Advanced Venepuncture Arm User Guide

Advanced Venepuncture Arm - Light Part No: **00290**
Advanced Venepuncture Arm - Brown Part No: **00298**
Advanced Venepuncture Arm - Black Part No: **00296**

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Issue 2, September 2008

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Advanced Venepuncture Arm - Light

Part No: **00290**

This product provides the ideal platform for all healthcare trainees needing to practise the skills related to venepuncture and IV cannulation. Designed with durability, realism and ease of use in mind, this product addresses the fundamental needs of clinical skills tutors, trainees and technicians alike.

Skills
- Venepuncture
- IV Cannulation

Features
- Veins are:
  - leak resistant when used at the correct pressure
  - easy to replace
- Can be used with vacuum blood collection systems
- Realistic blood flashback from pressurised fluid system
- Realistic, soft, flexible skin and underlying palpable veins
- Easy to clean, service and maintain
- Accessible veins: dorsal metacarpal, cephalic, basilic, and median cubital are easy to replace
- 'Closed' blood flow system with no messy bottles to change
- Pressure of blood can be easily adjusted
- Can be adapted for professional-to-patient communication (role play) using **AV Arm Harness** Part No: **00300**

Package supplied
- 1 **AV Arm Skin - Light** Part No: **00291**
- 1 **AV Arm Veins** Part No: **00292**
- 1 **AV Vein Module** Part No: **00295**
- 1 **AV Mock Blood (500ml)** Part No: **00294**
- 1 **Refill Bottle** Part No: **00303**
- 1 **AV Arm Rest** Part No: **00302**
- 2 lubricant sachets
- 1 arm

Advanced Venepuncture Arm - Brown

Part No: **00298**

As per the Advanced Venepuncture Arm - Light.

Package supplied

- 1 **AV Arm Skin - Brown** Part No: **00299**
- 1 **AV Arm Veins** Part No: **00292**
- 1 **AV Vein Module** Part No: **00295**
- 1 **AV Mock Blood (500ml)** Part No: **00294**
- 1 **Refill Bottle** Part No: **00303**
- 1 **AV Arm Rest** Part No: **00302**
- 2 lubricant sachets
- 1 arm

Advanced Venepuncture Arm - Black

Part No: **00296**

As per the Advanced Venepuncture Arm - Light.

Package supplied

- 1 **AV Arm Skin - Black** Part No: **00297**
- 1 **AV Arm Veins** Part No: **00292**
- 1 **AV Vein Module** Part No: **00295**
- 1 **AV Mock Blood (500ml)** Part No: **00294**
- 1 **Refill Bottle** Part No: **00303**
- 1 **AV Arm Rest** Part No: **00302**
- 2 lubricant sachets
- 1 arm

Important: handling & hygiene

- Venepuncture training is a potentially messy process so always set the product up on a wipe clean surface. The instructions supplied in this User Guide are designed to minimise the risk of any spillage. Even so, it is a good idea to keep paper towelling close to hand just in case.
- Do not wear 'good' clothes when training with this product. If mock blood does get onto clothing it will not permanently stain them and can be washed out using a biological detergent.
- If mock blood gets into the eyes flush with plenty of cold water.
- Observe normal hygiene procedures after handling the product and mock blood.

Components

AV Arm Skin - Light
Part No: **00291**
(Depending on version bought)

AV Arm Skin - Brown
Part No: **00299**
(Depending on version bought)

AV Arm Skin - Black
Part No: **00297**
(Depending on version bought)

AV Arm Rest
Part No: **00302**

AV Arm Veins
Part No: **00292**
(With adhesive fastening strips)

AV Mock Blood (500ml)
Part No: **00294**
(Replacement part)

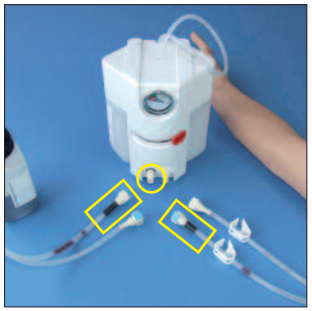
Water-based Lubricant
Part No: **00293**

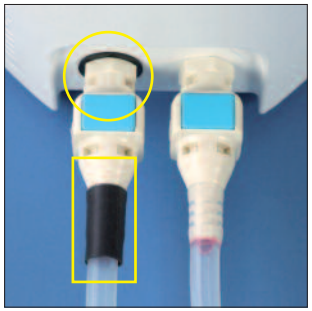
Fluid Unit
(Not user serviceable. Must be returned to Limbs & Things for service or repair)

Refill Bottle
Part No: **00303**

READ THIS FIRST: Basic fluid unit operations

Connecting





When connecting the refill bottle or the Arm to the fluid unit, ensure that the the tube with the black sleeve attaches to the left hand connector with the black ring on it.

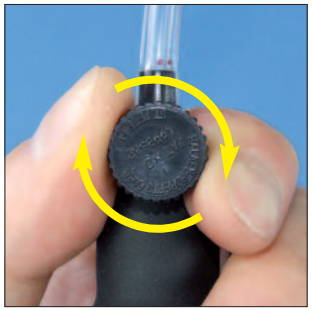
Selecting

The red reservoir selector lever on the front of the fluid unit selects which of the reservoirs will be pressurised.

Slide it to the left if you intend to pressurise the left reservoir.

Slide it to the right if you intend to pressurise the right reservoir.

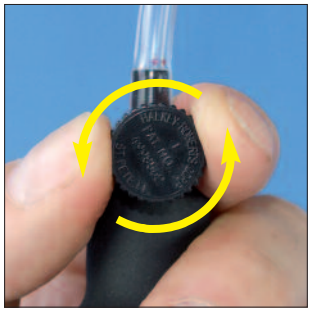
Pressurising



Turn the release valve clockwise to close it before you can pressurise the fluid unit by squeezing the pressure bulb.

NOTE
There is a pressure release valve inside the fluid unit. This prevents damage caused by overpressurisation. If the cutoff pressure is reached a hissing sound will be heard as the air is vented and the pressure is dropped to a safe level.

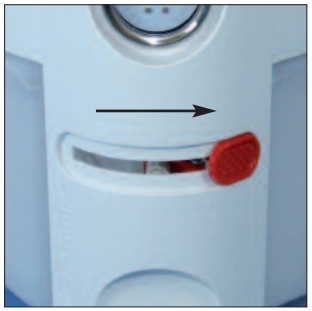
Depressurising



Turn the release valve anti-clockwise to open it when you need to depressurise the fluid unit.

Filling the fluid unit

1

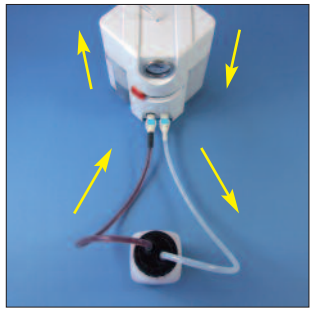


IMPORTANT
When filling the fluid unit, blood must always be fed into the left hand reservoir.

Slide the reservoir selector to the right.

Connect the refill bottle.

2



Close the valve on the pressure bulb. Pressurise the fluid unit into the grey zone.

Air in the right reservoir flows into the bottle forcing the blood out of it and into the left hand reservoir.

Keep the pressure in the grey zone to ensure that the reservoir fills quickly.

3

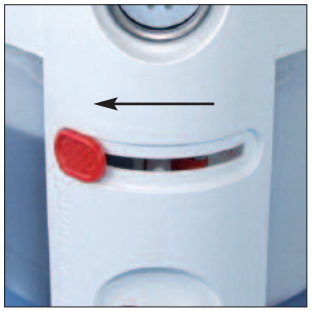
Once the blood reaches the maximum level of 300ml open the pressure valve to depressurise the fluid unit and to stop blood transferring.

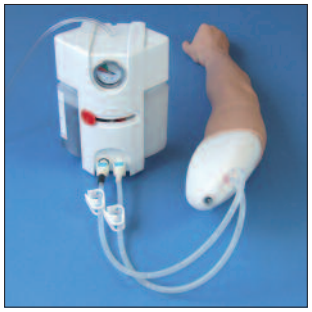
Disconnect the bottle.

The fluid unit is full and ready to be attached to the Arm.

Priming the Veins

1





Having carried out **'Filling the fluid unit' (page 3)**, slide the reservoir selector to the left.

Connect the Arm.

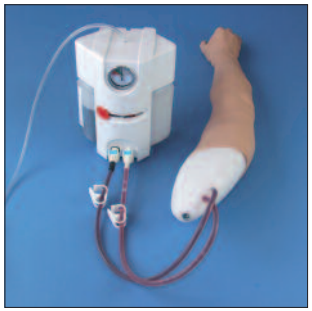
2

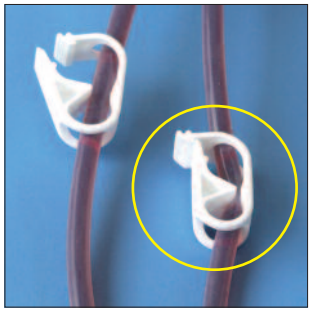
Ensure both of the white clips on the arm tubes are open.

Close the valve on the pressure bulb. Pressurise the fluid unit into the green zone.

IMPORTANT
Do not overpressurise (into the grey zone) as this will cause blood to leak from the puncture sites in previously used veins creating a mess under the Skin.

3





Air pressure in the left reservoir forces the blood out through the Arm and into the right reservoir.

When there are no more air bubbles coming out of the Arm close the white clip on the right hand tube. This will maintain the correct pressure in the Arm during training.

The Arm is ready to use.

Using the Arm

Taking blood

Blood can be taken from the arm by using vacuum collection devices such as Vacutainer, or the more traditional needle and syringe method.

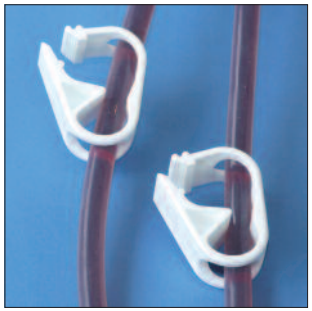
Cannulation can also be performed on the product.

Maintaining pressure

As the blood level decreases in the left reservoir the pressure will drop.

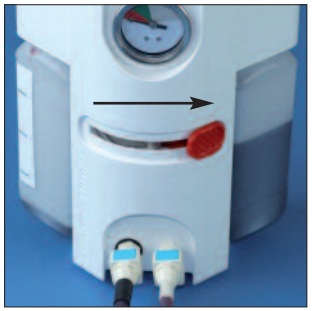
Maintain the pressure in the green zone during training.

Removing trapped air



Occasionally during training release the clip on the right hand tube and allow blood to flow through the Arm to remove any air bubbles that might have been introduced.

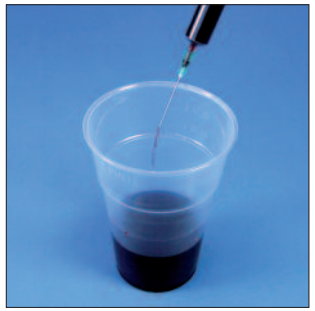
Reversing flow



The Arm can also be pressurised from the right reservoir when there is a sufficient volume of blood in it.

Slide the reservoir selector to the right. Open the clip on the right tube and close the clip on the left tube. Ensure the pressure is in the green zone.

Refilling the bottle

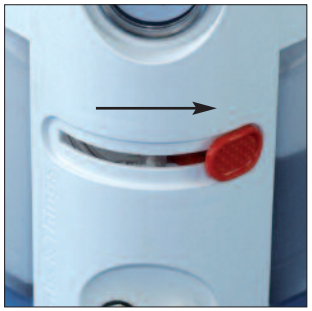


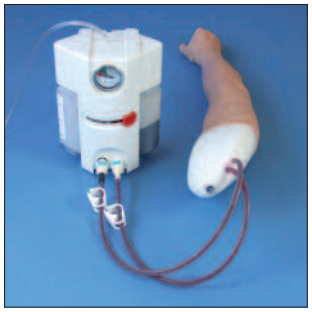
Squirt the contents of the syringe into a container so that at the end of the training session the blood can be poured back into the refill bottle.

Follow **'Filling the fluid unit' (page 3)** when the left reservoir is empty.

Emptying the veins prior to replacement

1

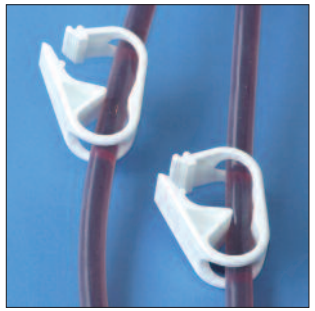




Slide the reservoir selector to the right.

Connect the Arm.

2

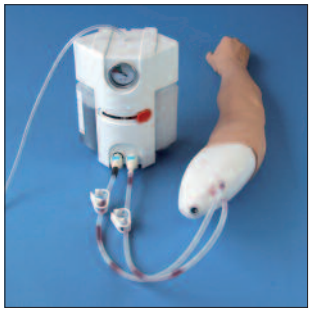


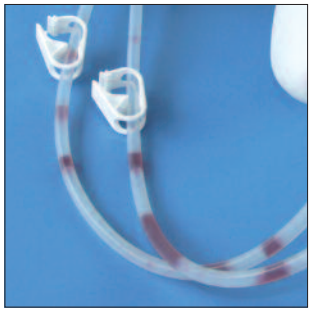
Ensure both of the white clips on the arm tubes are open.

Close the valve on the pressure bulb. Pressurise the fluid unit into the green zone.

IMPORTANT
Do not overpressurise (into the grey zone) as this will cause blood to leak from the puncture sites in previously used veins creating a mess under the Skin.

3





Air pressure in the right reservoir forces the blood out through the Arm and into the left reservoir.

Eventually the right reservoir will empty and air will flow through the veins. Once the amount of blood coming out is minimal, release the pressure and disconnect the Arm.

Emptying the fluid unit prior to storage/transport

1

IMPORTANT
When emptying the fluid unit the blood to be removed must always be in the left hand reservoir. See 'Emptying the Veins' (page 7).

Slide the reservoir selector to the left.

Connect the refill bottle.

2

Close the valve on the pressure bulb. Pressurise the fluid unit into the grey zone.

Air pressure forces the blood from the left reservoir into the bottle.

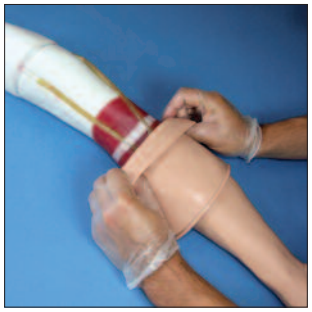
Keep the pressure in the grey zone to ensure that the bottle fills quickly.

3

Once most of the blood has been removed and only air is bubbling through the left tube, release the pressure and disconnect the bottle.

Removing the Skin

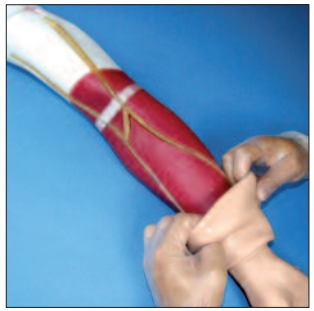
1



Using both hands, roll the upper part of the Skin down over onto itself as far as it will go. Do not force the Skin.

Fold the Skin down over onto itself again.

2



Gently pull the Skin down onto the wrist.

Gently pull the Skin off the wrist and onto the hand. The hand should gradually go floppy as the Skin is worked off the arm.

Once most of the Skin is off the arm, hold the Skin by the upper part...

... and remove it.

Fitting the Skin

1

To make the Skin easier to attach, lubricate the arm with the supplied water-based lubricant.

Ensure that the hand, forearm and upper arm are well lubricated.

2

Align the Skin with the underlying anatomy of the arm.

Gently work the Skin up the arm.

3

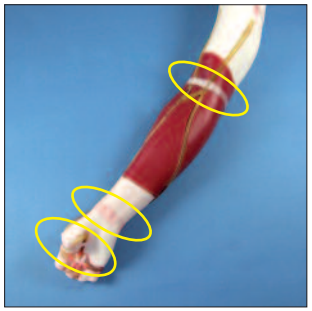
Pull the fingers onto the hand.

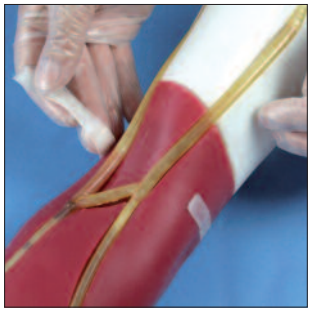
Slide the Skin up to the top of the arm. Ensure that the ridge around the inside engages with groove at the top.

If necessary, slide the Skin around slightly so that it fits the arm anatomy properly.

Changing the Veins

1

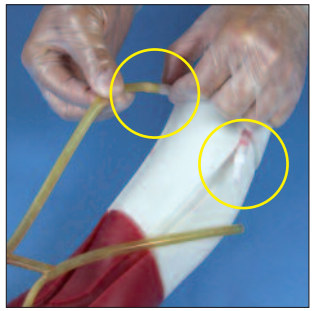


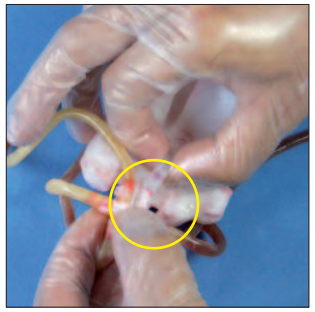


IMPORTANT
Before changing the veins follow the procedures 'Emptying the Veins' (page 7) and 'Removing the Skin' (page 9).

Remove and discard the strips of tape running around the thumb, wrist, and the upper ACF area. (New tape is supplied with the replacement veins).

2

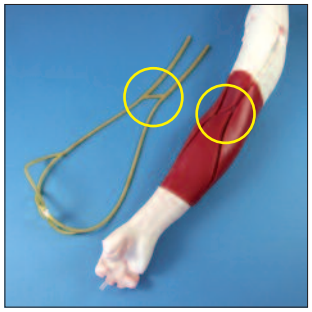




Disconnect the 2 upper connectors first.

Gently pull the lower connector out of the palm. Hold the transparent tube and pull the vein out from it.

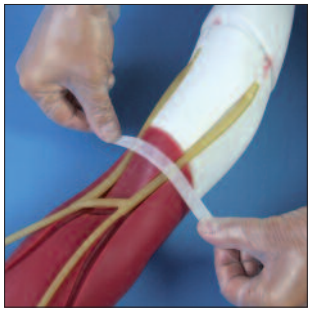
3



Remove the vein and discard it. Avoid spilling any residual blood left in the veins.

Lay the new vein on the work surface in the correct position (2 veins at the top, small hand veins at the bottom and the slant of the median cubital matches the groove in the vein module).

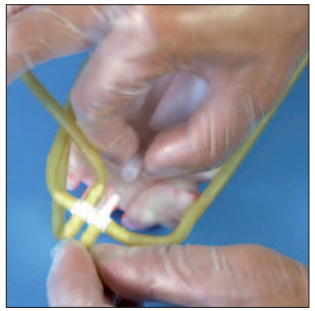
4



Attach the top 2 veins and push the transparent tubes back into the arm so that the connectors fit snugly.

Fit the veins into the grooves and wrap the supplied tape around the upper ACF area to hold them in place. Get another person to help you if necessary.

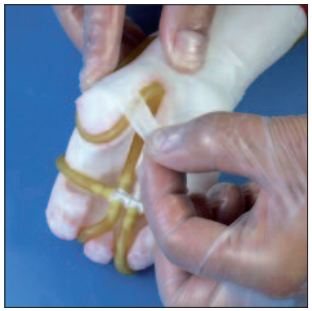
5



Attach the palm connector and push the transparent tube back into the arm so that the connector fits snugly.

Fit the veins into the grooves of the forearm and tape them in place.

6



Ensure that the veins around the hand fit in the grooves correctly. Tape the vein into the thumb area.

Settle the veins into the grooves correctly. The arm is now ready to have the skin fitted.

Using the AV Arm Harness (Optional extra)

The AV Arm Harness allows for role playing to be carried out.

It is available as an optional accessory. Order Part No: **00300**

1

The AV Arm Harness is designed to fit over the right shoulder and upper arm.

The Harness has a mounting point to which the Arm is attached.

2

Insert the mounting point into the end of the Arm ...

... and rotate the Arm until it is screwed fully onto the mounting point.

3

Get an assistant to support the Arm whilst the Harness is placed over the right shoulder and the chest strap is clipped together and then loosely tightened.

Raise the right arm and securely fix the velcro strap around it.

4

Hold the Arm and comfortably tighten the chest strap so that the Harness cannot move.

Set up your training scenario.

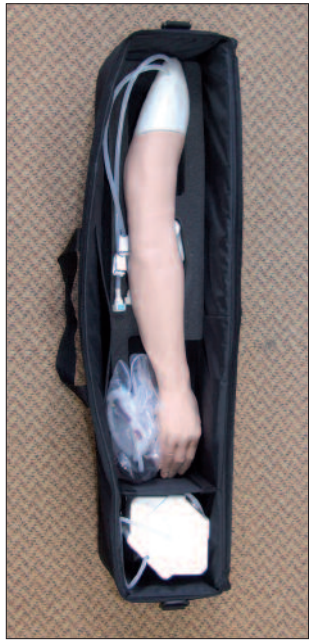
Storing the Arm (Depending on version bought)

Cardboard box

IMPORTANT
The fluid unit should <u>always</u> be emptied before storing it in the cardboard box.

Follow the procedures described in 'Emptying the fluid unit' (page 00).

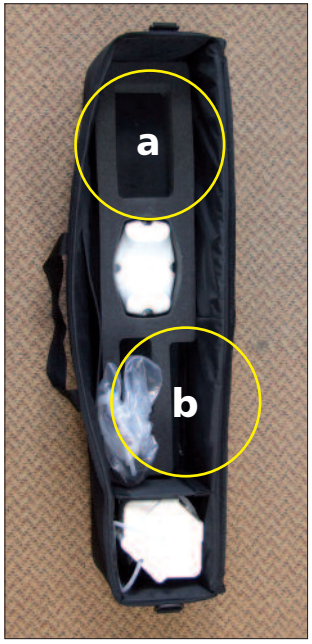
Case: top layer



IMPORTANT
If the product is being transported long distances or being shipped, the fluid unit should <u>always</u> be emptied before storing it in the case.

Follow the procedures described in 'Emptying the fluid unit' (page 00).

Case: bottom layer



Bottom layer with additional storage:

a is for the AV Harness or additional venepuncture equipment

b is for a 600ml/25cm kidney dish (not supplied)

Notes

Notes

Notes