

TruBaby X User Manual



A complete solution for pediatric clinical skills training.

TruBaby X is incredibly lifelike with the appearance, weight, size and movement of a 50th percentile 5-month old infant.

This clinical skills training model is ideal for anesthesiologists, nurses and other pediatric emergency medical professionals practicing Directly Observed Practical Skills (DOPS), Pediatric Advanced Life Support (PALS) and critical emergency medicine procedures.

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Product specifications

Product Code: TB10001X

Full shipment weight: Approx. 10kg

Full shipment dimensions: 79cm x 46cm x 28cm

Package contents

- 1 TruBaby X model with the following inserts attached:
 - 1 left & 1 right TruBaby X Arm (TBARM01L/TBARM01R)
 - 1 left & 1 right TruBaby X Leg (TBLEG01L/TBLEG01R)
 - 1 left & 1 right TruBaby X needle decompression inserts (TBND04)
 - 1 left & 1 right TruBaby X chest drain inserts (TBCD04)
 - 1 left & 1 right TruBaby X IO inserts (TBIO20)
 - 1 TruBaby X lumbar puncture insert (TBLUM04)
 - 1 TruBaby X female genitalia insert (TBUI01F)
- *Additional package contents:*
 - 1 TruBaby X carrier case
 - 100ml bottle of TruCorp lubrication (TL001)
 - 250ml bottle of artificial blood concentrate (CVB250)
 - 1 syringe with yellow & white tubing for fluid insertion/removal
 - 1 left & 1 right TruBaby X needle decompression inserts (TBND04)
 - 1 left & 1 right TruBaby X chest drain inserts (TBCD04)
 - 3 left & 3 right IO inserts (TBIO20)
 - 1 TruBaby X lumbar puncture insert (TBLUM04)
 - 1 TruBaby X male genitalia insert (TBUI01M)

Initial set-up information

- Place the manikin on a suitable flat surface
- Ensure the head is in the correct position – the head can be easily adjusted into the sniffing position by rotating the head, if required for direct laryngoscopy
- The fluid interface is located on the back of the model (below the lumbar puncture insert) and is colour coded as follows:
 - Red = Fluid system for IV

- Blue = Fluid system for lumbar puncture
- Yellow = Fluid system for urethral catheterization
- The syringe and tubing provided with the model will be used to insert and withdraw fluids throughout the system
- Use generous amounts of lubrication on the airway, urethra etc. and supporting equipment prior to use
- Mix an appropriate concentration of artificial blood 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
- The model may be used with or without the chest skin placed on the product, however this is particularly useful for providing a more challenging identification of needle thoracentesis target location

List of procedures facilitated by TruBaby X

- Airway management techniques including double naso-tracheal intubation, Bag Valve Mask (BMV) ventilation, supraglottic device insertion, direct and video laryngoscopy, endotracheal tube insertion etc.
- Cardio-Pulmonary Resuscitation (CPR)
- Needle thoracentesis for a tension pneumothorax (2nd and 5th intercostal space)
- Chest drain (air only – 5th intercostal space)
- IO Tibia
- Urethral catheterization (interchangeable male and female genitalia)
- Peripheral IV cannulation (Hand, arm and foot)
- Lumbar Puncture (L3-L4 and L4-L5 spine locations)

Recommended equipment sizes

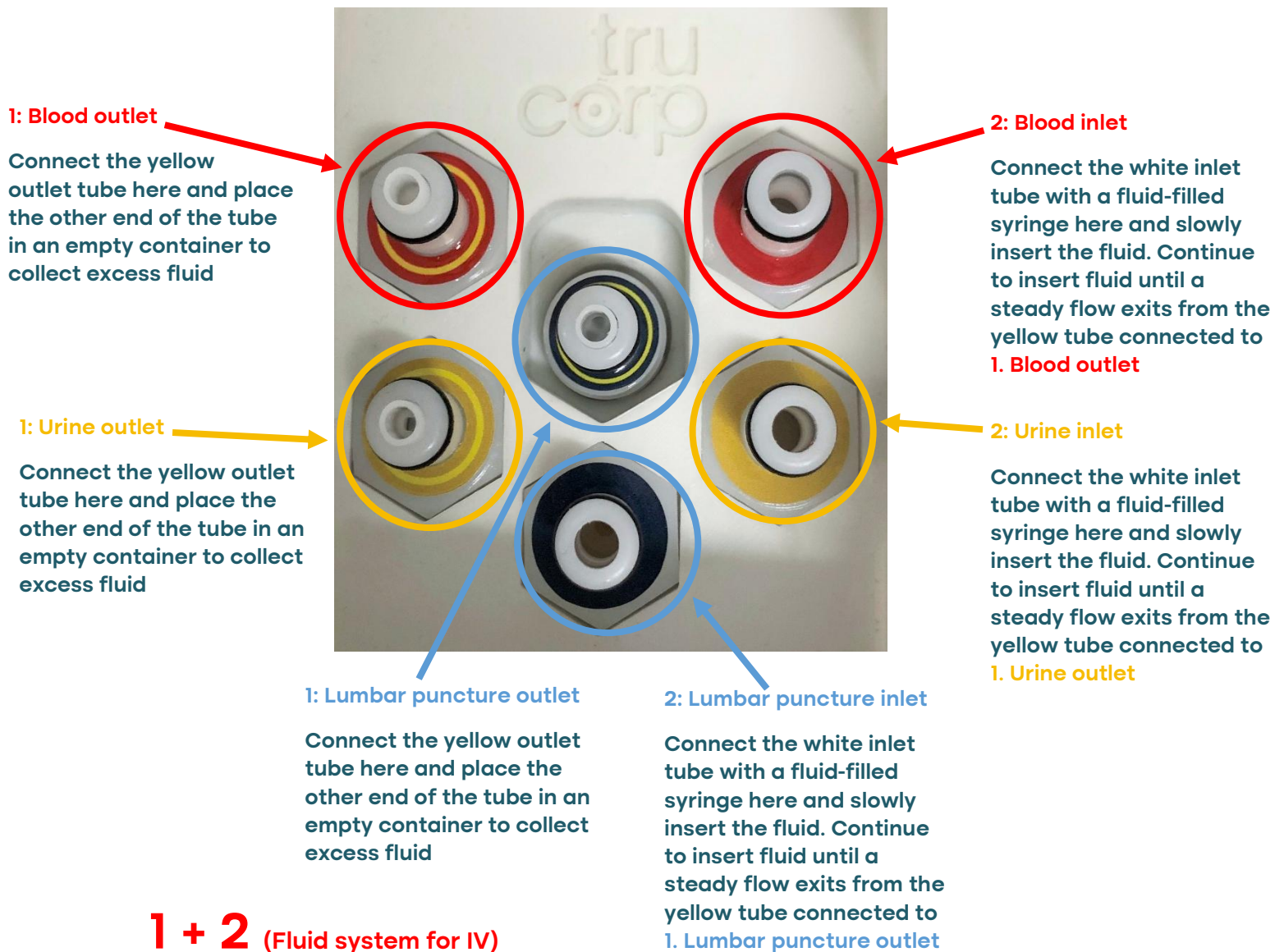
- 3.5-4.0mm ID for oral intubation
- 2.0-3.0mm ID for nasal intubation
- Size 1 for supraglottic devices
- Size 1 for video laryngoscopy
- Size 18G needle for needle decompression
- Size 8F tube for chest drain

- Size 18G needle for IO tibia
- Size 8F urethral catheter
- Size 24G needle for IV
- Size 22G needle for lumbar puncture

Please ensure to strictly follow the above recommendations. Any damage caused to the model outside of these recommendations may void your warranty. Please refer to page 27 for additional warranty information.

Fluid interface area

The following guide should be referred to for all input and output of fluids:



1 + 2 (Fluid system for IV)

1 + 2 (Fluid system for lumbar puncture)

1 + 2 (Fluid system for urethral)

Airway Management

- Realistic and durable AirSim X Airway supported by a 5-year airway guarantee
- Double naso-tracheal intubation
- Endotracheal tube insertion with visible chest rise
- Bag Valve Mask (BVM) ventilation techniques
- Full range of supraglottic device insertion
- Direct and video laryngoscopy
- Realistic movement including head tilt, chin lift and jaw thrust

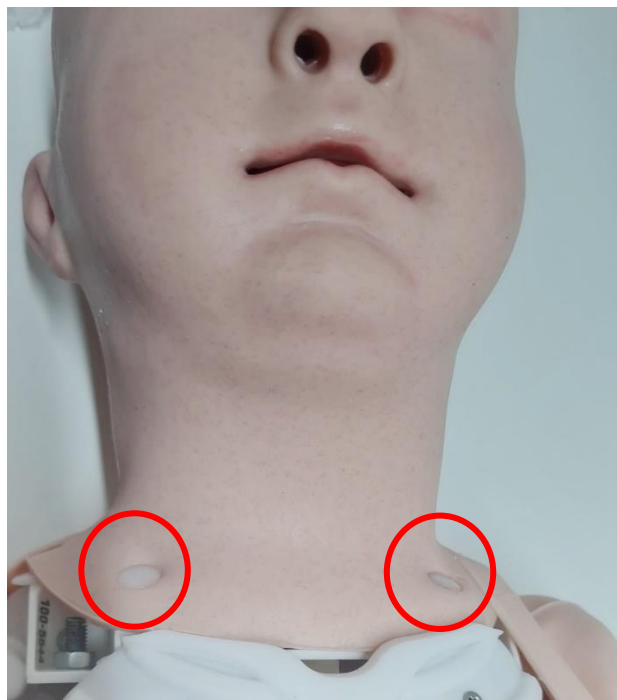
Preparation

1. Ensure generous amounts of lubrication is applied to the manikin and on all devices before entering the nasal or oral cavities
2. The head can be intubated in either neutral or sniffing position

Replacement of parts

In the event of the head skin or airway being worn out or torn, replacement of the head is an easy process. Please contact our team at info@trucorp.com for assistance regarding repairs.

1. Peel back the head skin and gently remove the pins to detach from the base



2. **Unlock the metal stud connector from the base, unscrew the neck joint bolt and detach the head (Tools required: Star-head screwdriver and spanner)**



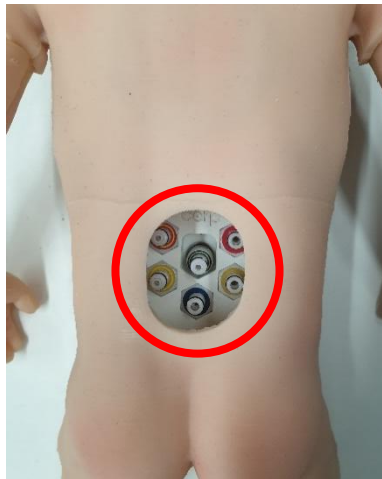
3. **Align the metal stud connector on the new head with the plastic interface on the TruBaby X body and click into position**
4. **Re-attach the pins and neck joint bolt to secure the head to the TruBaby X body. Adjust the skin back to its original position (Tools required: Star-head screwdriver and spanner)**

Peripheral Venous Cannulation (Hand and Arm)

- Contains the dorsal venous arch, cephalic and basilic veins allowing needle cannulation at various locations
- Manual activation of venous blood flow allows fluids to be withdrawn and administered to provide realistic blood flashback
- Each arm facilitates up to 300+ needle penetrations and each foot facilitates up to 250+ needle penetrations using the recommended equipment sizes (please refer to page 3)

Preparation

1. Gently turn the manikin onto its stomach to access the fluid interface area (under the lumbar puncture insert):



2. Connect the yellow outlet tube to the red connector labelled '1. Blood outlet' (identified by the inner yellow ring). Place the open end of the tube into an empty fluid container to collect excess fluid



3. Prepare the artificial blood concentrate as instructed on the bottle (ratio of blood to water is 1:9). Fill the syringe with approx. 100ml of simulated blood (this can vary depending on fluid retention in the model from previous training sessions). Connect the white inlet tube to the syringe
4. Connect the white inlet tube and the fluid-filled syringe to the red connector labelled '2. Blood inlet'



5. *Slowly* insert the fluid to fill the venous system until a steady flow exits from the yellow tube connected to '1. Blood outlet.' A steady output of fluid indicates the fluid has been sufficiently distributed
6. Unclick the metal stud connectors to disconnect the tubes
7. Using the recommended equipment size (please refer to page 3), the IV sites can be accessed to visualise realistic blood flashback

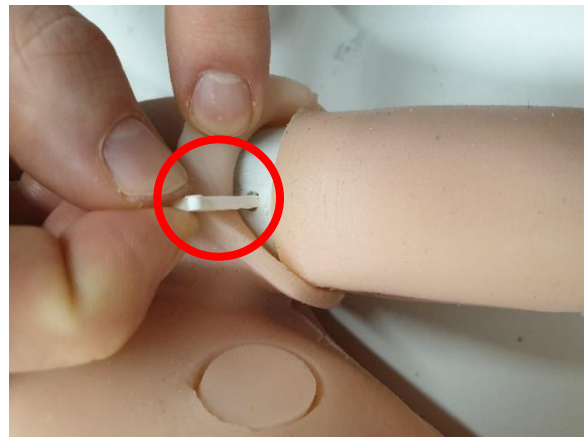
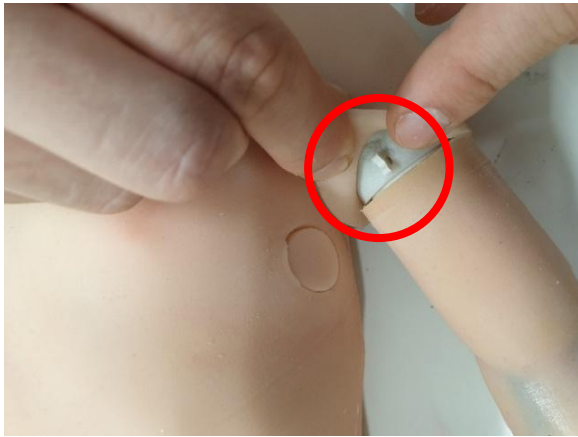
Please note: Initially the flow of fluid may be fast, but this will stabilize after a short period of time.

Replacement of parts

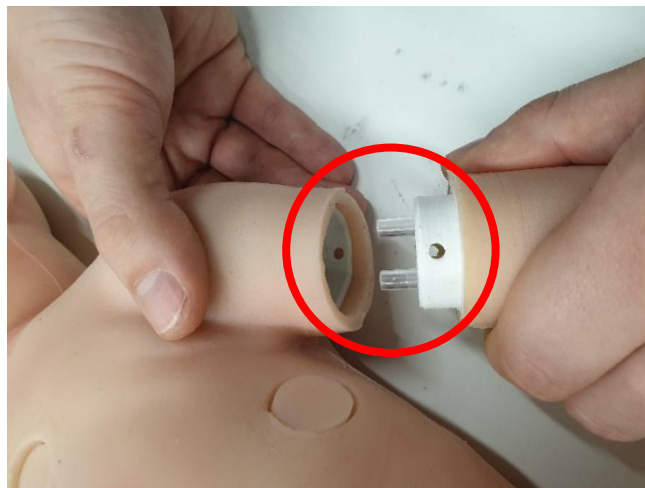
After approx. 300+ needle penetrations per arm using the recommended equipment sizes (please refer to page 3), the arm can be easily changed.

1. Please remove fluid from the venous system prior to changing the arm, by connecting the white inlet tubing and syringe to the red connector labelled '2. Blood inlet.' Gently withdraw until no blood remains

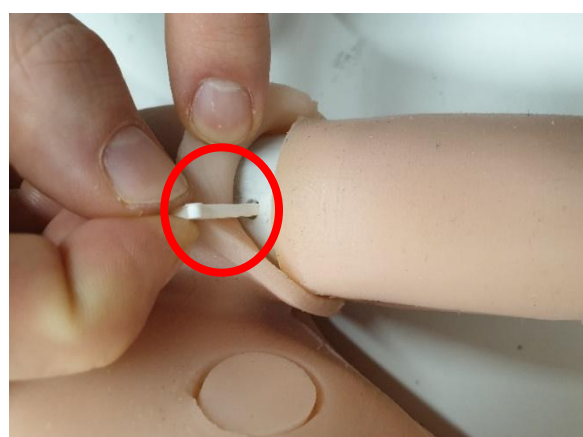
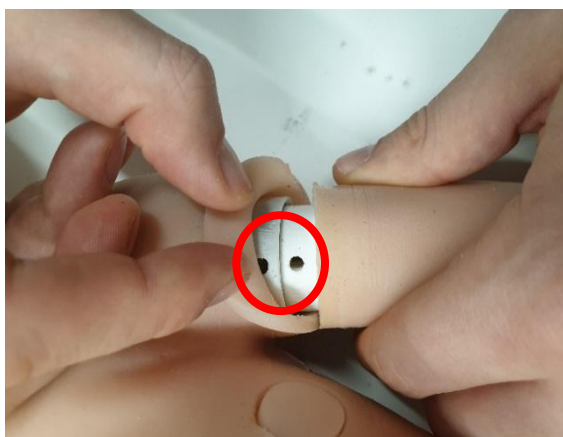
2. Fold back the skin at the edge of the insert and remove the white pin:



3. Gently pull the arm outwards to remove and discard:



4. Align the hole on the new arm insert with the hole on the model, gently press into position and re-insert the white pin:

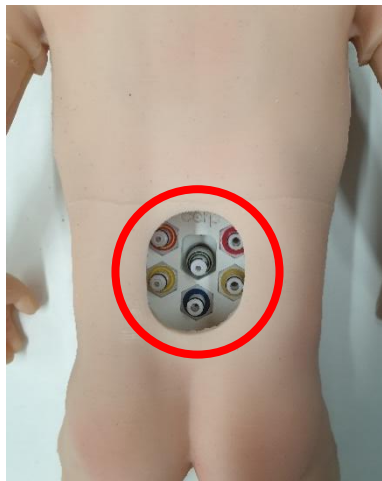


Peripheral Venous Cannulation (Foot)

- Contains the dorsal venous arch, great and lesser saphenous veins allowing needle cannulation at various locations
- Manual activation of venous blood flow allows fluids to be withdrawn and administered to provide realistic blood flashback
- Each foot facilitates up to 250+ needle penetrations using the recommended equipment sizes (please refer to page 3)

Preparation

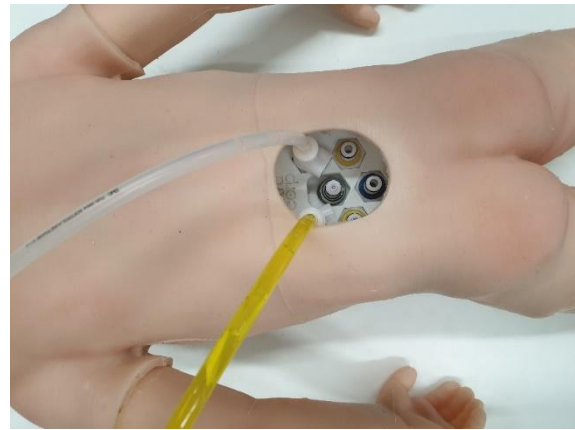
1. Gently turn the manikin onto its stomach to access the fluid interface area (under the lumbar puncture insert):



2. Connect the yellow outlet tube to the red connector labelled '1. Blood outlet' (identified by the inner yellow ring). Place the open end of the tube into an empty fluid container to collect excess fluid



3. Prepare the artificial blood concentrate as instructed on the bottle (ratio of blood to water is 1:9). Fill the syringe with approx. 100ml of simulated blood (this can vary depending on fluid retention in the model from previous training sessions). Connect the white inlet tube to the syringe
4. Connect the white inlet tube and the fluid-filled syringe to the red connector labelled '2. Blood inlet'



5. *Slowly* insert the fluid to fill the venous system until a steady flow exits from the yellow tube connected to '1. Blood outlet.' A steady output of fluid indicates the fluid has been sufficiently distributed
6. Unclick the metal stud connectors to disconnect the tubes
7. Using the recommended equipment size (please refer to page 3), the IV sites can be accessed to visualise realistic blood flashback

Please note: Initially the flow of fluid may be fast, but this will stabilize after a short period of time.

Replacement of parts

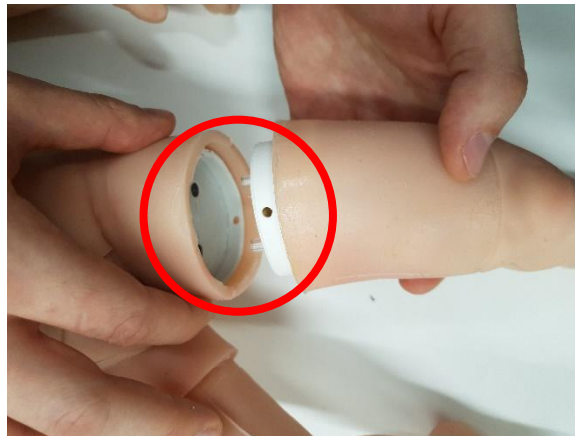
Do not extend the legs outward to avoid causing internal damage to the model. Any damage caused by this may void the warranty.

After approx. 250+ needle penetrations per foot using the recommended equipment sizes (please refer to page 3), the leg can be easily changed.

1. Please remove fluid from the venous system prior to changing the leg, by connecting the white inlet tubing and syringe to the red connector '2. Blood inlet.' Gently withdraw until no blood remains
2. Fold back the skin at the edge of the insert and remove the white pin:



3. Gently pull the leg outwards to remove and discard:



4. Align the hole on the new leg insert with the hole on the model, gently press into position and re-insert the white pin:

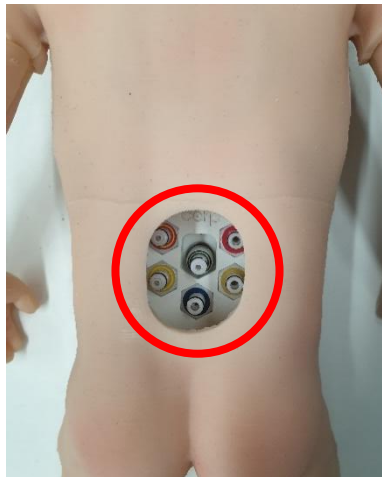


Lumbar Puncture

- Lumbar puncture can be practised in the lateral decubitus or the upright position
- Features palpable vertebrae landmarks including the iliac crest
- Lumbar puncture can be practised at L3-L4 and L4-L5 spine locations
- Accurate needle placement allows for positive response and collection of simulated cerebrospinal fluid (CSF)
- Lumbar puncture insert will facilitate 100+ needle penetrations using the recommended equipment sizes (please refer to page 3)

Preparation

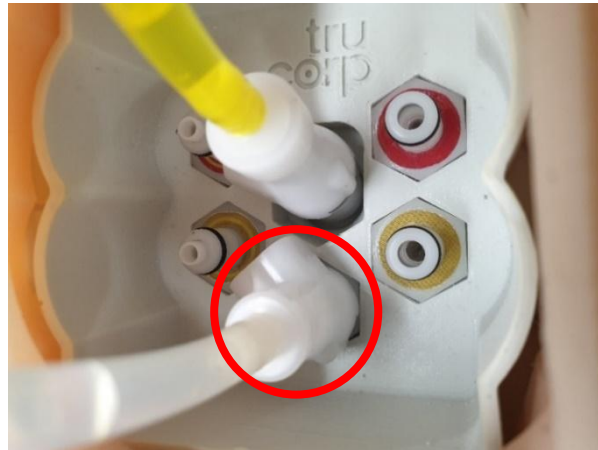
1. Gently turn the manikin onto its stomach to access the fluid interface area (under the lumbar puncture insert):



2. Connect the yellow outlet tube to the blue connector labelled '1. Lumbar Puncture Outlet' (identified by the inner yellow ring). Place the open end of the tube into an empty fluid container to collect excess fluid



3. Fill the syringe with approx. 100ml of distilled water to replicate CSF (this can vary depending on fluid retention in the model from previous training sessions). Connect the white inlet tube to the syringe
4. Connect the white inlet tube and the fluid-filled syringe to the blue connector labelled '2. Lumbar Puncture Inlet'



8. *Slowly* introduce the fluid to fill the lumbar puncture system until a steady flow exits from the yellow tube connected to '1. Lumbar puncture outlet.' A steady output of fluid indicates the fluid has been sufficiently distributed
9. Unclick the metal stud connectors to disconnect the tubes
10. Using the recommended equipment size (please refer to page 3), the lumbar puncture sites can be accessed to visualise realistic fluid withdrawal

Please note: Initially the flow of fluid may be fast, but this will stabilize after a short period of time.

Replacement of parts

After approx. 100+ needle penetrations using the recommended equipment sizes (please refer to page 3), the lumbar puncture insert can be easily changed.

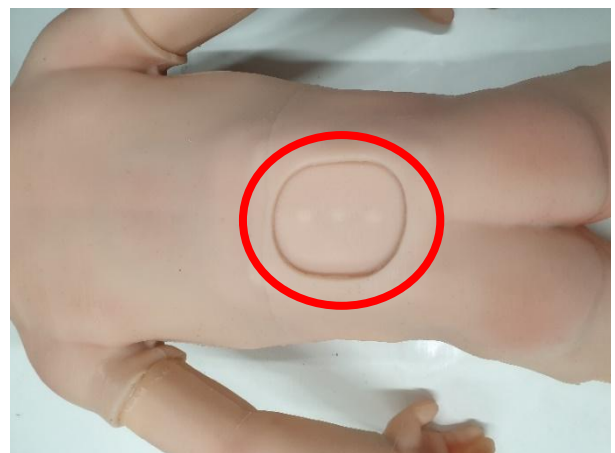
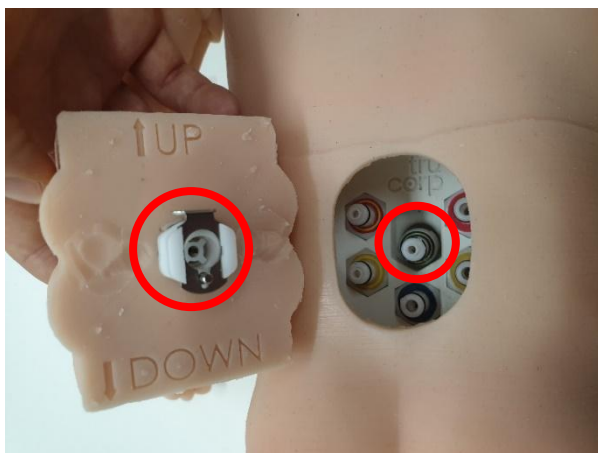
1. Gently stretch the skin surrounding the lumbar puncture insert to remove the insert from the model
2. Unclick the metal stud connector on the insert to release it from the internal tube and discard the insert



3. Align the new insert into place. The 'UP' marking on the insert should be positioned closest to the head, while the 'DOWN' marking should be positioned closest to the feet



4. Reconnect the tube to the insert and secure into place under the skin



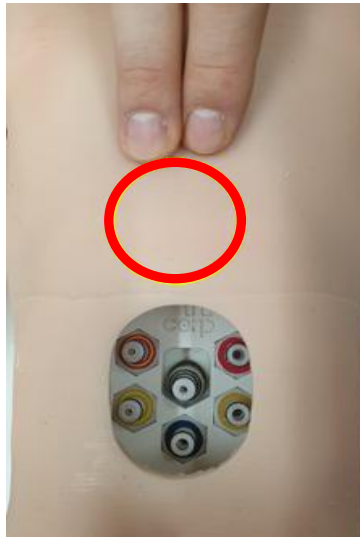
Needle Thoracentesis (2nd and 5th intercostal space)

- Realistic rib structures including xiphoid process and clavicle
- Palpable landmarks in the 2nd intercostal space mid clavicular line and the 5th intercostal space mid auxiliary line
- Audible hiss when needle is successfully inserted, or visual feedback via air bubbles in a water-filled syringe
- Each needle decompression insert facilitates 150+ needle penetrations using the recommended equipment sizes (please refer to page 3)

Preparation

On the back of the model there is a spring positioned below the skin (location of the spring can be identified by a slight ridge). This is used to insert air into the cavity for practising needle thoracentesis

1. Press the spring approx. 5-10 times to insert air into the system

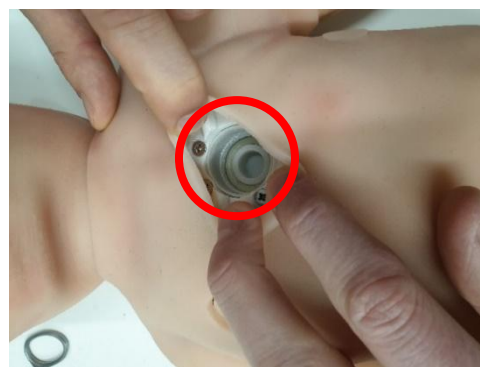
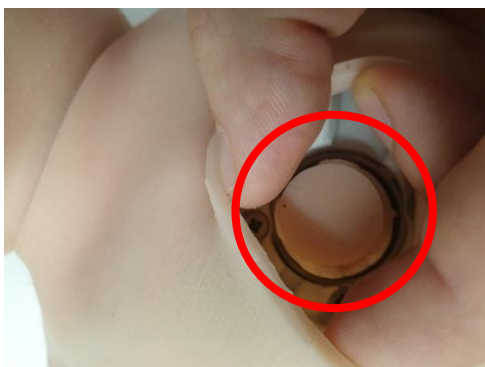


2. The pressure will remain in the needle decompression and chest drain inserts for a few minutes. Please re-pressurize as required.
3. Successfully performing the procedure will provide the user with feedback via an audible hiss, or visually via air bubbles in a water-filled syringe

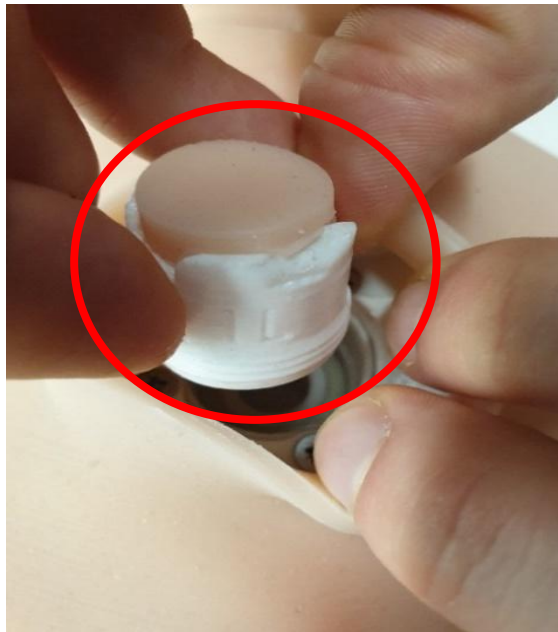
Replacement of parts

After approx. 150+ needle penetrations per insert using the recommended equipment sizes (please refer to page 3), the needle decompression inserts can be easily changed.

1. Remove the chest skin cover (if in use) and gently stretch the skin surrounding the inserts to provide access



2. Screw the inserts counter clockwise to remove and discard
3. Align a new insert, labelled NDL or NDR for left and right side from patient view respectively
4. Screw insert clockwise until it aligns tightly with the rib structures, re-position the skin surrounding the insert and re-attach the removable chest skin if desired



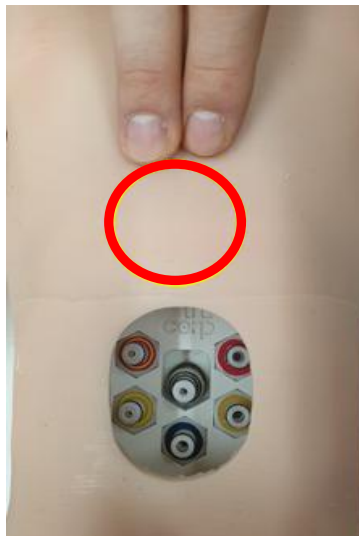
Chest Drain (Air Only – 5th intercostal space)

- Palpable landmarks in the 5th intercostal space mid auxiliary line
- Facilitates the seldinger chest drain insertion technique and the needle thoracentesis approach for treatment of a pneumothorax
- Audible hiss when needle is successfully inserted
- Each chest drain insert is designed as single use via the seldinger approach with a size 8F chest tube (see page 3 for recommended equipment sizes)
- Alternatively, each chest drain insert can facilitate 150+ needle penetrations using a 18G needle (see page 3 for recommended equipment sizes)

Preparation

On the back of the model there is a spring positioned below the skin (location of the spring can be identified by a slight ridge). This is used to insert air into the cavity for practising chest drain (air only).

1. Press the spring approx. 5-10 times to insert air into the system



2. The pressure will remain in the chest drain inserts for a few minutes. Please re-pressurize as required.
3. Successfully performing the procedure will provide the user with feedback via an audible hiss, or visually via air bubbles in a water-filled syringe

Replacement of parts

Each chest drain insert should be replaced after single use via the seldinger approach, or after approx. 150+ needle penetrations otherwise using the recommended equipment size (please refer to page 3).

1. Remove the chest skin cover (if in use) and gently stretch the skin surrounding the inserts to provide access



2. Screw the inserts counter clockwise to remove and discard
3. Align a new insert, labelled CDL or CDR for left and right side from patient view respectively
4. Screw insert clockwise until it aligns tightly with the rib structures, re-position the skin surrounding the insert and re-attach the removable chest skin if desired



IO Tibia

- Features the tibial tuberosity and patella anatomy to teach identification of the proximal tibia intraosseous needle insertion site
- Realistic resistance when penetrating the medullary cavity
- Each IO insert is delivered pre-filled with simulated blood
- The inserts are designed for single use to provide the user with a unique training experience (please refer to page 3 for recommended equipment sizes)

Preparation

1. The IO inserts are delivered with simulated blood pre-filled in the cavity
2. Please ensure the correct IO needle size is used to enable penetration into the medullar cavity (please refer to page 3).
3. The IO inserts will also facilitate fluid infusion in low volumes. All current devices can be used on the model

Replacement of parts

Do not extend the legs outward to avoid causing internal damage to the model. Any damage caused by this may void the warranty.

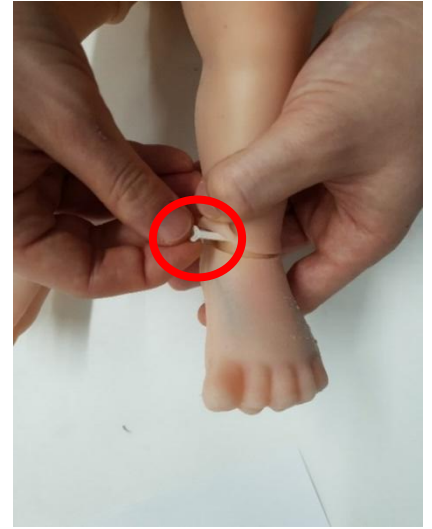
The IO inserts are designed to be replaced after single use to provide the user with a unique training experience.

1. Fold back the skin at the edge of the insert and remove the white pins at the top and bottom of the insert:



2. Remove the used IO insert from the leg and discard

3. Align the new IO insert into position and re-insert the pins

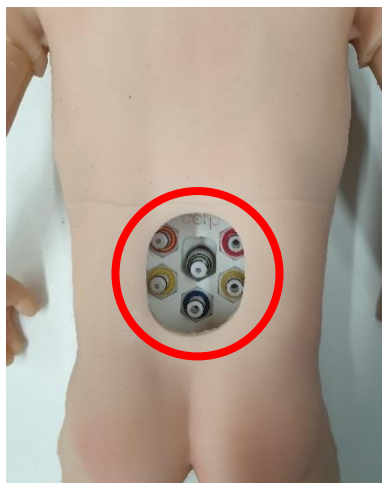


Urethral Catheterization (male and female)

- Realistic anatomy to practice the techniques of urethral catheterization
- Easy to change genitalia parts for practising both male and female catheterization skills
- Catheter can be inserted into the urethra and the bladder (see page 3 for recommended equipment sizes)
- Fluid will flow through the catheter when the procedure is successfully performed

Preparation

1. Gently turn the manikin onto its stomach to access the fluid interface area (under the lumbar puncture insert):



2. Connect the yellow outlet tube to the yellow connector labelled '1. Urine outlet' (identified by the two-tone yellow ring). Place the open end of the tube into an empty fluid container to collect excess fluid



3. Fill the syringe with approx. 50ml of artificial urine (this can vary depending on fluid retention in the model from previous training sessions). Connect the white inlet tube to the syringe.

4. Connect the white inlet tube and the fluid-filled syringe to the yellow connector labelled '2. Urine inlet'



11. *Slowly* introduce the fluid to fill the urine system until a steady flow exits from the yellow tube connected to '1. Urine outlet.' A steady output of fluid indicates the fluid has been sufficiently distributed
12. Unclick the metal stud connectors to disconnect the tubes
13. Ensure a generous amount of lubrication is applied to the catheter prior to use
14. Gently part the genitalia to expose the urethra and insert the recommended size 8F catheter (please refer to page 3)

Please note: Initially the flow of fluid may be fast, but this will stabilize after a short period of time.

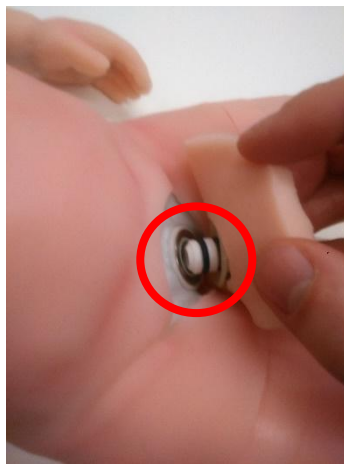
Replacement of parts

The male and female genitalia inserts can be changed easily when required (interchanging process is the same for both genders)

1. Gently stretch skin surrounding the insert, hold the genitalia insert and gently pull towards you to remove the insert



2. Position the new insert and click firmly into place



3. Adjust the excess skin to sit under the skin of the model's body



Cardio-Pulmonary Resuscitation (CPR)

- Realistic rib structure with xiphoid process and sternum
- Full recommended depth of 1.5 inches can be achieved with full chest recoil
- CPR can be performed in line with AHA guidelines

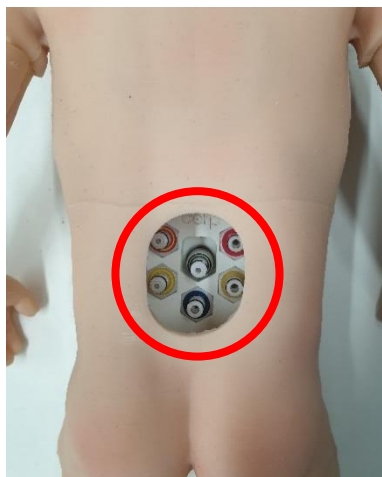


Removal of fluid

This is recommended prior to storing the manikin, especially if it will be stored for a long period of time without use. Please ensure to remove fluid from the model as recommended to retain a valid warranty.

The process of removing the fluid is the same for the three fluid chambers.

1. Gently turn the manikin onto its stomach to access the fluid interface area (under the lumbar puncture insert):



2. Connect the yellow outlet tube to the red connector labelled '1. Blood outlet' (identified by the inner yellow ring).



3. Attach an empty syringe to the end of the outlet tube and gently withdraw all fluid from the model
4. Repeat this process to remove fluid from the lumbar puncture and urethral catheterization chambers. The lumbar puncture outlet is blue and labelled '1. Lumbar puncture outlet', and the urethral catheterization outlet is yellow and labelled '1. Urine outlet'

Care and Maintenance

The model should be treated with care, as though it is a real-life clinical environment. When the product is not in use, please store in the black carrier case provided. Do not extend the legs outward to avoid causing internal damage to the model. Any damage caused by this may void the warranty.

Store in clean, dry conditions away from heat and direct sunlight; avoid contact with metals, solvents, oils or greases and strong detergents.

Thoroughly wash the AirSim X airway with warm water. Please use warm soapy water or similar until all visible foreign matter and residue is removed.

Mild detergents or enzymatic cleaning agents may be used on the airway 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:*

- Germicides, disinfectants, or chemical agents such as glutaraldehyde (e.g. Cidex®),

- Ethylene oxide, phenol-based cleaners, or iodine-containing cleaners

We recommend a frequent deep clean of the internal fluid systems to prevent mould and fungal build-up. A sterilizing product such as Milton Sterilizing Fluid is sufficient.

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. This method can be used on both the silicone skin and the latex airway.

Warranty

TruCorp warrants this product to be free from defects in materials and workmanship, ensuring satisfactory performance for a period of 2-years from the date of delivery. This warranty provides customers with maximum coverage for each unit.

If a product malfunctions and is confirmed to be defective under warranty, TruCorp will repair or replace it at no cost. However, the warranty is void if the unit shows signs of tampering, excessive heat exposure, damage from sharp instruments, improper use, or any conditions beyond TruCorp's control. Consumable items such as wrap-around neck skins and larynx inserts are not covered under warranty and will not be replaced. Damage resulting from misuse is not covered and may incur additional charges.

For full terms and conditions, visit: [TruCorp Warranty Policy](#)

Please direct all warranty and repair inquiries to:



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