⚠Caution | Don't mark on the model and other components with pen or leave printed materials contacted on their surface.
Ink marks on the models will be irremovable.

M93C CVC placement pad

CVC Insertion Simulator Ⅲ

11347-400

Instruction Manual

Table of contents

KYOTO KAGAKU CO.,LTD

Manufacturer's note

The simulator is designed for training in CVC procedures.
Any other use, or any use not in accordance with the enclosed instructions, is strongly discouraged.
Kyoto Kagaku Co., Ltd. cannot be held responsible for any accident or damage resulting from such use.
Please use this simulator carefully and refrain from subjecting it to any unnecessary stress or wear.

● Features

The simulator comes with 2 kinds of training pads for relevant area and an introductory ultrasound training block.

■ Transparent anatomical block

- ○ Facilitates three-dimensional anatomical understanding.
- ○ An effective training tool for developing guide wire insertion skills.

■ Introductory ultrasound training block

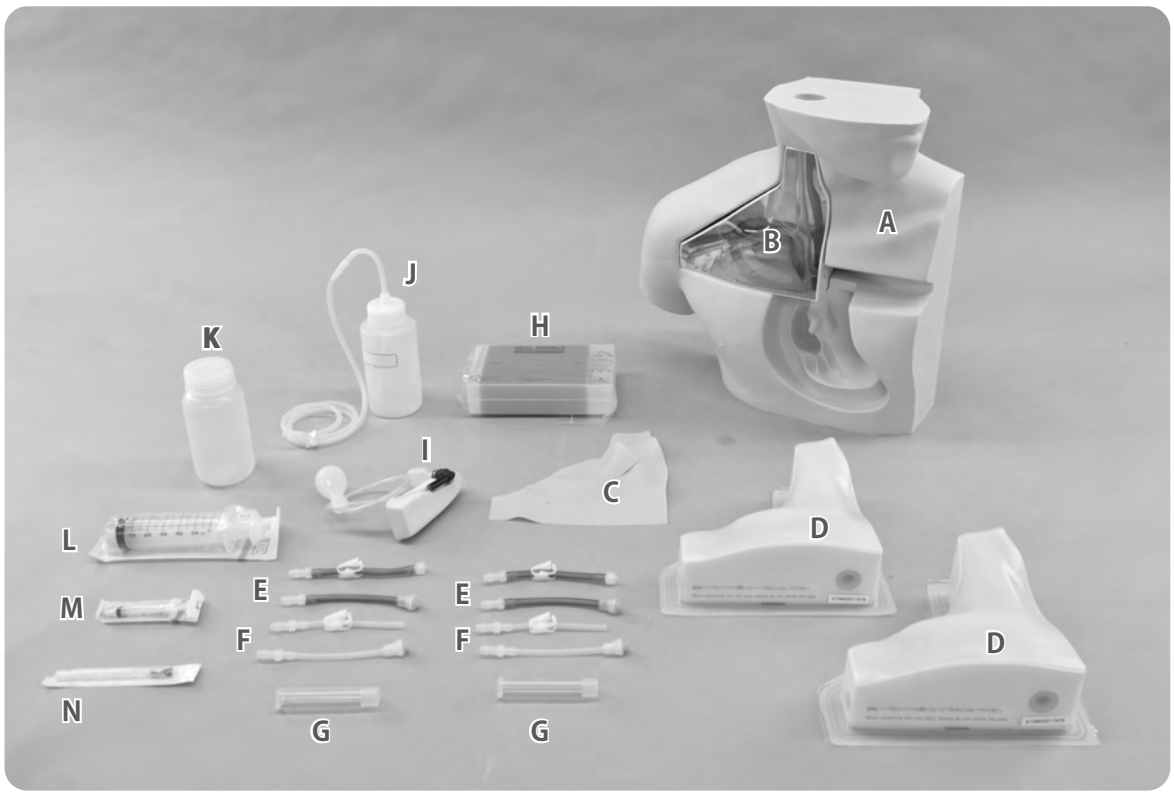
- ○ An introductory ultrasound training block to acquire basics of ultrasound-guided venous access.

■ CVC placement pad

- ○ Both landmark and ultrasound-guided CVC are possible.
- ○ Three possible accesses: subclavian (axillary), internal jugular and supraclavicular.
- ○ Improved frictionless tissue of the pad allows Seldinger technique and repeated insertion and withdrawal of the catheter with less needle marks left on the surface of the pad.
- ○ Training for prevention of mechanical complications, such as arterial puncture and pneumothorax.
- ○ Carotid artery pulsation is palpable.
- ○ Anatomically correct vein and artery relationship.
- ○ Veins collapse under light pressure of the probe.
- ○ Success and failure confirmation
  - • Jugular/artery puncture can be verified by the color of the aspired fluid and/or ultrasound image.
  - • Pneumothorax: Air is aspired to the syringe.
  - • Placement of the catheter can be confirmed by finding the wire in the vein pipe at SVC.
- ○ Close to human tissue material of the pad provides true-to-life sensation to the catheter.

Set includes

Before your first use, ensure that you have all components listed below.



A. male upper torso manikin 1
B. transparent anatomical block 1
C. skin for cannulation training 1
D. CVC placement pad 2
E. vein tube (blue): 2type . . . . . each 2
F. artery tube (transparent): 2type . . . . each 2
G. vein pipe 2
H. introductory ultrasound training block REAL VESSELS 1
I. pulsation unit (for landmark technique) . . . 1
J. irrigation bottle (for UG technique) 1
K. plastic jar 1
L. 50ml syringe 1
M. 2.5ml syringe 1
N. sample needle 1
instruction manual

⚠ DOs and DON'Ts

DOs

Cover the surface of the CVC placement pad with plastic whenever possible to extended exposure to air. Exposure to air accelerate material shrinkage of the pad and can shorten its life.

Use new needles for training.
Recommended needle size: 23G or thinner

The materials for the product are a special composition of soft resin. Handle them with utmost care at all times.

Clean the upper torso manikin with dry cloth or wet soft cloth.

Store the training set at room temperature, away from heat, moisture and direct sunlight.

DON'Ts

Do not keep the tubes (vein/ artery) filled with water.

Do not leave any water on the pad.

Never use the supplied needle for anything other than the simulator.

Do not use broken or bent needles for training.

Do not mark on the simulator with pen or leave any printed materials in contact with their surface. Ink marks on the surface will not be removable.

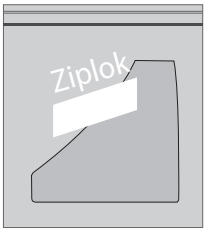
Never wipe the simulator with thinner or other organic solvent.

CVC placement pad Temporary storage method

CVC placement pad material simulates human tissue. More than 70% is water.
Be sure to keep the packing unopened until just before starting a session.
If you open the package by mistake:

1. Apply the film tightly against the surface, to make sure there is no space or air trapped to cause evaporation of material moisture.
2. Put the pad in its original case.
3. Store it in a sealed container or in an airtight bag that can be sealed.
4. Keep the pad upside down.

or



Point

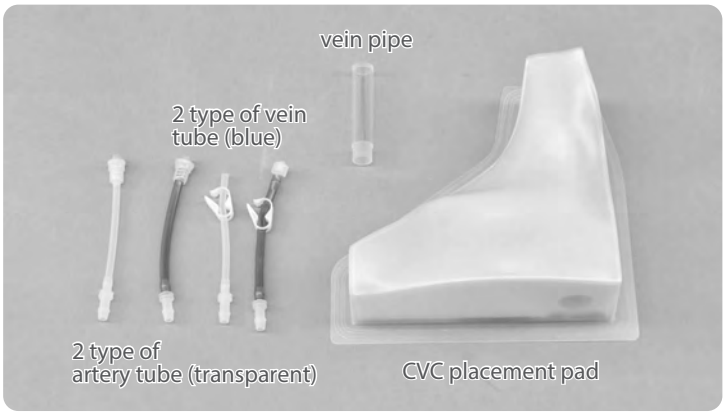
This is a temporary measure only.
Once the seal is broken, use the pad as soon as possible.

⚠ Caution Use each pad in only a single session (one practice).
Do not open the package until just before a session.

CVC placement pad: Set the CVC placement pad

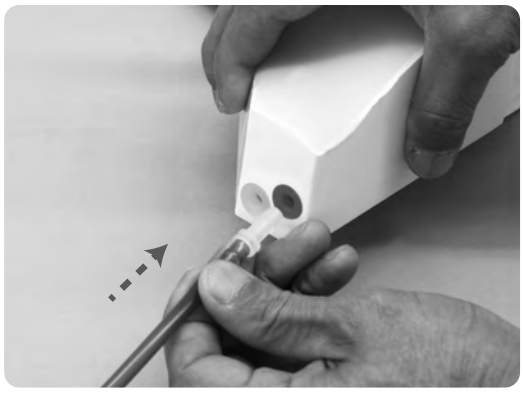
1 Set the CVC placement pad

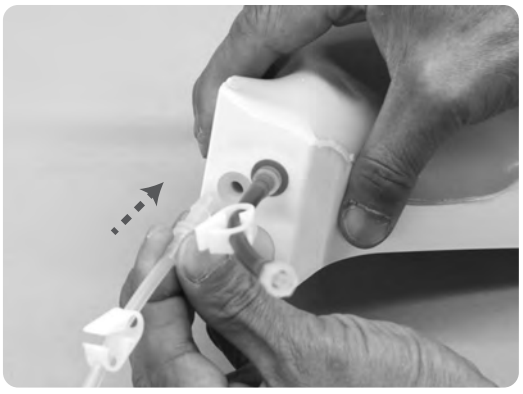
Prepare the CVC placement pad, 2 type of vein tube (blue), 2 type of artery tube (transparent) and one vein pipe.



1. Unpack the CVC pad.
   Peel the film at the back of the case and remove the case.
   *Keep the case and the film till throwing away the pad.

2. Attach the artery/vein tubes, matching the color of the tubes and the ports.
   The ones with the clamp are to come to the neck side.





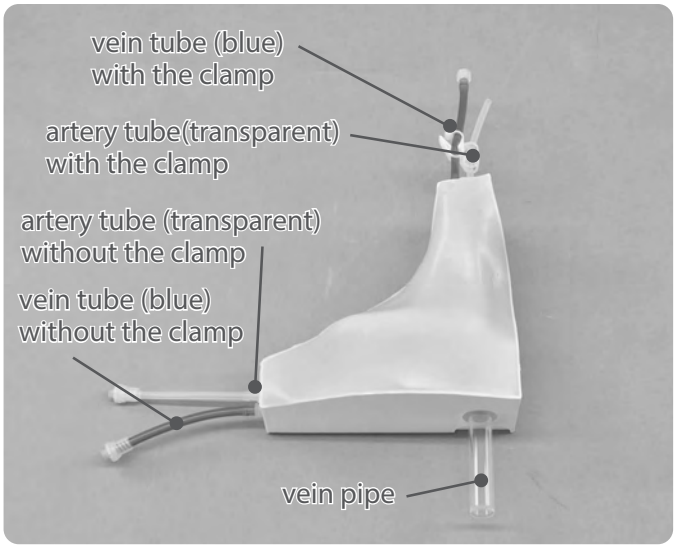
⚠ Caution

Be careful not to confuse the subclavian tubes (without the clamp) and jugular/carotid (with the clamp).

CVC placement pad: Set the CVC placement pad

1 Set the CVC placement pad

3. Attach the vein pipe to the port.



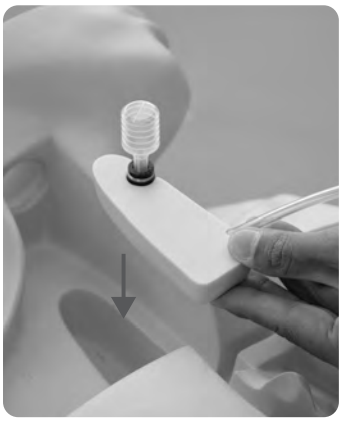
2 Attach the pulsation unit (for landmark technique)

To use the pad for landmark technique, attach the pulsation unit to simulate carotid artery pulse.

1. Remove the cap at the rear side of the pad.

*Do not remove the cap when only ultrasound-guided technique is planned as training sessions.

2. Place the pulsation unit to the mounting position on the torso manikin, at the bottom of the installation site for the pad.

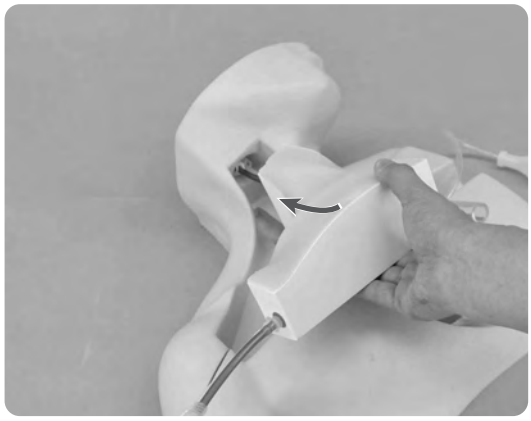


CVC placement pad:
Attach the pulsation unit (for landmark puncture)
Set the pad on the torso

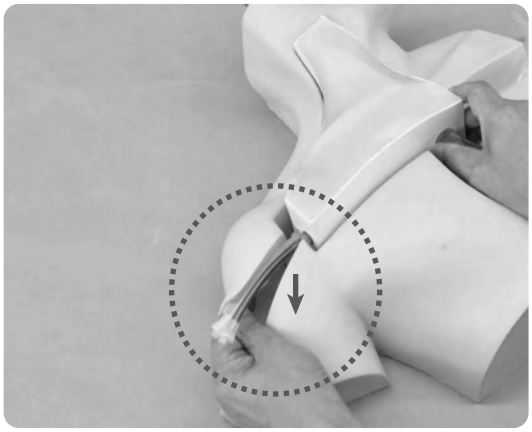
3 Set the pad on the torso

Set the assembled pad to the torso manikin.

1. Put the tubes through the hole of the head side.



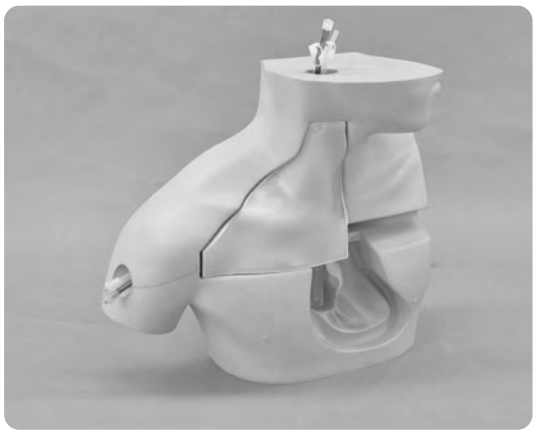
2. Open the cut of left shoulder and put through the tubes. Place the pad into the torso.



⚠ Caution

Make sure that the tubes are not folded or tucked between walls of the pad and the body torso.
The simulator doesn't work properly when the tubes are folded.

4 Fill the artery tube with simulated blood



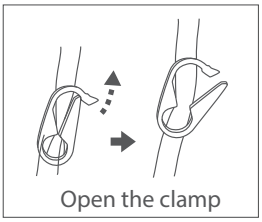
1. Put the torso upright.

2. Open the clamp of the artery tube (transparent).

⚠ Caution

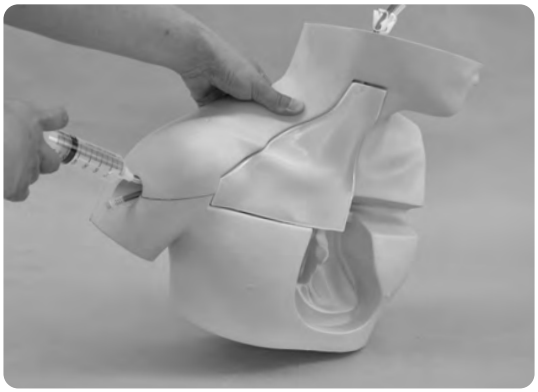
Put the torso upright.
This is to avoid bubbles being caught in the tube.

Before start filling the fluid, ensure that the clamp is open.
Otherwise excessive pressure may cause damage to the pad.

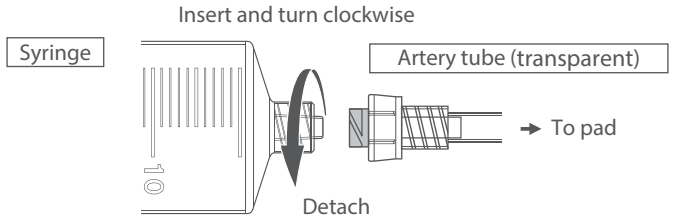


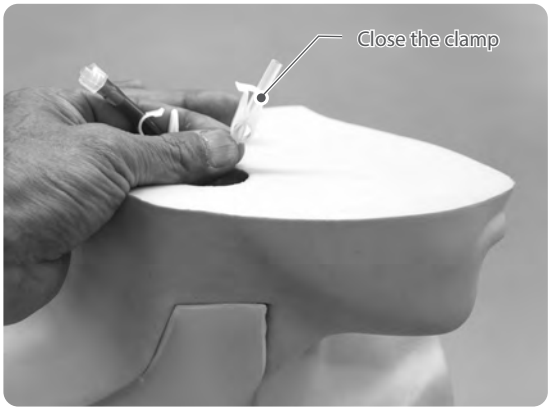
4 Fill the artery tube with simulated blood

3. Fill the 50ml syringe with simulated blood (red fluid/landmark technique※ clear water/ultrasound-guided technique) and connect the syringe tip to the connector at the lower end of artery tube (transparent tube from the right shoulder). Screw in the tip of the syringe clockwise to the connector until it locks.
※ coloring material is available as an option.

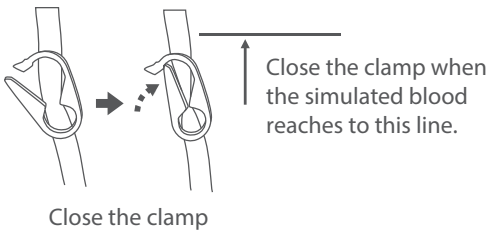


4. Then tilt the torso carefully and push the piston slowly until the red fluid reaches to the height of the clamp.





5. When the tube has been filled by the red fluid, close the clamp. Take off the syringe from the tube.



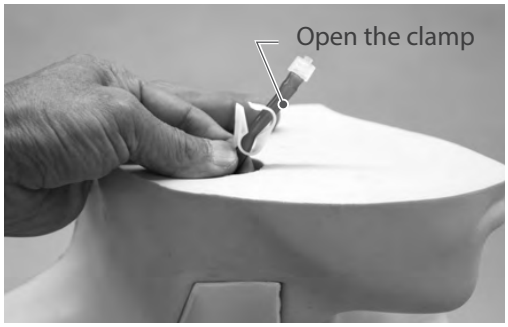
⚠ Note

Ensure that all tubes are fully filled with the fluid and no air bubbles remain inside.
By tilting the torso carefully, air can be removed.

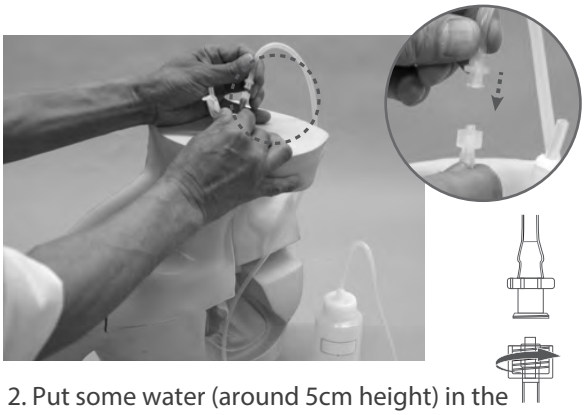
CVC placement pad:
Fill the vein tube with simulated blood (ultrasound-guided technique)

5 Fill the vein tube with simulated blood

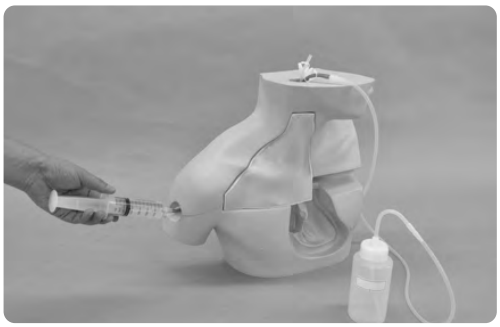
(ultrasound-guided technique)



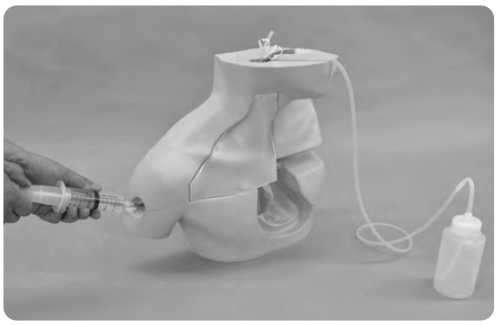
1. Open the clamp of the vein tube (blue).



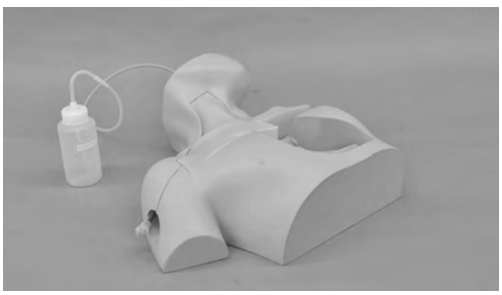
2. Put some water (around 5cm height) in the irrigation bottle. Connect the tip of the tube from the bottle to the head end of the vein tube (blue). Screw in the tip of the tube clockwise to the connector until it locks.



3. Fill the 50ml syringe with simulated blood (clear water/ultrasound-guided technique) and connect the syringe tip to the connector at the lower end of the vein tube (blue tube from the right shoulder). Screw in the tip of the syringe clockwise to the connector until it locks.
※ coloring material is available as an option.



4. Push the piston of the syringe slowly until the water flows out into the bottle. Take off the syringe from the tube. Keep the bottle connected while the simulator is in use.



5. Lay the simulator down and start training session.

When the vessel tube is empty or bubbles are caught inside, ultrasound images will not show properly.

⚠ Caution

Put the torso upright.
This is to avoid bubbles being caught in the tube.

Before start filling the fluid, ensure that the clamp is open.
Otherwise excessive pressure may cause damage to the pad.

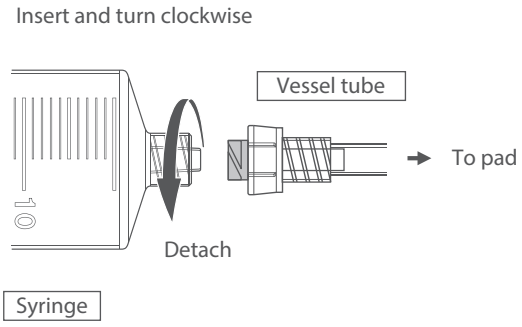
CVC placement pad:
Remove the simulated blood from the tube

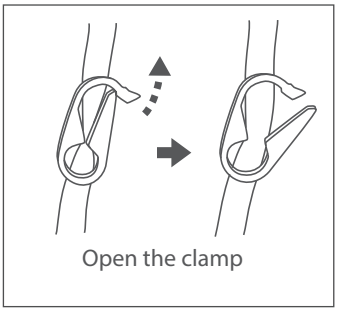
1 Remove the simulated blood from the tube

[Artery tube/ both landmark and ultrasound-guided technique]

1. Place the torso upright. Connect the empty 50ml syringe to the connector at the lower end of the artery tube (transparent).

2. Open the clamp of the artery tube.

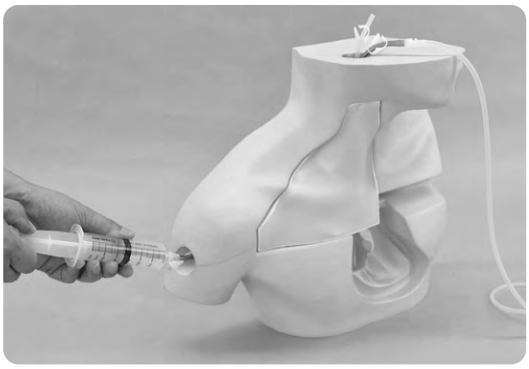




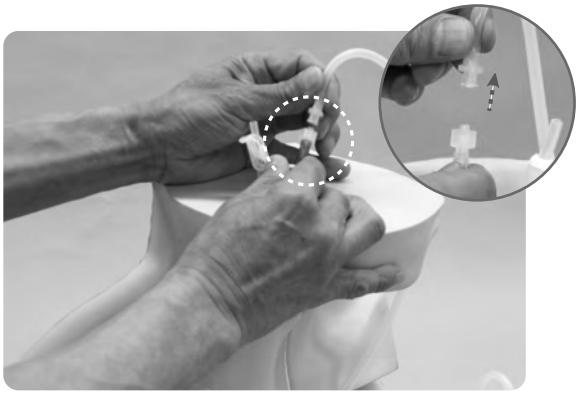
3. Pull the piston of the syringe slowly and drain the fluid. To clean the tube, fill the tube with uncolored water and discharge it again. Take off the syringe from the tube.

CVC placement pad:
Remove the simulated blood from the tube

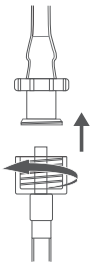
2 Remove the simulated blood from the tube

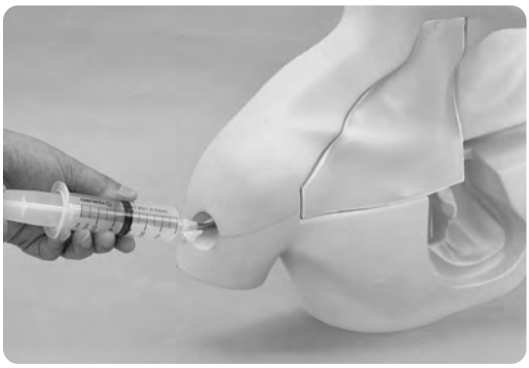


1. Place the torso upright. Connect the empty 50ml syringe to the connector at the lower end of the vein tube (blue).



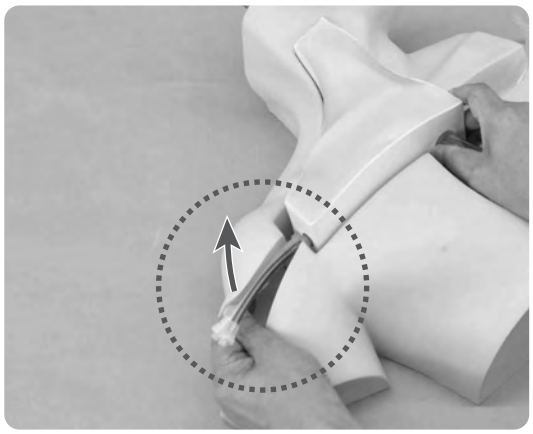
2. Disconnect the tip of the tube from the irrigation bottle.



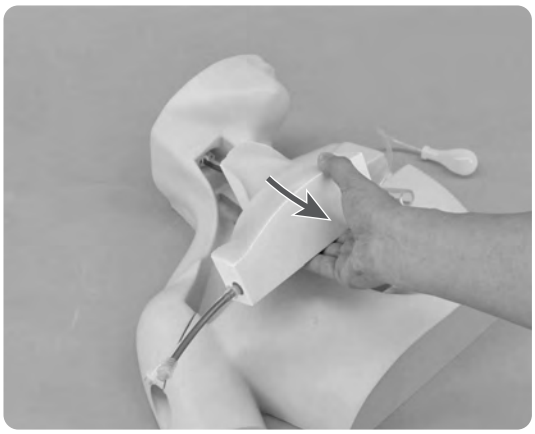


3. Connect the empty 50ml syringe to the lower end of the vein tube (blue).
Drain the water by pulling with the piston of the syringe slowly. Take off the syringe from the tube.

3 Detach the CVC placement pad



1. Open the cut of left shoulder and remove the tubes. Pull out the CVC placement pad from inferior side.



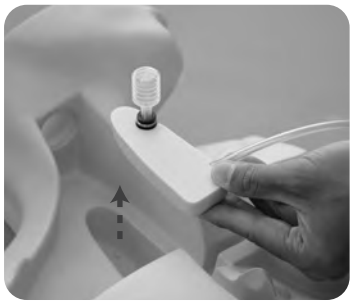
2. Remove the pad from the torso.

CVC placement pad:
Detach the CVC placement pad
Detach the pulsation unit (for landmark technique)

4 Detach the pulsation unit (for landmark technique)

1. Ensure to put the cap to the port at the rear side of the pad after the session that uses pulsation unit.

2 Remove the pulsation unit from the torso.



Introductory ultrasound training block "REAL VESSELS"

1 General information

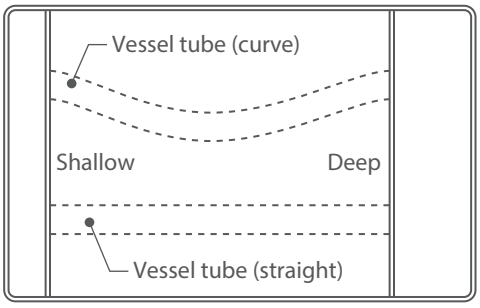
This block facilitates training in basics of ultrasound guided punctures, before moving onto trainings with the anatomical type ultrasound pad.

Features

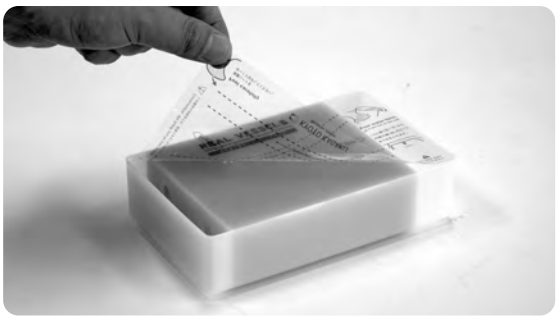
2 simulated vessel lines: straight and curving.
Both lines are embedded on a slope to represent the change from a shallow to deep location.
Vessel wall yields under pressure of a needle tip.

Training items

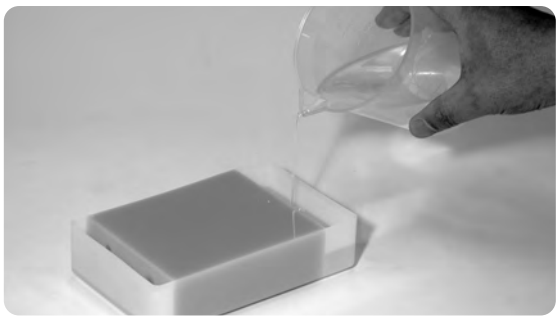
How to get correct ultrasound images.
Probe manipulation.
Basics for ultrasound-guided vessel access.



2 Preparation

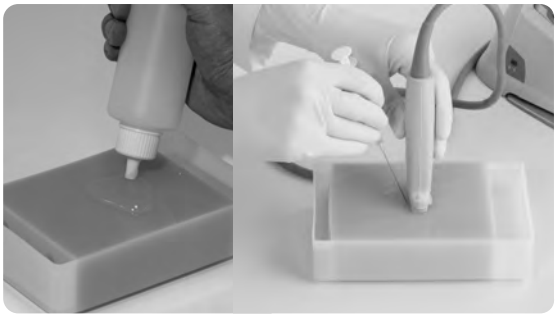


Peel the protective sheet carefully.

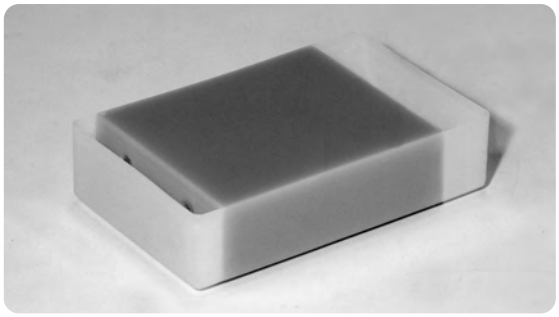


Pour water into the wider slit in the container and fill it up to the line on the wall. Ensure that shallower ends of vessels are fully under the water surface.

3 Training and after a session



Spread ultrasound gel on the surface of the block and begin training. When the needle tip is in the vessel, your syringe can collect water.
Add water to the container slit when necessary.

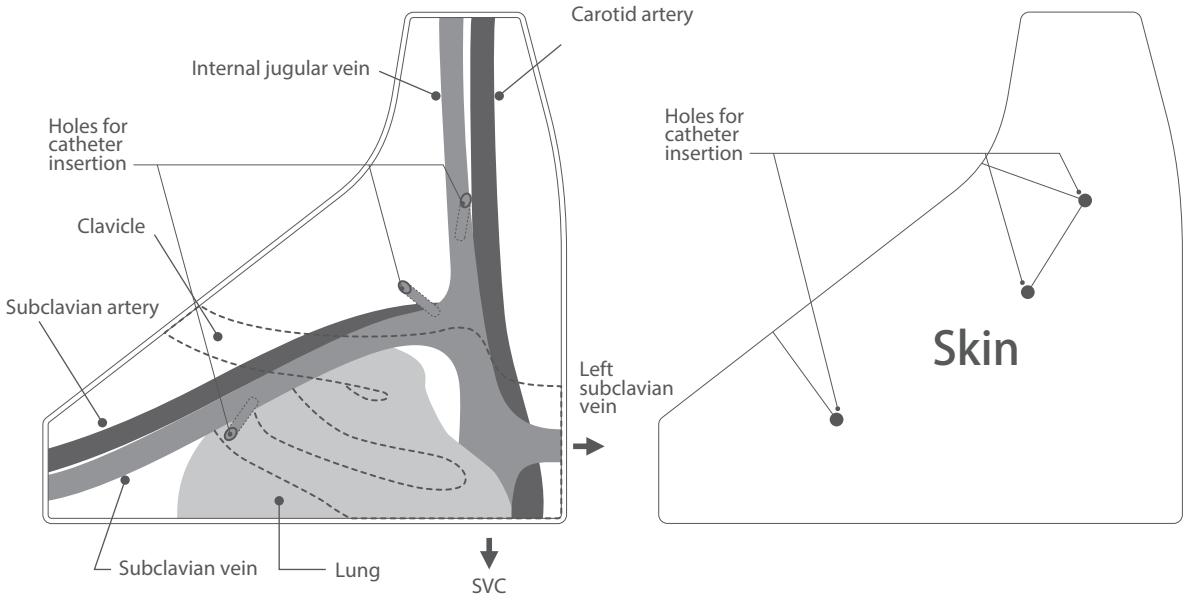


After use, wash off the gel completely with running water and dry well. Then, replace the protective sheet before storage.

⚠ Caution

Do not leave paper, cloth or other materials except for the included protective sheet in contact with the block surface. Such items may stick to the surface and lead to damages.

Transparent anatomical block



The transparent cannulation block is an effective educational model to facilitate understanding of the relevant anatomical structures and is applicable to trainings in cannulation by interchanging with the puncture pad.

Training items

- Anatomical understanding
- Learn the appropriate depth and angle of the needle for each approach.
- Handling and manipulation of the catheter (guide wire).
- Simulate the steps of the procedures.

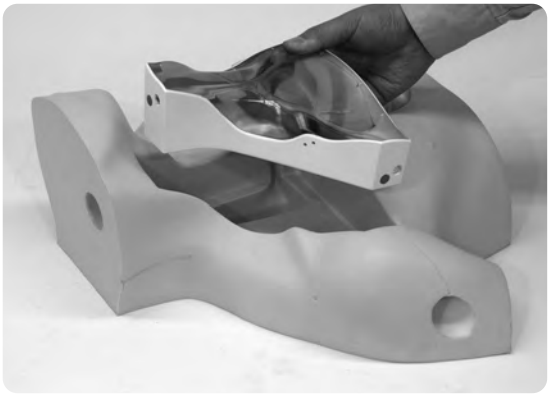
⚠ Caution

- Do not make any punctures at any site besides the prepared openings.
- The transparent block is not designed to be filled with fluid.
- Do not pour any fluid or water into the openings on the cannulation block.
- Please handle the skin sheet with utmost care. Excessive strain may cause breakage.

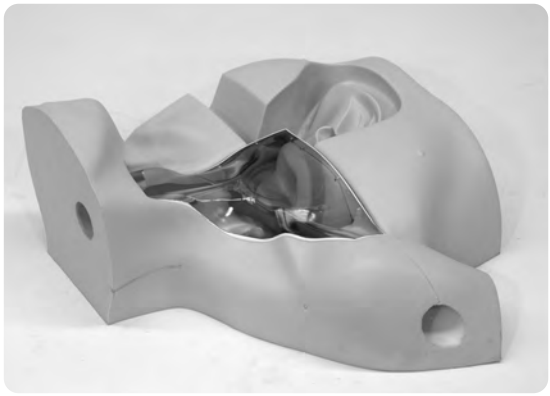
Transparent anatomical block:
Set and detach the transparent block

1 Set and detach the transparent block

● Set the transparent block

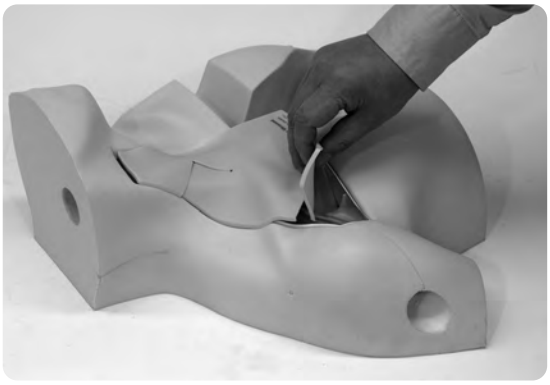


1. Place the transparent block to the cavity.

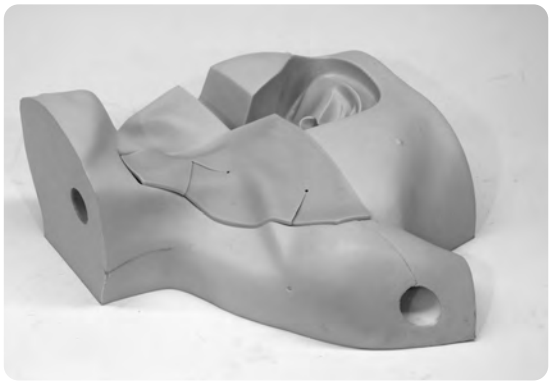


2. Now you can practice cannulation by observing the catheter through the transparent block.

● Cover the block with the skin sheet

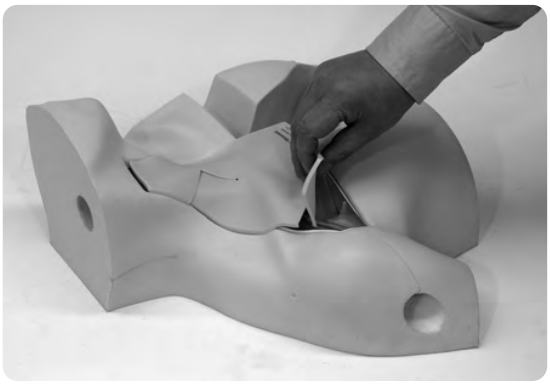


1. Cover the transparent block with the skin sheet. Put the skin sheet over the pad so that the slits of the skin sheet fit with the openings on the pad.

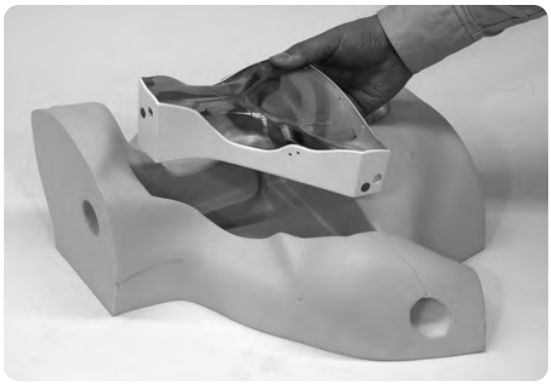


2. Now, the simulator is ready for cannulation training. The slits in the skin sheet allow trainees to remove it with the catheter inserted in the pad.

● Detach the transparent block



1. Remove all needles and catheters from the simulator. Remove the skin.



2. Remove the transparent block holding its frame.

Trouble shooting

Quick check-up before calling the customer service. Use the table if you have problems using the simulator.
Look in this section for a description of the problem to find a possible solution.
（TEL＋81-75-605-2510）

Trouble	Possible Reason	What to Do
I cannot fill/discharge the fluid to/from the vessel tubes properly.	The body torso with the pad is laid down.	Put the torso upright.
	One or more vessel tubes from the pad are folded.	Straighten the tubes.
	The puncture pad is worn out.	Order new pads for replacement.
Heavy leakage from puncture area.	The puncture pad is worn out.	Order new pads for replacement.
Carotid pulsation does not work.	The tube of the pulsation unit is folded in the pit.	Make the tube straight.
Ultrasound image is unclear.	The vessel tubes are not filled with water/fluid or air bubbles are formed in the vessels.	Fully fill the vessels with water.
	The puncture pad is worn out.	Order new pads for replacement.
Seal of the puncture cap package is broken unintended/by mistake.		Follow the temporary storage method (page 3)
The puncture pad has strongly deformed.	Dehydration Over hydration	Unfortunately deformed pad cannot be recovered to its original shape. Order new pads for replacement and; -not to open the package till just before the intended training session -avoid exposure to air -follow the temporary storage method when necessity occurs

⚠ Caution

Do not let ink from pens, newspapers, product manual or other sources contact the manikin. Ink marks on the manikin will be irremovable.

For inquiries and service, please contact your distributor or KYOTO KAGAKU CO., LTD.

Consumables and replacement parts

Part number	Description
11347-240	CVC placement pad (a set of 2)
11347-260	Pulsation unit (for CVC placement pad)
11347-210	Introductory ultrasound training block REAL VESSELS (a set of 2)

CVC placement pad

Pulsation unit

REAL VESSELS

■ **Main Office and Factory** (World Wide)

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