SOP number	**17.053**	Version	**3.0**
Title	**Blood Samples from a Peripheral Venous Catheter**		

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SOP category	17 NHSGGC Clinical Research Facility – Clinical

Staff category

Staff Category	R	A	C	I
Nursing	X			
GCRF Manager		X		
GCRF Associate Director				X
Senior R&I Manager				X

1. Scope

This procedure applies to all staff working within NHS Greater Glasgow and Clyde Clinical Research Facility (GCRF) who are required to draw blood from a peripheral venous catheter.

2. Purpose

To describe the procedure used to withdraw blood from a peripheral venous catheter (PVC) ensuring patient and staff safety.

Blood sampling from a PVC is required for participants requiring repeated blood sampling in clinical research studies to minimise the discomfort of repeated venepuncture. This is not routine practice in clinical care and must be done accurately to ensure patient safety and maintain sample integrity. Staff must complete NHSGGC venepuncture and cannulation training and before using a PVC for blood sampling unsupervised on study participants.

It is the responsibility of the Principal Investigator to ensure that study-specific procedures are delegated to appropriately qualified and trained members of the research team.

3. Procedures

- Check the study-specific Laboratory Requisition Form to confirm the quantity of blood to be drawn, the order of draw and which type of system and tube are to be used.
- Blood collection tubes or other specimen containers should be labelled as outlined in the study protocol or laboratory manual.
- Participant identification number and tubes should not be prepared for more than one patient at a time.
- Clean and prepare trolley/work area.
- Prepare all equipment required including all study-specific equipment e.g. blood sample bottles.

3.1. Sampling from PVC during insertion

Standard equipment required:

- Non sterile gloves and disposable apron
- Tray with sharps bin
- Chlorhexidine 2% in 70% IPA wipe(s)
- Disposable or single use tourniquet
- Appropriate size of sterile safety PVC
- Needle free access device
- Blood sample bottles and Holdex connector (or similar)
- Sterile transparent semi permeable dressing
- Posiflush SP device or 10ml syringe, 23g safety hypodermic needle, 10ml syringe and 0.9% sterile sodium chloride ampoule

- Explain the procedure to the participant and gain consent for procedure and reassure them.
- Perform hand hygiene in accordance with NHSSS Prevention and Control of Infection Manual and assess / inspect patient for suitability for PVC insertion.
- Gather together all equipment on a clean tray, including sharps bin.
- Prepare equipment / flush and prime needle free access device using an Aseptic Non Touch Technique (ANTT ®) and micro critical aseptic fields to prevent contamination.
- Perform hand hygiene and don Personal Protective Equipment (PPE).
- Apply disposable tourniquet approximately 7-8cm above PVC insertion site.
- Reassess and palpate vein to choose site.
- Cleanse skin with 2% chlorhexidine in 70% isopropyl alcohol impregnated swab for 30secs and allow to dry naturally.
- Prepare equipment
- Without retouching the cleaned area of skin, anchor the vein with non-dominant hand. Using dominant hand with open end of PVC facing upwards, advance the PVC at approx. 30° angle to the skin.
- Once flashback is visualised in flashback chamber, use one hand to stabilise the stylet, and the other hand to advance PVC.
- Once PVC fully advanced:
    1. Hold the PVC
    2. Stop the blood flow by occluding the vein above the tip of the PVC
    3. Release the tourniquet
    4. Draw back the stylet
- Immediately put used stylet in sharps box ‘Skin to bin!’
- Connect Holdex connector to needle free access device.
- Apply a sterile, transparent semi-permeable dressing, ensuring the wing securing strips are parallel to the PVC.
- Fill blood sample bottles as required for study.
- Once sampling is complete, remove the Holdex connector and place directly into sharps bin. Flush needle free access device with 0.9% saline using Posiflush SP device to maintain patency using a push/pause, positive pressure technique.
- Remove PPE and perform hand hygiene according current NHSSS Infection Prevention and Control Manual.
- Dispose of waste appropriately in accordance with the current NHS Services Scotland National Infection Prevention and Control Manual

3.2. Sampling from PVC following initial insertion

Standard equipment required:

- Non sterile gloves and disposable apron
- Chlorhexidine 2% in 70% IPA wipe(s)
- Tray with sharps bin
- Blood sample bottles and Holdex connector (or similar)
- 2mls Syringe
- Posiflush SP device or 10ml syringe, 23g safety hypodermic needle, 10ml syringe and 0.9% sterile sodium chloride ampoule

- Perform hand hygiene in accordance with NHSSS Prevention and Control of Infection Manual.
- Use appropriate PPE and aseptic non touch technique (ANTT®) during blood sampling.
- Explain the procedure to the research participant, confirm consent to the procedure and reassure them.
- Sit ambulatory participants in a comfortable chair or an examination trolley with the extremity from which blood will be drawn supported on a pillow or other support.
- Clean tray and prepare gathered equipment.
- Clean hub of needle free access device with Chlorhexidine 2% in 70% IPA wipe for a minimum of 15 seconds and allow to dry naturally.
- Use the 2ml syringe to remove 2mls of fluid from the needle free access device/PVC and discard. This is to remove any saline flush that would contaminate the sample.
- Connect Holdex connector to needle free access device. Fill blood sample bottles as required for study.
- Once sampling is complete, remove the Holdex connector and place directly into sharps bin. Flush needle free access device with 0.9% saline using Posiflush SP device to maintain patency using a push/pause, positive pressure technique.
- Dispose of all equipment and clinical waste used safely in accordance with the NHS Services Scotland National Infection Prevention and Control Manual
- Perform hand hygiene on completion of task according to current NHS Services Scotland National Infection Prevention and Control Manual
- N.B. A tourniquet may be used to transiently distend veins prior to blood drawing. Do not leave the tourniquet on the arm longer than necessary as this is uncomfortable and may alter the results of certain lab tests such as serum potassium and some enzyme measurements.

4. Referenced documents

- NHS Services Scotland National Infection Prevention and Control Manual
- NHSGGC Aseptic Non Touch Technique clinical guideline
- NHSGGC Vascular Access Device, care and maintenance clinical guideline

5. Related documents

- NHSGGC PVC insertion SOP v2

6. Document history

Version	Date	Description	Retrospective Implementation
1.0	04/01/2019	First release	No
2.0	18/08/2023	Update to SOP template v2.0 Addition of RACI matrix Minor admin changes	No
3.0	27/10/2026	Change to prepared by and released by Transfer to new R&I SOP template v1.0 Addition of sampling from PVC following initial insertion Additional referenced documents Additional related documents	No

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