

## **POLICY FOR NON-MEDICAL PRACTITIONER (NMP) LED BONE MARROW ASPIRATE AND TREPINE BIOPSY**

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

### **INTRODUCTION**

This document is intended to support appropriately trained registered Non-Medical Practitioner (NMP) in performing bone marrow procedures on haematology patients.

### **THIS GUIDELINE IS FOR USE BY THE FOLLOWING STAFF GROUP:**

This procedure may be carried out by a Band 6 (or above) registered Non-Medical Practitioners (NMP) who has at least 6 months' experience of working within the speciality of haematology.

The registered Non-Medical Practitioner (NMP) must undertake educational training and clinical supervision provided by a haematology registrar (or above) or a practitioner already competent in the procedure.

The Non-Medical Practitioner (NMP) must perform this procedure regularly with the minimum requirement of one procedure per month.

### **Lead Clinician(s)**

Dr S Shafeek  
Tuney Sinoj  
Thomas Rees

Consultant Haematologist  
Haematology ACP  
CNS Haematology

Guideline reviewed and approved by Clinical Director: 14<sup>th</sup> April 2026

Review Date: 14<sup>th</sup> April 2029

This is the most current document and is to be used until a revised version is available

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### Key amendments to this guideline

<b>Date</b>	<b>Amendment</b>	<b>By:</b>
14/10/09	Guideline approved	Medicines Safety Group
August 2013	Document reviewed with no amendments made	Dr S Shafeek
August 2015	Document extended for 12 months as per TMC paper approved on 22 <sup>nd</sup> July 2015	TMC
05/12/2016	Document extended for 12 months as per TMC paper approved 22 <sup>nd</sup> July 2015	TMC
October 2017	Document reviewed with no amendments	Dr S Shafeek
December 2017	Sentence added in at the request of the Coroner	
4 <sup>th</sup> January 2018	Document extended for 2 years, no changes made	Dr S Shafeek
13 <sup>th</sup> November 2019	Document reviewed and approved with amendments made to Lead Clinician(s).	Dr S Shafeek
17/01/2024	Document reviewed and approved with amendments made to Lead Clinician(s).	Dr S Shafeek
14/04/2026	Document reviewed with amendments to include Non-Medical Practitioners to perform the procedure	Tuney Sinoj

## **POLICY FOR NON-MEDICAL PRACTITIONER (NMP) LED BONE MARROW ASPIRATE AND TREPINE BIOPSY**

### **Introduction**

Bone Marrow aspiration and trephines are used for the diagnosis and staging of a number of haematological disorders. Bone marrow samples may also be required according to trial guidelines. Bone marrow samples can only be taken by a registered Non-Medical Practitioner (NMP) working within Haematology at Band 6 or above, who have been appropriately trained, using only the iliac crest and without sedation. A Consultant Haematologist must request the procedure, clearly stating which samples are to be obtained, and reason for the test. The Haematologist remains responsible for the patient.

Bone marrow aspiration and trephine biopsy are techniques for obtaining bone marrow in order to assess haemopoiesis (development of blood cells) in the bone marrow. They are most often performed from the posterior iliac crest although marrow can also be obtained from the sternum, anterior iliac crests and the anterior tibia (in children).

This procedure is usually performed under local anaesthetic and can be performed by a Non-Medical Practitioner (NMP) who has:

- Undertaken training and clinical supervision provided by a Haematology consultant or staff grade already competent in the procedure.
- Achieved a level of Band 6 or above and is working within haematology
- Observed 10 procedures
- Been observed performing 10 procedures using the correct technique
- Been assessed using the Trust criteria
- On completion been deemed competent by a Consultant Haematologist-or competent Clinical Nurse Specialist (CNS) or Haematology Advanced Clinical Practitioner (ACP)

### **1.1**

The procedure will take place in allocated areas as specified below:

For in-patients

- Laurel 3 Treatment Room
- Laurel 3 inpatient side-room

For outpatients

- Garden Suite side-room
- Millbrook Suite side-room

The Non-Medical Practitioner (NMP) will perform routine procedures in the allocated sessions.

### **1.2**

- The Non-Medical Practitioner (NMP) will receive a written request (see appendix 1) from the haematologist giving patient details, samples required, reason for the procedure, and whether information has been given to the patient explaining the risks benefits of this investigation. The request must also be documented in the patient's notes.
- Written consent must be taken prior to the procedure
- The consultant will retain responsibility for the patient referred to the Non-Medical Practitioner (NMP)
- A Haematology doctor must be contactable via telephone to offer advice to the

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- Non-Medical Practitioner (NMP) as required.
- The procedure will be performed in a suitable clinical environment where help can be summoned easily if needed.
- All patients must be wearing an identity bracelet which is checked prior to the procedure.
- A full blood count should be taken and checked by the Non-Medical Practitioner (NMP) prior to the procedure
- The patient must not have had any thrombolytic therapy within 48 hrs.
- A second nurse should be available to support the patient during the procedure.
- The procedure must be documented in the patient's notes.

**1.3** The following patients are not suitable for bone marrow sampling by a Non-Medical Practitioner (NMP) and therefore should not be referred to the Non-Medical Practitioner (NMP) by the doctor.

- Any patient requiring intravenous sedation.
- Any patient requiring a sternal marrow.
- Any patient with extreme anxiety or in whom previous sampling has been difficult or failed.
- Any patient with a platelet count below  $50 \times 10^9/l$
- Any patient whom the Non-Medical Practitioner (NMP) is not confident of being able to obtain a sample.
- A child under the age of 16 years.

## 2. Equipment

- Antiseptic skin cleansing agent
- Sterile pack and extra gauze
- Selection of syringes and needles
- Scalpel
- Local anaesthetic (2% lignocaine Injection)
- Marrow aspirate and trephine biopsy needles
- Microscope slides and slide tray
- Specimen bottles
- Dressings.
- Sharps bin

## 3. Procedure

- Check with the patient if they are on any anti-coagulation drugs, e.g. aspirin, warfarin, clopidogrel, ensuring they have been omitted. Check with the consultant before proceeding if there are any concerns.
- Fully explain the procedure to the patient and answer any questions relating to the procedure or its outcome.
- Obtain informed consent highlighting the risks and benefits of the procedure as indicated on the pre-printed sheet.
- Open all packs and prepare all equipment using aseptic technique throughout the procedure.
- Ask the patient to lie on their left (or right) side with their knees bent towards their abdomen.
- Palpate the posterior iliac crest and locate the posterior superior iliac spine as the most appropriate area for sampling.
- Wash hands and wearing sterile gloves cleanse the area thoroughly using appropriate cleansing agent and allow drying.

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- Using a 25G needle infiltrate intradermally an area approximately 1-1.5 cm in diameter with 2% lignocaine injection local anaesthetic. Change to a 23G or 21G needle for deeper penetration of the anaesthetic through the various layers including the periosteum. Approximately 5 ml of 2% lignocaine injection should be used depending on the patient's reaction. (Occasional patients require a greater amount of local anaesthetic, but a total of 10 ml should not be exceeded)
- Check that the anaesthetic has been successful by inserting the 23/21G needle into the periosteum. If the patient complains of discomfort, infiltrate with further anaesthetic
- Make a small incision in the skin with a scalpel if necessary.
- With a twisting motion and perpendicular to the skin, introduce the bone marrow aspirate needle through the skin, fat and periosteum into the bone marrow cavity.
- Remove the stylet from the needle, and using a 10ml syringe with draw approximately 0.5ml of bone marrow. (More than this may dilute the sample (although some requests for Trials samples may be for 2ml)). Warn the patient they may feel transient pain, which may radiate down the leg as the marrow is withdrawn. Replace the stylet in the aspirate needle.
- With as little delay as possible apply a small amount of marrow to the slides (approximately 8) and spread using a glass slide at an angle of about 45 degrees. This should allow visual observation of the bone marrow cells.
- Take further samples as needed for immunophenotyping (in EDTA or TC199) +/- molecular studies (in EDTA) and cytogenetics (in lithium heparin or TC199)
- Remove the aspirate needle, pressing the puncture site with a gauze swab to prevent bleeding.
- Slightly enlarge the original puncture site if necessary, using a scalpel blade, then introduce the trephine needle through the skin, aiming for an adjacent part of the iliac crest. Ensure penetration of skin, fat and periosteum.
- Locate the bone and with a twisting motion push the trochar and needle into the bone until it feels firmly anchored.
- Remove the trochar and core a small (1-2 cms) piece of bone marrow out using as much pressure as is needed and a twisting motion
- Insert the retaining device fully into the trephine needle
- Remove the needle with the sample retained within it and apply pressure to the puncture site until any bleeding stops.
- Place trephine at clear end of smeared slide and roll back and forth to deposit bone marrow cell. (trephine roll)
- Place the trephine biopsy sample in formalin using the needle guard and equipment provided.
- Place a pressure dressing on the puncture site after any bleeding has stopped.
- Ask the patient to lie on their back for 5-10 minutes.
- Clear away all equipment and dispose of all sharps into the appropriate container.
- Ensure the patient has an information sheet on bone marrow sampling and aftercare of the puncture site.
- Ensure the puncture site is not bleeding before allowing the patient to leave.
- Document all the information in the patient's outpatient history sheet, Mosaiq notes and Mosaiq assessment
- Ensure all specimens are correctly labelled and sent to the laboratory with the necessary form.

### Posting

Samples are posted to the appropriate centres via the pathology labs and therefore samples should be taken Monday to Thursday, excluding bank holidays.

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### Incident Reporting

All incidents will be reported appropriately, according to Trust guideline. Electronic incident reporting system (Datix Web).

### Escalating Incident/Problems

In the event of a clinical problem during the procedure the haematologist in charge of the patients care will be informed.

If any assistance is required during the procedure a consultant haematologist will respond to any requests of assistance whether planned or unplanned.

### Monitoring Tool

Auditing will be undertaken by the CNS for Haematology on a yearly basis and will include:

- Adherence to guidelines
- Any untoward incidents or complaints
- Number of procedures undertaken
- Patient satisfaction and waiting times
- Quality of bone marrow samples taken

STANDARDS	%	CLINICAL EXCEPTIONS
All practitioners must be assessed as competent following practical and theoretical education.	100%	None
All practitioner must carry out one procedure a month	100%	None
Correct procedure followed	100%	None
Correct follow up advice and care given to the patient	100%	None
Contemporaneous documentation in medical notes	100%	None

### References

- Mallett, J and Dougherty, L (2004) The Royal Marsden Hospital Manual of Clinical Nursing\_Procedures (Sixth Edition)\_Blackwell Sciences, Oxford
- WAHNSHST (2005) Medicines Policy 2<sup>nd</sup> Edition (revised Sept 2006)
- WAHNSHST (2007) Policy for Consent to Examination and Treatment
- WAHNSHST (2007) Waste Management Policy
- WAHNSHST (2008) Incident Reporting Policy

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### APPENDIX 2

#### Assessment of Competence for Non-Medical Practitioners Clinical Skill: Bone Marrow Aspirate and Trepine Biopsy

Name: \_\_\_\_\_ Ward/Dept: \_\_\_\_\_

<b>Aim:</b>	To successfully obtain bone marrow samples. (aspirate and trephine biopsy)
<b>Objectives:</b>	The practitioner will be able to: <ul style="list-style-type: none"><li>◆ demonstrate understanding of the knowledge and skills necessary to obtain bone marrow samples.</li><li>◆ demonstrate competency in performing the procedure</li></ul>
<b>Training:</b>	By a professional deemed competent by the trust
<b>Assessment:</b>	Using performance criteria overleaf
<b>Final Assessment:</b>	By haematology consultants
<b>Risk assessment:</b>	<b>High</b> (level of risk to patient due to user error)
<b>Assessment of competency will be assessed by trainer</b>	
<b>Update:</b>	Competence to be reviewed annually at Appraisal/Personal Development Review (PDR)

#### Underpinning Knowledge

The practitioner will be able to:

- ◆ Describe the related anatomy.
- ◆ Explain the risks and benefits of the procedure to the patient
- ◆ State the risks and benefits of using local anaesthetic
- ◆ Explain the procedure for informed consent
- ◆ Demonstrate appropriate knowledge, skills and use of equipment in order to obtain correct samples
- ◆ Treat samples appropriately and spread slides
- ◆ Implement the Trust Labelling Policy
- ◆ Identify which patients are not suitable for bone marrow sampling by a Non-Medical Practitioner (NMP) and decide when to refer to a consultant haematologist.

I certify that the above-named Registered Health Care Practitioner has completed the assessment covering the above:

<b>Signed:</b>		<b>Date:</b>	
<b>Print Name:</b>		<b>Position:</b>	

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Clinical Skill	
Performance Criteria: The practitioner will:	Performed Safely (✓)
1. Obtain informed consent	
2. Assemble the correct equipment and sample bottles	
3. Position patient correctly and locate the appropriate sample area	
4. Administer local anaesthetic to appropriate area	
5. Perform bone marrow aspirate according to Trust Policy	
6. Spread slides competently	
7. Perform bone marrow trephine according to Trust Policy	
8. Use aseptic technique throughout	
9. Label specimens correctly	
10. Dispose of sharps correctly	
11. Document procedure in the medical notes	
I confirm that the Registered Healthcare Practitioner named overleaf has completed the assessment competently.	
<b>Signed:</b>	<b>Date:</b>
<b>Print Name:</b>	<b>Position:</b>
<b>Assessor Comments:</b>	
<b>Candidate Comments:</b>	
<b>Declaration</b> I confirm that I have had theoretical and practical instruction on how to safely and competently perform a bone marrow aspirate and trephine biopsy and agree to comply with the policy and procedures of the Trust. I acknowledge that it is my responsibility to maintain and update my knowledge and skills regarding this competency.	
<b>Signed:</b>	<b>Grade:</b>

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### **Appendix 4**

## **Patient information**

### **After Your Investigation**

You will be asked to lie down and rest for a short time after the procedure to make sure that there is no excessive bleeding.

You may have some discomfort and bruising over the test site for a few days, which you can ease with painkillers such as paracetamol.

### **Leaving Hospital**

Once you get home, it is important to rest quietly for the rest of the day.

The effects of anaesthetic and the procedure itself should have worn off by the next day, when most patients are able to start normal activities again.

The dressing should be left in place for 48 hours. You may have a shower but soaking the wound should be avoided for 48 hours, to prevent infection.

You must contact your Haematology Non-Medical Practitioner (NMP) or GP if you experience any of the following:

- Severe or persistent pain
- Bleeding which you are unable to stop
- Pins and needles or numbness in your leg.

### **Contact Details**

If you have any specific concerns that you feel have not been answered and need explaining, please contact the following.

- Garden Suite, Alexandra Hospital: 01527 512092
- Millbrook Suite, Kidderminster Hospital: 01562 513093
- Clinical Nurse Specialist, Worcester: 01905 760695 or 01905 763333 and ask switchboard to bleep 357
- Laurel 3 (Haematology Inpatient Unit at Worcester) phone 01905 760568

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### CONTRIBUTION LIST

#### Key individuals involved in developing the document

Name	Designation
Dr S Shafeek	Consultant Haematologist
Tuney Sinoj	Haematology Advanced Clinical Practitioner

#### Circulated to the following individuals for comments

Name	Designation
Dr N Pemberton	Consultant Haematologist
Dr J Mills	Consultant Haematologist
Dr David Davies	Consultant Haematologist
Dr Sangam Hebballi	Consultant Haematologist
Dr Hashim Iqbal	Locum Consultant Haematologist
Dr Omer Pervaiz	Locum Consultant Haematologist
Samantha Toland	Lead Chemotherapy Nurse

#### Circulated to the following CD's/Heads of dept for comments from their directorates / departments

Name	Directorate / Department
Amy Herlihy	Garden Suite, Alexandra Hospital
Susie Hoskin	Millbrook Suite, Kidderminster General Hospital
Richard Newman	Laurel 3, Worcester Royal Hospital

#### Circulated to the chair of the following committee's / groups for comments

Name	Committee / group
Haematology Directorate Meeting	Haematology Directorate Meeting

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Supporting Document 1 – Equality Impact Assessment form

Equality and Health Inequalities Impact Assessment (EHIA) Tool

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### Herefordshire & Worcestershire STP - Equality and Health Inequalities Impact Assessment (HEIA) Form

Please read HEIA guidelines when completing this form

#### Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust	
Other (please state)			

Name of Lead for Activity	
---------------------------	--

Details of individuals completing this assessment	Name	Job title	e-mail contact
	Tuney Sinoj	Haematology ACP	tuney.thomas@nhs.net
Date assessment completed	16/6/2026		

#### Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	<b>Title: POLICY FOR NURSE/ALLIED HEALTH CARE PROFESSIONAL (AHPs) LED BONE MARROW ASPIRATE AND TREPINE BIOPSY</b>		
What is the aim, purpose and/or intended outcomes of this Activity?	Safe performance of bone marrow biopsies by Nurses and/or Allied Health care Professionals		
Who will be affected by the development & implementation of this activity?	<input checked="" type="checkbox"/> Service User <input checked="" type="checkbox"/> Patient <input type="checkbox"/> Carers <input type="checkbox"/> Visitors <input type="checkbox"/>	<input checked="" type="checkbox"/> Staff <input type="checkbox"/> Communities <input type="checkbox"/> Other _____	
Is this:	<input checked="" type="checkbox"/> Review of an existing activity <input type="checkbox"/> New activity <input type="checkbox"/> Planning to withdraw or reduce a service, activity or presence?		
What information and evidence have you			

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reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	NIL
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	Already existing document. This has been amended to include performance of the bone marrow biopsy by Allied Health care professionals
Summary of relevant findings	NIL

### Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale.**

Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		X		
Disability		X		
Gender Reassignment		X		
Marriage & Civil Partnerships		X		
Pregnancy & Maternity		X		
Race including Traveling Communities		X		
Religion & Belief		X		
Sex		X		
Sexual Orientation		X		
Other Vulnerable and		X		

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<b>Disadvantaged Groups</b> (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)			
<b>Health Inequalities</b> (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		X	

### Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
<b>How will you monitor these actions?</b>				
<b>When will you review this HEIA?</b> (e.g in a service redesign, this HEIA should be revisited regularly throughout the design & implementation)				

**Section 5** - Please read and agree to the following Equality Statement

### 1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

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<b>Signature of person completing HEIA</b>	
<b>Date signed</b>	
<b>Comments:</b>	
<b>Signature of person the Leader Person for this activity</b>	Tuney Sinoj
<b>Date signed</b>	22/6/2026
<b>Comments:</b>	Policy amended to include/allow allied health professionals to perform the procedure.



## Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

<b>Title of document:</b>	<b>Yes/No</b>
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	<b>Title of document:</b>	<b>Yes/No</b>
1.	Does the implementation of this document require any additional Capital resources	
2.	Does the implementation of this document require additional revenue	
3.	Does the implementation of this document require additional manpower	
4.	Does the implementation of this document release any manpower costs through a change in practice	
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval