NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Vascular Access Procedure and Practice Guidelines

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Vascular Access Procedure and Practice Guidelines

Important Note:

The Intranet version of this document is the only version that is maintained.

Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

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Introduction

This is the updated Vascular Access Procedure and Practice Guidelines for vascular access devices (VAD) incorporating NHS Greater Glasgow and Clyde (NHSGGC) adult (acute, mental health and community), paediatric and neonatal services. VADs are inserted for therapeutic purposes such as administration of intravenous (IV) fluids, medicines, blood transfusions and parenteral nutrition (PN). Other purposes for specific vascular access devices are renal dialysis, blood sampling and central venous pressure monitoring.

This document is organised with core introduction followed by care and maintenance templates. The information contained is based on current information available. Quality improvement, audit and research within clinical areas mean that this evidence base is constantly evolving. Practitioners should endeavour to use the most up-to-date evidence on which to base their practice.

The purpose of this guideline is to state the care and maintenance of the following VADs:

- Peripheral Venous Catheter (PVC)
- Midline catheter
- Peripherally Inserted Central Catheter (PICC)
- Non-Tunnelled Central Venous Catheter (CVC)
- Tunnelled Central Venous Catheter (tCVC)
    - Uncuffed tCVC
    - Cuffed tCVC
- Dialysis Central Venous Catheter
- Implantable Ports

The detailed procedures for insertion of VADs are outside the scope of this guideline. Practitioners involved with insertion of VADs will be informed of where specific insertion procedure guidance can be found.

Patients with VADS are placed at increased risk of harm if not appropriately managed, for example healthcare associated infections and bloodstream infections are a significant cause of morbidity and mortality (NICE, 2014). Reports of mortality attributed to device related blood stream infections vary between 12.2% and 34.4% (Wong et al, 2016). VAD related bloodstream infections caused by inadequate device management significantly reduces the survival of patients in our care.

Patient harm can be reduced through:

- Trained and competent staff
- Adherence to relevant policies and guidance
- Underpinning knowledge of different VADs
- Good care and maintenance of VADs
- Appropriate use of care bundles and accurate documentation (e.g. PVC and CVC care plans and patient held records)
- Prevention, early recognition and management of complications
- Inserting VAD only when clinically indicated and removing at earliest opportunity

Scope

This guideline is relevant to all NHSGGC health board staff that care for patients with a VAD.

This guideline should be used in conjunction with other relevant guidelines and standards.

Guidance for all adults receiving Parenteral Nutrition (home and in-patient) can be found:

http://www.staffnet.ggc.scot.nhs.uk/Acute/Division%20Wide%20Services/Food%20Fluid%20And%20Nutrition/Pages/default.aspx

Infection prevention and control guidelines:

http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/

NHSGGC IV Medicine Administration policy:

http://www.staffnet.ggc.scot.nhs.uk/Applications/PM/Policy%20Documents/IV%20medicines%20administration%20policy%20200114.doc

NHSGGC IV Flush Policy:

http://www.staffnet.ggc.scot.nhs.uk/Acute/Division%20Wide%20Services/Practice%20Development/Specialist%20and%20Advanced%20Practice/Documents/Acute_division_intravenous_flush_policy.pdf

NHSGGC Management of occupational and non occupational exposures to blood borne viruses including needle stick injuries and sexual exposures policy:

http://library.nhsggc.org.uk/mediaAssets/PHPU/NHSGGC%20MANAGEMENT%20OF%20OCCUPATIONAL%20AND%20NON-OCCUPATIONAL%20EXPOSURES%20TO%20BBV.pdf

Paediatric guidance:

Haemato-oncology patient's fluid and electrolytes management (Schiehallion):

http://www.clinicalguidelines.scot.nhs.uk/media/2190/yor-haem-008-fluid-and-electrolytes-v2.pdf

Intravenous fluid guidance for previously well children aged 7 days to 16 years:

http://www.clinicalguidelines.scot.nhs.uk/media/2322/intravenous-fluid-guidance-in-previously-well-children-aged-7-days-to-16-yearsb.pdf

Intravenous fluid therapy in children and young people in hospital

https://www.nice.org.uk/guidance/ng29

Staff in specialist clinical areas caring for particularly vulnerable patient groups may have local standard operating procedures (SOP) in use which should be referred and adhered to.

West of Scotland Cancer Network Extravasation in Practice Guidelines, policy and tools: http://www.intranet.woscan.scot.nhs.uk/guidelines-and-protocols/extravasation/#

Roles and responsibilities

For the care and maintenance of any VAD, staff should be appropriately trained and supervised until considered competent. A practitioner can be described as competent if they have had the necessary training, clinical experience, skills and knowledge to undertake a task safely and without supervision. If a practitioner deems it appropriate to adapt the guidelines, a risk assessment must be undertaken and documented appropriately.

Description of VADs

There are several types of VADs. These devices are classified as either a peripheral venous access device or a central venous access device. A VAD is chosen dependent on:

- Clinical need of the patient
- Type of IV therapy / treatment required
- Anticipated length of therapy

Peripheral Venous Catheter (PVC) – a temporary plastic catheter in a peripheral vein to allow bolus injections, infusions, blood transfusions and medicine administrations. This device is usually a short term VAD.

Midline catheter – a temporary polyurethane catheter 8 – 20cm in length inserted in a peripheral vein. A midline is a peripheral catheter and does not enter a central vein. The catheter does not extend beyond the axillary vein. There are two types of midline catheter; 3 french gauge catheter that can be inserted at ward level at the bedside and can stay in situ for up to 30 days or a 5 french gauge catheter inserted under ultrasound guidance that can stay in place for the duration of treatment. The size of catheter inserted will depend on the intended duration and nature of treatment. This is ideal for patients who have multiple PVC insertions or require extended term IV access. This catheter is also useful when further haemodilution of medications is required, but not necessarily via a central venous catheter. Both types of midline are maintained and cared for as a peripheral venous catheter.

Peripherally Inserted Central Catheter (PICC) – A Peripherally Inserted Central Catheter

(PICC) is inserted into a vein in the upper arm (basilic, cephalic or brachial vein) and is then advanced until the tip is placed in lower superior vena cava (SVC) or proximal right atrium. This is a central VAD that is inserted peripherally, and is used for mid - long term venous access to facilitate administration of extended IV therapy such as cytotoxic chemotherapy, PN and IV medication that needs to be administered centrally. PICCs have centimetre markings to allow easy observation of migration of the catheter. PICCs can be valved or non-valved, single or multi lumen. A PICC can remain in place for the duration of therapy if no complications occur.

*Neonatal services: PICCs can be placed in any limb, and sometimes the scalp.

Non-Tunnelled Central Venous Catheter (CVC) – A non-tunnelled CVC is inserted directly into a large central vein. They are inserted to provide treatment in the acutely unwell patient for example, the administration of IV medications that require central access, aggressive fluid resuscitation and central venous pressure monitoring. This is a short term central VAD, and is available as a single or multi-lumen device.

Tunnelled Central Venous Catheter (tCVC) – A tCVC is sited with the tip in a large central vein and the catheter is tunnelled to exit the skin surface at a point distant to the entry to the vein. These devices are inserted to provide long term IV therapy, such as chemotherapy and PN. Some tCVCs have a cuff to prevent migration of the catheter and can act as a mechanical barrier to reduce risk of bloodstream infections. A tCVC can be valved or non-valved, single or multi lumen.

Dialysis Central Venous Catheter – A dialysis CVC is a central VAD that is inserted into a large central vein to administer renal dialysis. These CVCs have an access lumen and a return lumen to facilitate the flow of blood for renal dialysis treatment. Dialysis CVCs can be tunnelled or non-tunnelled dependent on length of therapy.

Implantable Ports - An implanted port is a central venous access device, often referred to as a Port-a-cath®. These are useful for long term vascular access. They are designed to permit repeated access to the venous system for the parenteral delivery of medications, fluids, and nutritional solutions and for the sampling of venous blood.

A port consists of a portal chamber (reservoir), which can be made of special plastic, stainless steel or titanium. It has a silicone septum (injection area) and is attached to a catheter which is tunnelled under the skin and advanced until the tip of the catheter lies in the central venous system (SVC / Right Atrium).

This device is available as a single chamber or double chamber system. The port is always

accessed through the septum of the port into the port reservoir using a deflected tip (Huber) needle to prevent coring of the silicone septum and subsequent leakage.

Dwell times of VADs

All VADs should be removed when no longer clinically indicated. VADs may remain in situ for longer than manufacturers recommended dwell time if there is a clinical indication and there are no signs of phlebitis or infection.

Medical and nursing staff should review the need for intravenous therapy, including antibiotics, on a daily basis and consider IV to oral switch over if appropriate:

http://www.staffnet.ggc.scot.nhs.uk/Info%20Centre/PoliciesProcedures/GGCClinicalGuidelines/GGC%20Clinical%20Guidelines%20Electronic%20Resource%20Direct/Antibiotic%20IV%20Oral%20Antibiotic%20Switch%20Therapy%20in%20Adults.pdf

Common principles

The following information contains a number of recommendations when caring for a patient with a VAD, aimed at improving patient safety and reducing the risk of harm.

Consent: Consent is required before practitioners undertake any care for a patient. This may be informal (verbal) or formal (written) for more complex procedures. If there is evidence of impaired capacity, either temporarily or permanently, an adult with incapacity form (AWI) should be completed by medical staff to allow health care practitioners to provide treatment that is required. In emergency situations, practitioners should use clinical judgement as to whether the risks of delaying a procedure outweigh the need for formal consent. The patient should be fully informed and provided with patient information leaflets where necessary.

*****Children and Young people: Those under 16 years have legal capacity to consent (or refuse) treatment on their own behalf, if they are deemed capable of understanding the nature and possible consequences of treatment. A parent or legal guardian may consent to medical treatment ***if*** the child lacks decision-making capacity. NHSGGC Consent policy of healthcare assessment, care and treatment can be found via: http://www.staffnet.ggc.scot.nhs.uk/Corporate%20Services/Clinical%20Governance/Key%20Information/Consent%20to%20Treatment/Consent%20Policy%20Final%202017.pdf

Allergy: Patient's allergies must be checked prior to the procedure from a dressings, topical solutions and medicines perspective. If the patient has a chlorhexidine allergy, alcoholic povidone-iodine solution can be used instead of 2% chlorhexidine in 70% isopropyl alcohol.

*Paediatric / Neonatal Services: 2% chlorhexidine in 70% isopropyl alcohol cannot be used in neonates less that 32 weeks gestation who are less than 7 days old. Refer to local guidelines for further advice. 0.5% chlorhexidine in 70% isopropyl alcohol is recommended as an alternative for babies less than 3 months old.

Principles of VAD inspection: The VAD should be checked and observed any time the catheter is being accessed. If the VAD is not being used for continuous infusions, then the patency of the device should be assessed at least once per day and/or prior to any medicine administration. For patients receiving care in the community, the VAD should be inspected on each visit. Observation should include:

- Insertion point and surrounding tissue
- Dressing
- Integrity of VAD

- Security of connections
- Dislodgement or migration of device

Frequency of VAD checks by a healthcare practitioner is dependent on clinical area, patient's clinical condition and types of IV medicines being administered e.g. patients receiving irritant medications may have increased frequency checks; patients in community setting may have a decreased frequency of checks.

If the dressing is loose, damp or soiled it should be replaced immediately and the patency of the VAD should be assessed.

The insertion site should be visually inspected for signs of phlebitis or inflammation through the intact dressings and documented appropriately.

Aseptic Non-Touch Technique (ANTT): This guideline has been written bearing in mind the principles of ANTT (Rowley 2010).

Rule of ANTT: key parts must only come into contact with other key parts or key sites.

Aseptic: free from pathogenic micro-organisms that can be introduced by hands, surfaces and / or equipment

Non-Touch: method used to prevent contamination of **key parts** and **key sites** by hands, surfaces or equipment.

Technique: assess the risk of contamination and choosing the appropriate approach

ANTT states that the key principle to preventing infection is to maintain the asepsis of **key parts** and **key sites.** A **key part** (e.g. tip of syringe) being any part of a device that will come into direct contact with **key sites** (e.g. insertion point / needle free access device). These key parts can be protected by the use of **micro critical aseptic fields** such as the inside of a syringe wrapper, or a sterile cap. This minimizes the risk of contamination of **key parts** and **key sites** which can potentially lead to infection.

A **Standard ANTT approach** would be suitable for uncomplicated procedures where the **key parts** and **key sites** are identified and protected by **micro critical aseptic field.** A **Surgical ANTT approach** would be used for complicated procedures with many **key parts** and **key sites** and a **critical aseptic field** (such as sterile dressing pack and / or sterile drapes) is utilised. Sterile gloves may be necessary to maintain asepsis of the critical aseptic field. The clinician should risk assess each procedure, bearing in mind the condition and location of the patient, to decide the approach required. Further information on ANTT approach can be found: www.antt.org

Infection control: Current local and national guidance advise that Standard Infection Control Precautions (SICPs) should be embedded into all aspects of care delivery including the care of patients with vascular access devices. Practitioners are expected to adhere to the principles of SICPs to reduce patient harm.

Standard Infection Control Precautions (SICP)

There are 10 elements which make up SICPs, 6 of which must be applied for all procedures within this guidance: http://www.nipcm.scot.nhs.uk/chapter-1-standard-infection-control-precautions-sicps/#a1069

Hand hygiene: Staff must undertake hand hygiene at key moments as defined in each of the VAD templates.

Choice of Personal Protective Equipment (PPE): Before undertaking any procedure, staff must assess any likely exposure to blood and / or body fluids and ensure that PPE is worn to provide protection for the practitioner and does not breach aseptic non-touch technique. Where PPE is documented in each template, a minimum of disposable apron and non-sterile gloves must be worn. Gloves should be changed if a perforation / puncture is suspected. In addition, staff should consider the need for a surgical mask / eye protection if splashing of blood or body fluids is anticipated. Sterile gloves may be appropriate if the practitioner is required to handle **key parts** and **key sites** to maintain asepsis of these parts**.** It is the practitioner's responsibility to undertake a risk assessment and choose appropriate equipment for personal and patient protection.

NB All PPE must be removed on completion of task and immediately placed in a clinical healthcare waste bin.

Management of care equipment: All reusable care equipment should be clean at point of use.

http://library.nhsggc.org.uk/mediaAssets/Infection%20Control/IPC%20SOP%20Cleaning%20of%20Near%20Patient%20Equip%20V3.pdf

Management of blood and body fluid spillage: All blood and body fluid spillage should be cleaned http://www.nhsggc.org.uk/media/236969/decontamination-sop-v6-mar-2016.pdf

Management of waste: All waste should be disposed of in an appropriate clinical waste bag or sharps bin

http://www.nipcm.scot.nhs.uk/chapter-1-standard-infection-control-precautions-sicps/#a1085

Occupational risk: Appropriate procedures and guidance should be followed to reduce the risk of occupational hazards (e.g. needle stick injuries): http://www.nipcm.scot.nhs.uk/chapter-1-standard-infection-control-precautions-sicps/#a1086

Where appropriate, needle safe devices should be used to reduce the risk of needle stick injuries.

Needle Free Access Devices (NFAD): The purpose of NFAD is to reduce the risk of catheter related blood stream infections and reduce needle stick injuries. These should be attached to VADs, unless these connectors are inappropriate for use with a particular VAD.

All needle free access devices, whether single or multiple, with or without extension sets, must be primed before use with IV 0.9% sodium chloride. There are a huge variety of different NFADs available and practitioners should choose a NFAD appropriate to the patient's need and VAD requirements.

Port protectors (*alcohol impregnated): disinfecting port protectors may be considered as part of a strategy to reduce the risk of catheter related blood stream infections.

Administration sets: When an administration set is connected to a VAD, it is essential, that a **closed system** is maintained, avoiding unnecessary disconnection. When the closed system is interrupted it is essential to observe an aseptic non touch technique. Administration sets are single use and should be discarded once disconnected. In some clinical situations, it may not be possible to avoid disconnection of administration sets due to the type of treatment being administered to the patient. The practitioner should assess the rationale for the disconnection. If it is essential for patient care that the treatment / equipment cannot be disposed of, an aseptic non touch technique procedure should be adhered to and the VAD should be flushed with 5ml 0.9%sodium chloride (NaCl) in a 10ml syringe, and the administration set sealed with a sterile bung.

Medicines prescription: All medicines mentioned throughout this document must be prescribed as appropriate.

Locking of VADs: VADs that are not in daily use, e.g. CVADs and dialysis CVCs, may require to be 'locked' to reduce the risk of occlusion. Solutions used to lock catheters include heparin, heparinised saline and taurolidine citrate. Consideration should be given to the type and strength of 'lock' that is in place to decide on whether aspiration of 'lock' is required. For example, 5000 international units / mL heparin must be aspirated and discarded to avoid the administration of the lock to the general circulation of the patient as this will increase the risk of coagulopathy.

Therapeutic holding (paediatrics): In some circumstances it may be necessary to have two staff present during procedures and utilise therapeutic holding to maintain patient safety.

Complications: There are many complications associated with insertion, care and maintenance of VADs. Specific complications and management will be outlined in the templates.

Most complications and adverse events can be prevented or minimized through:

- Education and training to ensure practitioner competence
- Careful insertion technique
- Adhering to ANTT principles
- “Scrub the hub” before accessing needle free access device (NFAD) – cleaning the NFAD for at least 30secs with 2% chlorhexidine and 70% isopropyl alcohol before use and allowing to dry
- Allowing skin to dry following decontamination (before insertion of VAD and at dressing changes)
- Securing the device appropriately
- Using appropriate dressings, covering puncture site
- Early detection of complications and appropriate management actions taken
- Optimum care and maintenance
- Regular flushing to ensure patency using 10ml syringe
- Flush should be administered before, between and following each medicine administration
- Rotation of all lumens on multi-lumen VADs to reduce risk of occlusion
- Appropriate use of ‘lock’ (where clinically indicated)
- Consider removing VAD at earliest opportunity when no longer clinically indicated

Terminology / Glossary

Air embolism: Occurs when one or more air bubble(s) enter a vein or artery and block it. Correct techniques and good practice can minimise risks of air embolism occurring. Signs of an air embolism occurring are increasing signs of breathlessness, chest pain, hypotension and cardiac arrest.

ANTT terminology:

Key part: the critical parts of the equipment, that if contaminated will transfer micro-organisms to the patient e.g. tip of needle or syringe

Key site: any break in the patient's skin integrity that allows an entry point for micro-organisms.

Micro critical aseptic field: the protection of **key parts** by utilising caps, wrappers or covers, ensuring asepsis.

Critical aseptic field: is used when there are a large number of **key parts** and **key sites** or the complexity of the procedure means that they cannot be protected through the use of **micro critical aseptic fields.** A larger sterile surface is utilised such as a sterile dressing pack and / or drape(s) and sterile gloves, ensuring asepsis.

Decontamination: a general term that refers to one or more of the process below:

- **Clean:** reduce the bio burden and remove foreign material. In healthcare settings it is typically performed with water, soap or detergent and materials such as paper towels or impregnated wipes.
- **Disinfection:** the destruction of pathogenic microorganisms, usually by thermal or chemical means.
- **Sterilisation:** a process by which all viable forms of microorganisms (including spores) are destroyed.

Catheter fracture: Fracture and possible dislocation of venous catheter. This can be caused by material weakness or over manipulation of device on insertion. All VADs should be inspected for damage on removal.

Extravasation: The inadvertent leaking of an irritant or vesicant solution from its intended vascular pathway (vein) into the surrounding tissue. A vesicant refers to any medicine or fluid with the potential to cause blisters, severe tissue injury or necrosis if it escapes from the intended venous pathway. The degree of injury may range from mild skin reaction to

severe necrosis.

Haematoma: A swelling of blood under the skin causing a hard, painful lump. There are various causes such as transfixation or transection of the vein; inadequate pressure to puncture site on removal of device and unsuccessful attempt at insertion of device.

Infiltration: The inadvertent leaking of a non-vesicant solution from its intended vascular pathway (vein) into the surrounding tissue. It is increasingly seen as a benign event as it generally does not lead to tissue necrosis; however, large volume of infiltrate can cause compression of nerves.

Lattice pattern: Decontamination of VAD entry point and surrounding area should be undertaken using a 'lattice pattern'. This describes gentle repeated up and down, back and forth strokes, using 2% chlorhexidine and 70% isopropyl alcohol, for 30 seconds before working outwards to the periphery.

Needle Free Access Device (NFAD): A needle free connector that is used to facilitate the administration of single or multiple IV infusions, whilst reducing the risk of catheter related bloodstream infections. These can remain in situ for 7days and are available as a single bung and single or multi lumen extensions.

*Some clinical areas may have a rationale to change NFAD more frequently than manufacturer's recommendations e.g. every 72 hours.

Occlusion: A lumen or VAD is blocked by blood, medications or lipids. Risk of occlusion can be reduced through regular flushing of VADs (including each lumen of a multi-lumen device) and using 'lock' where clinically indicated and appropriate.

Phlebitis: The inflammation of the intima layer of the vein. Signs of phlebitis include localised pain, redness and swelling. There are three main types:

- Mechanical – caused by venous catheter irritation to the lumen of the vein e.g. large PVC in a small vein
- Chemical – caused by irritation from chemicals e.g. medications and chemotherapy
- Infective - usually bacterial and can present in a number of ways including discomfort, local site inflammation, and systemic infection

Valsalva manoeuvre: Forced expiration, usually against a closed airway (with the mouth closed). This causes a change in intrathoracic pressure that dramatically affects venous return, cardiac output, arterial pressure and heart rate.

Review of the Vascular Access Procedure and Practice Guideline

This document will be due for review in September 2019 (2 years).

Write or affix label

Name:
Address:

CHI:
DOB:
Hospital & Ward:

Peripheral Vascular Cannula(PVC) Insertion & Maintenance

Modified V.I.P (Visual Infusion Phlebitis) Score		
IV site appears healthy	0	No phlebitis : **Observe cannula**
One of the following is evident : slight pain or redness near site	1	Possible first signs : **Observe cannula**
Two or more of the following are evident: pain, redness, swelling	2	Early stage of phlebitis : **Remove & resite cannula**
All of the following are evident: pain, redness, hardening of surrounding tissue	3	Phlebitis/Thrombophlebitis: **Remove & resite cannula Seek further advice**
As above including: palpable venous cord	4	
As above including :pyrexia	5	

Insertion – Tick appropriate answer
Clinical indication: Diagnostics ☐ **Resuscitation/Chest Pain** ☐ **IV Drugs** ☐ **Fluids** ☐ **Transfusion** ☐
PVC inserted: Date: / / Hospital…… ED ☐ **Theatre** ☐ **ITU/HDU** ☐**Ward ……**
Insertion site: L Arm ☐ **R Arm** ☐ **L Hand** ☐ **R Hand** ☐ **L Foot** ☐ **R Foot** ☐ **Other:**
Colour of cannula: Blue ☐ **Pink** ☐ **Green**☐ **White**☐ **Grey** ☐ **Orange** ☐

PVC 1	Has the PVC been used in the past 24 hours?	Absence of inflammation and or extravasation **Record VIP score**	The PVC dressing is intact	If answer is no to any of the criteria or if VIP 2 or more and PVC left in situ: document rationale for decision in comments	Initial
Day 1 ...../...../.....	Yes ☐ No ☐	**V.I.P:**	Yes ☐ No ☐	Left in situ ☐ Removed ☐	
After 24 hours - review clinical reason and/or justify rationale for PVC to remain in situ; if not required consider removal.					
Day 2 ...../...../.....	Yes ☐ No ☐	**V.I.P:**	Yes ☐ No ☐	Left in situ ☐ Removed ☐	
Day 3 ...../...../.....	Yes ☐ No ☐	**V.I.P:**	Yes ☐ No ☐	Left in situ ☐ Removed ☐	
After 72 hours - review clinical reason and/or justify rationale for PVC to remain in situ; if not required consider removal.					
Day 4 ...../...../.....	Yes ☐ No ☐	**V.I.P:**	Yes ☐ No ☐	Left in situ ☐ Removed ☐	
Day 5 ...../...../.....	Yes ☐ No ☐	**V.I.P:**	Yes ☐ No ☐	Left in situ ☐ Removed ☐	

Date removed_____ Reason for PVC removal_____ Reason PVC in greater than 72 hours_____

Date & time	**Comments**	**Signature**

* IVOS – Consider switching IV to oral

Write or affix label Name: Address: CHI: DOB: Hospital & Ward:	**Adult Central Venous Cannula (CVC)** **Insertion & Maintenance – General wards*** Please complete insertion details for each CVC inserted **Care & maintenance to be undertaken & documentation completed each day.** (If CVC in longer than 7 days please use a further CVC Insertion & maintenance document as continuation to evidence maintenance) *critical care areas will have existing insertion & maintenance bundles in use	NHS Greater Glasgow and Clyde

Insertion – When inserting a CVC ensure that:
1. Surgical scrub is performed before application of maximal sterile barrier precautions.
2. Sterile barrier precautions are used: hat, mask, sterile gown & sterile gloves (Operator & Assistant).
3. Sterile drape used to cover whole patient.
4. Aseptic technique maintained throughout insertion procedure.
5. Skin prepared by decontamination of the insertion site using 2% Chlorhexidine gluconate in 70% isopropyl alcohol and allowed to dry completely.
6. The Subclavian site is used if possible or internal jugular* vein. (The femoral site should be avoided whenever possible- if used record in variance section). [*IJ vein is the preferred site for CVC insertion by NHSGGC clinicians. This is in alignment with NHSGGC policy.]
7. A sterile, transparent semi-permeable dressing is used to cover the catheter site.
Good practice includes the documenting of the date & time of CVC insertion. This provides a baseline for ongoing catheter maintenance and to enable timely line removal when clinically no longer required.

CVC Insertion details – please record any variances in section below						
Where inserted: ED ☐ Theatre ☐ ITU/HDU ☐ Interventional Radiology ☐ Ward/other_____			**Date/time Inserted**	Insertion site	☐ Emergency ☐ Elective	Inserted by (Name & Designation)
Clinical Indication	IV Fluids/IV Medication ☐	Chemotherapy ☐	Urgent access ☐	Total Parenteral Nutrition ☐	Haemodialysis ☐	Other Please state:
Insertion Criteria (If no: please explain in variance section below)	1.Surgical scrub Yes ☐ No ☐	2. & 3. Maximal sterile barrier precautions Yes ☐ No ☐	4. Aseptic technique Yes ☐ No ☐	5. Skin prep Yes ☐ No ☐	6.Subclavian or IJ vein used Yes ☐ No ☐	7. Sterile transparent semi-permeable dressing affixed Yes ☐ No ☐
Type of CVC (Tunnelled/Non-tunnelled) please record			Real time Ultrasound Guidance Yes ☐ No ☐	If used: Guidewire removed & intact Yes ☐ No ☐ N/A ☐		Position tip confirmed by Chest X-ray (if applicable) Yes ☐ No ☐ N/A ☐
Needle free device placed on end port(s) Yes ☐ No ☐ N/A ☐ (As per GGC protocol)						
Has there been more than one puncture attempt? Yes ☐ No ☐ If yes						
Variance recording:						

MIS 269425-1

Adult Central Venous Cannula (CVC)
Maintenance Bundle continuation sheet– General wards
This document should be used in conjunction with an insertion & maintenance bundle for days 1 to 7
If the patient has a Haemodialysis catheter and outwith Renal service, do not use unless an emergency and contact the Renal on call team as soon as possible for advice.
When maintaining an inserted CVC and accessing the insertion site and line ensure that:

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1. The requirement for the CVC in situ is reviewed and recorded on a daily basis.
2. The CVC dressing is intact. (If not intact , the dressing must be changed)
3. The CVC dressing has been changed in the last 7 days.
4. Chlorhexidine gluconate 2% in 70% isopropyl alcohol is used for cleaning the insertion site during dressing changes.
5. Hand hygiene is performed immediately before accessing the site or line
6. An antiseptic containing CHlorhexidine gluconate 2% in 70% isopropyl alcohol is used to clean the access hub (needle free device) for at least 15 seconds [Scrub the Hub]. Allow to dry completely before accessing line.

Signs and symptoms of CVC infection

Local infection	Systemic infection
• Erythema / inflammation /exudate • Hot to touch • Pain tenderness	• Hypotension • Tachycardia • Pyrexia • Rigors when using the line

If lumen blocked: seek medical advice as soon as possible as this could potentiate complications.

CHI:

Maintenance – To be completed daily (Observe for signs and symptoms of local or systemic infection)
please record any variances in section below

Day (8,9 etc.) & Date	Has the need for CVC been reviewed today?	Any sign of CVC infection?	The CVC dressing is intact?	Hand hygiene performed?	Exit site, line and hubs cleaned with 2% Chlorhexidine in 70% IPA	Aseptic non touch technique used?	CVC is locked/ flushed as per local guidelines	What has been done?	Date dressing due changed	Initials
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		
Day __/__/____	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Yes ☐ No ☐ NA ☐	Left in situ ☐ Removed ☐ Redressed ☐		

MIS 269425-2

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The Vascular Access Device guidance is split into a core part (this document) which outlines the key information and terminology and links to other related policies and guidelines. Also available are links to specific procedures guidance and information. All this information can be found on StaffNet via:
http://www.staffnet.ggc.scot.nhs.uk/Acute/Division%20Wide%20Services/Practice%20Development/GGC%20PD%20Calendar/Pages/default.aspx#ip

Additional resource list

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