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Reference No: SG 33/15

Title:	**Venepuncture and Cannulation Policy for Adults and Children up to 16 years old in Hospital and Community Setting**			
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Responsible Director:	**Olga O'Neill, Interim Executive Director of Nursing, Midwifery, User Experience and Allied Health Professionals**			
Policy Type: (tick as appropriate)	*Directorate-specific ☐	Clinical Trustwide ☒	Non-clinical Trustwide ☐	Regional Policy ☐

If ***Directorate-specific** please list the name and date of the local Committee/Group that policy was approved	Does this policy have Workforce implications? * **N**
Name:	**Date: N/A**

Approval process:	Policy and External Guidance Assurance Committee Executive Team Meeting	**Approval date:**	01/10/2024 11/11/2024
Operational Date:	February 2026	**Review Date:**	February 2031

Version No.	V1	**Supercedes**	New Policy

Key Words:	**Venepuncture, safer needles, cannulation**
Links to other policies	BHSCT -Intravenous flushing line policy BHSCT - Consent - Obtaining consent for examination, treatment or care in adults and children Belfast Trust laboratory manual BHSCT - Lines- Regional Policy for the identification of invasive medical devices and the labelling of their lines and drainage tubes attached access/delivery lines and drainage tubes BHSCT Medicines Code Policy BHSCT Patient Identification policy within thin the Hospital Setting BHSCT- Anaphylactic Policy- Recognition and Management of Anaphylactic Reactions Central Venous Access Device Guidelines (excluding non-tunnelled catheters) BHSCT Patient Controlled Analgesia in Adult patients- Management of NI Infection Control Manual BHSCT Aseptic Non Touch Technique (ANTT) Home (antt.org) BHSCT Blood Transfusion Manual, Policy, Procedures and Guidelines BHSCT - Adult (more than 18 years) In-patient Parenteral Nutrition Guideline BHSCT Pain and discomfort in babies in the Regional Neonatal Unit (RNU) Royal Jubilee Maternity Hospital (RJMH)

1.0 INTRODUCTION / PURPOSE OF POLICY

1.1 Background

Venepuncture is an invasive procedure of entering a peripheral vein with a needle for the purpose for obtaining blood samples.

Venepuncture is one of the most commonly performed invasive procedures. This procedure is not simply based on technical skill but requires adequate knowledge of the relevant anatomy and physiology, the impact on the patient and the test for which the blood is required. The ability to assess the patient and make informed choice on the selection of the vein and the appropriate device to be used is essential.

Intravenous cannulation is a technique that involves the insertion of a fine, flexible hollow tube, with a retractable needle, into a peripheral vein. Cannulae are usually placed in the peripheral veins in the lower arm but only in extreme circumstances may a cannula be also be placed in the veins of the foot. However, veins of the lower extremities should not be routinely used in adults due to the risk of embolism and thrombophlebitis.

Cannula-related infection are a recognised clinical problem of significance and in most instances, endogenous microorganisms are the cause. The opportunity for endogenous microorganisms to cause infection at the cannula site occurs either at the time of cannula insertion or through poor management of the invasive device.
It is important to recognise that the site, method and place of insertion may influence the likelihood of subsequent infection.

Micro-organisms gaining entry through the cannula come from either:

- The skin of the patient
- The hands of the healthcare workers
- The hubs or connection points
- The infuscate and sometimes
- From a pre-existing site of infection in the patient via the blood.

Peripheral intravenous cannulae cause *Staphylococcus aureus* bacteraemia more commonly than do central venous catheters.

Complications often arise because peripheral vascular cannulae are left in situ for too long, or are inserted when they are not required.

1.2 Purpose

The purpose of the policy is to provide evidence based guidance for healthcare staff undertaking venepuncture and cannulation thus minimising complications and reducing the incidence of catheter related infections.

1.3 Objectives

To provide guidance for staff to safely undertake venepuncture and cannulation, therefore minimising the risk of injury and/or infection to patients and staff and standardise the care using evidence-based guidelines.

2.0 SCOPE OF THE POLICY

This policy applies to all healthcare staff at Band 3 or above who have received training and are competent in performing venepuncture and/or cannulation. The policy also applies to healthcare staff undertaking training in the procedure under supervision.

3.0 ROLES/RESPONSIBILITIES

It is the responsibility of all healthcare staff to adhere to the policy.

4.0 KEY POLICY PRINCIPLES

Policy Principles

4.1.1 Detailed assessment of most appropriate site should be performed prior to venepuncture. To reduce the risk of infiltration/extravasation, whilst a cannula is in situ, venepuncture is recommended in the back of the hand or antecubital fossa (ACF) and distal to any existing cannula site. Affected limbs must be avoided in patients who have undergone mastectomy and/or axillary node dissection/radiotherapy or who may have existing fistulated access.

Pre-procedural considerations need to be assessed as well as specific patient preparation. These include injury, disease or treatment, the age and weight of the patient and if the patient is in shock or is dehydrated. Other elements that need deliberated are medications and the temperature of the environment as these can influence venous dilation. Involving the patients in the choice of the vein and limb can help with the procedure.

In Children, emphasis must be placed on preparation for the procedure. Ethyl Chloride spray (only for use in children over 5 years) or a local anaesthetic cream should be applied. Distraction therapy should be offered during the procedure.

4.1.2 Healthcare staff involved in performing venepuncture and/or cannulation must ensure that they have the necessary knowledge and skills to provide safe and effective care. It should only be undertaken by members of staff (medical, nursing, midwifery, allied health professionals, phlebotomy and other support staff) who have been trained and whose competence has been assessed and verified in relation to this procedure following a period of supervised practice.

4.1.3 Venepuncture and insertion of peripheral intravenous cannulae is a 'shared activity' between nursing, midwives, medical and allied health professionals. This procedure has an associated risk of infection: however, there is an extensive evidence base for the prevention of infections relating to peripheral intravenous cannulation and venepuncture https://www.rmmonline.co.uk/contents/procedures

In addition, this policy refers to devices that may be attached to peripheral intravenous cannulae following insertion, namely needle-free intravenous connectors, in-line filters and administration sets.

4.1.4 Before a peripheral intravenous cannula is inserted, an assessment of need should be completed and documented in the clinical notes on Encompass.

4.1.5 Consent must be obtained- BHSCT - Consent - Obtaining consent for examination,

treatment or care in adults and children

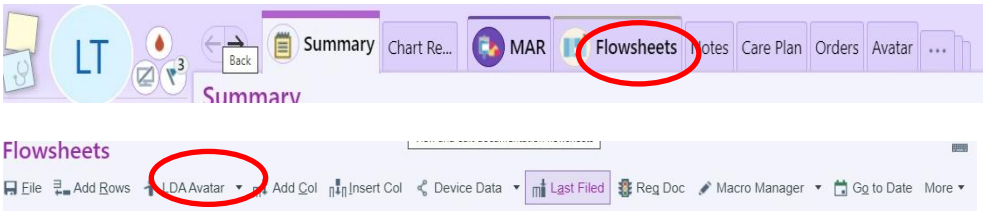
4.1.6 An Aseptic Non-Touch Technique (ANNT) must be used for all peripheral venepuncture procedures BHSCT Aseptic Non Touch Technique (ANTT)

4.1.7 Clinical employees must adhere to the procedure for the insertion and management of peripheral vascular cannulae (Royal Marsden Hospital Manual, Clinical Nursing Procedures. Chapter 13.1 (venepuncture) and Chapter 17.4 (peripheral cannula insertion) https://www.rmmonline.co.uk/contents/procedures

4.1.8 The insertion, manipulation and removal of peripheral vascular cannulae should be undertaken by members of staff, (medical, nursing, midwifery, phlebotomist or technicians) who have the appropriate recognised training course within their Specialty and whose competence has been assessed in this procedure and deemed competent.

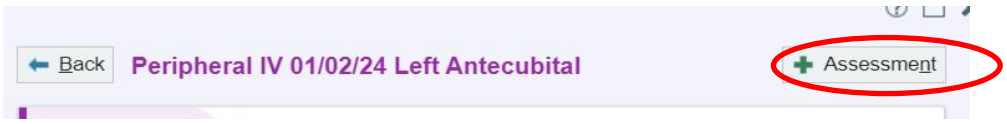
4.1.9 The procedure must be documented on the flowsheet notes on Encompass as detailed below:

- Click the 'Flowsheets' tab at the top of patient's profile



- An Avatar will become visible, then click on the location of the Peripheral IV, see below as an example.

- Assessment will appear (See Appendix 2 for Assessment, Phlebitis Score, Infiltration Score and Dressing information)



Refer to Cannulation Flowsheet Tip sheet within the F1 function on Encompass for further guidance on completing documentation of Peripheral Vascular Cannula position and status on the Encompass digital recording system

4.2.0 Frequency of checks must be documented in accordance with the Assessment chart within the LDA chart on Encompass and site inspected at a 12 hourly minimum

If the peripheral cannula is used for the administration of drugs/medication or bloods, then the site should be checked at each intervention according to the infusate being administered

The insertion, checking procedure and any problems encountered must be documented in the nursing, midwives and medical records by the person who inserted the peripheral vascular cannula.

4.2.1 Administration sets used to administer blood/blood products must be transfused through a sterile blood administration set and preferably one dedicated lumen. A new giving set must be used:

- After 12 hours of continuous transfusions
- If an infusion of another fluid is to continue after the transfusion
- If a platelet transfusion is prescribed after administration of another type of blood component BHSCT Blood Transfusion Manual, Policy, Procedures and Guidelines

4.2.2 Administration sets used in Parenteral Nutrition must be changed at 24 hours intervals

BHSCT - Adult (more than 18 years) In-patient Parenteral Nutrition Guideline

4.2.3 Administration sets must be labelled appropriately as per Trust policy
BHSCT - Lines- Regional Policy for the identification of invasive medical devices and the labelling of their lines and drainage tubes attached access/delivery lines and drainage tubes

4.2.4 Flushing of the peripheral vascular cannula should comply with the BHSCT policy on the use of solutions for flushing peripheral venous cannula, central and arterial lines. BHSCT -Intravenous flushing line policy and Flush solution - Admin of 0.9 Sodium Chloride BP - Following insertion of peripheral intravenous cannula by non- registrants)

4.2.5 Peripheral vascular cannulae must be removed if not required, or at earliest signs of infection or phlebitis. In the event of a discharge from the exit site, a swab should be taken for culture and sensitivity.

However, after a risk assessment when venous access is limited, the cannula can remain in situ beyond 72 hours if there are no signs of infection. This should be discussed with the senior medical team and documented in the patient's notes stating the reason/s.

4.3 Healthcare staff should follow the Belfast Trust Lab User Manual (2022) when bloods sampling (venepuncture) is clinically indicated. Belfast Trust laboratory manual

4.4 Safer needles system and blood collection sets should be used to ensure the safety of staff and patients. Where these are not used, a risk assessment by healthcare staff must be performed.

4.5 Where practically possible, use the smallest possible gauge needle according to

clinical need to ensure minimal trauma to the vein.

4.6 If unsuccessful after two attempts, referral to a more experienced member of staff should be requested. Where experienced staff are encountering difficulty, clinical judgement should be exercised as to whether a referral to a more experienced member of staff is required. In community settings where patients are being treated, more than two attempts may be necessary.

5.0 IMPLEMENTATION OF POLICY

5.1 Dissemination

This policy is required to be implemented by all Directorates.

5.2 Resources

Responsibility of completing the training requirements and other aspects associated with venepuncture and cannulation procedures is each staff member. ANTT skills assessments are required for all clinical staff carrying out aseptic procedures and records should be kept of assessments. See the ANTT Policy for further guidance.

5.3 Exceptions

No exceptions.

6.0 MONITORING

This policy will be monitored through clinical leads' vigilance to ensure that staff adhere to the policy.

7.0 EVIDENCE BASE/REFERENCES

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4. Ford Claire (2019) Cannulation in adults. *British Journal of Nursing July 2019 Volume 28 Issue 13*
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12. RCN (2013) Sharps safety -RCN Guidance to support the implementation of The Health and Safety (Sharp Instruments in Healthcare Regulations) https://www.rcn.org.uk/Professional-Development/publications/pub-004135

13. Royal Marsden Hospital Manual, Clinical Nursing Procedures. Tenth Edition. Chapter 13.1 and Chapter 17.4. http://www.rmmonline.co.uk/contents/chapters

14. Weinstein, S. & Hagle, M.E. (2014) *Plumer's Principles & Practice of Infusion Therapy*, 9th edn. Philadelphia: Lippincott Williams & Wilkins.

8.0 CONSULTATION PROCESS

Infection Prevention and Control Team
Infusional Services
Phlebotomy Lead
Community Services
Safety and Quality Team
Nurse Development Leads/ Clinical Education Facilitators
HCAI Committee & AMS Improvement Team
Divisional Nurses
Consultants

9.0 NURSING AND MIDWIFERY STUDENTS

Nursing and/or Midwifery students on pre-registration education programmes, approved under relevant 2018/2019 NMC education standards, must be given the opportunity to have experience of and become proficient in **Venepuncture and Cannulation Policy**, where required by the student's programme. This experience must be under the appropriate supervision of a registered nurse, registered midwife or registered health and social care professional who is adequately experienced in this skill and who will be accountable for determining the required level of direct or indirect supervision and responsible for signing/countersigning documentation.

Direct and indirect supervision

- Direct supervision means that the supervising registered nurse, registered midwife or registered health and social care professional is actually present and works alongside the student when they are undertaking a delegated role or activity.

- Indirect supervision occurs when the registered nurse, registered midwife or registered health and social care professional does not directly observe the student undertaking a delegated role or activity. (NIPEC, 2020)

This policy has been developed in accordance with the above statement.

10. APPENDICES / ATTACHMENTS

Appendix 1 – Venepuncture Procedure

Appendix 2- Phlebitis Score, Infiltration Score and Dressing Information

Appendix 3 – Adult Avatar

Appendix 4 – Baby Avatar

11.0 EQUALITY SCREENING

Under Section 75 of the Northern Ireland Act 1998 the Trust has a legal responsibility to undertake an equality screening of all policies. To fulfil this duty an equality screening template must be completed by the policy author.

To complete an equality screening use this template: (LINK)

For support with completion of the template go to: **Equality Screening Toolkit**

For any queries and/or to obtain approval contact the Planning and Equality Team contact: equalityscreenings@belfasttrust.hscni.net or 028 95 048734

Equality Screenings are public documents and previously completed documents can be viewed at Equality and Human Rights Screening | Belfast Health and Social Care Trust (hscni.net)

12.0 STATUTORY RURAL IMPACT ASSESSMENT DUTIES

The Trust has a legal responsibility to have '**due regard'** to rural needs when developing, adopting, implementing or revising policies, and when designing and delivering public services. For more information go to Rural Needs Duties

To satisfy this '**due regard duty'** Trust staff must consider the impact of any policy, proposal or decision on the social and economic needs of people who live in a rural community. For Belfast Trust, this is particularly so when the policy/proposal/decision impacts regional services.

Please tick the box to indicate that you have paid 'due regard' to the social and economic needs of the rural community when developing, adopting, implementing or

revising policies, strategies and plans and when designing and delivering public services and that a rural impact assessment is not required. ☒

OR

Please complete a Rural Needs Impact Assessment Template if there is an impact on the social and economic needs of people who live in a rural community.

Please go to the: Rural Impact Assessments Toolkit for HSC NI to find out how to undertake a rural impact assessment.

Contact Estella.Dorrian@belfasttrust.hscni.net for further advice

13.0 STATUTORY EQUALITY DUTIES – MAKING REASONABLE ADJUSTMENTS AND INFORMATION ACCESSIBLE

Under the Disability Discrimination Act 1995 (as amended) the Trust has a statutory duty to **make reasonable adjustments** in respect of disabled patients/service users/carers/visitors. This includes making all communication (in person, by phone, via email) *and* any information provided (in writing, verbally) accessible using alternative formats. The aim of the reasonable adjustment duty is to reduce or remove any barrier a person with a disability faces when accessing or using goods, facilities and services. This is a non-delegable duty.

Accessible/ Alternative formats can include, for example, information translated into Easy Read format or into Audio format - when a patient/service user/carer/visitor has a learning disability or is visually impaired.

In addition, if a patient/service user/carer/visitor does not speak English as their first language or has poor English, the Trust has a statutory duty **to provide an interpreter** and to **translate written information**. This facilitates informed consent, better understanding and greater independence.

For information, advice and guidance about these duties contact the Trust Planning and Equality Team equality.team@belfasttrust.hscni.net

Please tick the box to indicate that you have developed the policy in in accordance with the Trust's legal equality duties and that all staff will make reasonable adjustments and information accessible as appropriate. ☒

SIGNATORIES

Karen Devenney

Author **Date: 17/09/24**

Director

Date: 27/02/2026

Appendix 1

Venepuncture Procedure

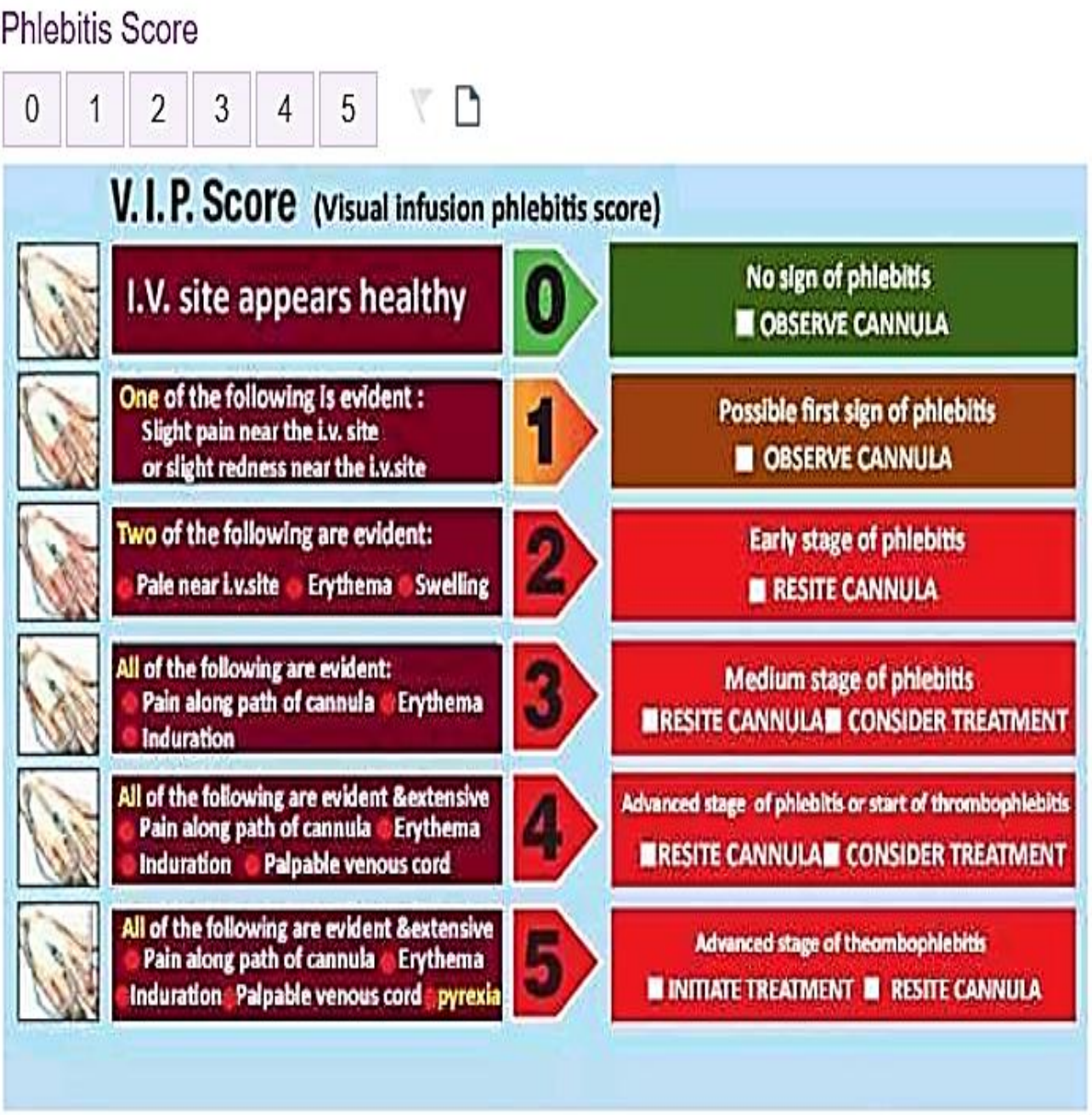
Procedure		Rational	
1	Approach patient in a confident manner, explain and discuss procedure. Check identity. Obtain verbal consent.	**1**	To ensure the patient understands the procedure and gives his/her consent.
2	Confirm patient identity prior to procedure. Ensure full completion of request form.	**2**	To ensure the sample is taken from the correct patient and that the laboratory has all relevant details and requests.
3	Consult patient as to any preferences or problems they may have experienced at previous venepunctures.	**3**	Anxiety results in vasoconstriction, therefore a patient who is relaxed should have dilated veins, making access easier. To involve the patient in their treatment, acquaint the nurse fully with the patient's previous history and identify changes in clinical status, e.g. mastectomy.
4	Help patient into a comfortable position. Support the arm and ensure there is adequate lighting and privacy.	**4**	To ensure patient comfort and facilitate venous access.
5	Adhere to the principles of ANTT throughout the procedure.	**5**	When performing aseptic technique, healthcare workers aim to protect patients from infection. However, poor aseptic technique actually presents risk to the patient.
6	Decontaminate hands with either, soap and water and/or hand sanitiser using the 7-Step technique. Use Safer Needle Devices.	**6**	To minimise the transmission of transient microorganisms from healthcare worker hands to patients, reducing the likelihood of developing a Healthcare Associated Infection (HCAI).

7	Apply gloves, prepare the aseptic field by cleaning the tray with a detergent/disinfectant combination wipe, and allow drying. Remove gloves and decontaminate hands. Assemble equipment necessary for venepuncture and check the integrity of the packaging. Place equipment onto the aseptic field protecting the Key-Parts.	**7**	Gloves protect the wearer from exposure to the chemicals in the combination wipes. An aseptic field minimises the transmission of transient microorganisms from the equipment/environment to patients, reducing the likelihood of developing a Healthcare Associated Infection (HCAI). To ensure that time is not wasted, that the procedure goes smoothly and to minimise infection risks.
8	Decontaminate hands with either, soap and water and/or hand sanitiser using the 7-Step technique.	**8**	To remove transient microorganisms from the healthcare workers hands.
9	Apply single patient use tourniquet to the upper arm approximately 10cms above chosen site. Apply tight enough to halt venous flow but not enough to obstruct arterial flow. A pulse should still be palpable below it.	**9**	To dilate the veins by obstructing venous flow.
10	It may be necessary to use vasodilation techniques such as clenching and unclenching the fist, stroking gently on the veins or extending the arm	**10**	To increase the prominence and blood flow of veins.
11	Obtain venous access by visualising and palpating the veins and using the appropriate equipment to draw blood If veins not palpable and the above methods were unsuccessful, remove tourniquet and apply moist heat, e.g. apply hand warm water to area. If access is difficult consider use of adjuncts such as Ultrasound scanner or in Children's Vein finder/infrared light	**11**	To promote vasodilation.
12	Re-apply tourniquet and identify the vein to be used based on size and site.	**12**	To reduce trauma to the vein and ensure successful venepuncture.

13	Decontaminate hands with either, soap and water and/or hand sanitiser using the 7-Step technique and don non-sterile gloves.	**13**	To remove transient microorganisms from healthcare worker hands
14	Clean the patient's skin carefully for 30 seconds using a Blue Clinell 2% Chlorhexidine, 70% alcohol wipe and allow drying. Do not re-palpate or touch the skin.	**14**	To remove endogenous microorganisms from the patient's skin and reduce the likelihood of a HCAI.
15	Use Safer Needle Devices.	**15**	To reduce risk of needle stick injury.
16	Remove sheath of needle, ensure that the bevel is facing upwards.	**16**	To ensure a successful venepuncture.
17	Anchor the vein by applying traction on the skin a few centimetres below the proposed insertion site.	**17**	To immobilise the vein.
18	Insert the needle smoothly at an angle of 30 degrees. Reduce the angle of descent of the needle as soon as flash of blood is seen in the tubing of the device, or when puncture of the vein is felt.	**18**	To prevent advancing too far through the vein wall and causing damage to the vessel.
19	Slightly advance the needle into the vein.	**19**	To stabilise the device within the vein and prevent it becoming dislodged during withdrawal of blood.
20	Do not exert any pressure on the needle.	**20**	To prevent puncture through vein wall.
21	Push the VACUETTE® bottle into the vacutainer until it will go no further. The bottles have a vacuum, which will withdraw the right amount of blood. Agitate sample 4-6 times (not commonly used in Children's)	**21**	To withdraw the correct amount of blood required and to ensure adequate dispersion of additive.
22	Collect samples in correct order of draw	**22**	To prevent distortion of blood results.
23	Release the tourniquet before you remove the needle.	**23**	To decrease pressure within the vein and prevent bruising.
24	Activate the needle safety mechanism.	**24**	To prevent needle stick injury.
25	Place sterile gauze or a sterile cotton ball over the puncture site and apply pressure for two minutes. Do not bend the arm.	**25**	To prevent leakage and haematoma formation.
25	Discard venepuncture system into a sharps container.	**25**	To prevent needle stick injury.

26	Check that bleeding has stopped. Apply a plaster if the patient requests and is not allergic.	**26**	To ensure puncture point is sealed.
27	Remove gloves and decontaminate hands with either, soap and water and/or hand sanitiser using the 7-Step technique.	**27**	To prevent contaminating the environment
28	Always label bottles with patient's name, hospital number and/or H&C number and date after you have taken the sample. Confirm details on sample and request form correspond with patient details. Always complete the procedure before going on to the next patient. Within Encompass, print label after order is submitted. Then Clinician collecting blood sample must mark the sample as collected on Encompass system. Decontaminate hands with either, soap and water and/or hand sanitiser using the 7-Step technique.	**28**	To avoid mis-labelling.
29	Ensure all waste is disposed of in the correct waste stream. Apply gloves, clean the tray with a detergent/disinfectant combination wipe, and allow drying. Remove gloves and decontaminate hands using the 7-step technique.	**29**	To prevent the Trust from incurring fines. Gloves protect the wearer from exposure to the chemicals in the combination wipes, which remove the microorganisms from the used/contaminated equipment.
30	Follow procedure for transporting samples to the lab.	**30**	To ensure samples reach intended destination.

Appendix 2: Phlebitis, Infiltration Scores and Dressing Assessment taken from EPIC 2024



RCN: Standards for Infusion Therapy 2010

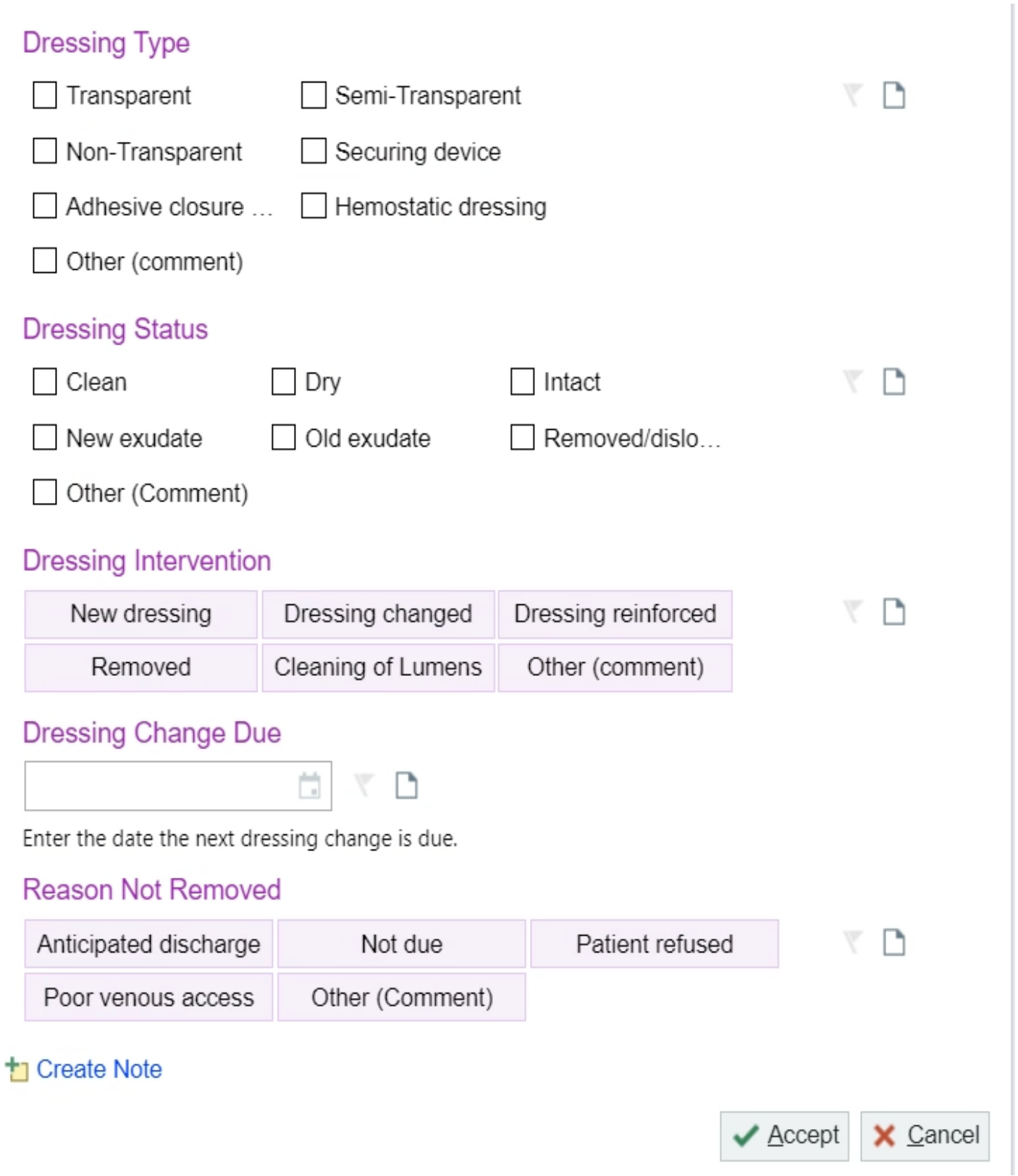
Appendix 2 Infiltration Score

Infiltration Score

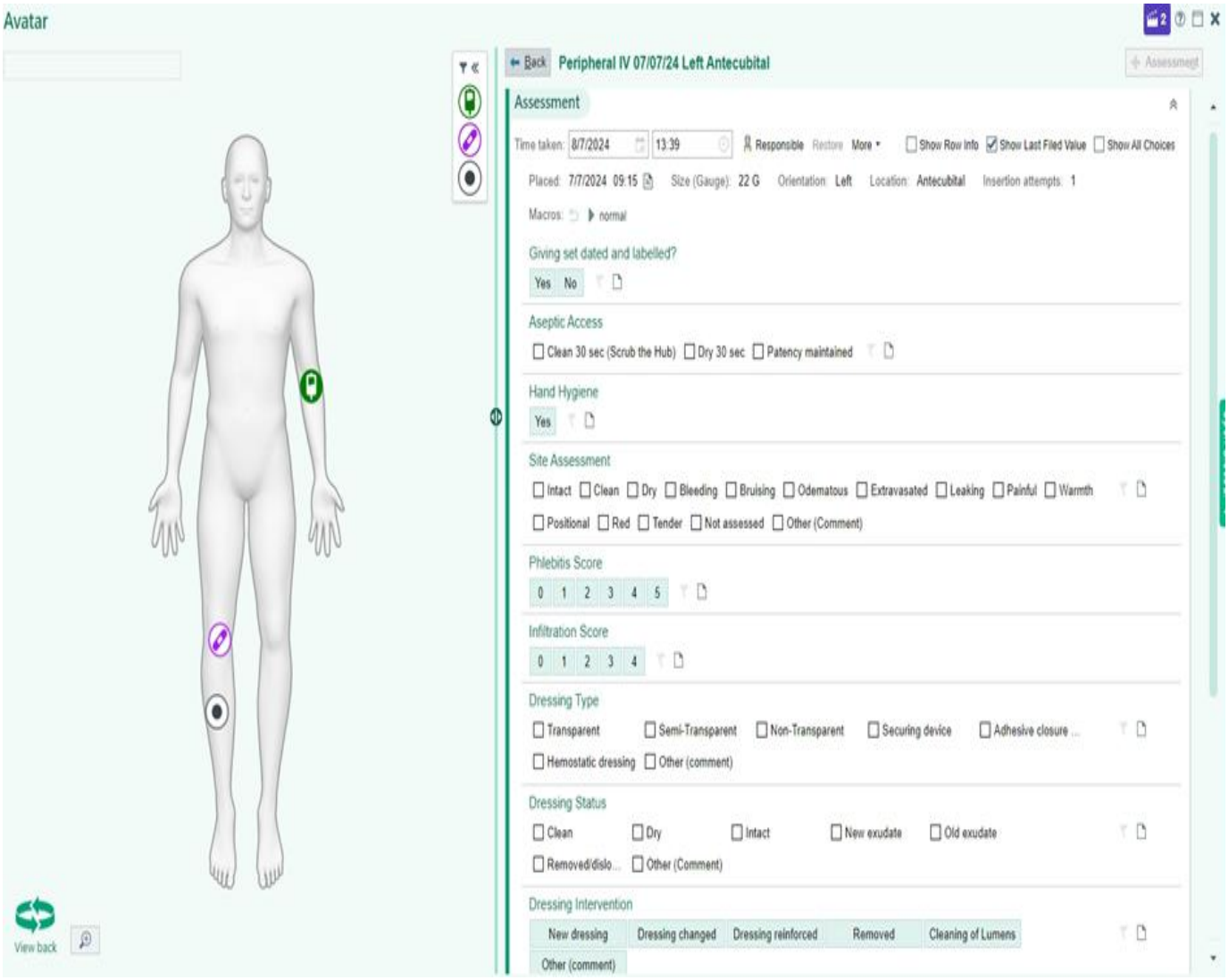
0 1 2 3 4

Grade	Clinical Criteria
0	No symptoms
1	Skin Blanched Oedema <1 inch (2.5cm) in any direction Cool to touch With or without pain
2	Skin Blanched Oedema 1-6 inches (2.5cm-15cm) in any direction Cool to touch With or without pain
3	Skin blanched, translucent Gross oedema >6 inches (15cm) in any direction Cool to touch Mild to moderate pain Possible numbness
4	Skin blanched, translucent Skin tight, leaking Skin discoloured, bruised, swollen Gross oedema >6 inches (15cm) in any direction Deep pitting tissue oedema Circulatory impairment Moderate to severe pain Infiltration of any amount of blood product, irritant or vesicant

Appendix 2 Dressing Assessment



Appendix 3: Adult Avatar



Appendix 4: Baby Avatar