensure to avoid injecting blood with air bubbles as this will have a negative impact on the image quality. Blood should be inserted **slowly**

IV cannulation

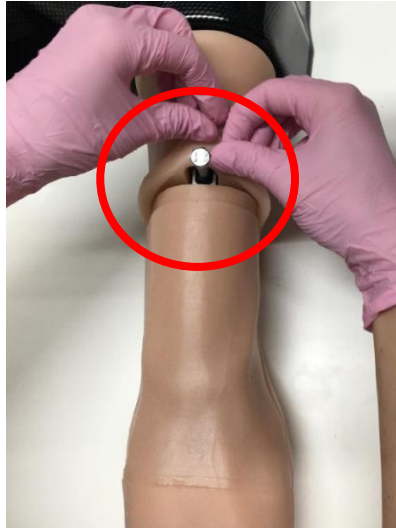
1. In line with clinical guidelines, ultrasound gel should be applied to the ultrasound probe prior to use to ensure a high-quality ultrasound image is obtained
2. IV cannulation can be performed using the median cubital, brachial or basilic veins
3. A 20G needle should be used for IV techniques for optimal performance. Using a needle larger than 18G will void the warranty if damage is caused to the model (please refer to page 16 for warranty information)
4. Correct needle placement can be visually confirmed by attaching a syringe to the needle and withdrawing blood

PICC line

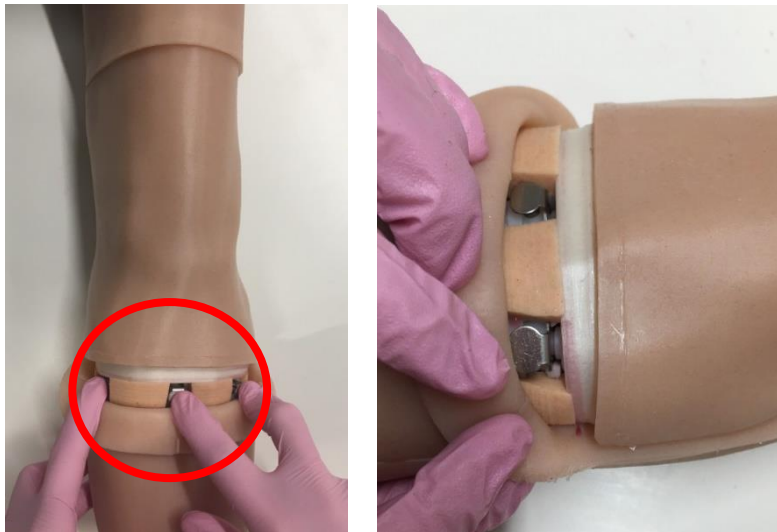
1. In line with clinical guidelines, ultrasound gel should be applied to the ultrasound probe prior to use to ensure a high-quality ultrasound image is obtained
2. PICC line can be performed using the basilic or cephalic veins
3. A 20G needle should be used to gain access to the vein, followed by a size 4F PICC catheter (with soft tip guidewire, single lumen, and approx. 55-60cm length)
4. Using equipment larger than the above recommendations will void the warranty if damage is caused to the model (please refer to page 16 for warranty information)
5. Correct needle placement for IV can be visually confirmed by attaching a syringe to the needle and withdrawing blood
6. Additionally, a successful PICC line can be confirmed by using ultrasound on the superior vena cave to confirm the catheter placement

Replacing the ultrasound insert

1. Gently pull back the skin at the side of the insert (closest to the product's shoulder) and remove the large pin:



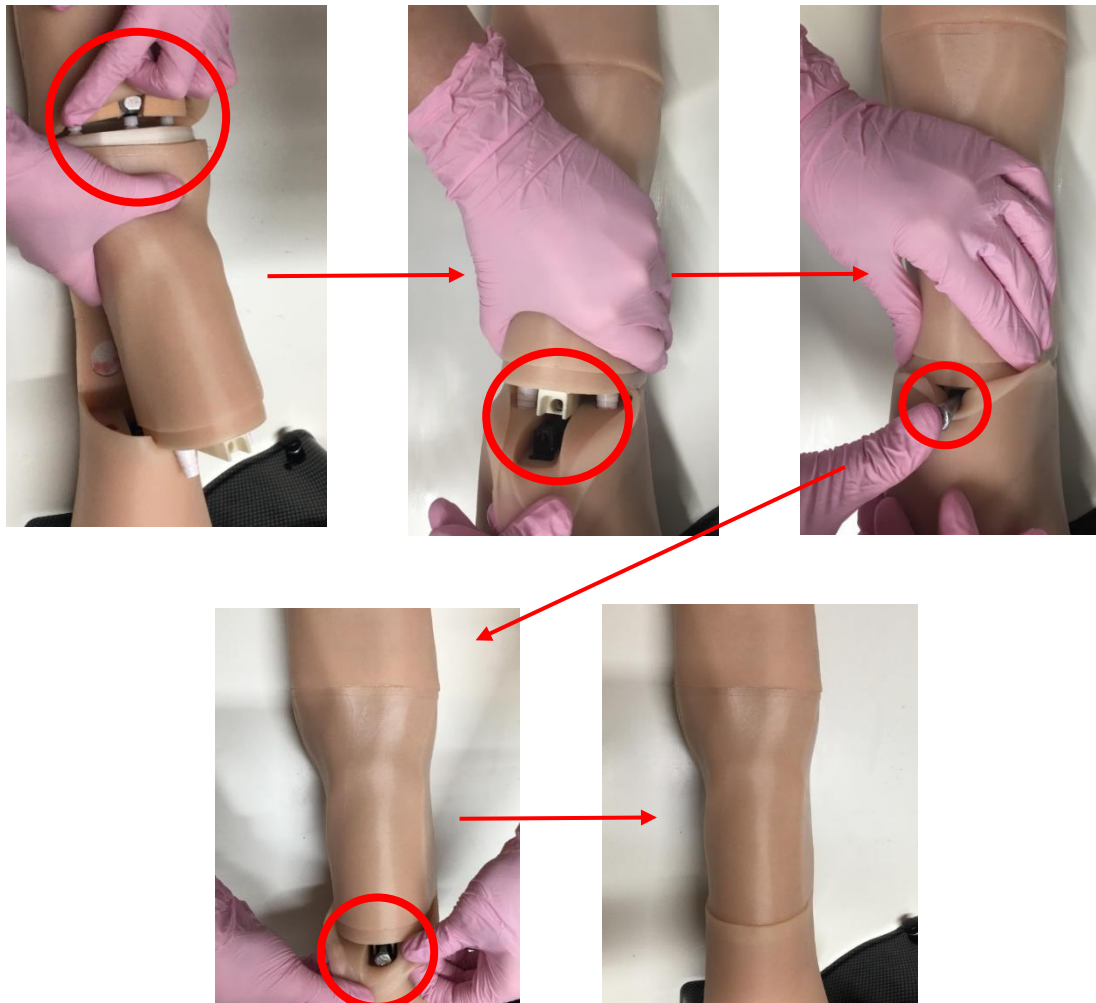
2. Press the metal studs to loosen the insert:



3. Gently remove the insert from the model and discard:



4. Align a new insert correctly into position and perform the **reverse** of steps 1-3 (starting with step 3) as above. Please ensure all connectors are securely placed:



Removing excess fluid from the system

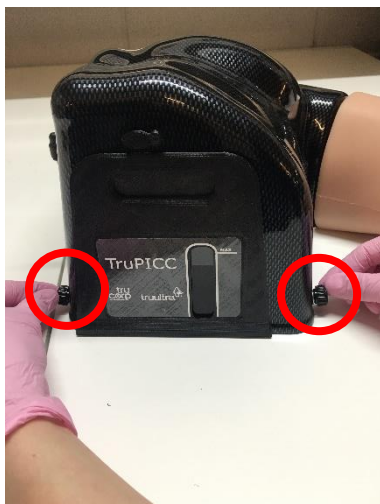
When the fluid container reaches 'MAX' level, it is necessary to empty the blood:



1. Open the latch:



2. Loosen the screws on both sides of the container:



3. Gently remove the container and disconnect the tube by pressing the metal studs:



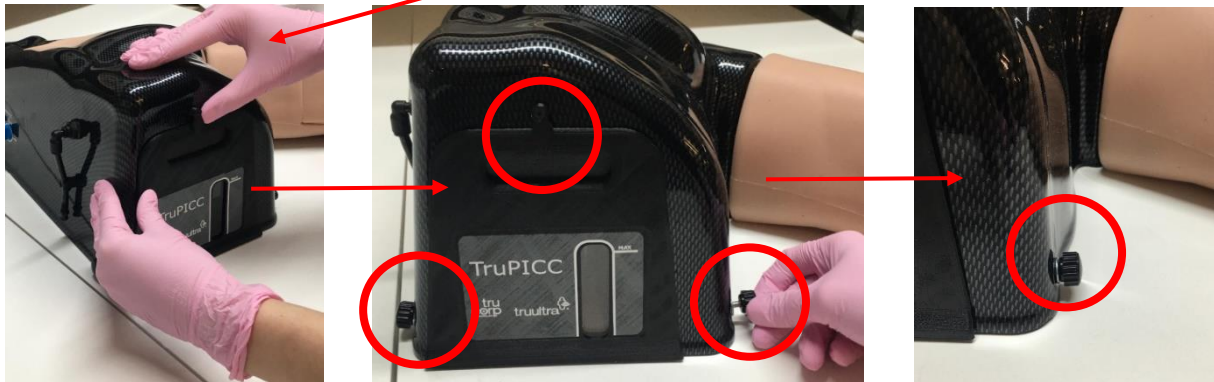
4. Remove the plug from the area indicated below:



5. Empty the container (approx. 1 litre of fluid when full):



6. When the container is empty, perform the **reverse** of steps 2-5 (starting with step 5) as above. Please ensure all connectors are securely placed:



Removing all fluid from the system

This is recommended when the model is being transported, or kept in storage for extended periods of time (keeping fluid in the system short-term will not damage the model)

1. Switch the 'CEPHALIC' vein network to 'ON' to remove blood from the cephalic vein and connect an air-filled syringe to the connection (*please disregard the blood in the syringe shown below, the syringe should contain air only for removal of fluid*):



2. Keep pushing air through the vein until no more blood can be drained
3. Switch the 'CEPHALIC' vein network to 'OFF,' before switching the 'BASILIC' vein network to 'ON' to remove blood from the basilic vein:



4. Repeat step 2 as above, until no more blood can be drained from the model
5. Switch the 'BASILIC' vein network to 'OFF'
6. Please refer to page 11 to remove the fluid that has been drained, which will have emptied into the excess fluid container

FAQ and useful tips

1. **Why can't I visualise the veins clearly?** Poor quality ultrasound images are caused by air inside the blood. To improve the image, insert more blood into the cephalic and basilic veins (please refer to the fluid system preparation on page 5). Approx. 10-20ml per vein

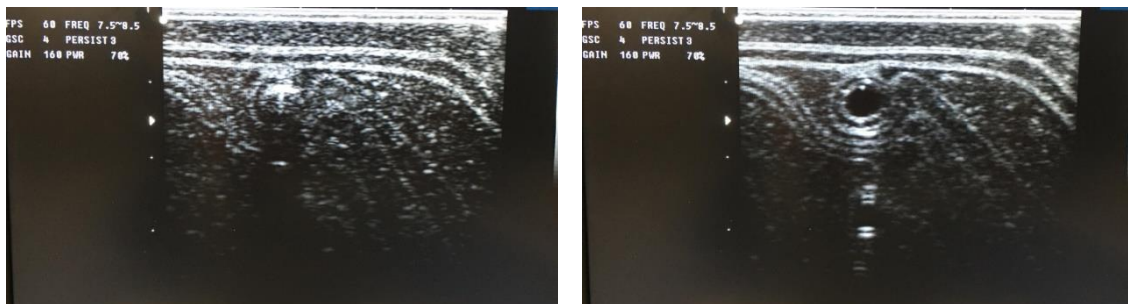


Image on left shows air bubbles negatively impacting image quality; image on right shows high quality image after more blood has been inserted

should be sufficient

2. **How often do I need to replace the ultrasound insert?** The ultrasound insert comfortably facilitates 800+ needle penetrations using the recommended equipment sizes (please refer to page 3). You can close one side of the fluid system when it is destroyed by switching the appropriate vein to 'OFF' (please refer to the fluid system preparation on page 5). The functioning side of the insert can still be used as normal without leaks from the used side
3. **Why is the insert leaking when I refill blood into the veins?** Sometimes when refilling blood into the system, you may see some small leaks on the insert from old punctures. This is caused when the blood is being refilled too quickly through the syringe. To minimize the leakage, enter the fluid **slowly**

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 TruUltra 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, penetration of a needle into the artery will cause internal damage and will not be covered by warranty if this area leaks. Please ensure you closely follow the recommended equipment sizes, otherwise your warranty will be void if damage is inflicted on the model (please refer to page 3 for recommended equipment sizes). Components that wear or are damaged by misuse are not warranted and will be charged for, if a repair has been approved. Warranty is void if third party products are seen to have damaged or caused the failure of the TruCorp models.

Please direct all warranty and repair requests/inquiries to:



TruCorp Ltd
33 Waringstown Road
Lurgan, Co. Armagh
BT667HH
N. Ireland
info@trucorp.com
Tel: +44 (0) 28 3888 2714