GUIDELINE FOR ALLERGY SKIN PRICK TESTING IN ADULTS

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

Allergy is a growing problem within the United Kingdom. Reports from the House of Lords review (2007) and the British Society for Allergy and Clinical Immunology identify the importance of correct allergy management in a range of disease processes including respiratory medicine, ENT and dermatology. Identification of an individual's allergy profile is of primary importance in the management of allergic disease. There are two common tests available for this. The radio-allergo-sorbent-test (RAST) is a blood test that can be used to identify circulating allergen specific Immunoglobulin (IgE). However, this test is expensive (which limits the number of allergens that can be tested for) and takes time for results to become available. Alternatively, skin prick testing can be used to look for allergen specific Mast cell based IgE. This allows for a range of allergens to be tested for and provides a result within 15 minutes.

Skin prick testing is still highly relevant today with its value being recognised in current national policies including the BTS/SIGN Guidelines on the Management of Asthma (2008) and the BSACI guidelines for the management of allergic and non-allergic rhinitis (2007). It has been shown to be safe and reliable providing they are interpreted within the context of a comprehensive allergy history taken from the individual patient.

This guideline is for use by the following staff groups:

Qualified staff who regularly work alongside a Consultant who is actively involved in allergy management. This will include Registered Nurses who work in the Respiratory, ENT, Dermatology and Paediatric clinics; and Clinical Physiologists at band 6 and above.

The staff must have completed a relevant allergy course e.g. The Diploma in allergy management, or have attending the designated in-house training session for skin prick testing; and have completed the relevant competency based assessment.

Lead Clinician(s)

Michelle Ferguon	Asthma and Allergy Lead Nurse
Dr Steve O'Hickey	Respiratory Consultant
Jane Newport	Lead Practitioner Respiratory

Approved by Respiratory Directorate on:	17th June, 2024
Review Date:	17th June, 2027

This is the most current document and should be used until a revised version is in place

Key amendments to this guideline

Date	Amendment	By:
November 2016	Documents extended for 12 months as per TMC paper approved on 22nd July 2015	TMC
October 2017	Document extended for further two years with no changes	Sarah Austin
December 2017	Sentence added in at the request of the Coroner	
May 2020	Policy amended to reflect the current Standard Operating Procedure of the BSACI Children are no longer covered by this policy at the request of the Paediatric team, who wish to produce a child specific policy of their own.	
October 2021	Document approved for 3 years	Respiratory Clinical Lead
June 2024	Document extended for 3 years with no changes needed/ Approved at Respiratory Directorate- 17th June 2024	Jane Newport

GUIDELINE FOR ALLERGY SKIN PRICK TESTING

INTRODUCTION

Allergy is a growing problem within the United Kingdom. Identification of an individual's allergy profile is of primary importance in the management of allergic disease, particularly for people needing investigation for ENT, dermatology or respiratory related conditions. There are two tests available to assess for potential allergens:

Radio-allergo-sorbent-test (RAST) is a blood test that can be used to identify circulating allergen specific Immunoglobulin (IgE). This test has to be ordered for each individual allergen (which can be expensive for multiple tests) and takes time for results to become available. RAST can be requested via the Trust's Biochemistry request system.

Skin prick testing can be used to look for allergen specific Mast cell based IgE. This allows for a range of allergens to be tested for and provides a result within 15 minutes. Skin prick tests need to be interpreted within the context of a comprehensive allergy history taken from the individual patient.

COMPETENCIES REQUIRED

This test may only be performed by qualified staff who regularly work alongside a Consultant who is actively involved in allergy management.

The staff must have completed a relevant allergy course or have had completed in-house training and have completed the relevant competency based assessment.

PATIENTS COVERED

Patients attending Worcestershire Acute Hospitals NHS Trust for investigations of allergic disease linked to the Respiratory, ENT, or Dermatology.

DETAILS OF GUIDELINE

Environment:

- Though skin prick testing is considered to be a safe procedure, there is a theoretical risk of a systemic allergic reaction to skin prick testing to food allergens.
- Where the patient is being tested as a result of experiencing an anaphylactic reaction or other significant systemic response (e.g. their airway has been compromised as a result of possible allergen exposure) the test must be completed where there is immediate access to emergency equipment and medical assistance. A medically qualified person must be aware the test is occurring.

Allergy history:

- Before skin prick testing can be undertaken, the patient's allergy history should be recorded by either a medical practitioner or by a health care professional who has completed a relevant allergy course.
- Where a doctor has request a panel of allergens for a patient prior to obtaining a history, the responsibility for interpreting the results lies with that medical practitioner. Staff must be aware that a positive result does not necessarily indicate a confirmed allergy and must not interpret the results or recommend allergen avoidance strategies to patients under these circumstances.

Selection of allergens for testing:

- Allergens must be selected on the basis of the person's allergy history. Random selection of allergens can result in inaccurate results that will complicate rather than clarify the patient's allergy profile.
- All skin prick tests must include positive and negative control solutions.

Preparation of the patient:

- The Trust policy for identification of the patient must be followed prior to the test.
- The staff member must explain the nature of the test, the anticipated effects (itching, redness and swelling at the test sites) and possible side effects (e.g. late local response) to the patient and obtain verbal consent.

Completion:

- Ensure the patient is comfortable.
- If the patient is suffering with itching at the skin prick test sites, running cold water over their arm and patting the area dry may help.
- If the itching is severe, consider using topical steroid cream. This is a medication and must be prescribed.
- Ensure that results are reported to the patient's physician and that the skin prick test form is filed in the electronic notes, using the skin prick test header sheet.

Skin prick test procedure:

The BSACI Standing Operating Procedure, below, should be followed

Standard Operating Procedure

Adult Skin Prick Testing

Compiled by members of the BSACI Nurses in Allergy Committee

The following standard operating procedure outlines how to perform a skin prick test and is applicable to all health care professionals undertaking this role.

Skin prick testing (SPT) is a method used to determine the presence of specific IgE. SPT should only be interpreted in conjunction with a clinical history as a positive SPT alone is not diagnostic of clinical disease [1,2]. Depending on the allergen, approximately half of positive tests occur in patients who are not allergic to that allergen. SPT should be performed by an appropriately trained and competent healthcare worker who is also trained in recognition and treatment of anaphylaxis [3].

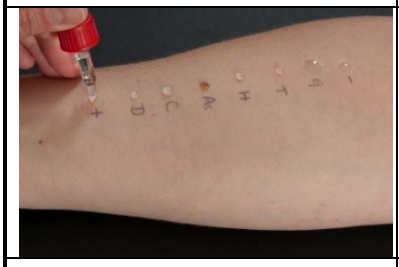
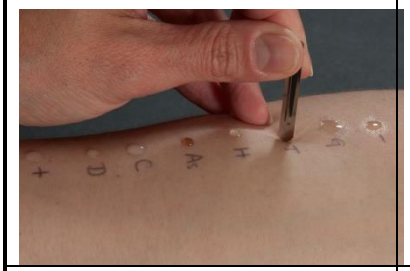
Exclusions
SPT reactions are inhibited by antihistamines and may be inhibited by tricyclic antidepressants, topical corticosteroids and UV light treatment. Therefore where possible inhibitory medication should be stopped or alternative testing methods considered [1,2]. Short acting anti-histamines should be stopped for 72 hours prior to testing

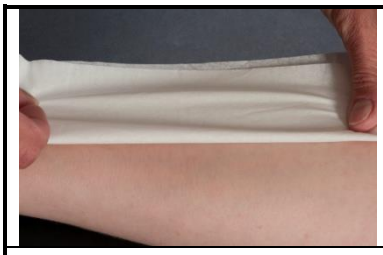
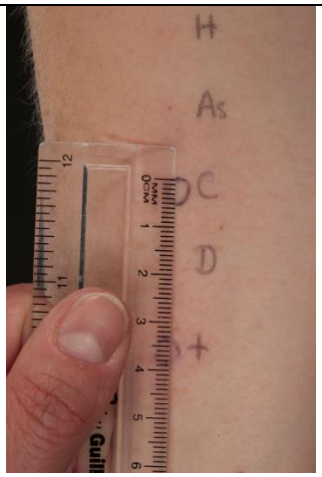
Cautions
Caution should be taken when considering SPT in pregnancy, for patients with unstable asthma or those taking beta blockers and/or ACE inhibitors[1,2].

Equipment

- Selected allergens and positive and negative control solutions (stored at +2-+8ºC). Check expiry date and date opened (some manufacturers state that skin test solutions should be used within 6 months of opening.) [4]
- And/or fresh foods to be used for testing
- Skin prick test recording sheet
- Pen
- Individual sterile skin prick testing lancets
- Sharps bin
- Tissues
- Skin test measure
- Timer / clock / watch
- Emergency equipment should be available to treat anaphylaxis, including adrenaline 1:1000 [5]

Preparation
Verbal consent for the procedure should be obtained. The procedure should be undertaken in accordance with local infection control policy using appropriate hand hygiene measures. Select appropriate test site free from eczema / dermatitis, the preferred site is the forearm but the back may also be used.

	PROCEDURE (1,2,3,6)	RATIONALE
	Ensure test site is free from body lotion and moisturisers	Body lotion / moisturiser can cause allergen drops to run, causing cross contamination.
	Test site should be hygienically clean but does not need to be not be cleaned with alcohol or antiseptic	
	Ensure patient is in a comfortable position sitting or, if needle phobic, lying down. Rest arm on a level surface, using pillow if necessary.	To ensure patient is relaxed and able to remain still during the test.
	Mark the test sites approximately 2.5cm apart, using first letter of allergen being tested. Avoid the skin creases (elbow and wrist)	To ensure any reactions do not overlap so that accurate measurements can be made.
	Begin with the negative control and end with the positive control	To provide consistency, to prevent cross contamination from the histamine control and for patient comfort because the histamine control reaction time is the quickest.
	Place one drop of each selected allergen solution* next to relevant marked site. *for prick to prick testing see additional guidance below.	To ensure accurate identification of the allergen when results are read
	Using gentle pressure, push the lancet through allergen solution and into the surface layer of the skin at a 90^{O} angle.	To ensure that the allergen penetrates the outer surface of the skin. To reduce risk of causing bleeding. To ensure a standardised test
	Discard lancet into sharps bin	To ensure safe disposal of sharps
	Repeat the procedure for each allergen and the controls using a new lancet each time	To prevent cross contamination of the allergens

	Remove surplus allergen by blotting test sites with tissue ensuring that there is no cross contamination between test sites.	To remove excess allergen solution and prevent cross contamination of test sites.
	Advise patients not to scratch the test sites whilst waiting for the results to develop	To allow for accurate reading of results.
	Advise patients to report promptly any systemic adverse reaction	To ensure prompt treatment of any adverse reaction
	Results should be read 10-15 minutes after the test. Measure the wheal diameter in mm. For asymmetric wheals measure the longest extent of the wheal in mm and the extent 90^{o} to the first measurement (eg 3x3mm). An imprint of the result can also be made by drawing round the wheal in pen and taking a print using skin tape which can then be stuck onto the results sheet. The flare may also be recorded.	To ensure accurate assessment of the reaction is recorded.
	Any pseudopodia should be noted but not included in the measurement of the wheal	
	A wheal diameter of 3mm larger than the negative control is a positive reaction	
	A wheal response to the negative control indicates dermographism	Document the response to the negative control. Interpretation of other positive results must allow for subtraction of the negative control. The need for further, alternative testing should be considered by the clinician who has requested the test.
	Absence of a wheal at the positive control suggests that a topical or oral medication with antihistaminic properties may have been taken. Repeat the positive control and if still negative record as an invalid test.	Document that the positive control has not reacted. Either repeat the skin tests off anti-histamines /other medication or the requesting clinician can consider specific IgE serology.

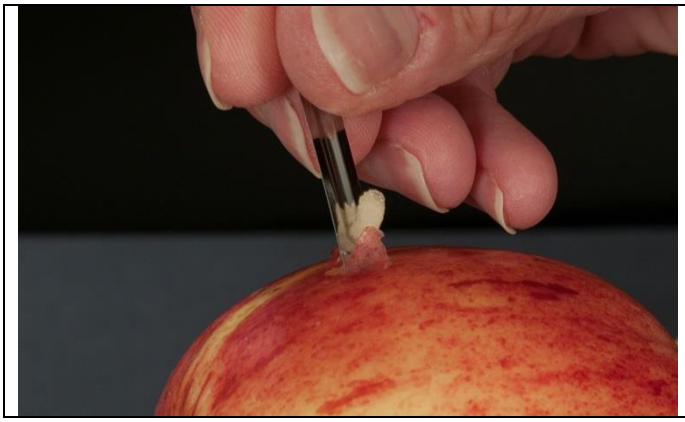
	Advise the patient that the wheals will fade, usually within an hour.	To inform the patient
	Topical 1% hydrocortisone, oral anti-histamines or a cold compress may be given to relieve severe itch in line with a prescription.	To enhance patient comfort and relieve severe itch
	Record the outcome of the test including; • date of test • patient name, date of birth and hospital number • skin prick (SPT) or prick to prick (PPT) method • wheal size in mm • any recent antihistamine medication with date/time of last dose. • name, designation and signature of person performing the SPT	Ensure accurate documentation.

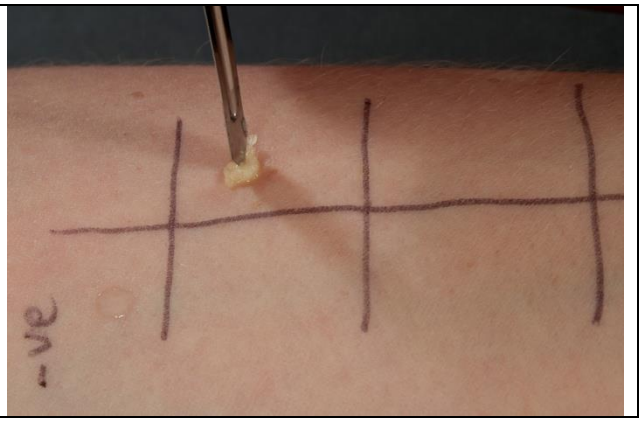
***Prick-to-prick testing with fresh foods**

The food used for testing fruit and vegetables should be fresh and not tinned or cooked as these processes can alter allergenicity.

For fruit / vegetables push lancet into a fleshy and juicy/moist site of the food (through skin if normally eaten) and place a small amount of the food substance onto the skin. Then introduce the lancet into the surface layer of the skin at a 90^{O} angle through the food.

For other foods place a small amount onto the skin, where practical, or crush/grind and make a paste using sterile saline and place this on skin before pricking through it with the lancet.





Interpreting the Skin Prick/ Prick to Prick Test

Ensure that the results are discussed with the patient by an appropriate clinician and, when applicable, allergen avoidance advice is given. It is important to be aware of the distinction between sensitisation (a positive test without clinical allergy) and allergy.

References

1 The skin prick test – European Standards Clinical and Translational Allergy 3:3 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3565910/

2 Bousquet et al (2012) Practical guide to skin prick tests in allergy to aeroallergens Allergy 67: 18-24 http://onlinelibrary.wiley.com/doi/10.1111/j.1398-9995.2011.02728.x/pdf [accessed 16.01.2015]

3 Fitzsimons R et al (2014) Allergy Nurse Competency Document BSACI http://www.bsaci.org/professionals/nurses-specialising-in-allergies [accessed 16.01.2015]

4 Summary of product characteristics Soluprick Timothy Grass ALK Abello http://www.alk-abello.com/UK/products/soluprickSQ/Lists/Soluprick%20SQ/Timothy%20Grass%20SmPC.pdf [accessed 15.10.2015]

5 UK Resuscitation Council (2008) Emergency Treatment of Anaphylactic Reactions https://www.resus.org.uk/search/?q=anaphylaxis

6 King et al (2010) Paediatric Skin Prick Testing SOP BSACI http://www.bsaci.org/Guidelines/Skin_Prick_Testing.pdf [accessed 16.01.2015]

MONITORING TOOL

How will monitoring be carried out? Clinical Audit

Who will monitor compliance with the guideline? Directorate Clinical Governance Committees

STANDARDS	%	Clinical Exceptions
An allergy history is taken prior to skin prick testing	100%	None
Positive and negative control solutions are used	100%	None

Patient's addressograph label

Department of Respiratory Medicine
Skin Prick Tests

What is your presenting problem?

Have you ever suffered from asthma, hay fever, rhinitis, eczema, urticaria, allergic conjunctivitis, or food allergy?

What symptoms do you have at the moment?

Have you taken any antihistamines in the last 3 days: Yes / No

What makes your symptoms worse?	What is your job? What jobs have you done in the past?
Is there any time of day when your symptoms are better or worse?	Does anything that you do at work or school make your symptoms worse?
Is there any time of year when your symptoms are better or worse?	Is there anything you do in your house (e.g. dusting) that makes your symptoms worse?
Is there any change in your symptoms when you go on holiday?	What is your bedroom like? (e.g. bunk bed, feather pillows)
Is there any type of food that upsets you?	Do you have any contact with animals or birds?

Patient's addressograph label

BASIC ATOPY ASSESSMENT

	Histamine	Physiological saline
Mite II (P.ter)	Cat	Aspergillus
Trees I (early)	Trees II (mid)	Grasses

AEROALLERGENS (Based on assessment overleaf)

Mite I (D.far)	Animal hair I	Animal hair II
Dog	Horse	Others:
Altenaria	Cladisporium	:

FOOD ALLERGENS (Based on assessment overleaf)

Whole Egg	Brazil nuts	:
Rye flour	Walnuts	:
Wheat flour	Hazel nuts	:
Cow's Milk	Peanuts	:
Shrimp	Others:	:
Cod fish	:	:
:	:	:

Practitioner's name Practitioner's signature

Area used for skin tests: Test to be read at: Date

Worcestershire Acute Hospitals NHS trust
Assessment of competency for allergy skin prick testing

ASSESSMENT SPECIFICATION: The candidate should be able to demonstrate competence in performing a skin prick allergy test using the following knowledge evidence and performance criteria:

KNOWLEDGE EVIDENCE: The candidate should be able to:

a) Discuss the principles of skin prick testing and describe the limitations of this test for diagnosing allergy.

b) List commonly used antihistamines and explain why antihistamines should not be used prior to the test.

c) Explain why the patient's allergy history must be known prior to skin prick testing, with regard to allergen selection and result interpretation.

d) Explain the importance of using positive and negative control solutions and the way in which the results of these affect the interpretation of the test.

e) List potential complications associated with skin prick tests, detail how to recognise these adverse events and state how to manage them.

f) Demonstrate competence in performance of skin prick testing, using criteria below.

g) Discuss the principles of responsibility and accountability during skin prick testing, with reference to the relevant Code of Professional Conduct

You need a supervisor who has been deemed competent in skin prick testing by a Specialist Nurse or Nurse Practitioner who has completed their competencies

If the candidate still feels they lack competence after supervised practice of 2 skin tests, they should seek further training or supervised practice.

Clinical Supervisor *(please print):* …… Signature: …… Date: ……

Candidate *(please print)*: …… Signature: …… Date: ……

Ward/Department: …….. Directorate/ PCT: …… Location: ……

Comments by Supervisor	**Comments by Candidate:**

Photocopy of completed competencies to held in personal file

Worcestershire Acute Hospitals NHS Trust

Worcestershire Acute Hospitals NHS Trust
PERFORMANCE CRITERIA FOR ASSESSMENT OF COMPETENCY FOR ALLERGY SKIN PRICK TESTING

PERFORMANCE CRITERIA	COMPETENT- Supervisor Initial & Date	
	Direct observation 1	Direct observation 2
1. Patient Preparation		
Correct patient identified		
Explanation of procedure given		
Exclusion of antihistamine exposure in the last 3 days		
Confirm patient's allergy history has been completed		
2. Preparation of Equipment		
All equipment assembled		
Identify allergens to be used, dependent on the patient's allergy history		
3. Procedure		
Position the patient correctly		
Mark allergen test sites on the volar aspect of the patient's arm		
Apply allergen solutions and ensure use of positive and negative control solutions		
Prick skin to appropriate depth		
Clear allergen and control solutions from skin		
Measure the results after appropriate time		
Document results, using tape or diameter measurement		
Ensure appropriate information regarding results is given to the patient		
4. Correct disposal of all equipment		
5. Ensure the patient is comfortable		
6. File test results in patient notes		
Clinical Supervisor (*please print):* …….. **Signature**: …….. **Date:** ……	**Candidate** *(please print)* ……. **Signature**…….. **Date:**……	

CONTRIBUTION LIST

Key individuals involved in developing the document

Name	Designation
Sarah Austin	Respiratory Nurse Specialist
(Melanie Chippendale)	Advanced Nurse Practitioner Paediatrics
Dr Steve O'Hickey	Consultant Physician

Circulated to the following individuals for comments

Name	Designation
Nancy Howard	Respiratory Nurse Specialist
Emma Hurst	Respiratory Nurse Specialist
Jocelyn Espiritu	Out Patient Nurse supporting allergy clinic

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

Name	Directorate / Department
Dr T Dawson	Consultant Paediatrician with special interest in allergy
Dr S Lewis	Clinical Lead ENT
Mr M Manners	Countywide Cardiopulmonary Service Manager

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

Name	Committee / group

Supporting Document 1 – Equality Impact Assessment form

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

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

Name of Lead for Activity	**Jane Newport**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Jane Newport	**Lead Practitioner Respiratory**	**j.newport@nhs.net**
Date assessment completed	**7/10/2024**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title: Allergy Skin Prick testing**			
What is the aim, purpose and/or intended outcomes of this Activity?	Skin prick testing can be used to look for allergen specific Mast cell based IgE. This allows for a range of allergens to be tested for and provides a result within 15 minutes. Skin prick tests need to be interpreted within the context of a comprehensive allergy history taken from the individual patient.			
Who will be affected by the development & implementation of this activity?	❑ ❑x ❑ ❑	Service User Patient Carers Visitors	❑ ❑ ❑ ❑	X Staff Communities Other _____
Is this:	❑ x Review of an existing activity ❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?			

What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	
Summary of relevant findings	

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 Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		x		
Health Inequalities (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
		.		
How will you monitor these actions?				
When will you review this EIA? (e.g in a service redesign, this EIA 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.

Signature of person completing EIA	Jane Newport
Date signed	7/10/2024
Comments:	
Signature of person the Leader Person for this activity	Jane Newport
Date signed	7/10/2024
Comments:	

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.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	N
2.	Does the implementation of this document require additional revenue	N
3.	Does the implementation of this document require additional manpower	N
4.	Does the implementation of this document release any manpower costs through a change in practice	N
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	N
	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