Macleod Maternity Assessment Unit (MMAU) Standard Operating Procedure (SOP)

Document Control:

For Use In:	For use at the NNUH		
	Obstetrics and specifically the Macleod Assessment Unit		
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Version History:

Version	Date	Author	Reason/Change
8	22/05/2020	Lisa Mastrullo Sherri Richardson Charles Bircher	The committees have taken out the phrase ST5 or above on MMAU rapid assessment flowchart, as it refers to women choosing expectant management not the actual triage process. Addition of flowcharts. Addition of contents list.
8.1	09/07/2020	Lisa Mastrullo Sherri Richardson Charles Bircher	Page 14 – Actim PROM amended to AmniSure
8.2	29/03/2021	Lisa Mastrullo Sherri Richardson Charles Bircher	Flowchart updated
9	19/05/2021	Lisa Mastrullo Sherri Richardson Charles Bircher	Page 24 – the labour section, replace this box! It has come up as a recommendation from an HSIB report. This also brings the

			guidance in line with the latent phase of labour guideline
10	28/05/2021	Lisa Mastrullo Sherri Richardson Charles Bircher	New labour flow chart New Rapid assessment form New process for MSU results – positive results to be discussed with Tier 1 doctor
11	03/12/2021	Charles Bircher	Reduced fetal movements. Addition of “appropriately trained midwife” to staff who can review scan Removal of 28 day cutoff to postnatal flow chart
12	04/03/2022	Charles Bircher	Cut off for delivery suite and MAU to start the 18 week cut off from 7th March. Approved at MGC 04/03/2022 and a review date of 6 months as need to review again
12.1	17/03/2022	Lisa Mastrullo Sherri Richardson Charles Bircher	Document reviewed, no changes required
13	22/04/2022	Lisa Mastrullo Sherri Richardson Charles Bircher	Changes to escalation within management of microbiology results section.
14	05/09/2023	Sarah Pedley	Updated fetal movements pathway New rapid assessment form Changed terminology from obstetric cholestasis to intrahepatic cholestasis of pregnancy Transferred to new SOP format DAU appointments rapid assessment form added as appendix
15	18/4/2024	Charles Bircher	Changed cut off for CTG for reduced FMs to 26 (not 28) weeks

Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

The following were consulted during the development of this document:

- Mr Charles Bircher – Consultant Obstetrician

- Lisa Starman – Labour suite co-ordinator
- Deidre Foley – fetal monitoring midwife
- Lisa Mastrullo – senior midwife
- Sherri Richardson – senior midwife
- Carmel Sayer – Intrapartum matron

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a standard operating procedure applicable to NNUH please refer to local Trust's procedural documents for further guidance, as noted in Section 4.

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1. Introduction

1.1. Rationale

This document was written to collate trust guidance on management of specific presentations in pregnancy as well as how best to safely triage and assess pregnant patients.

1.2. Objective

To ensure that women are directed to the most appropriate area and/or health professional and provide a safe and efficient service in prioritising, assessing, planning and providing appropriate care. The aim is to ensure a standardised care pathway planned in partnership with the women with timely review/discharge, a reduction in waiting times and avoiding inappropriate referrals, subsequently improving capacity issues within the maternity unit.

The MMAU will combine a 24 hour acute triage service based on a Traffic Light System (Appendix 1) and an appointment system Day Assessment Unit-(DAU). The MMAU midwife will answer all calls and either direct them to the most appropriate healthcare setting or professional or offer appropriate advice and admission if required. An appointment or admission will be prioritised on clinical need and individual risk assessment.

1.3. Scope

This document covers management pathways for obstetric patients at the NNUH.

1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
MMAU	Macleod Maternity Assessment Unit
SOP	Standard Operating Procedure
NNUH	Norfolk and Norwich University Hospital
APH	Antepartum haemorrhage
PV	Per vaginal
DNA	Did not attend
EIA	Equality Impact Assessment
GP	General practice
PN	Post-natal
DVT	Deep vein thrombosis
A&E	Accident and Emergency
UTI	Urinary tract infection
TWOC	Trial without catheter
NICU	Neonatal intensive care unit
MEOWS	Modified Early Obstetric Warning Score
MCA	Midwifery Care Assistant
CTG	Cardiotocography
ANC	Antenatal clinic
GBS	Group B streptococcus

DAU	Day assessment unit
ASAP	As soon as possible
MSU	Mid-stream urine
PET	Pre-eclamptic toxaemia
SROM	Spontaneous rupture of membranes
PPROM	Pre-term prolonged rupture of membranes
ICP	Intrahepatic cholestasis of pregnancy
IUGR	Intra-uterine growth restriction
SFGA	Small for gestational age
ECV	External cephalic version
GTT	Glucose tolerance test
LSCS	Lower segment caesarean section
HIV	Human immune virus
IOL	Induction of labour
FMs	Fetal movements
RFMs	Reduced fetal movements
BMI	Body mass index
USS	Ultrasound scan
UPCR	Urine protein creatinine ratio
SFH	Symphysis fundal height
FBC	Full blood count
U+Es	Urea and electrolytes
LFT	Liver function test
CMW	Community midwife

2. Responsibilities

Hospital midwifery team – to carry out all aspects of the guideline when managing pregnant patients referred to MMAU.

Hospital obstetric team – to follow all aspect of the guideline with regarding to caring for pregnant women in MMAU.

3. Processes to be followed

3.1. Referrals

3.1.1. Referral sources

- Self-Referral
- GP
- Community Midwife
- Accident and Emergency
- Other clinical areas
- Walk-in centres
- Paramedics

3.1.2. Exclusions

- Women < 18+0 gestation
- Women >28 days PN, unless a direct maternity problem
- Women with non-pregnancy related complaints e.g. Fractures etc
- Chest Pain/respiratory distress - Refer to A+E
- ?DVT, Pulmonary embolism - Refer to A+E
- Road Traffic Collision A&E for initial review if required
- Suspected UTI'S in office hours - See GP
- Trial without catheter (TWOC) - Refer to Cley Obstetrics
- Post-natal checks for NICU mothers - Refer to Blakeney Ward
- Vaginal discharge - Refer to GP

3.2. Telephone triage

Women will undergo a telephone triage (Appendix 2) and be risk assessed according to the presenting problem via the appropriate flow chart. They will then undergo a second rapid assessment on arrival at MMAU or delivery suite. Both these triages will utilise the traffic light system.

Specific telephone assessment tools/flowcharts for the most usual presentations have been created which reflect current guidance to assist the practitioner. The flowcharts are to be found at the end of this operating procedure.

- ?Pre-labour rupture of membranes – see Appendix 4 and 5
- Reduced fetal movements – see Appendix 6 and 7
- Itching in pregnancy – see Appendix 8
- Hypertensive diseases – see Appendix 9 and 10
- PV bleeding – see Appendix 11 and 12
- Abdominal pain - see Appendix 13 and 14
- ?Labour – see Appendix 15
- Postnatal problems – see appendix 16

An assessment will be carried out to ensure women are directed to the right service. Any discussion and advice given should be documented. Including:

- Name, Address, Date of birth and hospital number
- Alert check E3/PAS
- Referral source
- Whether this is the first or subsequent call in 24 hours
- Their reason for calling and current issue
- Medical History
- Obstetric history

- Satisfaction with advice

Admission, if required will be prioritised according to clinical need, utilising the traffic light system (Appendix 2 and the presentation specific telephone assessment flow charts).

The list of presenting symptoms is not exhaustive, and at all times the midwife answering the phone needs to exercise their clinical judgement. Any patient can be triaged at a more serious level than flow charts suggest, but cannot be downgraded until clinical review.

3.3. Triage rapid assessment

Women who have been telephone triaged as Red or Amber have rapid assessment, either immediately or within 15 minutes of arrival depending on Telephone Triage status, and this is recorded on the "Rapid Assessment Form" (Appendix 3). This will include weight, urinalysis auscultation of the fetal heart and a full set of observations (and with a MEOWS score calculated by a Midwifery Care Assistant (MCA) or Midwife).

Oxygen saturations should be taken as part of the MEOWS score. A cut off of 95% has been used after the publication "Gestation-Specific Vital Sign Reference Ranges in Pregnancy", Green et al, Obstetrics & Gynaecology: March 2020 - Volume 135 - Issue 3 - p 653-664.

The midwife will complete the following:

- Review the antenatal notes, assessing medical and obstetric history
- Confirm gestational age
- History of presenting issue
- Abdominal palpation
- CTG/FH auscultation
- Refer to obstetrician if required

If telephone assessed as RED women should be on delivery suite and a CTG should be part of the rapid assessment. Following the rapid assessment of the patient they can be downgraded to amber or green and transferred if appropriate.

If after the MMAU rapid assessment, the patient remains AMBER or GREEN, the woman will then be shown back to the waiting room to be seen by the midwife in order of priority, not in order of arrival.

There are flow charts for specific presentations that guide the rapid assessment process, as well as guide what investigations may be required, and help categorise patients as red, amber or green. This list of presentations is not exhaustive, and at all times a clinician can upgrade the priority using their clinical judgement. These flow charts mean investigations can be requested by midwifery staff, but also encourage midwife led discharge if appropriate, as well as when to call for an Obstetric opinion.

NB – A woman may be re-categorised from rapid assessment on arrival or at any point during MMAU admission according to their clinical need.

Remember, a change in clinical need to RED will require escalation and moving to delivery suite and to liaise with Delivery Suite Co-ordinator and Obstetric Senior Registrar, or if appropriate, through the emergency bleep (2222), requesting clearly your emergency and location.

"State emergency, MMAU, Delivery Suite, Room number, West block, Level three"

3.4. Discharge from MMAU

- Once the review is completed a plan of care, discussion and any follow-up must be clearly documented. The woman will then be discharged or admitted/transferred accordingly.
- If the care episode is a non-timed emergency appointment, it must be recorded as a 'Delivery Suite Contact' on E3 prior to discharge home.
- If the appointment is a timed diary appointment it must be recorded on E3 as an 'Antenatal Contact.' One copy to be secured in the maternal handheld noted and one in the hospital notes.
- Follow-ups by the community midwives will be called out via CallEast by the delivery suite receptionist.
- Appointments for antenatal clinic (ANC) are made on the ANC referral form. Out of hours a referral form is attached to the hospital notes and the ANC will contact the woman with an appointment the following working day.
- MMAU follow-up appointments will be given to the woman and documented in the electronic diary on PAS.

3.5. Management of Microbiology results

When a specimen is taken in MMAU - inform the woman that if there is a positive result we will contact her via letter or by phone.

The MMAU midwife will check the microbiology results daily and action positive results. Results can be identified by searching on ICE with "Delivery Triage" as the location, and the date required. If results cannot be checked for the previous 24 hours, escalate to the on call Tier 1 (0901) or Tier 2 (0903) doctor depending on their work load. The doctor must be made aware of the following process:

- Check on E3 that the result has not already been actioned (e.g. treated on admission or remains an inpatient in hospital)
- All positive microbiology results must be recorded that they have been checked on ICE (by clicking on "File") and actioned in the pregnancy notes section on E3 e.g. – Candida found on swab, letter sent to patient.
- Group B Streptococcus (GBS)

- All GBS results should be called out to the community midwife to discuss with the woman.
- Complete GBS letter and send to patient with patient information leaflet (see end of this guideline for letter template).
- E3 should be updated to include an alert for GBS ASAP.
- Inform G.P via letter as information only.
- Complete sticker in GBS book. Only sign when actioned completely.

- Candida
- Complete the relevant letter template and print the result from ICE and post to the patient (see end of this guideline for letter templates).
- Update E3 in pregnancy notes.

- All other positive results should be reviewed by the Tier 1 doctor on call. If there is a positive MSU that requires treatment, then the Tier 1 doctor should do an outpatient prescription on EPMA.

3.6. Management of non-attendance and patients with no transport

This should be as per the flow charts at the end of this guideline.

3.7. Staffing

The MMAU and DAU will be coordinated by an experienced midwife who will liaise regularly with the Delivery Suite Coordinator. In daytime/twilight hours the MMAU will be staffed with 3 Midwives and an MCA at peak activity hours. Out of hours this will reduce to two midwifes and a MCA. Staffing has been agreed based on triage admission statistics.

Any women requiring obstetric review will be seen by the on-call obstetric team. The delivery suite receptionist will admit the woman on the Patient Administration System and obtain the health records.

4. Related documents

- Joint trust guideline in the use of the Modified Early Obstetric Warning Score (MEOWS) in detecting the seriously ill and deteriorating woman – Trust Docs ID: 817
- Management of sudden unexpected obstetric collapse (intrapartum and postpartum) – trust docs ID: 889
- Clinical guideline for people with cardiac and respiratory symptoms in pregnancy – Ref: 18540
- Clinical guideline on: The management of pre-labour rupture of membranes over 37 weeks – Ref: 872
- Clinical guideline for the diagnosis and management of preterm, prelabour rupture of membranes (PPROM) (<37 weeks gestation) – Ref: 873

- Classification and management of reduced fetal movements – Trust Docs ID: 881
- The management of intrahepatic cholestasis of pregnancy (ICP) – ref: 863
- Trust guideline for the management of pre-eclampsia and hypertensive disorders in pregnancy – ref: 887
- Trust guideline for the management of babies born extremely preterm (less than 26 weeks' gestation) – Ref: 7508
- Trust guideline for the management of preterm birth (26+0-36+6 weeks) – ref: 875
- ERS medical SRCL Group Company – Booking Transport v3

5. References

- Gestation-Specific Vital Sign Reference Ranges in Pregnancy, Green et al, Obstetrics & Gynecology: March 2020 - Volume 135 - Issue 3 - p 653-664.

6. Monitoring Compliance

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
Rapid assessment in MAU	Review of random selection of cases once a month to review - overall length of stay in MAU - % of women who were midwifery led discharges - length of time awaiting doctor review	Midwifery team	Maternity	Monthly
Reduced fetal movements	Annual review of management of reduced fetal movements including use of computerised CTG	Fetal monitoring midwife	Maternity	Annually

The audit results are to be discussed at relevant governance meetings to review the results and recommendations for further action. Then sent to Maternity Guidelines Committee who will ensure that the actions and recommendations are suitable and sufficient.

7. Appendices

Appendix 1 – Telephone Traffic Light System

Appendix 2 – Telephone assessment

Appendix 3 – Rapid assessment Form

Patient Identifier Label

Rapid Assessment Form

Date		Reason for admission		Parity	
Time of arrival					
Time of assessment				Gestation	
Time of Doctor	*Requested*				
	Seen	Telephone Risk Assessment			
		Red	Amber	Green	
Time of discharge					
Risk Factors / Patient Alerts					

Observations and FH		**Abdominal Palpation**			
Temp		BP		SFH	
Pulse		RR		Serial USS	
Circle	A P V U		Lie		
MEOWS		O^2 Sats		Presentation	
MEOWS ≥ 1 commence observation chart and escalate					
FH		FM's		Position	
Weight	kg	CO level		Engagement	

Plan		USS / V Scan		*Urine Sticker*
		Bloods		
		HVS		
		MSU		
		UPCR		

		Speculum			
		Ffn			
		Amnisure			
		CTG			
		DR met at: STV:			

Triage Risk Assessment / MEOWS ≥ 1 escalation	Red	Amber	Green

Print Name:		Signature:		Title:	

Notes	*Where possible and not being admitted please document on E3*

Name:		Signature		Title:	

Rapid Assessment Form

Appendix 4 DAU Appointments

Arrival time	
Time of assessment	
Time of discharge	
Weight	kg

Reason for Appointment

Observations								
Time	Temp	BP	HR	RR	O2 sats	A V P U	MEOWS	CO
MEOWS ≥ 1 commence observation chart and escalate								

Abdominal palpation						
SFH	Lie	Presentation	Position	Engagement	FH	CTG
						DR met: STV:

Notes

		Planned Follow Up
Print Name : Signature Title:		

Urinalysis

Appendix 5 - Pre-labour (no uterine activity) Ruptured Membranes: Telephone Assessment

Appendix 6 - Pre-labour (no uterine activity) Ruptured Membranes: MMAU Rapid Assessment

Appendix 7 - Reduced Fetal Movements: MMAU Telephone Assessment

Appendix 8 - Reduced Fetal Movements: MMAU Rapid Assessment

Appendix 9 - Itching in pregnancy: Telephone Assessment

(when assessing use the diastolic or systolic figure that puts BP in the higher risk category)

Appendix 11 - Hypertension in pregnancy: MMAU Rapid Assessment

(when assessing use the diastolic or systolic figure that puts BP in the higher risk category)

Appendix 12- SHOW, PV Bleeding, APH: Telephone Assessment

Appendix 13 - PV bleeding / APH: MMAU Rapid Assessment

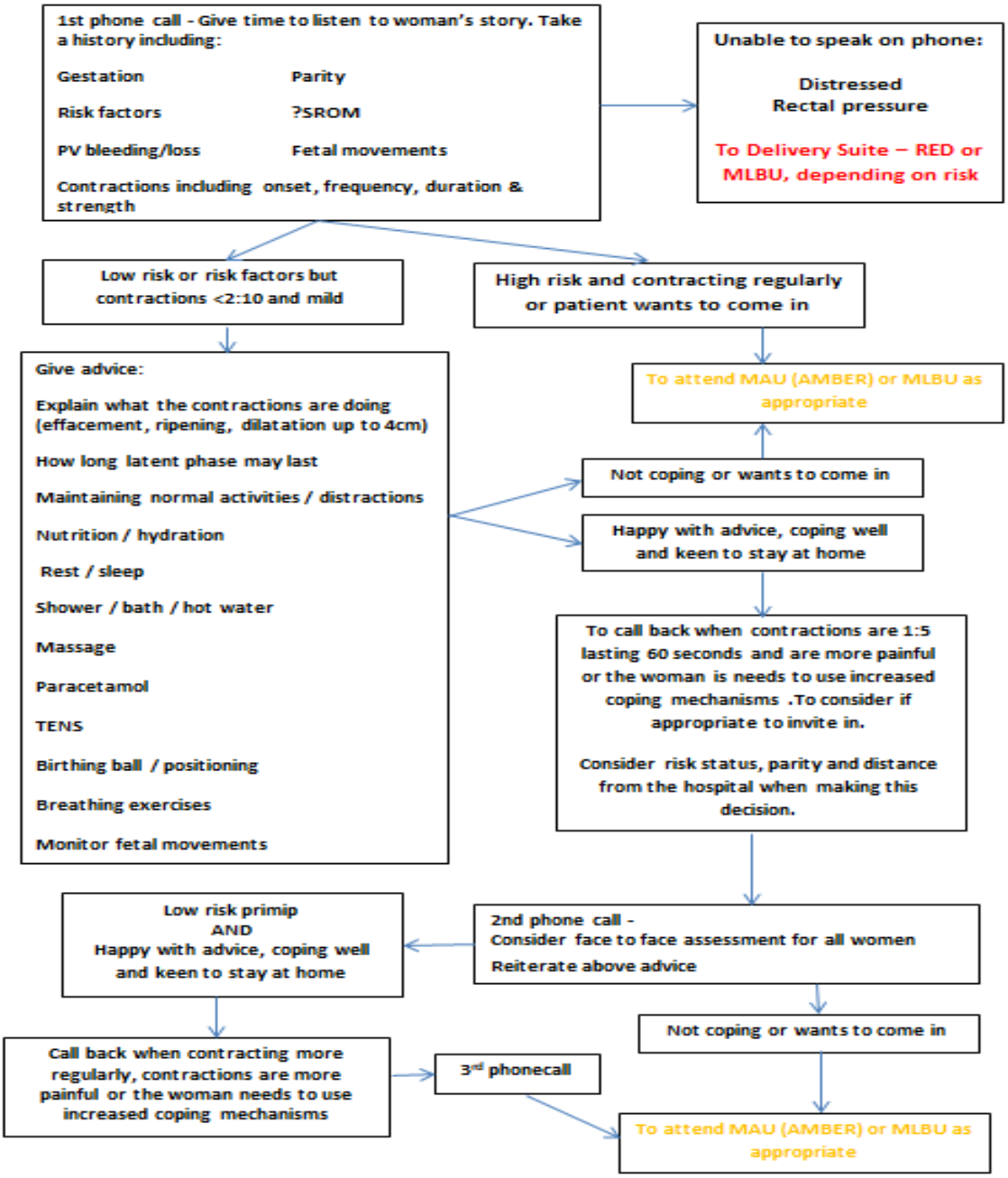
Appendix 14 - Abdominal Pain (not labour): Telephone Assessment

Clinical judgement along with patients perspective needs to be taken into account when assessing if mild/moderate/severe pain

Appendix 15 - Abdominal Pain (not labour): MMAU Rapid Assessment

Clinical judgement along with patients perspective needs to be taken into account when assessing if mild/moderate/severe pain

Appendix 16 - ? Labour: Telephone Assessment



Appendix 17 - Postnatal Women: Telephone Assessment

Appendix 18 - MMAU Pathway for No Transport

Consider whether this wait is appropriate

** This is only to be used in extreme circumstances. This option needs to be discussed with the Midwifery Manager of the Day (Mon-Fri 08:00 – 17:00hrs) or the Delivery Suite Co-ordinator and Site Practitioner out of hours. The Cost Code is known by the Delivery Suite Coordinators and will be required

Appendix 19 - MMAU flow chart for the management of DNA

↓

Document actions on E3

Appendix 20 – letter to patient – swab showing group B strep

Our Vision
The best care for every patient

NHS
Norfolk and Norwich University Hospitals
NHS Foundation Trust

Dear

The result of your swab taken on the Maternity Assessment Unit shows Group B Streptococcus (GBS).

Carrying GBS is not harmful to you but it can affect your baby around the time of birth. You do not need to do anything now, but you will be offered antibiotics during labour to protect your baby. I have enclosed a patient information leaflet for you to read and your community midwife will be in contact to answer any questions you may have.

If you have any further questions, please contact your community midwife via CallEEAST (previously known as Medicom) 01603 481222.

Yours Sincerely,

Appendix 21 – letter to patient – swab showing candida

Our Vision
The best care for every patient

NHS
Norfolk and Norwich University Hospitals
NHS Foundation Trust

Dear

The result of your swab taken on the Maternity Assessment Unit shows a Candida (Thrush) infection to be present. A copy of the result is enclosed.
If this is causing symptoms, such as discharge or irritation, it can be treated easily and safely either by:

- Going to a chemist where treatments (such as a Clotrimazole 500mg pessary and cream) may be bought over the counter without prescription.
- Or attending your doctor's surgery, taking the result with you and asking their advice.
- If you have any further questions, please contact your community midwife via CALL East (previously known as Medicom) 01603 481222.

Yours Sincerely,

8. Equality Impact Assessment (EIA)

Type of function or policy	Existing

Division	3 – Women, children and sexual health	**Department**	Obstetrics
Name of person completing form	Sarah Pedley	**Date**	05/09/2023

Equality Area	**Potential Negative Impact**	**Impact Positive Impact**	**Which groups are affected**	**Full Impact Assessment Required YES/NO**
Race	-	-	-	NO
Pregnancy & Maternity	-	YES	Pregnant persons	NO
Disability	-	-	-	NO
Religion and beliefs	-	-	-	NO
Sex	-	-	-	NO
Gender reassignment	-	-	-	NO
Sexual Orientation	-	-	-	NO
Age	-	-	-	NO
Marriage & Civil Partnership	-	-	-	NO
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?				

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.