

Unit 41: Obtain and Test Capillary Blood Samples

Unit reference number: A/616/4280

Level: 3

Unit type: Optional

Credit value: 4

Guided learning hours: 30

Unit summary

Obtaining and testing capillary blood samples is an important role performed by a variety of workers in the care sector. It is important that you understand appropriate and safe practice when carrying out this role.

In this unit you will gain an understanding of anatomy and physiology in relation to obtaining and testing capillary blood samples. You will also gain understanding of how legislation, policy and good practice guidelines relate to it.

This unit will enable you to prepare and carry out the obtaining and testing of capillary blood samples and to record the results and pass them on correctly. You will learn how to use correct processes and will demonstrate correct actions, including appropriate safety. You will follow agreed and safe ways of working.

As defined by the assessment strategy, centres should ensure that assessors assessing this unit are technically competent and possess the relevant occupational knowledge. The assessment strategy can be found in *Annexe A* of the associated qualification specification.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements the learner is expected to meet to achieve the unit.

Learning outcomes	Assessment criteria
1 Understand how legislation, policy and good practice guidelines relate to obtaining and testing capillary blood samples	1.1 Describe current legislation, national guidelines, local policies, protocols and good practice guidelines which relate to obtaining and testing capillary blood samples
2 Understand anatomy and physiology in relation to obtaining and testing capillary blood samples	2.1 Describe the structure and purpose of capillary blood vessels 2.2 Explain blood clotting processes and the factors that influence blood clotting
3 Be able to prepare to obtain capillary blood samples	3.1 Confirm the individual's identity and obtain valid consent 3.2 Select and prepare an appropriate site for obtaining the sample, taking into account the individual's preferences and age 3.3 Provide support and reassurance to address the individual's needs and concerns 3.4 Communicate accurate information in a way that is sensitive to the individual's personal beliefs and preferences
4 Be able to obtain capillary blood samples	4.1 Apply health and safety measures relevant to the procedure and environment 4.2 Apply standard precautions for infection prevention and control 4.3 Describe the different reasons for obtaining capillary blood samples 4.4 Obtain blood samples of the required volume and quantity causing minimal discomfort to the individual

Learning outcomes	Assessment criteria
	<p>4.5 Use the selected materials, equipment and containers/slides in accordance with agreed procedures</p> <p>4.6 Obtain blood samples in the correct sequence when obtaining multiple samples</p> <p>4.7 Ensure stimulation of blood flow</p> <p>4.8 Select alternative sites where necessary</p> <p>4.9 Carry out the correct procedure for encouraging closure and blood clotting at the site</p> <p>4.10 Respond to any indication of an adverse reaction, complication or problem during the procedure</p> <p>4.11 Explain the correct process for labelling and other protocols in relation to blood samples</p> <p>4.12 Explain the actions to be taken if complications and problems occur during the collection of capillary blood samples, including contraindications</p>
<p>5 Be able to test and record the results of blood samples</p>	<p>5.1 Test the sample using the approved method in line with organisational procedure</p> <p>5.2 Describe normal or expected results for particular tests</p> <p>5.3 Recognise and interpret normal, expected and abnormal results</p> <p>5.4 Ensure that results are passed on to an appropriate staff member for interpretation as required</p> <p>5.5 Record results fully and accurately and forward according to local requirements</p>
<p>6 Be able to pass on the results of blood samples</p>	<p>6.1 Communicate the results of the tests and any further action required to the individual</p> <p>6.2 Respond to questions and concerns from individuals, providing accurate information</p> <p>6.3 Refer issues outside own responsibility to an appropriate staff member</p>

What needs to be learned

Learning outcome 1: Understand how legislation, policy and good practice guidelines relate to obtaining and testing capillary blood samples

Capillary blood samples

- Collection of capillary blood samples using either manual or automated lancets.

Legislation and regulations

- May include:
 - Health and Safety at Work etc. Act 1974
 - Health and Social Care Act 2008
 - The Blood Safety and Quality Regulations 2010
 - Medicines and Healthcare products Regulatory Agency – blood regulation and safety
 - The Health and Safety (Dangerous Pathogens) Regulations 1981
 - Control of Substances Hazardous to Health (COSHH) Regulations 2002 – with regards to dealing with spillages.

National guidelines

- May include:
 - WHO guidelines on drawing blood
 - Point-of-care testing: Blood glucose meters (Medicines and Healthcare products Regulatory Agency).
 - Risk Assessment for the Prevention and Control of Healthcare Associated Infections (NICE/HCAI) guidance

Local policies, protocols and good practice guidelines

- May include:
 - use of personal protective equipment (PPE)
 - Prevention and Management of Exposure to Healthcare Associated Infections (including Hepatitis B and C) policy
 - use of medical devices
 - disposal of sharps
 - cleaning spillages.

Agreed ways of working

- Policies and procedures where they exist.
- Referencing to and updating the individual's care plan where appropriate.

What needs to be learned

Learning outcome 2: Understand anatomy and physiology in relation to obtaining and testing capillary blood samples

Anatomy and physiology

- Sites for blood sampling: finger (the most popular), heel or earlobe (rarely).
- Structure and purpose of capillary blood vessels.

Blood clotting

- Processes:
 - coagulation
 - hemostasis
 - blood vessel repair.
- Factors influencing blood clotting.

Learning outcome 3: Be able to prepare to obtain capillary blood samples

Individual

- Someone requiring a capillary blood sample, care or support; it will usually mean the person or people supported by the learner.

Preparatory actions before obtaining blood samples

- Drink and diet before taking sample where appropriate, e.g. fasting, blood sugar.
- Check which blood tests are to be completed on the test request form with all appropriate equipment ready, e.g. capillary blood tubes.
- Confirm individual's identity and valid consent in line with UK policy:
 - full name
 - date of birth
 - check information against the paper or electronic details of the individual.
- Position the individual appropriately.
- Clean area as per local policy or agreed ways of working.
- Select and prepare an appropriate site.
- Request individual to adjust clothing if necessary, e.g. rolling sleeves, loosening of tight clothes, excess clothing.
- Select lancet with micro-collection device.
- Taking into account preferences, e.g. beliefs, values, culture.

Supporting and reassuring the individual

- Appropriate method of communication, e.g. verbal and non-verbal.
- Confidentiality agreements.
- Individual additional support, e.g. translators, advocates.

What needs to be learned

Learning outcome 4: Be able to obtain capillary blood samples

Health and safety factors

- Infection control:
 - hand hygiene – washing, alcohol rub
 - personal protective equipment (PPE) – gloves, apron
 - skin antisepsis
 - sterile, single-use blood sampling devices, e.g. glucometers and single use of lancets
 - disposal of sharps
 - disinfection of surfaces
 - transportation of blood samples in labelled, washable containers.
- Staff, e.g. training and competence of staff.
- Individual, e.g. anxiety, fear, hydration, temperature – cold hands etc.

Reasons for obtaining capillary blood samples

- May include: blood sugar determination, haemoglobin levels tests, blood typing, haemoglobin iron deficiency, cholesterol, prothrombin time test/INR for measuring clotting time.

Obtaining blood samples process

WHO recommends the following process:

- Apply alcohol to the entry site and allow to air dry.
- Puncture the skin with one quick, continuous and deliberate stroke, to achieve a good flow of blood and to prevent the need to repeat the puncture.
- Wipe away the first drop of blood (because it may be contaminated) with tissue fluid or debris (sloughing skin).
- Avoid squeezing the finger or heel too tightly because this dilutes the specimen with tissue fluid (plasma) and increases the probability of haemolysis.
- When the blood collection procedure is complete, apply firm pressure to the site to stop the bleeding.

Labelling of blood samples

- Clear, accurate and legible, using computer-prepared labels where appropriate.
- Appropriate packaging used.
- Correct forms are attached and put in the appropriate place for transport or storage, if required.
- Timing of transport depending on urgency.

Problems and complications

- Faulty equipment.
- Transmission of infectious diseases, e.g. hepatitis B.
- Sharps injury.
- Scarring.
- Localised or generalised necrosis (a long-term effect).
- Haemolysis.
- Inaccurate test results.

What needs to be learned

Learning outcome 5: Be able to test and record the results of blood samples

Recognising and interpreting results

- Interpret results accurately – normal, expected and abnormal results.
- Actions to take if results are not as expected, which could be repeating the test or reporting to staff to seek further advice.
- Record results accurately and fully using appropriate documentation.
- Report to appropriate staff member and safely store the recorded documentation.

Learning outcome 6: Be able to pass on the results of blood samples

Communication of results

- Staff member:
 - verbal, face to face
 - electronic records.
- Individual:
 - give clear and accurate information about the results of tests
 - work within the limits of your responsibility
 - respond to questions from the individual clearly and accurately, using the appropriate manner, level and pace.
 - refer to an appropriate staff member if required
 - inform the individual of any further actions required.

Information for tutors

Suggested resources

Books

Basten G – *Blood Results in Clinical Practice* (M&K Update Ltd, 2013)
ISBN 9781905539734

Blann A – *Routine Blood Results Explained* (M&K Update Ltd, 2013)
ISBN 9781905539888

Grant A and Waugh A – *Ross and Wilson Anatomy and Physiology in Health and Illness* (Churchill Livingstone, 2014) ISBN 9780702053252

Hoke RF – *Phlebotomy* (R.F. Hoke, 2015) ISBN 9780993314001

McCall R and Tankersley C – *Phlebotomy Essentials* (Lippincott Williams and Wilkins, 2015) ISBN 9781451194524

Moini J – *Phlebotomy: Principles and Practice* (Jones and Bartlett, 2012)
ISBN 9781449652609

Websites

www.communitycare.co.uk/2012/07/26/how-social-care-staff-can-improve-their-communication/	Community Care website, article on improving communication within care.
www.legislation.gov.uk	Website for current government legislation.
www.mayomedicallaboratories.com/specimen/preparation	Mayo Medical Laboratories – information on specimen collection and preparation.
www.netdoctor.co.uk/procedures/examinations/	Independent health and wellbeing site offering access to expert and comprehensive health and lifestyle information.
apps.who.int/iris/bitstream/10665/44294/1/9789241599221_eng.pdf	WHO guidelines on drawing blood.

Assessment

This guidance should be read in conjunction with the associated qualification specification for this unit.

This unit is internally assessed. To pass this unit, the evidence that the learner presents for assessment must demonstrate that they have met the required standard specified in the learning outcomes and assessment criteria, and the requirements of the assessment strategy.

To ensure that the assessment tasks and activities enable learners to produce valid, sufficient, authentic and appropriate evidence that meets the assessment criteria, centres should follow the guidance given in *Section 8 Assessment* of the associated qualification specification and meet the requirements from the assessment strategy given below.

Wherever possible, centres should adopt an holistic approach to assessing the units in the qualification. This gives the assessment process greater rigour and minimises repetition, time and the burden of assessment on all parties involved in the process.

Unit assessment requirements

This unit must be assessed in accordance with the assessment strategy (principles) in *Annexe A* of the associated qualification specification.

Assessment decisions for learning outcomes 3, 4, 5 and 6 (competence) must be made based on evidence generated during the learner's normal work activity. Any knowledge evidence integral to these learning outcomes may be generated outside of the work environment, but the final assessment decision must be within the real work environment. Simulation cannot be used as an assessment method for learning outcomes 3, 4, 5 and 6.

Assessment of learning outcomes 1 and 2 (knowledge) may take place in or outside of a real work environment.