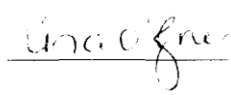
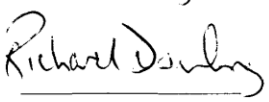
HEALTH SERVICE EXECUTIVE
SOUTH AREA:
WATERFORD REGIONAL HOSPITAL

VENEPUNCTURE POLICY

Acknowledgement to the Regional IV Cannulation and Venepuncture Working Group. This document is adapted from the previous 'Guidelines for Nursing/Midwifery staff undertaking adult peripheral venepuncture (June 2005).

	Signature	*Date*
Developed by:		
Ms. Úna O'Brien Nurse Practice Development Coordinator Waterford Regional Hospital		11/4/08
Mr. Richard Dowling Phlebotomy Manager Waterford Regional Hospital		11/4/2008
Consultation with:		
Haemoviligance Department Laboratory Department Infection Control Department Occupational Health Department		
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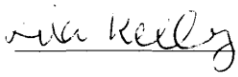
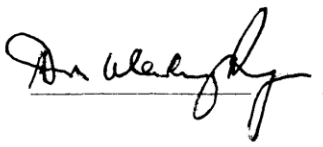
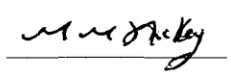
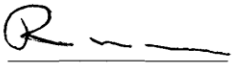
Ms. Lila Kelly A/Director of Nursing Waterford Regional Hospital		11/04/2008
Dr. Mary Ryan Consultant Haematologist Waterford Regional Hospital		21/04/08
Dr. Mary Hickey Consultant Microbiologist Waterford Regional Hospital		18/04/2008
Dr. Paul MacMahon Consultant Paediatrician Chairperson Blood Transfusion Committee Waterford Regional Hospital		12/5/08

Disclaimer:

Each situation must be judged on its own merits and it is unreasonable for readers to follow instructions in this policy without proper assessment of individual circumstances. The information contained within this policy is the most accurate and up to date, at date of approval.

Procedure for Peripheral Venepuncture

Key principles:

- *Standard precautions:*
  Must be adhered to throughout the procedure of venepuncture

- *Patient identification:*
  Must positively identify the patient **before** performing the procedure

- *Labelling forms and Specimen labelling:*
  All laboratory request forms must be correctly completed
  The specimen must be labelled **after** the blood has been collected from the patient Label all blood bottles at the patient's bedside

- *Blood spillages:*
  Blood spillages must be dealt with immediately

Procedural considerations:

- Assemble equipment
- Decontaminate hands
- Use appropriate personal protective equipment
- Apply a disposable tourniquet using modest pressure, do not pinch the skin
- Encourage venous filling
- Make a full assessment of the patient's veins
- Palpate the veins most likely to be used
- Select the device based on vein size and location
- Put on well fitting powder free disposable gloves
- Cleanse the patients' skin carefully for a minimum of 30 seconds
- Allow the skin to air dry, for a minimum of 30 seconds
- Do not re-palpate the vein or touch the skin
- Remove the needle from the packaging and inspect it for any
- Stabilize the vein using the non-dominant hand
- Ensure the needle tip is in the bevel up position
- Place the device directly over or to the side of the vein and insert the needle smoothly through the skin at a 30^0 angle according to the size and depth of the vein
- As soon as puncture of the vein wall is felt, level off the needle
- Slightly advance the needle in order to stabilize it within the vein, if possible
- Gently release the skin tension
- Do not exert any pressure on the needle.
- Keeping the needle and vacutainer holder steady in position, attach the appropriate blood specimen tube onto the needle inside the holder and withdraw the blood

Procedure for Sampling

Samples may be obtained one after another by removing the filled tube and replacing it with another. Ensure that the tube is correctly filled to the fill mark on the tube label.

Note: If blood cultures are being drawn at the same time as other samples, blood cultures must be drawn first. Draw the aerobic bottle first and anaerobic bottle next.
Collect samples in the following order or as recommended by manufacturers guidelines:

1. Coagulation Tube (blue bottle). Fill to arrow line. Inadequately filled bottles **cannot** be used.
2. Serum Tube with or without clot activator (yellow bottle)
3. Heparin tube with or without gel plasma separator (green bottle)
4. EDTA (1) FBC (lavender bottle) (2). Cross match & Group and Hold (pink bottle)
5. Glycolytic inhibitor - glucose (grey bottle)

<u>Procedural considerations</u> (continued):

- During filling of the last tube, release and remove the tourniquet to decrease the pressure within the vein
- Remove the last specimen tube from the holder, prior to removing the needle
- Place a low linting sterile swab/cotton wool over the puncture point
- Remove the needle but do not apply pressure until the needle has been fully removed
- Activate the needle free system of the device that you are using and immediately dispose into an approved sharps container
- Apply firm digital pressure directly over the puncture site until bleeding has ceased
- Gently inverted the sample 4 - 6 times
- Inspect the puncture site before applying a dressing.
- Apply an adhesive plaster or alternative dressing and advise patient to keep it in place until healing is complete
- Ensure that the patient is comfortable and pain free
- Discard waste, making sure it is placed in the correct sharps containers and appropriate waste bags
- Remove gloves and personal protective equipment and dispose of appropriately Decontaminate hands
- All specimen tubes must be labelled immediately at the patient's bedside
- All specimens must be placed in the appropriate specimen transport bag
- Close all containers so that contents do not leak or become contaminated
- Place specimens in sealable clear plastic bag
- Place request form in open pocket of bag
- Place the specimen in the designated box on the ward for collection

- All clinical incidents or near misses **must** be documented and reported promptly to the Clinical Risk Manager
- If sample spillage occurs the correct decontamination processes must be followed
- Decontaminate the IV / Clinical Tray after each use

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1.0 Purpose

1.1 This policy establishes the criteria for the correct collection of blood specimens when undertaking the procedure of venepuncture in Waterford Regional Hospital. .

1.2 To ensure that all staff undertaking venepuncture both in inpatient and outpatient settings in Waterford Regional Hospital are aware of the standards and competencies expected in order to undertake the process safely; thus minimising risk of injury or infection to the service user or the practitioner.

1.3 This policy is in accordance with the requirements of ISO15189 for Medical Laboratories particular requirements for quality and competence.

2.0 Policy

2.1 Waterford Regional Hospital is committed to ensuring that patients undergoing the procedure of peripheral venepuncture receive optimal and safe care.

3.0 Applies to

3.1 All staff in Waterford Regional Hospital who are involved in the collection and handling of blood specimens in both inpatient and outpatient settings.

3.2 All staff in Waterford Regional Hospital who have undertaken appropriate training in venepuncture practices including Medical Staff, Nursing, Midwifery Staff and Phlebotomy Staff and Nursing and Midwifery Students.

3.2.1 Nurses and Midwives who undertake the Waterford Regional Hospital venepuncture programme must be supervised by an identified assessor and undertake the procedure of venepuncture a minimum of ten times. The practitioner is deemed competent having successfully venpunctured **a minimum of five times**, meeting all of the assessment criteria as outlined in the competency assessment tool for peripheral venepuncture (Appendix Two).

NOTE: Nursing and Midwifery Students on practice placement in Waterford Regional Hospital can only engage in this practice if they undertake the Waterford Regional Hospital venepuncture programme and meet the criteria in the above section 3.2.1.

3.3 Staff who previously undertook venepuncture training in a previous employment and have evidence that they were assessed competent and have kept to up date, may perform venepuncture without further training, as long as they follow this policy and linked policies or documents. These staff must:

a. Present a certificate in venepuncture or evidence of having undertaken venepuncture training and
b. Sign an agreement to practice as per the Waterford Regional Hospital Venepuncture Policy (see Appendix Three)

3.4 Where there is a requirement to take blood from children, staff must have adequate paediatric experience and /or have completed recognised training for paediatric venepuncture.

4.0 Definitions

4.1 Bevel – up position: the opening of the blood-collecting device is facing upwards.

4.2 Flashback a colloquialism that indicates evidence of venous return in the tubing of the winged blood collection device.

4.3 (Patient) sample – a sample taken from the patient and used to obtain information by means of a specific laboratory test (Clinical and Laboratory Standards Institute 2003, p. 2).

4.4 (Patient) specimen – the discrete portion of a body fluid or tissue taken for examination, study or analysis of one or more quantities or characteristics to determine the character of the whole (Clinical and Laboratory Standards Institute 2003, p. 2).

4.5 Venepuncture is the procedure of entering a vein with a needle (Dougherty and Lister 2008 p.920).

5.0 Indications for Peripheral Venepuncture

5.1 To obtain a blood sample for diagnostic and therapeutic purposes (Dougherty and Lister 2008 p.920).

6.0 Responsibilities of Staff Undertaking Venepuncture:

6.1 To undertake the procedure of venepuncture as outlined in this policy.

6.2 The practitioner must endeavour to **not** puncture the skin more than twice whilst performing the procedure. Where difficulty is experienced or anticipated, the patient must be referred to an experienced staff. It is acknowledged that in an emergency situation this may not be appropriate.

6.3 Staff should be aware and familiar with the following documents:

- Haemoviligance Department Waterford Regional Hospital (2007) Standard Operating Procedure for Sampling and Labelling Pre Transfusion Blood Samples May 2007. (In Blood Users Manual in all ward areas)

- Regional Department of Laboratory Medicine Waterford Regional Hospital. Specimen Collection and Handling Handbook.
- Intranet:http://intranet/SEHBOn-LinePublications/WaterfordRegionalHospitalPublications/LaboratoryUsersManual/filedownload,12972,en.pdf or
- Internet: http://www.sehb.ie/services/Laboratory_Services/index.html

- Health Service Executive South East (2006) Infection Control Policy for Acute Hospitals.

- Health Service Executive South East (2008) South East Area Policy for the Safe Use, Handling and Disposal of Sharps.

- Health and Safety Division Health Service Executive South East (2007) Procedures for the reporting and documenting accidents/incidents and near misses in the Health Service Executive South East. March 2007.

- South Eastern Health Board Regional Infectious Disease Committee (1998) Guidelines on the Management of Accidental Inoculation Injuries.

Nursing/Midwifery Staff/Relevant Phlebotomy Staff:

- The Scope of Nursing and Midwifery Practice Framework (An Bord Altranais 2000a).
- The Code of Professional Conduct for each Nurse and Midwife (An Bord Altranais 2000b).
- Recording Clinical Practice – Guidance to Nurses and Midwives (An Bord Altranais 2002).

All staff undertaking venepuncture must comply with their professional organisations Code of Conduct and are responsible for practising within their limit of competence.

6.5 Competence is not static; thus the importance of skill maintenance cannot be over emphasized. Staff undertaking venepuncture should be engaging in this practice on a regular basis, thereby maintaining a high level of skill through regular practice. Essentially, the practitioner is accountable for ensuring that his/her skill and competence is maintained and acknowledge any limitations of competence and / or any limitations in relation to resources within the clinical environment. Any further training needs should be identified and agreed with the line manager.

6.5 A list of training and competency requisites specific to the practice of venepuncture are outlined in Appendix One.

6.6 Responsibility of the Line Manager

6.6.1 It is the responsibility of the Line Manager to ensure the staff within their area of responsibility have access to this policy.

6.6.2 The Line Manager must also maintain an updated list of all staff that are competent in undertaking venepuncture in their service area.

7.0 Procedures

7.1 Pathology Requests

7.1.1 It is the responsibility of the requesting practitioner to ensure all patient details on the request form/s are accurate and applicable and that all relevant information is provided.

7.1.2 If an addressograph label is used on a request form, the Medical Record Number and Date of Birth must be clearly identifiable.

7.1.3 The following document refers to the procedure for completing a request form in Waterford Regional Hospital (See Appendix Four):

- Section 1.4 'Completing the request form and labelling the specimen' in the Regional Department of Laboratory Medicine Waterford Regional Hospital Specimen Collection and Handling Handbook.
- Intranet:*http://intranet/SEHBOn-LinePublications/WaterfordRegionalHospitalPublications/LaboratoryUsersManual/filedownload,12972,en.pdf* or
- Internet: *http://www.sehb.ie/services/Laboratory_Services/index.html*

For pre transfusion samples refer to:

- Standard operating procedure for sampling and labelling pre transfusion blood samples (WRH-BT-HP-002)

7.1.4 Check request form is completed correctly according to the details outlined in the Laboratory Manual.

Note: Incomplete transfusion request forms will not be processed in the laboratory.

7.2 Specimen Labelling

7.2.1 It is the responsibility of the practitioner (Nurse, Midwife, Phlebotomist, Doctor) performing the venepuncture to ensure that the information on the specimen label is accurate and correct. The specimen must be labelled **after** the blood has been collected from the patient.

7.2.2 Refer to the following document on the procedure for labelling specimens in Waterford Regional Hospital (See Appendix Four):

- Section 1.4 'Completing the request form and labelling the specimen' in the Regional Department of Laboratory Medicine Waterford Regional Hospital Specimen Collection and Handling Handbook.
- Intranet:http://intranet/SEHBOn-LinePublications/WaterfordRegionalHospitalPublications/LaboratoryUsersManual/filedownload,12972,en.pdf or
- Internet: http://www.sehb.ie/services/Laboratory_Services/index.html

For pre transfusion samples refer to:

- Standard operating procedure for sampling and labelling pre transfusion blood samples (WRH-BT-HP-002)

7.3 Patient Identification

7.3.1 It is the responsibility of the practitioner (Nurse, Midwife, Phlebotomist, Doctor) performing the venepuncture to positively identify the patient **before** performing the procedure.

7.3.2 In an inpatient setting, the practitioner must check that the identity of the patient matches the details on the request form by asking for their full name and date of birth and checking against the patients' identification band (Dougherty and Lister 2008). The medical record number on the patients' identification band must also be checked against the medical record number on the request form.

7.3.3 In an outpatient situation, ascertain the patients' identity by verifying their name, date of birth and address.

7.3.4 If an inpatient does not have an identification band present, do not proceed with the procedure, until an identification band is in place. **Do not** draw any specimen without properly identifying the patient.

7.4 Consent to Treatment

7.4.1 Ensure the patient gives his / her verbal consent. This is usually implied when the patient rolls up his sleeves and places his arm in a position ready for the procedure to be performed. However, the practitioner should also get the patient (or where appropriate the next of kin) to verbally consent to the procedure where possible.

7.5 Preparation of the patient

7.5.1 Approach the patient in a confident manner and explain the procedure to the patient and give him/her the opportunity to voice any concerns, express any preferences or ask any questions (Dougherty and Lister 2008, Dougherty 2008).

7.5.2 In the event of any communication barriers e.g. language barriers or hearing difficulties, arrange for suitable translation or alternative communication system wherever possible / interpreter services.

7.5.3 Check if the patient has any known allergies to skin preparations, adhesive materials or latex.

7.5.4 Establish the patients' venous history, any relevant changes in clinical status and the physical state of the patient e.g. is the patient on anti coagulants.

7.5.5 Check if any special requirements have been adhered to – for example if the patient has fasted, confirm that the fasting order has been followed.

7.6 Selecting an appropriate environment

7.6.1 Provide the patient with privacy where possible (Dougherty 2008).

7.6.2 Adequate lighting of the environment is essential for performing accurate venous assessment and achieving successful venepuncture.

7.6.3 Assist the patient to find a comfortable position. Ensure the patient is either sitting up in a well-supported position or lying on a bed or trolley. This will minimise injury to the patient/client in the event of a vaso-vagal episode during the procedure.

7.6.4 Position your own body in line with the vein.

7.6.5 Consider the temperature of the environment (Dougherty 2008).

7.6.6 Support the chosen limb comfortably to optimise vein selection and minimise risk of arm movements on insertion.

7.7 Choice of vein

7.7.1 An assessment of the patient and his/her veins must take place before the site and device are chosen. The main factors that should be considered are the:

- Clinical status of the patient
- The location and condition of the vein (Refer to Appendix Eight)

7.7.2 The two stage assessment includes visual inspection and palpation of the veins to be used (Dougherty and Lister 2008).

Visual Inspection:

- The scrutiny of the veins in both arms is essential prior to choosing a vein. Veins adjacent to foci of infection, bruising or phlebitis should not be considered, owing to the risk of causing more local tissue damage or systematic infection.
- An oedematous limb should be avoided as there is danger of stasis of lymph, predisposing to such complications as phlebitis and cellulitis.
- Areas of previous venepuncture should be avoided as a build up of scar tissue can cause difficulty in accessing the vein and can result in pain due to repeated trauma.

Palpation:

Determines the location and condition of the vein, distinguishes veins from arteries and tendons, identifies the presence of valves and detects deeper veins (Dougherty 2008).

7.7.3 Where possible choose the non-dominant arm.

7.7.4 Veins in the wrist and lower extremities should be avoided where possible and only used by practitioners trained specifically in venepuncture from these sites.

7.7.5 Avoid using veins that are:

- On the affected side of a patient who has had a CVA, post mastectomy or post axillary dissection, fistula, proposed fistula sites
- In limbs where intravenous or subcutaneous infusion is already sited
- Fibrosed, inflamed or fragile
- Bruised from injury or previous venepuncture
- In sites close to any infection

7.8 Choice of device

7.8.1 Only use the blood bottles and equipment provided by Waterford Regional Hospital. Check the expiry date.

7.8.2 Select the device after assessing the condition and accessibility of the vein (Dougherty and Lister 2008) and choose the needle, which will cause minimal patient discomfort.

7.8.3 Vacuum collection systems must be used wherever possible for the collection of blood. These are single use and must be disposed of, after each use.

7.8.4 Use of other systems including the needle and syringe should be avoided wherever possible.

7.8.5 'Special' circumstances such as collection of samples from neonates, from central venous access devices, venesection (therapeutic collection of large volumes of blood) etc. are not covered by this document.

7.9 Requirements for peripheral venepuncture

Gather all the following equipment. Check the expiry dates and inspect all packaging for integrity before use.

- Signed, fully completed specimen request forms
- Clean clinical tray with disposal sharps unit
- Non-sterile powder free disposable gloves
- PPE equipment where appropriate – apron, mask, visor
- Alcohol hand preparation
- Disposable tourniquet
- 70% isopropyl alcohol swabs
- Low linting gauze swabs / Cotton wool
- Sterile disposable double-ended vacutainer needle/Plastic vacutainer holder or Vacuette winged blood collection device
- Appropriate vacuumed specimen tubes/s
- Sterile adhesive plaster or hypoallergenic tape
- Plastic specimen laboratory bag or biohazard bag (where applicable)
- Pen (plain biro)
- Patient identification labels

7.9.1 Tourniquets – in the event where a disposable tourniquet cannot be used due to the patient's condition (i.e. patients arm very thin or wide), a non disposable tourniquet may be used on a single patient basis **only.** Following each application the tourniquet must be inspected and cleaned with detergent and water or detergent wipes and if visibly soiled with blood/body fluids, it must be immediately discarded into a yellow healthcare risk waste bag and replaced with a new tourniquet.

7.10 The Procedure for Peripheral Venepuncture

7.10.1 Decontaminate hands by applying an antiseptic detergent e.g. Hibiscrub 4% or Betadine 7.5% to wet skin for at least 15 seconds in accordance with manufacturers' recommendations. Follow by rinsing and drying using a disposable paper towel (SARI Infection Control Subcommittee 2004, Health Service Executive South East 2006)

Or alternatively:

Apply an alcohol based hand rub e.g. Spirigel on socially clean hands for at least 30 seconds (Centres for Disease Control and Prevention (CDC) 2002, Health Service Executive South East 2006).

7.10.2 Check hands for any visibly broken skin and cover with a waterproof dressing.

7.10.3 If on risk assessment blood contamination is anticipated, use appropriate personal protective equipment and place a disposable sheet under the patient's arm.

7.10.4 Apply the tourniquet using modest pressure, do not pinch the skin. The tourniquet should be tight enough to impede venous return while not affecting arterial flow. The tourniquet should be placed about 7 – 8 cm above the venepuncture site. Allowed time for the veins to fill. Ensure that the tourniquet is not applied for any longer than clinically indicated.

7.10.5 If the vein is not easily identified, use measures to encourage venous filling (Refer to Appendix Five).

7.10.6 Make a full assessment of the patient's veins. Inspect for areas of phlebitis, infection or oedema, bruised or inflamed veins, or any veins that have undergone multiple punctures. These areas are to be **avoided**.

7.10.7 Palpate the veins most likely to be used. Stroking the vein and observing the venous refill are helpful in determining the condition of the vein (See also Appendix Four).

7.10.8 Select the device based on vein size and location (Dougherty and Lister 2008).

7.10.9 Put on well fitting powder free disposable gloves.

7.10.10 Cleanse the insertion site using a 70% isopropyl impregnated alcohol swab for a **minimum of 30 seconds** (Dougherty and Lister 2008, Dougherty 2008). **Allow the skin to air dry, for a minimum of 30 seconds**.

7.10.11Do not re-palpate the vein or touch the skin.

7.10.12 Remove the needle from the packaging and inspect it for any faults (Dougherty and Lister 2008).

7.10.13 Stabilize the vein by applying manual traction on the skin a few centimetres below the proposed insertion site using the non-dominant hand.

7.10.14 Ensure the needle tip is in the bevel up position. Place the device directly over or to the side of the vein and insert the needle smoothly through the skin at a 30^0 angle according to the size and depth of the vein.

7.10.15 As soon as puncture of the vein wall is felt, level off the needle (by decreasing the angle of the needle to the skin). If using a winged blood collection device, a flashback of blood is seen in the tubing.

7.10.16 Slightly advance the needle in order to stabilize it within the vein, if possible.

7.10.17 Gently release the skin tension. If using a winged device, tape one wing to stabilize the device if necessary.

7.10.18 Do not exert any pressure on the needle.

7.10.19 Keeping the needle and vacutainer holder steady in position, attach the appropriate blood specimen tube onto the needle inside the holder and withdraw the blood.

7.10.20 *Procedure for Sampling*

Samples may be obtained one after another by removing the filled tube and replacing it with another. Ensure that the tube is correctly filled to the fill mark on the tube label. Refer to Appendix Nine – Blood Collection Tube Guide.

Note: If blood cultures are being drawn at the same time as other samples, blood cultures must be drawn first. Draw the aerobic bottle first and anaerobic bottle next.

Collect samples in the following order or as recommended by manufacturers guidelines:

1. Coagulation Tube (blue bottle). Fill to arrow line. Inadequately filled bottles **cannot** be used.
2. Serum Tube with or without clot activator (yellow bottle)
3. Heparin tube with or without gel plasma separator (green bottle)
4. EDTA (1) FBC (lavender bottle) (2). Cross match & Group and Hold (pink bottle)
5. Glycolytic inhibitor - glucose (grey bottle)

Clinical and Laboratory Standards Institute (2003)

7.10.21 During filling of the last tube, release and remove the tourniquet to decrease the pressure within the vein.

7.10.22 Remove the last specimen tube from the holder, prior to removing the needle.

7.10.23 Place a low linting sterile swab/cotton wool over the puncture point. Remove the needle but do not apply pressure until the needle has been fully removed (Dougherty and Lister 2008).

7.10.24 Activate the needle free system of the device that you are using and immediately dispose into an approved sharps container.

7.10.25 Apply firm digital pressure directly over the puncture site until bleeding has ceased, approximately 1minute or longer may be required if current disease or treatment

interferes with clotting mechanisms (Dougherty and Lister 2008).

7.10.26 The patient may apply pressure with the finger but should be discouraged from bending the arm if a vein in the antecubital fossa is used (Dougherty and Lister 2008).

7.10.27 After a sample has been taken, it is important that the sample be **gently** inverted 4 - 6 times. This will allow the sample to mix with the additive and reduce the risk of clots forming in the tube, which can later break during centrifugation and cause haemolysis.

7.10.28 Inspect the puncture site before applying a dressing.

7.10.29 Apply an adhesive plaster or alternative dressing and advise patient to keep it in place until healing is complete.

7.10.30 Following the procedure, ensure that the patient is comfortable and pain free.

7.10.31 Discard waste, making sure it is placed in the correct sharps containers and appropriate waste bags (Health Service Executive South East 2006).

7.10.32 Remove gloves and personal protective equipment and dispose of appropriately. Decontaminate hands as outlined in Section 7.10.1.

7.10.33 All specimen tubes must be **labelled immediately at the patient's bedside**, with the relevant patient details. Refer to specimen labelling outlined in Section 7.2.

7.10.34 Avoid contamination of the request form and outside of the specimen container with blood/body fluids. All specimens must be placed in the appropriate specimen transport bag. Close all containers so that contents do not leak or become contaminated. Place specimens in sealable clear plastic bag. Place request form in open pocket of bag. Do not use pins, staples or metal clips to seal the bag.

7.10.35 Place the specimen in the designated box on the ward for collection and transportation by Portering staff to the laboratory.

7.10.36 Follow hospital procedure for collection and transportation of specimens to the laboratory Refer to Section 1.5 'Transportation to the laboratory' in the Regional Department of Laboratory Medicine Waterford Regional Hospital Specimen Collection and Handling Handbook.
Intranet:*http://intranet/SEHBOn-LinePublications/WaterfordRegionalHospitalPublications/LaboratoryUsersManual/filedownload,12972,en.pdf*

Internet: *http://www.sehb.ie/services/Laboratory_Services/index.html*

7.10.37 Take your time and get it right first time. If unsuccessful after two attempts, it is recommended that another suitably trained practitioner perform the venepuncture.

7.10.38 All clinical incidents or close calls **must** be documented and reported promptly to the Clinical Risk Manager (South Eastern Health Board 2004). (Refer to Appendix Six)

7.10.39 Refer to Appendix Seven for information on 'Troubleshooting', in relation to venepuncture.

7.10.40 If sample spillage occurs the decontamination process must follow requirements of the Health Service Executive South East (2006) Infection Control Policy for Acute Hospitals – Section on Management / Decontamination of Spills of Blood/High Risk Body Fluids and other body fluids.

7.10.41 After two / three applications of alcohol hand gel, there is a build up of emollients and hands need to be washed with soap and water.

7.10.42 Decontaminate the IV / Clinical Tray after each use:

- Clean with detergent and water or detergent wipes after each use.
- If visibly soiled with blood, decontaminate tray with 1,000 ppm available chlorine (Klorkleen)

- *Or* process tray in washer disinfector following each use.

Note: In the case of an emergency situation, this procedure must be delegated to an appropriately trained competent person.

8.0 Implementation Plan

8.1 This policy will be circulated to:

- Director of Nursing, Assistant Directors of Nursing, All Clinical Nurse/Midwife Managers Three and Two, Advanced Nurse Practitioners, Clinical Nurse/Midwife Specialists, Nurse Practice Development Unit.

- Phlebotomy Department, Laboratory, Haemoviligance Officers, Infection Control Department, Occupational Health Department, Medical Manpower Department and Clinical Risk Manager, All consultants.

8.2 It is the responsibility of all ward line managers and the Phlebotomy Manager:

- To ensure that all staff have access to a copy of this policy
- Keep an updated record of all staff who have signed to say they read and understood the contents of this policy.

9.0 Resource Implications

9.1 Education and in-service training for the procedure of venepuncture will be provided locally. This document will form the basis for training programmes in venepuncture in Waterford Regional Hospital.

9.2 Funding will be required for training programmes, to include the following:

- Appropriate equipment – Intravenous arm manikin, leg, head
- Trained facilitators
- Release of staff to attend training

10.0 Revision History

10.1 This document replaces:

Health Service Executive South Eastern Area (2005) Guidelines for Nursing and Midwifery Staff Undertaking Adult Peripheral Venepuncture.

11.0 Evaluation / Audit

11.1 The content and structure of this policy will be evaluated in 2 years from the date of approval.

12.0 References

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13.0 Appendices

Appendix One:	Training and Competence – Specific Responsibilities
Appendix Two:	Competency Assessment Tool for Peripheral Venepuncture
Appendix Three:	Agreement to practice form – Adult Venepuncture
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Appendix One: Training and Competence – Specific Responsibilities:

1. There are many aspects to competence and the following apply to venepuncture:
- Ability to practice safely and effectively utilizing evidence based practice
- Communication skills
- Practical and technical skills
- Accountability for ones practice
- Accepting responsibility

2. In order to perform venepuncture safely, staff must have knowledge of the following:
- The relevant anatomy and physiology
- Reasons for venepuncture
- The criteria for choosing both the vein and the device to use
- The correct technique and procedure
- Complications and other potential problems which may be encountered, how to prevent them and the necessary interventions/ remedial action

- The infection control/health and safety/risk management of the procedure for the service user and employee, including:
  - The principles of asepsis
  - Routine body substance precautions
  - The use of protective clothing e.g. single use gloves and aprons
  - Hand hygiene prior to and following each procedure
  - Dealing with spillages and decontamination
  - The safe disposal of sharps and other equipment
  - Environmental issues e.g. when taking blood in a non-clinical area
  - Legal and professional responsibilities
  - Handling and transport of specimens

- The correct labelling of the sample and packaging for transport
- Storage of the blood sample within the ward/unit and during transport to the laboratory
- Correct recording in the relevant patient notes.

Adapted from Dougherty and Lister (2008)

Appendix Two: Competency Assessment Tool for Peripheral Venepuncture

VENEPUNCTURE COMPETENCY ASSESSMENT RECORD

Feidhmeannas Seirbhíse Sláinte
Health Service Executive

Name of Trainee _____ Clinical Area_____ Date of Theory Session ……/……/……

Criteria of Practice	1	2	3	4	5			
Identifies need for Venepuncture								
Correct procedure for patient identification								
Informed consent								
Preparation & comfort of patient								
Hand hygiene & correct use of PPE								
Equipment preparation								
Assesses the condition of the patient and his/her veins								
Selects a suitable vein for venepuncture								
Selects appropriate device for the vein chosen								
Uses methods to encourage venous filling								
Skin preparation								
Stabilisation of vein								
Aseptic insertion technique								
Withdraw blood specimen/s/correct draw								
Application of appropriate dressing								
Demonstrates the use of aseptic technique								
Demonstrates safe disposal of sharps / waste								
Labels all specimen tubes with relevant details								
Discuss and analyse effectiveness of procedure								
Discuss possible complications								
Comments								
Assessor's Signature								

3 Successful venepunctures completed on (date) **……/……/…….** **Achieved** √ **Not achieved X**

Assessor's Signature: …… **Trainee's Signature: …….**

All attempts at venepuncture must be documented above. Five supervised attempts are required. A minimum of three successful venepunctures must be performed, meeting of ALL of the above criteria.

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

SOUTH EASTERN AREA

AGREEMENT TO PRACTICE

Practice
Of
Venepuncture

I declare that I hold a certificate in the practice of Adult Venepuncture (attached). I agree to practice in accordance with the Waterford Regional Hospital (2008) Venepuncture Policy, while employed in Waterford Regional Hospital.

_____ _____

Signed **Date**

Appendix Four: Procedure for completing a request form and for labelling specimens in Waterford Regional Hospital

Completing the request form and labelling the specimen

For accurate identification of specimens and patients it is essential that specimens are labelled properly and that request forms are completed clearly and accurately.

Patient Specimen and Request Form identification criteria

Essential information on Request Form:

- **Patients FULL name**
- **D.O.B.**
- **Hospital number/CCI number (if applicable) and/or Patients Address**
- **Patient's sex**
- **Patients Consultant or GP**
- **Hospital & Ward or GP address**
- **Date of specimen**
- **Specific clinical information for certain specific tests**

Essential information on Specimen:

- **Patients FULL name**
- **D.O.B. and/or hospital number/CCI number**
- BLOOD TRANSFUSION SPECIMENS
- **DETAILS ON SPECIMENS MUST BE HANDWRITTEN – ADDRESSOGRAPH LABELS NOT ACCEPTED**

Blood Grouping specimens:

- **Patients FULL name**
- **D.O.B.**
- **Hospital number (if applicable)**
- **Date of specimen**

X match, Group & Save specimens:

- **As Blood Grouping specimens**
- **Signature of Practitioner**

Upon receipt in the laboratory every specimen is checked to ensure it is suitable for processing. Discrepancies or omission of essential information may result in the specimen not being analysed.

Sourced from:

Waterford Regional Hospital Regional Department of Laboratory Medicine (2006) Specimen Collection and Handling Handbook. Waterford Regional Hospital: Regional Department of Laboratory Medicine.

Appendix Five: Methods to improve venous access

Methods to improve venous access

Procedure	Rationale
With the tourniquet applied: ▪ Lower the extremity below the level of the heart. ▪ Ask the patient to open and close their fist.	To action of the muscles forces blood into the veins, causing them to distend.
With the tourniquet applied: ▪ Light stroking of the vein may be useful, but it can be painful and may result in the formation of a haematoma. ▪ This should be avoided in elderly patients and those with fragile veins are most at risk.	To encourage venous dilatation.
When the above methods fail: ▪ Apply a warm compress in the form of a heat pack or immerse the limb in a bowl of warm water for 10 –15 minutes. **Do not have tourniquet in place when warm compress applied or the patient's arm is in the water.** ▪ Apply tourniquet only when the warm compress is removed or when the arm is removed from the water.	To increase vasodilatation and promote venous filling.
Application of ointment or patches containing small amounts of glyceryl trinitrate.	To improve local vasodilatation to aid venepuncture.

Sourced from: Dougherty and Lister 2008 p. 922

Reference guide to complications and their management

1. Pain

Pain can be caused by any of the following:
- tentative stop-start insertion (often a problem with hesitant or new practitioners)
- hitting an artery, nerve or valve
- poor technique – inadequate anchoring causes skin to gather as the needle is inserted
- alcohol is not allowed to dry adequately before insertion, resulting in stinging pain
- using a frequently punctured, recently used or bruised vein
- anxious patient, may have low pain threshold
- use of large-gauge device
- use of veins in sensitive areas e.g. wrist

Prevention
- Use methods to relax and relieve anxiety
- Avoid use of bruised, used or sensitive areas
- Use local anaesthetic creams
- Ensure good technique is employed

Suggested action/s
- Explain & reassure the patient, especially in the case of nerve pain, that it may last for a few hours
- Depending on the cause (e.g. nerve/artery), it may be necessary to remove the device immediately
- Document the incident, where indicated

2. Anxiety

Anxiety can be caused by the following:
- Previous trauma / fear of needles
- Communication barrier

Prevention:
- Minimise the risk of a traumatic venepuncture.
- Ensure the patient understands the procedure

Suggested actions:
- Approach patient in a calm and confident manner. Listen to the patient's fears and explain the procedure. Offer the patient the opportunity to lie down. Suggest the use of local anaesthetic cream
- If there are communication barriers, address these before proceeding

3. Syncope/Vasovagal reaction

Patients may feel faint, lightheaded, sweaty, hot, cold or nauseated or go onto a vaso-vagal reaction which is characterized by bradycardia and hypotension. It can be caused by:

- fear of needles or blood
- a hot stuffy environment
- feeling very hungry
- feeling unwell
- being pregnant

Prevention

- The practitioner should have a confident reassuring manner and approach
- A facility for the patient to lie down during the procedure should be available
- Spend time prior to the procedure discussing fears and anxieties with the patient
- Be aware of which patients are more vulnerable
- Fainting tends to occur in young adults, particularly men but can occur at all ages
- A previous episode of fainting suggests it is likely to occur again – such patients should have their blood taken lying down

Early recognition

- Fainting is preceded by restlessness and going pale. Sweating may also occur – any of these features should lead the practitioner to withdraw the needle and help the patient onto a couch/bed/trolley.
- The patient should rest for at least 15 minutes, before attempting to take blood again

Action

- The patient who feels faint should be encouraged to put his head between his legs; this may be difficult especially if the patient has the device in the vein
- Try to get the patient to lie down

The Established Faint:

- The patient losses consciousness and this may be followed by twitching – the patient must then be laid flat
- Recovery will be more rapid if the feet are raised
- If the patient retches or is sick or has a convulsion, they must be turned into the recovery position and maintained there until further medical / nursing help arrives
- The patient must be assessed by a medical practitioner and the incident should be documented in the relevant clinical / nursing notes
- The patient should be advised to tell any person taking blood in the future that they have fainted as a result of the procedure

4. Haematoma

This is bruising which occurs during the insertion procedure or after removal. It can be caused by:

- Failure to remove the tourniquet promptly or before removing the needle
- Penetration of the posterior vein wall
- Incorrect choice of needle to vein size
- Fragile veins
- Patient receiving anticoagulant therapy
- Spontaneous rupture of the vessel on application of the tourniquet or cleaning of the skin
- Inadequate pressure on the puncture site

Prevention

- Remove the tourniquet before removing the needle
- Use good vein and device selection
- Employ careful technique
- Beware of patients with fragile veins or those on anticoagulant therapy
- Apply adequate pressure on removal of the needle/device

- Do not apply the tourniquet to a limb where recent venepuncture/cannulation has occurred
- Do not leave the tourniquet for any longer than is essential

Action

- Remove the needle immediately
- Apply pressure to the site for a few minutes
- Elevate the extremity if appropriate
- Reassure the patient and explain the reason for the bruise
- Apply a pressure dressing if required
- Apply a cold pack if bruising is extensive
- Do not reapply the tourniquet to the affected limb
- Document the incident

5. Hitting a nerve (Refer to Appendix Eight for diagram of nerves in the arm)

If a nerve is accidentally hit on insertion of the needle into the vein, this will result in severe shooting pain along the arm

Prevention - is achieved by ensuring that the location of superficial nerves is known

Action

- The needle should be removed immediately
- Reassure the patient and explain that the pain may last for a few hours and the area may feel numb
- Inform the medical practitioner if pain continues or becomes worse
- The patient may need to be observed for some hours
- Document the incident

6. Hitting an artery

This is characterized by pain and a spurt of bright red blood caused by accidental puncture of an artery.

Prevention - Adequate assessment and recognition of arteries prior to performing the procedure

Action

- Remove the device immediately and apply pressure to the puncture site for up to 5 minutes or until no further bleeding is seen
- Reassure the patient
- Do not reapply the tourniquet to the affected limb
- Inform the medical practitioner if pain continues or there is increased swelling or bruising
- Document the incident
- If the practitioner is contaminated with blood, it is their responsibility to document the incident and report for inoculation treatment and advise as per local guidelines.

Note: All clinical incidents or close calls must be documented and reported promptly to the Clinical Risk Manager.

TROUBLESHOOTING:

What should you do when no blood flows into the tube?

Possible Cause	Solution
The bevel of the needle tip is sucked against the wall of the vein	Gently rotate the needle within the lumen of the vein
The needle penetrated the vein wall	Gently pull both the tube holder and the needle backwards
The needle is not fully within the vein	Gently push the needle forwards
The tourniquet was too tight or in place too long	Loosen the tourniquet
The tube was already used or was previously opened	Dispose of and select a new tube

Blood flow ceases midway through the collection

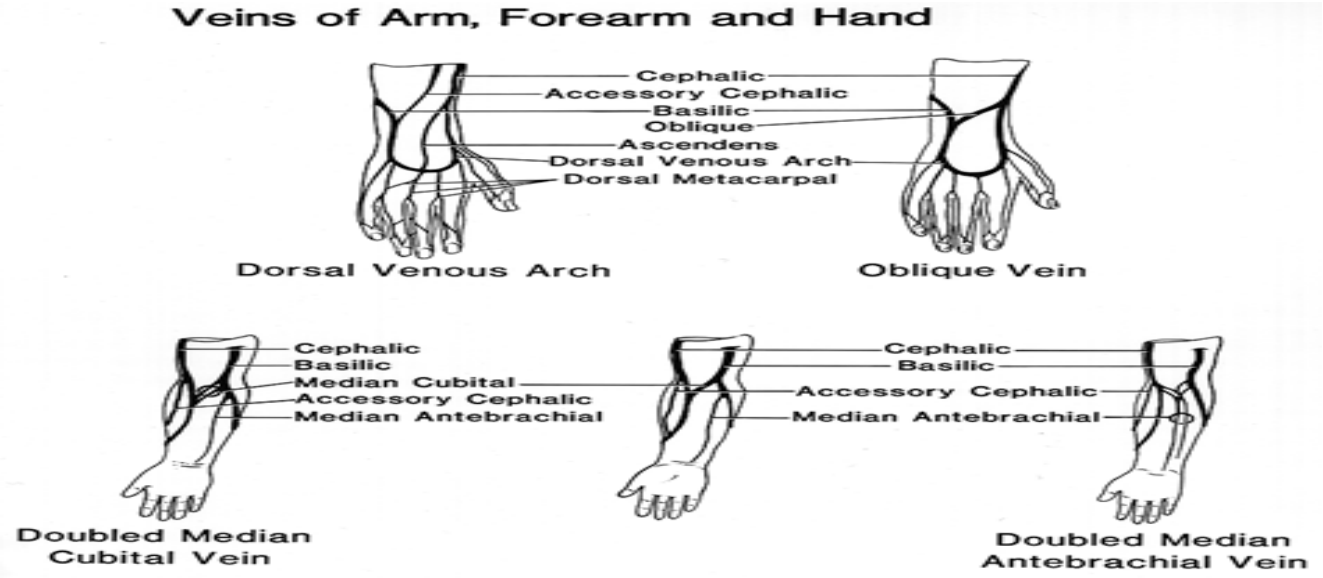
Possible Cause	Solution
The tube was removed from the holder too soon	Reinsert the tube into the holder until the vacuum is totally depleted
Suction is too strong for the vein (collapsed vein)	Pull the tube out of the holder for a second and then reinsert it
The needle position has altered during the procedure or the needle is outside the vein	Repeat venepuncture at different site when haematoma occurs

Haemolytical sample material

Possible Cause	Solution
The long stasis of the vein (longer than one minute)	Exact control of stasis time (not longer than one minute)
Transfer from a syringe into a tube	Exclusive use of a vacuum blood collection system
Too intense mixing of the sample	**Gently** invert the tube 4 to 6 times
Tubes, that are not adequately filled	Ensure that the tube is correctly filled to the fill mark on the tube label

Source: Greiner Bio One (2002) Vacuette One Step Ahead – Handling Recommendations Blood Collection Systems. Austria: Greiner Bio One.

Appendix Eight: Choice of site



VEIN SELECTION

- The superficial veins of the upper extremities of the body are used for cannulation because they are located just beneath the skin in the superficial fascia.

- The cephalic vein is a large vein, which is easily stabilised and accessible. Its size and position make it an excellent choice for cannulation. Its position at a joint however may increase complications such as mechanical phlebitis.

- The basilic vein is often overlooked for the purpose of cannulation. It is a large, easily palpable vein but it is more difficult to access and stabilise due to its location and the presence of valves may inhibit cannula advancement.

- The median cubital and basilic veins in the antecubital fossa are usually used for venepuncture. Their size and superficial location make them easy to palpate and visualise and they are well supported by muscular and connective tissue. The median cubital vein crosses in front of the brachial artery; therefore care must be taken to avoid puncturing the artery.

- The digital veins flow along the lateral portion of the fingers. These are only used as a last resort and can only accommodate a very small gauge needle.

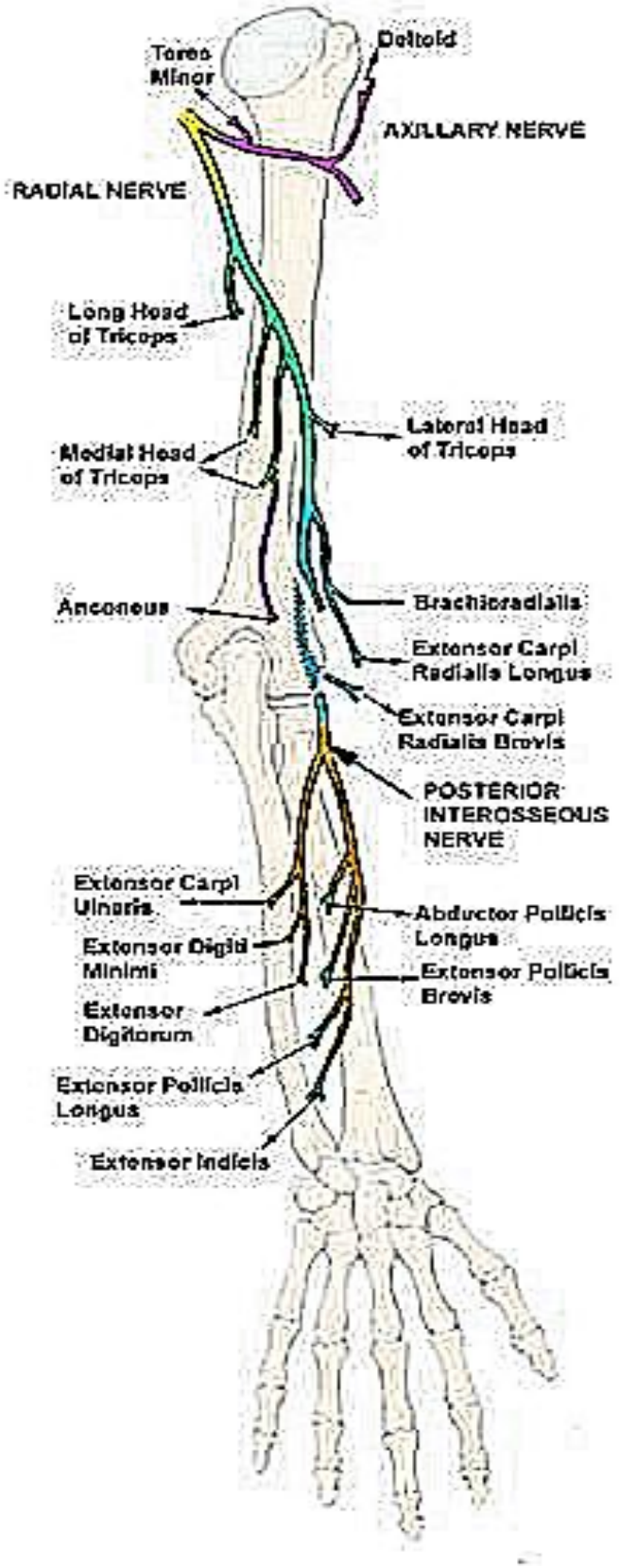
- The metacarpel veins are formed by the unison of digital veins, making them accessible and easily visualised and palpated. They also allow subsequent sites for cannulation above previous puncture sites. The use of these veins is contraindicated in elderly people however, where skin is turgor and subcutaneous tissue is diminished.

- On the lateral aspect of the wrist, care must be taken to avoid accidental arterial puncture, as this vein crosses the brachial artery. It is also in close proximity to the radial nerve. In adults, veins located on the dorsal portion of the foot may be selected but there is an increased risk of deep vein thrombosis or tissue necrosis in diabetics.

Note:

The most distal vein of the extremity should be selected, depending on the condition of the vein.

Appendix Nine: Diagram of nerves in the arm



Appendix Ten: Blood Collection Tube Guide

WATERFORD REGIONAL HOSPITAL Effective Date: November 2007

Blood Collection Tube Guide

CAT NUMBER	SPECIMEN VOLUME	ORDER OF DRAW	CLOSURE COLOUR	TUBE CONTENTS	ASSAYS	MIXING INSTRUCTIONS	SPECIAL INSTRUCTIONS
454349	3ml	1		Trisodium Citrate Solution	Coagulation Studies: INR	After Blood Collection, Invert 4 times	Fill to Arrow Line Inadequately filled bottles CANNOT be used
456010	4ml	2		Gel Separator	General Biochemistry Tests, Serology Tests, Immunology Tests	After Blood Collection, Invert 5 - 10 times	
454083	4ml	3		Lithium Heparin Gel	General biochemistry for ICU patients only	After Blood Collection, Invert 5 - 10 times	Allow 30 Minutes before Centrifuging
454041	3ml	4		EDTA	Full Blood Count, ESR, HbA1C	After Blood Collection, Invert 8 - 10 times	
456093	6ml	5		EDTA	Antibody Screen, Blood Grouping & Cross Match, Direct Coombs Test	After Blood Collection, Invert 8 - 10 times	HANDWRITTEN DETAILS ONLY NO ADDRESSOGRAPH
454091	4ml	6		Sodium Fluoride Potassium Oxalate	Blood Sugar Glucose Levels, GTT	After Blood Collection, Invert 5 - 10 times	Collection time should be written on the sample. Please state if sample is FASTING or RANDOM

Full list of tests available & regularly updated on the TEST LIBRARY at www.sehb.ie/services/Laboratory_Services/index.html

Distributed by: Cruinn Diagnostics Limited

Contact: Sean McGeown 086 6056073/Laura Connolly 086 3873823/01 6297400

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