

## Network Procedure for the Collection of Diagnostic Blood Samples by Venepuncture

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### Document History

Revisions to this document are recorded below; document reviews with **no changes** are recorded against the document registration within the QPulse document management module

Version N <sup>o</sup>	Review Date	Reviewed by	Comments
1	02.10.2015	A Jephcott	Amendments made to 'Associated Documents' and removal of allied documents from list.
2	14.04.2016	J Beddow	Procedure update and section 5.4 added to SOP.
3	16/10/2017	R Hallett	Update to ensure relevance to community phlebotomy clinics and include tube labelling detail

This document was previously controlled as;

Document Title	Document Reference N <sup>o</sup>	Version N <sup>o</sup>	Site

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The document version has reverted to version 1 following the establishment of the Coventry & Warwickshire Pathology Services.

## Document Amendments

- A minor amendment is defined as an amendment that does not fundamentally alter the procedure e.g. a typographical error. Less than five such amendments do not require an immediate review of the document. Five or more minor amendments must trigger a review of the document within four weeks.
- Only one major amendment is permissible and must result in a review of the document within two weeks.
- All amendments must be underlined in the original document(s), asterisk written in the margin along side the change, initialled and documented in the table below.
- All document copies must be amended.
- All amendments must be authorised by the document author, senior member of staff or the quality manager.

Amendment Number	Date	Page N <sup>o</sup>	Amendment	Authorised by
1				
2				
3				
4				
5				

## Associated Documents

Document Number	Document Title
PH W14	Positively Identify your Patient
PH LF13	Tube Guide
PH TP20	Venepuncture Procedure & Rationale using the Safety Tube Holder
PH W13	Order of Draw – Greiner Guide
PH LPR14	Performing the Venepuncture Procedure on Paediatric Patients
PH W12	Paediatric Phlebotomy – Amounts of Blood to be Drawn from Patients Younger than 14 Years
PH TP36	Venepuncture Procedure & Rationale using the Butterfly/Winged Method
PH TP37	Venepuncture Procedure & Rationale using the Syringe Method
PH RA6	Risks Associated with Handling Blood & Other Biological Samples
PH TP12	Patient Care
PH TP23	In-patient Phlebotomy
PH LF15	Blood Test confirmation Slip

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## 1. INTRODUCTION

### 1.1 Scope and purpose

The purpose of this standard operating procedure is to instruct how to safely and accurately collect the appropriate volume and type of blood sample from patients, to enable the pathology laboratory to perform clinically requested diagnostic tests, as indicated on the official sample request form.

### 1.2 Responsibility

The department manager is responsible for ensuring this procedure is adhered to and is used by assessed competent blood takers (Phlebotomists) and their trainers.

### 1.3 References

ISO 15189: 2012 Pre-examination Processes.

### 1.4 Definitions

Not applicable.

## 2. GENERAL

### 2.1 Method principle

This is to obtain venous blood samples in a safe and controlled method according to local and Trust policies and procedures.

### 2.2 Performance characteristics

Not applicable.

## 3. HAZARDS & PRECAUTIONS

a) **Risk assessment numbers;** PH RA8, PH RA9.

b) **COSHH assessment numbers;** PH RA4, PH RA5, PH RA6.

c) **Material Safety Data Sheet reference numbers (MSDS);** not applicable.

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## 4. PRE-EXAMINATION PROCESSES

### 4.1 Patient preparation

Ensure that the Phlebotomist checks with the patient prior to Phlebotomy that they have adhered to any specific requirement(s) i.e. fasting, cessation of medication or rested prior to the process of phlebotomy being performed.

### 4.2 Sample requirements

Not applicable.

## 5. EXAMINATION PROCESS

### 5.1 Equipment & reagents

Not applicable.

### 5.2 Calibration procedure

Not applicable.

### 5.3 Examination procedure

#### 1. Basic Principle of Venepuncture within CWPS

A sterile hollow needle is most commonly inserted into the median cubital vein in the arm, although other collection sites may be used. Blood is then collected via an appropriate collection system. The system currently employed by CWPS is the Vacuette System by Greiner Bio One. This system is a sterile needle that gets attached to a plastic holder that also allows the introduction of different sized sample bottles. Inside these bottles is the presence or absence of specific anticoagulants that can prevent the blood from clotting or may enhance the clotting of the sample

#### Greiner Bio One Equipment

Please see below for tube / equipment codes. For further bottle guide information please see 'Order of Draw – Greiner Guide, PH WI3 and Tube Guide PH LF13'.

KFK 469	3ml Blue tube
KFK 307	6ml Red tube
KFK 304	5ml Gold tube
KFK 321	6ml Green tube
KFK 064	2ml Lavender EDTA tube
KFK 221	4ml Lavender EDTA tube
KFK 339	6ml Pink tube
KFK 330	2ml Grey tube
KFK 262	6ml Navy Blue tube
KFK 023	VISIO Plus 'Flashback' needle 21Gx1.5
KFK 017	VISIO Plus 'Flashback' needle 22Gx1.5
KFK 287	Quickshield

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## Procedure to Obtain a Blood Sample

- *Phlebotomist to introduce self by name*
- Ask the patient to be seated in the designated phlebotomy chair.
- Ask the patient to provide the blood sample request form, this **must** be available before the process can begin.

**Note:** If there are any discrepancies on the patient request form, the patient will be sent back to either the GP / OPD Clinic from where the request originated from.

- Positively identify your patient by asking them to state their full name, date of birth and current registered address. All of the details given to you **must** be cross checked with the details that appear on the blood sample request form. If they do not please see '**Positively Identify your Patient, PH WI4**'.
- The sample request form is to be checked for what tests are required to be taken. This could range from one sample to several. '**Order of Draw – Greiner Guide, PH WI3 and Tube Guide PH LF13**'.
- Select the bottles that are required and check that they have not reached their expiry date and that any wet anticoagulant is visible. Select a sterile needle and ensure that the seal has not been broken and has not reached its expiry date.
- Ask the patient if they have any allergies to alcohol spray, gel or plasters.
- Ask the patient if they are comfortable and ready for the procedure to begin.
- Position the patient and make sure that the arm of choice can be fully extended and supported by a phlebotomy arm rest or similar furniture.
- Before touching the patient wash hands using the Ayliffe technique. Dry hands thoroughly and apply latex free gloves. (See local 'Infection Control' standards).
- Assemble all equipment break the sterile seal of the needle and attach the screw end to the Greiner Quickshield Holder. **Do not unsheathe the needle!**
- The bevel of the needle must be uppermost and the safety device on the holder must be at 45 degrees to it at the side. (This is not required if using the preassembled unit).
- Apply a latex free tourniquet 6-8 cm's above the recommended site i.e. the anti-cubical fossa, tight enough to restrict the blood flow in the vein but not too tightly as to prevent the flow of blood in the arteries. Application of the tourniquet is for a maximum of 1 minute. A specific and recognised tourniquet is the only type of blood flow restrictor equipment that should be used. The use of a rubber glove is **strictly forbidden**.
- Select a suitable vein by palpation and trace its path.
- Release the tourniquet.
- Swab the are of for venepuncture with the disinfection of choice.

	UHCW	RSX	CCHC	GEH	Home Visits	GP surgeries	SWH	Stratford
<b>OPD</b>	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine
<b>WARDS</b>	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine	N/A	Chloroprep.2 mins decon. time	N/A	N/A	70% Alc+2% Chlor hexedine	70% Alc+2% Chlor hexedine

- Make sure the disinfection is complete and the area allowed to dry. This area is now as sterile as possible for venepuncture to commence.
- Reapply the tourniquet.
- Holding the vacuette holder and needle in the appropriate manner unsheath the needle.
- Holding the skin down by dragging the skin 1-2 cm below the injection point. Insert the needle bevel uppermost smoothly through the skin at an angle of 15 – 30 degrees along the direction of the selected vein.
- When a flash of blood can be seen in the back of the needle the vein has been accessed. Do not insert the needle any further. Using the other hand pick up the first bottle selected and as per the order of draw. Please see **'Order of Draw – Greiner Guide, PH WI3.** Once the bottle has filled to the pre vacuumed volume remove the sample tube from the holder with a smooth motion backwards until the bottle is clear of the holder, leaving the needle and holder in place. Gently invert the tube 5-8 times to ensure the sample is mixed sufficiently. Subsequent bottles can then be inserted into the holder in the same way and filled accordingly.
- The tourniquet should be released as soon as blood flow into the sample tube has been established.
- When all tubes have been filled and inverted appropriately, cover the injection site with clean gauze and gently remove the needle and holder from the vein in 1 swift smooth movement. Make sure the needle is completely removed before pressing down on the gauze to stem any bleeding.
- Activate the Greiner Quickshield Safety Device and dispose of the unit as a whole into a sharps bin.
- Ask the patient, where possible to apply pressure to the gauze covering the injection site. This should continue for at least 2 minutes but ideally whilst you hand write to label the sample bottles.
- Patients who are receiving anticoagulant therapy will need to continue this covered pressure for sometime to ensure that bleeding stops.
- Make sure all bottles are inverted gently between 5 and 10 times to ensure the blood is thoroughly mixed with any anticoagulant or additive present.

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- Label tubes clearly by hand in the presence of the patient using: Surname, Forename, date of birth and hospital or NHS number, date and time of specimen and documenting any pre-analytic variables on the form. You **must** always read sample details back to the patient.
- Provide the date, time of sample collection and identification of blood taker clearly on the request form. Affix a pink barcoded location sticker to the form, ensuring it does not obscure critical information on the form. Seal blood bottles into appropriate bag with attached form and deliver to collection area.
- 
- The blood taker must write on the request form their specific phlebotomist number ( or initial) and the date and time the sample was collected.
- Remove the loosened tourniquet completely and examine the injection site. If bleeding has stopped cover the wound with a clean dressing of choice.( plaster or gauze and tape. Ask the patient which is preferred).
- If the wound is still bleeding ask the patient to apply pressure with the gauze once again and check again in 1-2 minutes. Repeat until bleeding has stopped.
- Dispose of any contaminated material, remove gloves and dispose in the clinical waste bin.
- Place labelled sample tubes into a specimen bag and make sure the request form is either attached or is put into the specimen bag envelope.
- Make sure your patient feels ok and allow them to leave. Advise the patient that they may remove the dressing after approximately 30 minutes if bleeding has stopped.

**Note:**

There will be patients who will not be able to be bled. Very low seated veins, oedematous arms, patients with no apparent venepuncture site. Please inform a senior member of the phlebotomy team in the event of not being able to obtain blood for testing.

**After 2 failed attempts the phlebotomist should ask another more experienced member of staff to assist them, or if in a community clinic, ask the patient to attend City of Coventry Health Centre or UHCW phlebotomy departments, giving them a slip (PH LF15) to inform the clinic why they have come. Make sure that you explain to your patient what you are doing at all times.**

#### **5.4 Management of the Collapsed Patient**

On rare occasions some patients can become overwhelmed by the procedure. In such instances the following is a guide.

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### **Collapse in Out-Patient Department/Community Based Phlebotomy Clinic**

- If the patient/child is on a couch, they should remain on the couch. Press the emergency button or summon help.
- If the patient/child is in a chair, let the patient/child slide to the floor. Provide a pillow and place under the patient/child's head. Summon help by either pressing the 'emergency bell or calling'.
- In most instances, the patient/child just needs some air. Ensure the department is well ventilated. (Ensure ventilation is risk assessed on a regular basis).
- If the patient/child does not rouse immediately, call **2222** for UHCW/GEH/SWFT, stating "medical emergency Phlebotomy department".
- If in a community based phlebotomy clinic follow local procedures for unwell patients/customers

### **Collapse on Ward**

If obtaining blood on an inpatient and patient is in a chair, let them slide to the floor and summon help by pressing the emergency buzzer. If the patient is lying in bed, leave them in bed and summon help by pressing the emergency buzzer.

### **5.5 Internal quality control**

Not applicable.

### **5.6 Results calculation**

Not applicable.

### **5.7 Recording results**

Not applicable.

## **6. POST - EXAMINATION PROCESSES**

### **6.1 Reference intervals**

Not applicable.

### **6.2 Clinical decision values**

Not applicable.

### **6.3 Reportable interval of examination results**

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Not applicable.

#### **6.4 Laboratory clinical interpretation**

Not applicable.

#### **6.5 Potential sources of variation**

Not applicable.

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