## Therapeutic Venesection Standard Operating Procedure

### Author
| Author’s job title | Haematology Clinical Nurse Specialist |

### Directorate
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<th>Department</th>
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### Main Contact
<table>
<thead>
<tr>
<th>Tel: Direct Dial – 01271 314043</th>
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<tbody>
<tr>
<td>Haematology CNS</td>
</tr>
<tr>
<td>Office 1 Seamoor Corridor</td>
</tr>
<tr>
<td>North Devon District Hospital</td>
</tr>
<tr>
<td>Raleigh Park</td>
</tr>
<tr>
<td>Barnstaple, EX31 4JB</td>
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### Lead Director
| Director of Nursing |

### Target Audience
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### Distribution List
| Senior Management |

### Document Class
| Standard Operating Procedure |

### Issue Date
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| August 2019 |

### Review Cycle
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### Superseded Documents

### Consulted with the following stakeholders: (list all)
- Head of Learning & Development
- All users of this document

### Contact responsible for implementation and monitoring compliance:
- Haematology CNS

### Education/ training will be provided by:
- Haematology CNS

### Approval and Review Process
- Haematology Governance
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1. **Background**

1.1. Therapeutic venesection of 500ml of blood from adults may be required in the following circumstances:-

- Control of Polycythemia Rubra Vera (PRV)
- Management of Haemochromatosis
- Treatment of Porphyria Cutanea Tarda
- 1.5 Treatment of transfusion related Iron overload.

2. **Purpose**

2.1. The Standard Operating Procedure (SOP) has been written to:

- Identify the procedure for the assessment and delivery of Therapeutic Venesection within the Seamoor Unit.
- Improve personal care for the patient and reduce the risks associated with poor Therapeutic Venesection care.

3. **Definition of Terms**

3.1. Polycythemia Rubra Vera. Is an acquired disorder of the bone marrow that causes the overproduction of red blood cells. It is a rare disease that occurs more frequently in men than women, and rarely in patients under 40 years old. It is not known what causes polycythemia vera

3.2. Haemochromatosis is a genetic disorder of iron metabolism very common in those of Celtic, Anglo and Northern European descent. Absorption of iron through the intestine is uncontrolled even when body saturation levels have been reached - the excess iron is very toxic to body organs. The consequences do not occur until this has been happening for several years.

3.3. Porphyria Cutanea Tarda - The porphyrias are a group of diseases in which there is a defect somewhere in the complex chain of chemical steps that are required for the synthesis of the molecule known as haem. The lack of this enzyme causes a build-up of porphyrins in the blood and skin. These react with light, making the skin fragile and easily blistered. Some people are born with the condition, but in the majority it appears later in life, having been caused by a toxin.
3.4. Transfusion related Iron overload - For previously heavily transfused patients who as a result have an elevated ferritin level which could effect long term health. This group of patients must now have normal bone marrow function. e.g. post Bone Marrow Transplantation or intensive treatment for Acute Leukaemias.

4. Indications

4.1. PRV - venesection is used to lower the haematocrit levels to between 0.45 - 0.47 and reduce the risk of thrombosis. Initially this may necessitate weekly venesections in order to bring the haematocrit down to a safe level. Subsequently less frequent venesections will maintain a satisfactory haematocrit. Progress is monitored with a blood count prior to each procedure.

4.2. Haemachromatosis - venesection is used to reduce the excessive iron levels. An advanced case of Haemachromatosis may have a body iron load of 30-40g (normal 3-4g) it may take weekly venesections for up to 2 years to reduce levels to normal. Progress is monitored with a blood count prior to each procedure and Ferritin levels every 3 months.

4.3. Porphyria Cutanea Tarda - venesection is used to reduce ferritin levels and reduce the photosensitive blistering skin rash. Weekly to fortnightly venesections will be required, a blood count prior to each procedure and a ferritin check every 3 months.

4.4. Transfusion related iron overload – The frequency of venesections and target ferritin level will be determined on an individual basis by the consultant managing the patient.

5. Scope

5.1. This Standard Operating Procedure (SOP) relates to the following staff groups who may be involved in the assessment and delivery of Therapeutic Venesection on the unit:

- Registered nurses
- Health Care Assistants

5.2. Registered nurses and health care assistants who are competent in Therapeutic Venesection by the Haematology Department should assess the patients need for Therapeutic Venesection and make an informed decision as to whether a referral to the Haematology department is necessary.
6. **Location**

6.1. This Standard Operating Procedure Therapeutic Venesection can be implemented in the Seamoor Unit at NDDH

6.2. Staff undertaking this procedure must be able to demonstrate continued competence as per the organisation's policy on assessing and maintaining competence.

7. **Equipment**

- Baxter PL146 Transfer pack with 16G needle.
- Medi swabs
- Sphygmomanometer
- Gauze
- Tape
- Relevant blood bottles for Full blood count
- Sharps bin

8. **Procedure**

8.1. This procedure may be performed by Registered Nurses and Senior Healthcare Assistants who have undertaken the venepuncture competency and who are performing within their competency level.

8.2. Review the patient's notes, i.e. note guidelines by consultant, on amount and frequency of venesections and what maintenance levels are required, these will depend on what condition the patient is being treated for.

8.3. Check the most recent blood test results to ensure the levels require intervention. Assess the condition of the patient, any past medical history including any previous reactions during venesection, or medications which could effect the procedure e.g. Beta Blockers.

8.4. Provide information and obtain consent from the patient.

8.5. Check patients' identity against the notes.

8.6. Position the patient on a bed with their arm extended and straight supported on a pillow. Record vital signs as a baseline.

8.7. Into a clean tray open the venesection pack and clamp both clamps. Snap the valve at the opening to the sampling pouch.
8.8. Apply sphygmomanometer cuff to arm which will be used, and inflate to 40-60mmHg

8.9. Select large stable vein suitable for 16G needle generally the Median basilica or cephalic veins in the antecubital fossa.

8.10. Apply Ametop if necessary for 30 mins

8.11. Clean the area using mediwipe and allow to dry. Insert the needle and secure to the patients arm in 2 places with tape. Blood flow is often best if the needle is rotated immediately after insertion, so that the bevel faces down.

8.12. Failed venepuncture - the wide bore needle requires good access, a relaxed patient and nurse, a comfortable extended arm and distended vein. A warm pack may help to distend the vein if needed

8.13. Open the blue clamp and allow sufficient blood to flow into the specimen pouch to fill full blood count and Ferritin blood bottles. Then close the blue clamp

8.14. Unclamp the white clamp to allow blood to flow into the collection bag. The bag should be lowered to 30-60cms below the patients arm this will allow the blood to flow using gravity. The procedure should take about 10 minutes. The bag should be hung onto the salter weighing scales to accurately assess the flow of blood letting. Also to measure the amount of blood removed.

8.15. Slow blood flow - check needle siting (revolving the needle so the bevel is not lodged on the inner surface of the vein is effective.) Check the sphygmomanometer cuff is still inflated, if no flow check the clamps on the tube and, check that the valve is broken to the specimen pouch

8.16. Maintain the pressure of the cuff at 40-60mmHg to maintain good flow. Blood from patients with PRV may be more viscous than normal blood and therefore slower to flow and more likely to clot.

8.17. When the bag is filled with approx 400-500mls of blood using the Salter weighing scales the bag is clamped, the sphygmomanometer cuff is deflated and the needle is removed and light but constant pressure is applied to the venepuncture site.

8.18. Patient may feel faint during or after the procedure - always carry out the procedure with the patient on a bed or couch, occasionally the volume of blood removed with each venesection may need to be reduced, the patient may need to have intravenous fluid replacement during the procedure and/or a more prolonged rest period post procedure.

8.19. The needle is pulled back into the light blue guard from which it cannot be removed to prevent needlestick injury
8.20. The patient should remain on the bed for 5 to 10 minutes following the procedure and their vital signs recorded again with any changes acted upon as needed.

8.21. Observations should be recorded in the patient’s notes which have been taken prior to and following the procedure, along with venepuncture site, volume of blood removed and any ill effects.

8.22. Dispose of all equipment as per hospital policy, label all blood bottles, and arrange next appointment.

8.23. The patient should then sit in a chair for a tea, coffee or soft drink.

8.24. Check the venepuncture site for signs of bleeding; a large bore needle and much used veins can lead to leaking.

8.25. The patient should be allowed home only when the nursing staff are satisfied that there are no after effects. e.g. feeling faint.

8.26. The patients should be advised against strenuous activity and alcohol intake for the rest of the day.

9. Potential Problems

If the patient faints during the procedure, terminate the venesection, tip the head of the bed down until symptoms subside. Record a full set of observations. Contact medical staff if required.

Late faints – This is defined as faints occurring after the patient has left the building 30mins + after venesection. With medical staff, reconsider the role of further venesections.

10. References

- Baxter Healthcare www.baxterhealthcare.co.uk
- medline plus www.nlm.nih.gov
- medic8 www.medic8.com
- netdoctor www.netdoctor.co.uk

11. Associated Documentation

11.1. Northern Devon Healthcare NHS Trust Policies for:

- Venesection Policy