University Hospitals Birmingham NHS
NHS Foundation Trust

Expanded Practice Protocol for the Performance of Venesection at the Registered Nurse Led Clinic for the Treatment of Patients with Haemochromatosis

CONTROLLED DOCUMENT

CATEGORY:	**Procedural Document**
CLASSIFICATION:	**Clinical**
PURPOSE	**This protocol supports registered nurses in the Liver Outpatient Department to undertake venesection at the registered nurse led clinic for the treatment of patients with haemochromatosis.**
Controlled Document Number:	**271 (Formerly CP 43)**
Version Number:	**4**
Controlled Document Sponsor:	**Executive Chief Nurse**
Controlled Document Lead:	**Identified Registered Nurse performing venesection and working within the Liver Outpatient Department**
Approved By:	**Executive Chief Nurse** **Executive Medical Director** **Associate Director of Nursing, Division C** **Matron, Outpatients and Pre Assessment** **Clinical Service Lead**
On:	**July 2015**
Review Date:	**June 2018**
Distribution: • **Essential Reading for:** • **Information for:**	**All registered nurses in the Liver Outpatient Department who currently undertake the practice of venesection for the treatment of patients with haemochromatosis and all registered nurses in the Liver Outpatient Department who wish to expand their practice to include this skill.** **All clinical staff in the Liver Outpatient Department**

EVIDENCE FOR PRACTICE

Haemochromatosis is a condition in which the gastrointestinal tract absorbs an excess of iron. It is pathologically characterised by the deposition of iron stores throughout organs of the body; most commonly in the liver. Excess iron storage in the liver can lead a number of conditions including hepatomegaly and cirrhosis. Following diagnosis, the treatment of choice is venesection if there is evidence of iron overload.

Venesection is the insertion of a wide bore needle into the brachial vein to remove an amount blood in accordance with predetermined criteria. The removal of blood can also be performed via a central venous access device (CVAD) for identified patients with poor venous access.

Once diagnosis is established, the patient requires lifelong follow up which includes regular visits to the hospital. Registered nurse led venesection at the registered nurse led clinic for the treatment of patients with haemochromatosis, provides a responsive and patient led service thus meeting the needs of this cohort of patients.

A review of the expanded practice protocol has been undertaken to ensure the practice covered by this document remains up to date. As part of this review, an audit was performed (Maguire & Jackson 2015), which has confirmed that the expanded practice protocol has been adhered to. No significant changes to the protocol have been made.

CONSENT

Although formal written consent is not required for minor procedures, verbal consent for the venesection procedure must be obtained where possible and this must be documented on the patient's record, (Clinical Portal, Clinical Noting). For further information regarding consent and mental capacity please refer to the following documents:

- Department of Health Reference Guide to Consent for Examination or Treatment (2009).
- The Trust's Policy and Procedural document for consent to examination or treatment (current version).
- *Mental Capacity Act (2005).*

INDICATIONS

1. The patient with a medical diagnosis of haemochromatosis requiring venesection, who has been identified as suitable for treatment within the registered nurse led clinic, by a consultant or registrar liver physician. This suitability to attend the registered nurse led clinic and the patient's Ferritin level and Transferrin saturation must be documented on PICS.

2. Prior to the commencement of the treatment, the patient must have been fully informed about venesection and this must be documented on the

patient's record. New patients must receive the haemochromatosis information leaflet at the point of diagnosis.

3. Referral to the registered nurse led clinic must be by letter or email.

4. A consultant or registrar must always be present in the department when the registered nurse led clinic is in progress.

CONTRAINDICATIONS

The patient must be referred to the consultant liver physician, and the registered nurse must not perform venesection in the following circumstances:

1. The patient has capacity and does not give consent for venesection at the registered nurse led clinic.

2. The patient shows signs of unstable cardiovascular function compared to previous baseline observations.

3. The patient has transferrin saturations and ferritin levels that are within normal limits.

4. The patient is under 16 years of age

LIMITATIONS TO PRACTICE

1. The patient who has scarred or friable veins may require a medical clinician to site the venesection needle.

2. If the patient presents with signs of infection related to their central venous access device, they must be reviewed immediately by the consultant liver physician and a treatment plan for the central venous access device commenced accordingly.

3. The patient must have had at least 1 litre to drink and something to eat prior to venesection. If the patient has been nil by mouth for a liver ultrasound scan immediately prior to the planned venesection/ has not eaten or drunk, the venesection must delayed until the patient has eaten and drunk, or be booked for an alternative day.

4. The patient with a haemoglobin level that is lower than normal range for their gender may need to be discussed with the consultant liver physician/registrar prior to venesection. The venesection volume may be adjusted (reduced) to take into account the transferrin saturations and ferritin levels, haemoglobin levels in patients who are asymptomatic. The treatment plan must be recorded in the patient record.

5. If the patient presents with any of the following as a new issue they must be referred to the consultant liver physician/registrar prior to venesection:

- The patient has had previous problems with venesection
- The patient bruises easily
- The patient has fainted in the past in association with venesection
- The patient has previously manifested the symptoms of hypovolaemic shock during venesection
- The patient weighs less than 49 kilograms in weight
- The patient is menstruating
- The patient is known to be pregnant

6. If the registered nurse has any concerns about the patient's condition they must either rearrange the appointment, take a reduced volume of blood during venesection or immediately refer the patient to the appropriate consultant liver physician who will advise on any further action to be taken. This will be recorded in the patient's records.

The appropriate Health and Safety risk assessments must have been completed for the clinical area.

CRITERIA FOR COMPETENCE

1. Registered nurses working within the liver outpatient department. The registered nurse must have undertaken training recognised by the Matron for Outpatients and Pre Assessment.

2. The registered nurse must provide evidence of competence in the performance of phlebotomy in accordance with expanded practice protocol controlled document number 243 (current version).

3. If taking blood from a central venous access device the registered nurse must provide evidence of competence in care of central venous access devices in accordance with clinical guidelines controlled document number 224 (current version).

4. The registered nurse must be familiar with, and adhere to, the local guidelines for the practice of venesection (Appendix 3)

5. Evidence of satisfactory supervised practice must be provided by the registered nurse as witnessed by a practitioner who is already competent in venesection for the treatment of patients with haemochromatosis (Appendix 1).

6. The number of supervised practices required will reflect the individual registered nurse's learning needs.

7. Evidence of competence in the practice of venesection must be provided and a copy kept in the registered nurse's personal file and in the department where the skill is practised (Appendix 2). Following each review and update of the protocol the registered nurse has a responsibility to ensure that there evidence of competence is against the current version of the protocol.

8. Registered nurses new to the Trust, who have been performing the skill elsewhere, must read, understand and be signed off against this protocol. Evidence of appropriate education and competence must be provided and checked by the Clinical Lead or Senior Sister within the Out-Patient Department before undertaking this expanded practice at the Trust. The decision whether the registered nurse needs to complete Trust training will be at the discretion of the registered nurse's line manager.

9. In accordance with codes of professional practice, the registered nurse has a responsibility to recognise, and to work within, the limits of their competence. In addition, the registered nurse has a responsibility to practise within the boundaries of the current evidence based practice and in line with up to date Trust and national policies and procedural documents. Evidence of continuing professional development and maintenance of skill level will be required and confirmed at the registered nurse's annual appraisal by the registered nurse's line manager.

A list of registered nurses competent to perform this skill must be kept by the relevant Out Patient Department area clinical manager

PROTOCOL AND SKILLS AUDIT

A registered nurse in the liver out patient department will be identified to lead the audit of the protocol with support from the Practice Development Team. The audit will be undertaken in accordance with the review date and will include:

- Adherence to the protocol
- Any untoward incidents or complaints arising from the nurse led venesection clinic.
- Number of registered nurses competent to perform venesection.
- Patient experience feedback

All audits must be logged with the Risk and Compliance Unit.

CLINICAL INCIDENT REPORTING AND MANAGEMENT

Any untoward incidents and near misses must be reported via the Trust incident reporting system, and where required escalated to the appropriate management team. In addition, the Risk and Compliance Unit must be notified by telephone of any Serious Incidents Requiring Investigation (SIRI).

REFERENCES

Department of Health (2009) **Reference Guide to Consent for Examination or Treatment** 2nd edn. HMSO, London

Maguire, C. & Jackson D (2015) **Audit of Expanded Practice Protocol for the performance of venesection at the registered nurse led clinic for the treatment of patients with haemochromatosis.** CARMS-11904. University Hospitals Birmingham NHS Foundation Trust. Unpublished

Mental Capacity Act 2005,
http://www.legislation.gov.uk/ukpga/2005/9/contents
[accessed 08.04.15]

University Hospitals Birmingham NHS Foundation Trust. (current version) **Expanded Practice Protocol for the Performance of Phlebotomy** University Hospitals Birmingham NHS Foundation Trust
http://uhbpolicies/Microsites/Policies_Procedures/phlebotomy.htm
[accessed 08.04.15]

University Hospitals Birmingham NHS Foundation Trust. (current version) **Guidelines for the care of central venous access devices (CVADs)** University Hospitals Birmingham NHS Foundation Trust

University Hospitals Birmingham NHS Foundation Trust (current version) Policy for consent to examination or treatment, University Hospitals Birmingham NHS Foundation Trust
http://uhbpolicies/Microsites/Policies_Procedures/consent-to-examination-or-treatment.htm [accessed 08.04.15]

University Hospitals Birmingham NHS Foundation Trust (current version) Procedure for consent to examination or treatment. University Hospitals Birmingham NHS Foundation Trust
http://uhbpolicies/Microsites/Policies_Procedures/consent-to-examination-or-treatment.htm [accessed 08.04.15]

BIBLIOGRAPHY

British Liver Trust (2011): **Haemochromatosis Information Leaflet HCT/02/11** http://www.britishlivertrust.org.uk/liver-information/liver-conditions/haemochromatosis/ [accessed 08.04.15]

University Hospitals Birmingham NHS Foundation **Trust Risk Assessment Documentation** http://uhbhome/Resources/RiskAssessmentDocs/Home.aspx
[accessed 08.04.15]

University Hospitals Birmingham NHS Foundation Trust (current version) **Procedure For The Management And Safeguarding Of Patients Less Than 18 Years Of Age**
http://uhbpolicies/Microsites/Policies_Procedures/patients-under-18.htm
[accessed 06.05.2015]

PROTOCOL SUBMISSION DETAILS

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Protocol submitted to and approved by

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Date 01/07/2015

Executive Medical Director .....

Date 8/7/15

Associate Director of Nursing, Division C .....

Date 30.6.15.

Matron for Out Patients and Pre-assessment .....

Date 30/6/15

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Appendix 1

UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST

EVIDENCE OF SUPERVISED PRACTICE

To become a competent practitioner, it is the responsibility of each registered nurse to undertake supervised practice in order to perform a **Registered nurse led venesection clinic for the treatment of patients with haemochromatosis** in a safe and skilled manner.

Name of Registered Nurse: …….

DATE	DETAILS OF PROCEDURE	SATISFACTORY STANDARD MET	COMMENTS	PRINT NAME, SIGNATURE & DESIGNATION
		Yes / No		
		Yes / No		
		Yes / No		
		Yes / No		
		Yes / No		
		Yes / No		

UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST

CRITERIA FOR COMPETENCE

END COMPETENCE: To undertake venesection at the registered nurse led clinic for the treatment of patients with haemochromatosis

Date(s) of education and supervised practice: **…….**

Name of registered nurse (print): **…….**

Name of supervisor (print): **……. Designation: ……**

ELEMENT OF COMPETENCE TO BE ACHIEVED	Date Achieved	Registered Nurse Sign	Supervisor Sign
Correctly define the term 'haemochromatosis'			
Correctly define the term 'venesection'			
Discuss and demonstrate understanding of the: • Indications • Contraindications • Limitations to practice for registered nurses performing venesection for patients with haemochromatosis according to this expanded practice protocol.			
Provide evidence of competence in the performance of phlebotomy in accordance with expanded practice protocol controlled document number 243 (formerly CP 10 / current version).			
Provide evidence of competence in care of central venous access devices in accordance with clinical guidelines controlled document number 224 (current version). (As appropriate)			
Discuss the application of the Guidelines for the practice of venesection (Appendix 3).			
Demonstrate knowledge of, and discuss the importance of patient assessment, in relation to the treatment plan (refer to guidelines in Appendix 3)			

ELEMENT OF COMPETENCE TO BE ACHIEVED	Date Achieved	Registered Nurse Sign	Supervisor Sign
Identify and discuss the most appropriate treatment for haemochromatosis			
Correctly state and demonstrate understanding of the rationale for the maximum volume of blood to be removed from a patient during one venesection procedure			
Demonstrate accurate provision of information pre and post the procedure in a way that the patient understands.			
Demonstrate maintenance of the patient's privacy and dignity throughout the procedure.			
Demonstrate proficiency in the procedure of venesection • Via a venesection needle • Via a central venous access device (CVAD) as appropriate			
Correctly identify the potential complications of venesection			
Discuss the signs and symptoms of hypovolaemia and correctly identify the action to be taken when it occurs			
Discuss the signs and symptoms of mechanical phlebitis and correctly identify the action to be taken when it occurs			
Discuss the signs and symptoms of an infected CVAD and correctly identify the action to be taken when it occurs.			
Demonstrate a working knowledge of Trust policy for consent to examination or treatment.			
Demonstrate a working knowledge of the *Mental Capacity Act 2005*.			
Demonstrate a working knowledge of the Trust's policy for consent to examination or treatment.			
Demonstrate a working knowledge of the NMC Code: Standards of conduct, performance and ethics for nurses and midwives (2015).			

ELEMENT OF COMPETENCE TO BE ACHIEVED	Date Achieved	Registered Nurse Sign	Supervisor Sign
Discuss methods of minimising the health and safety hazards encountered during the handling of blood, with reference to COSHH regulations and Trust infection prevention and control policy and procedures			
Demonstrate the ability to check the patient's record for their infection status and practise safe infection prevention and control practices throughout the procedure. To include: standard precautions, aseptic non touch technique (ANTT) and isolation procedures, where applicable			
Demonstrate accurate record keeping.			
Discuss any health and safety issues in relation to this expanded practice			
Demonstrate an understanding of the incident reporting process.			

I declare that I have expanded my knowledge and skills and undertake to practice with accountability for my decisions and actions.
I have read and understood the protocol for the **registered nurse led venesection clinic for the treatment of patients with haemochromatosis**
Name and Signature of Registered Nurse: ……..…
Date: ……

I declare that I have supervised this registered nurse and found her/him to be competent as judged by the above criteria.

Name and Signature of Supervisor: ……. Designation: …….
Date: ……..

A copy of this record should be placed in the registered nurse's personal file, a copy must be stored in the clinical area by the line manager and a copy can be retained by the individual for their Professional Portfolio.

Guidelines for the Practice of Venesection

NB All interventions and treatments are to be documented in the patient's medical record

Pre procedure

- All patients attending the registered nurse led venesection clinic must be identified as suitable by a consultant liver physician and a written referral made to the registered nurse Clinic and this must be documented in the patient record.
- All patients attending the registered nurse led venesection clinic must have a documented plan of care.
- At each clinic attendance, the patient must have baseline blood pressure, pulse and weight documented.
- Blood results from transferrin saturations and ferritin levels, haemoglobin levels must be checked.
- **For patients under 49 kilograms the volume of blood to be removed must be decided by the Consultant/Registrar Liver Physician (usual to remove 250mls, half a unit only).**
- **For patients who have low haemoglobin for their gender but are asymptotic the volume of blood to be removed must be decided by the Consultant/Registrar Liver Physician (usual to remove 250mls, half a unit only).**

Ask the patients the following questions∗:
1. How are you feeling today?
2. Did you experience any problems following your previous venesection?
3. How did the needle site feel? Did you have a bruise?
4. Have you ever fainted during venesection?
5. Have you ever suffered from dizzy spells, or felt light headed?
6. Have you had a litre of water to drink today?

∗If patients state they are not in good health or answer yes to any of the questions 2- 5, consider liaising with the consultant/registrar liver physician as to whether the patient is fit for venesection.

If the registered nurse has any specific concerns about the patient at that time she/he must seek medical advice.

Procedure for venesection needle

1. Check the patient's name, date of birth and address to confirm identity.
2. Explain the procedure to the patient and obtain verbal consent.
3. Complete baseline observations.
4. Check the patient has drank at least litre of fluid that day. Provide a drink of water as appropriate

5. Ensure adherence to infection prevention and control practices and aseptic non touch technique (ANTT) throughout the procedure.
6. Clean the site for the insertion of the venesection needle with a pre-injection swab (2% chlorhexidine in 70% isopropyl alcohol). Allow to dry.
7. Apply tourniquet to the upper arm.
8. Check the venesection needle cover to confirm the seal is intact.
9. Remove the protective needle cap and inspect the needle for damage, nicks, bends, barbs or fluff.
10. Ensure the vein is fixed. Insert the needle with the bevel facing upwards through the skin until blood flashback is noted. **Do not** insert the whole length of the needle.
11. Check that the blood is flowing into the line. If excessively fast or bright red, suggesting arterial puncture, stop the venesection.
12. If no blood is obtained in the line or the blood flow has stopped perform a single adjustment to the needle position, slowly rotate or withdraw slightly, ask the patient to open and close hand as appropriate. If there remains no blood flow or the flow is so slow that venesection cannot proceed, stop the venesection and take it down.
13. Re-attempt venesection on the other arm providing there is a suitable vein
14. Ensure the line is taped securely to the patient's arm, to ensure no movement of the needle, and gradually release the pressure of the tourniquet until good blood flow is maintained.
15. Check the venepuncture site for bruising and make sure the patient is comfortable.
16. Check the patient and take the patient's pulse and blood pressure during the procedure. (BP and pulse checks are pre, mid and post procedure, unless clinical condition dictates more frequently)

Procedure for blood removal via a Central Venous Access Device (CVAD)

1. Check the patient's name, date of birth and patient identification number to confirm identity.
2. Explain the procedure to the patient and obtain verbal consent.
3. Complete baseline observations.
4. Check the patient has drunk a litre of fluid that day.
5. Ensure adherence to infection prevention and control practices and ANTT throughout the procedure.
6. Follow the procedures for the care of and blood sampling from a CVAD as contained in the Trusts 'Guidelines for the Care Of Central Venous Access Devices' (current version).
7. Attach a 3 way tap to the lumen to be used for blood withdrawal.
8. Over a 30 minute period, withdraw 470 mls of blood using eight 60 ml syringes. Dispose of the blood filled syringes into a sharps container at the point of use. The blood from the final syringe is used for the blood tests required

9. Check the patient, ensure comfort and take the patient's pulse and blood pressure once during the procedure, unless the patient's condition dictates increased frequency.
10. Ensure the CVAD is flushed using normal saline and a pulsating technique is employed to prevent occlusions. A line lock may be prescribed as appropriate.

Bleed Volume
The target bleed volume for all patients should be 470mls (405mls-500mls is acceptable). As previously discussed this may be reduced for patients under 49kgs or with low haemoglobin

Post Procedure

1. Once the target blood volume has been achieved and blood samples taken, the venesection needle should be removed/ the CVAD disconnected (in accordance with the Trusts 'Guidelines for the Care Of Central Venous Access Devices' current version).
2. When a venesection needle has been removed, apply pressure for a minimum 5 minutes to the venesection site to stop bleeding and to prevent bruising. Once the site is dry and there is no obvious oozing, apply a firm dressing i.e. gauze and tape.
3. Dispose of equipment and blood in accordance with the Trusts Infection Prevention and Control Policy and procedures.
4. Recheck pulse and blood pressure post procedure and if satisfactory parameters, discharge the patient following light refreshment and a 5 - 10 minute rest period.
5. Ensure the patient has instructions on how to care for the needle site/ CVAD and what actions to take if unwell.
6. Document the procedure in the patient's record and make the next appointment in accordance with the blood results from the ferritin levels and haemoglobin level
7. Advise once the venesection target is reached blood tests will be performed 3 monthly to check the ferritin levels.
8. Advise patient that they may feel tired and to continue fluid intake and rest as appropriate.

Potential Complications

1. Hypovolaemia

If the patient becomes hypotensive and/or tachycardic; stop the venesection immediately*.*

Nursing Intervention:

1. Lay the patient flat with legs elevated if necessary.
2. Recheck pulse and blood pressure frequently (every 5 minutes) whilst the patient recovers.

3. Allow patient time to recover from hypotension, give oral fluids as patient can tolerate until blood pressure recovers and reassure.
4. If the patient is still hypotensive after 45 minutes, and administration of oral fluids, discuss the patient with the consultant/registrar liver physician.
5. IV fluids may be administered, if prescribed by the consultant/registrar liver physician.
6. Ensure the patient is fully recovered before discharge.

2. Mechanical Phlebitis

Mechanical phlebitis is associated with poor fixation of the venesection needle, allowing movement within the vessel.

Mechanical damage is the actual tearing away of the endothelial lining. This can happen during a traumatic insertion, by excessive motion of the venesection needle or during a traumatic removal.

Nursing intervention:

- To minimise the risks of phlebitis developing, provide maximum stabilisation of the venesection needle to prevent excessive manipulation and movement of the site. Advise the patient to keep the limb still as much as possible, place onto a pillow for comfort.
- Assess vein prior to venepuncture and avoid placing near a valve or artery.

3 Infection of the CVAD

For information regarding care and treatment of CVADs refer to the Trust ‘Guidelines for the care of central venous access devices‘(current version).

If signs and/or symptoms of infection are present, the patient must be reviewed at that clinic visit by the medical staff, and appropriate treatment commenced.