

## **Phlebotomy Department**

### **Procedure for Venepuncture to Obtain a Venous Blood Sample**

**THIS IS A CONTROLLED DOCUMENT AND MUST NOT BE PHOTOCOPIED OR DISTRIBUTED WITHOUT AUTHORISATION**

**YOU ARE INSTRUCTED TO READ THE FOLLOWING PROCEDURE BEFORE PROCEEDING UNDER NO CIRCUMSTANCES ARE THESE INSTRUCTIONS TO BE AMENDED OR ALTERED IN ANY WAY WITHOUT THE PERMISSION OF EITHER THE AUTHOR, OR THE AUTHORISER**

<b>Number of Hard Copies:</b>	1 per phlebotomist
<b>Location of Hard Copies:</b>	Electronic copies only available on Q-Pulse
<b>Review Interval:</b>	Every 24 months

#### **Introduction**

This procedure sets out the Phlebotomy Department performance of venepuncture. This document is provided to phlebotomy staff during their training.

#### **Clinical Relevance/Purpose:**

This procedure identifies the approach that should be taken when obtaining a venous blood sample to ensure the highest standards of patient care are maintained, whilst also ensuring a good quality sample is obtained, to then be processed by the laboratories. This document will discuss the actual taking of sample and assume that correct patient identification in line with patient ID Policy has taken place.

#### **Principle:**

The procedure requires commitment from all members of the Multidisciplinary Team who undertake this procedure. This includes; –

- Doctors
- Anaesthetists
- Nurses
- Phlebotomists
- Operating Department Personnel

This list is not exhaustive.

The aim is to ensure a standardised approach to obtaining samples from a patient to ensure the correct patient has been identified, the sample has been obtained correctly (minimise risk of damaging cells, giving erroneous results etc) and is labelled correctly – for the laboratory to be able to process the sample.

### **Responsibilities:**

All staff are responsible for ensuring they are competent to take samples in collaboration with their Line Managers for identifying the training needs required for their posts. Staff that are registered with a professional/occupational body must also comply with the standards detailed by these bodies.

### **Related Documents:**

Phlebotomy Induction Booklet – MI-PBY-Induction  
Phlebotomy Department Handbook – MP-PBY-Handbook  
Cardiff and Vales UHB Patient Identification Policy – UHB 101  
Cardiff and Vales UHB Consent to Examination or Treatment Policy – UHB 100  
Cardiff and Vales UHB Hand hygiene Infection Control Procedure – UHB 200  
Cardiff and Vale UHB Labelling of Specimens submitted to Medical Laboratories Procedure – UHW 452  
Cardiff and Vale UHB Health and Safety Policy – UHB 021  
Cardiff and Vale UHB Sharps Management Procedure – UHB 359  
Cardiff and Vale UBH Blood Component Transfusion Procedure – UHB 348

### **Equipment:**

- White tray or receiver
- Tourniquet
- 21/23 gauge multiple sample needle or 21/23 gauge winged infusion device and multiple sample Luer Adaptor as appropriate
- Plastic tube holder, standard or for blood cultures
- Appropriate vacuumed specimen tubes
- Swab saturated with Chlorhexidine in 70% alcohol, or Isopropyl alcohol 70%
- Low-linting gauze swabs/cotton wool
- Sterile adhesive plaster or hypoallergenic tape
- Specimen Request Forms
- Non-sterile, well-fitting latex free gloves
- Plastic apron
- Sharps bin
- Gloves

### **Procedure for venepuncture**

#### **Anatomy and Physiology**

The superficial veins of the upper limb are most commonly chosen for venepuncture. These veins are numerous and accessible, ensuring that the procedure can be performed safely and with minimum discomfort.

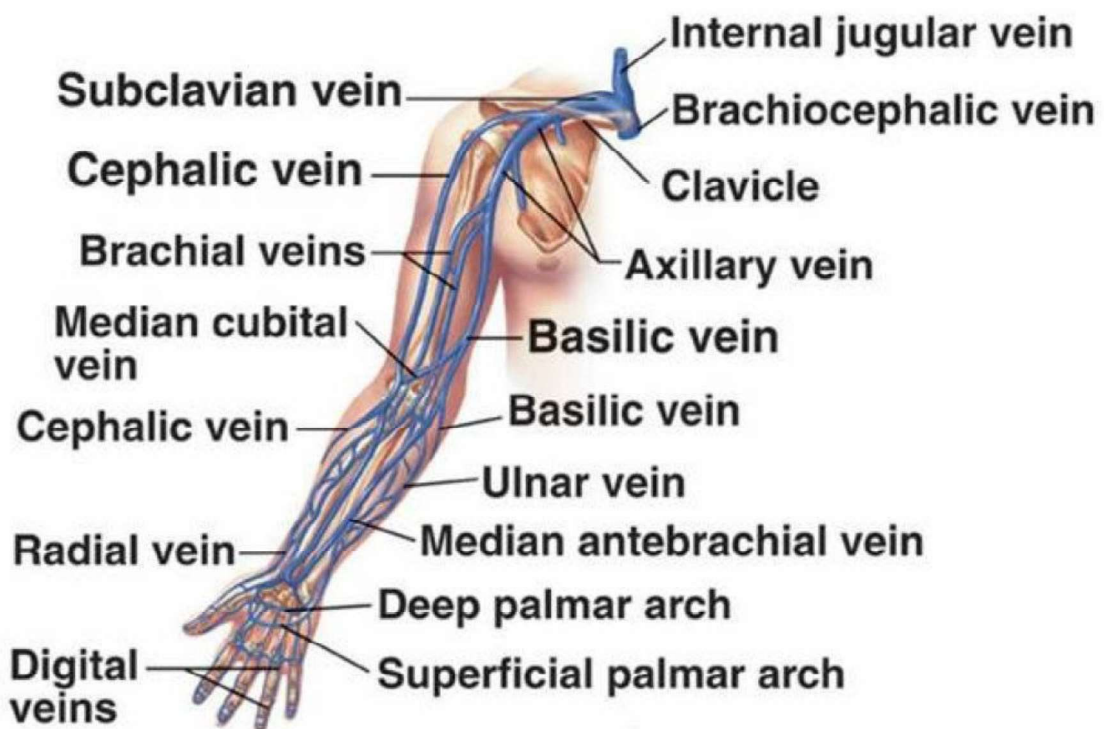
**Vein choice:** The veins commonly used for venepuncture are those found in the Antecubital Fossa because they are sizeable veins capable of providing copious and repeated blood specimens. The choice of vein must be that which is best for the individual patient. The most prominent vein is not necessarily the most suitable vein for venepuncture; there are two stages to locating a vein: visual inspection and palpation. Areas to avoid include arms that have Fistulas, Oedematous limbs, arm involved in a Mastectomy and Sclerosed veins. Burned or scarred areas should be avoided for venepuncture. Areas of severe Haematoma should also be avoided. Dorsal veins may be considered for use if there are no suitable veins in the Antecubital Fossa.

Check with patient as they may have a preferred arm or a 'better arm' for venepuncture and may faint or have allergies to micropore, latex etc. It may be necessary to apply local anaesthetic cream/gel to chosen venepuncture site and leave for allotted time.

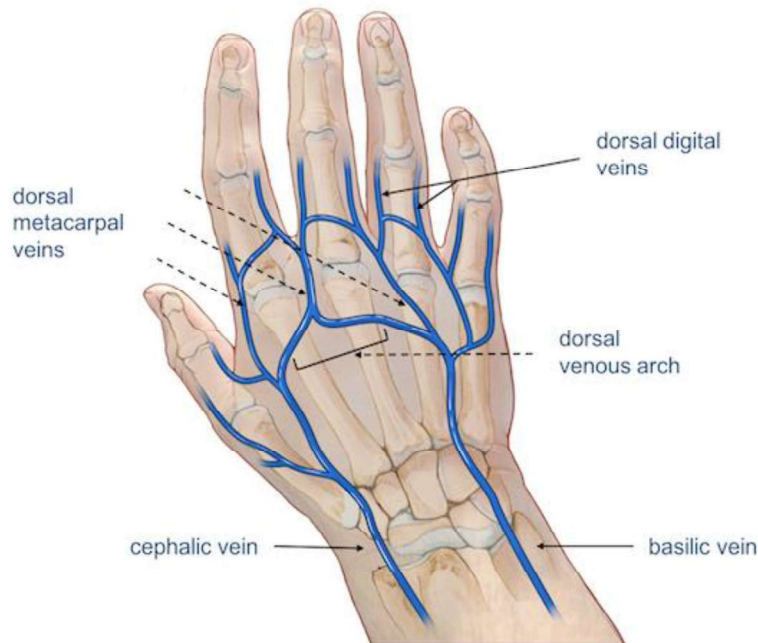
If a patient specifically asks for a certain type of blood collection equipment e.g. Butterfly's or blue needle please adhere to a patient's request whenever possible.

If a patient's blood test is for a drug level always check with the patient when they last took their medication i.e. Tacholimus, Lithium, Digoxin.

a.)



b.)



Take all the appropriate equipment to the patient. Identify patient using positive Patient Identification. Consent must be obtained to take a sample and the patient must be made aware if the person taking the sample is a trainee. The patient has the right to decline a trainee to take the sample and the procedure should be continued by the appropriately trained member of staff.

It may be necessary to support the chosen limb on a pillow.

Apply a tourniquet to the arm on the chosen side, making sure it does not obstruct arterial flow. If the radial pulse cannot be palpated then the tourniquet is too tight. The position of the tourniquet may be varied; for example, if a vein in the hand is to be used it may be placed on the forearm.

Select the vein using the aforementioned criteria and then release the tourniquet to prevent Haemoconcentration and pooling of the blood.

Select the device, based on vein size, site, etc.

Wash hands with bactericidal soap and water or bactericidal alcohol hand rub.

Reapply the tourniquet, apply gloves. Clean the patient's skin carefully for 30 seconds (utilising small circular motions) to using an appropriate preparation and allow to dry.

Do not repalpate or touch the skin, remove the cover from the needle and inspect the device carefully. Anchor the vein by applying manual traction on the skin a few centimetres below the proposed insertion site.

Insert the needle smoothly at an angle of approximately 30°. However, the angle will depend on size and depth of the vein. Reduce the angle of the descent of the needle as soon as a flashback of blood is seen in the tubing of a winged infusion device or when puncture of the vein wall is felt.

Slightly advance the needle into the vein, if possible. Do not exert any pressure on the needle. Withdraw the required amount of blood using a vacuumed blood collection system in the correct order of draw.

Release the tourniquet. In some instances this may be necessary at the beginning of sampling as inaccurate measurements may be caused by haemostasis, for example when taking blood to assess calcium levels.

Remove tube from plastic tube holder.

Pick up low-linting swab/cotton wool and place it over the puncture point.

Remove the needle, but do not apply pressure until the needle has been fully removed.

Safely dispose of sharps

Always label samples at the patient's bedside. Never label samples that you have not taken.

### **Untoward Events**

Should you be unable to obtain the venous sample or patient complains of pain or develops a Haematoma/bruise whilst attempting to obtain the sample, the procedure should be stopped and re-evaluated. If the patient is in agreement then a second attempt may be attempted but no more. Advice should be sought from a Senior Colleague/Supervisor/Medical Team caring for the patient prior to any additional attempts to be made. It may be acceptable to use Dorsal veins in the hand if appropriate.

### **Arterial Bleed**

If during the procedure an accidental arterial puncture is suspected (e.g. rapidly forming Haematoma, rapid filling tube, and bright red blood) discontinue the venepuncture immediately. Remove the needle and apply direct forceful pressure to the puncture site for a minimum of 5 minutes until active bleeding has ceased. The Nursing Staff and Medical Staff must be notified and the incident documented.

### **Nerve Damage/Injury**

If the patient feels a shooting, electric-like pain, tingling or numbness above or below to the venepuncture site, stop the venepuncture and remove the needle immediately. Repeat the venepuncture, if appropriate in another site with a new

sterile needle. Direct the patient for medical evaluation if indicated and document the incident.

### **Haematoma**

Patients should be advised that taking blood may cause bruising. To avoid this it is advisable for the dressing to remain in place for 1-2 hours, strenuous exercise is to be avoided and heavy lifting is also to be avoided for 1-2 hours post procedure. If a Haematoma develops it is important this incident is documented.

### **Unusual Circumstances**

On occasions samples need to be taken whilst IV infusions or transfusions are running. The following recommendations should be considered, but the important thing to remember is the patient and how many venepuncture episodes will be required. As an example if the patient requires a FBC and U&E but has a blood transfusion in progress it may not be appropriate to take the FBC until the blood transfusion has been completed, however the U&E may be important and would warrant a separate venepuncture episode. The urgency of the tests required may need to be discussed with appropriate Medical Teams/Nurse in Charge for clarification. If samples do need to be taken the steps below should be followed;

### **Intravenous (IV) Infusions**

Specimens should never be obtained above an IV site that is being transfused. Specimens obtained above IV's will be diluted with the fluid being administered, causing erroneous results. The Phlebotomists should look for a blood drawing site in the opposite arm. If no viable venepuncture site is found in the opposite arm, blood collection may be performed distal to (below) the infusion site. When drawing distal to an infusion IV, the tourniquet must be applied at least 4 inches below the site. When collecting specimens below an IV, enter the comment "taken below xxxxx IV" into the comments.

### **Transfusion of Blood Products**

Specimens may be collected while a patient is being transfused, however if it is for a Haemoglobin check then this investigation may be better to wait until the infusion is completed. Check with the ward staff if there is any uncertainty. The specimen container or form must clearly indicate that the venepuncture occurred while transfusion was in progress. The specimen should be drawn from the opposite arm from which the patient is receiving the transfusion. Ensure the container or form clearly indicate that the venepuncture occurred while transfusion in progress e.g. "Specimen taken during transfusion."

### **Training and Assessment Procedure for Obtaining a Venous Sample**

All staff perform Phlebotomy may have a period of training which can run from between 8 weeks – 12 weeks depending on previous skills and knowledge base to learn this skill. During this time they should also have to complete a knowledge based assessment and perform a practical assessment. Phlebotomists are assessed annually. Other Health Care Professionals must attend a ½ day study day and should update every 3 years.

### **Results:**

By ensuring the correct venepuncture is used will ensure the laboratories receive good quality samples.

### **Performance Criteria:**

Assessed within own professional role and Phlebotomy department. Learning, Education and Development (LED) keep a database of all nurses who have completed the course and workbook.

### **References:**

Cardiff and Vales UHB Patient Identification Policy UHB 101

<http://www.cardiffandvaleuhb.wales.nhs.uk/sitesplus/documents/1143/Patient%20ID%20February%202012-Q%26S%20version.pdf>

Cardiff and Vale UHB Consent to Examination or Treatment Policy UHB 100

<http://www.cardiffandvaleuhb.wales.nhs.uk/opendoc/186989>

Cardiff and Vale UHB Hand Hygiene Infection Control Procedure UHB 200

[http://nww.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/POLICY\\_PAGEGROUPLIBRARY/HAND%20HYGIENE%20PROCEDURE%202017%20\(2\).PDF](http://nww.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/POLICY_PAGEGROUPLIBRARY/HAND%20HYGIENE%20PROCEDURE%202017%20(2).PDF)

Cardiff and Vale UHB Labelling of Specimens to Medical Laboratories Procedure UHB 452

<http://www.cardiffandvaleuhb.wales.nhs.uk/sitesplus/documents/1143/1.14.2%20LABELLING%20OF%20SPECIMENS%20SUBMITTED%20TO%20MEDICAL%20LABORATORIES%20PROCEDURE.pdf>

Cardiff and Vales UHB Health and Safety Policy UHB 021

<http://www.cardiffandvaleuhb.wales.nhs.uk/opendoc/166333>

Cardiff and Vale UHB Waste Management Procedure UHB 038

[http://nww.cardiffandvale.wales.nhs.uk/portal/page?\\_pageid=253,25682353,253\\_25682366&\\_dad=portal&\\_schema=PORTAL](http://nww.cardiffandvale.wales.nhs.uk/portal/page?_pageid=253,25682353,253_25682366&_dad=portal&_schema=PORTAL)

Cardiff and Vale UHB Blood Component Transfusion Procedure UHB 348

<http://www.cardiffandvaleuhb.wales.nhs.uk/sitesplus/documents/1143/Reviw%20policy%20%20procedure%202018%20REVIEW%20%282%29.pdf>

World Health Organisation: WHO guidelines on drawing blood: best practices in Phlebotomy

[https://www.who.int/infection-prevention/publications/drawing\\_blood\\_best/en/](https://www.who.int/infection-prevention/publications/drawing_blood_best/en/)

Cardiff and Vale LED Venepuncture Workbook

[http://nww.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/CARDIFF\\_AND\\_VALE\\_INTRANET/TRUST\\_SERVICES\\_INDEX/OBS\\_GYNAE/MIDWIFERY\\_SUB\\_CP/MIDWIFE%20SEPCIALITIES/PRACTICE%20DEVELOPMENT/VENEPUNCTURE%20WORKBOOK%20VERSION%202.%202018.PDF](http://nww.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/CARDIFF_AND_VALE_INTRANET/TRUST_SERVICES_INDEX/OBS_GYNAE/MIDWIFERY_SUB_CP/MIDWIFE%20SEPCIALITIES/PRACTICE%20DEVELOPMENT/VENEPUNCTURE%20WORKBOOK%20VERSION%202.%202018.PDF)

Code of Conduct for Healthcare Support Workers in Wales

<http://www.cardiffandvaleuhb.wales.nhs.uk/sitesplus/documents/1143/CODE%20OF%20CONDUCT%5B1%5D.pdf>

Nursing and Midwifery Council (2008) The Code: Standards of Conduct, Performance and Ethics for Nurses and Midwives. London.

<http://www.nrls.npsa.nhs.uk/resources/collections/right-patient-right-blood/>

BD order of Draw

[www.bd.com](http://www.bd.com)

National Association of Phlebotomists

<http://www.phlebotomy.org/>

Serious Hazards of Transfusion (SHOT) reports – 1998 – 2012 McClelland, D.B.L(ed) (2005). Handbook of Transfusion Medicine (4<sup>th</sup> edition), London: TSO

<http://www.transfusionguidelines.org.uk>.