NHS
University Hospitals Sussex
NHS Foundation Trust
St Richards, Worthing & Southlands Hospitals

In-Patient Maternity Observations and Monitoring Standard Operating Procedure (SOP)

Summary statement: How does the document support patient care?	To ensure that all pregnant or newly birthed women/people admitted as maternity inpatients within University Hospitals Sussex (UH Sussex) West receive appropriate observations and monitoring, according to their clinical condition, or as required by the treatment they are undergoing, wherever they are located.
Staff/stakeholders involved in development:	Clinical Governance Midwife, HoM, Ward Managers, Maternity In-Patient Matron
Division:	Women and Children's
Department:	Maternity
Responsible Person:	Chief of Service
Author:	Clinical Effectiveness Support Midwife
For use by:	All staff who perform observations on pregnant or newly birth women/people.
Purpose:	To ensure the pregnant women / people admitted to hospital have observations performed and assessed in structured manner using the Maternity Care Bundle with observations increased and escalated appropriately should the clinical situation indicate.
This document supports:	UH Sussex Patient Observations and Monitoring on Adult Ward Areas Policy v6.0 Maternity Observations Bundle
Key related documents:	UH Sussex (SRH & WH) Maternity Guidelines: Caesarean Birth Guideline, Maternity Escalation Policy, Maternity Fluid Management as an In-Patient or During Labour,Induction and Augmentation of Labour and Use of Oxytocin Guideline, Postnatal Care Guideline
Approved by:	Joint Obstetric Guideline Group
Approval date:	16th November 2022 Date Uploaded: 30th November 2022
Ratified by Board of Directors/ Committee of the Board of Directors	Not Applicable – Divisional Ratification only required
Ratification Date:	Not Applicable – Divisional Ratification only required
Expiry Date:	November 2025
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If you require this document in another format such as Braille, large print, audio or another language please contact the Trusts Communications Team	
Reference Number:	SP22006

Version	Date	Author	Status	Comment
1.0	November 2022	J. Collard, Clinical Effectiveness Support Midwife	Live	New SOP specifically for maternity in response to UH Sussex Patient Observations and Monitoring on Adult Ward Areas Policy v6.0 and to clarify frequency of observations.

The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician.
If in doubt contact a senior colleague or expert.

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In-Patient Maternity Observations and Monitoring Standard Operating Procedure (SOP)

1.0 Aim of this document

- To ensure that all pregnant or newly birthed women/people admitted as maternity inpatients within University Hospitals Sussex (UH Sussex) SRH&WH receive appropriate observations and monitoring, according to their clinical condition, or as required by the treatment they are undergoing, wherever they are located.
- The standard for training, competence and undertaking of patient observations is consistent throughout Maternity, providing reliability and accuracy of patient observations.
- All staff involved in taking observations and monitoring maternity patients are trained in the use of the Maternal Observation Bundle to support patient safety and early reporting of changes indicating deterioration in a patient's condition to the relevant clinical teams.
- They are trained in the use of any equipment/ electronic systems that will support this.
- To ensure that the Maternal Observation Bundle is used to full capacity to support patient safety and early reporting of changes in a woman/person's condition to the relevant clinical teams.

2.0 Scope

This guideline applies to:

- Midwives
- Obstetricians
- Anaesthetists
- Maternity recovery staff
- Operating Department Practitioners
- Maternity Assistants
- Any staff member performing observations or monitoring of pregnant or newly birthed women/people.

3.0 Abbreviations used in this guideline

SOP - Standard Operating Procedure	**MEOWS -** Modified Early Obstetric Warning System
MCA - Maternity Care Assistant	**VIP -** Visual Infusion Phlebitis Score
P - Pulse	**T -** Temperature
RR - Respiration Rate	**BP -** Blood Pressure

4.0 Introduction

This SOP has been devised to ensure that all pregnant or newly birthed women/people admitted to UH Sussex SRH&WH receive the appropriate level of monitoring and that vital signs will be recorded according to their clinical condition.

All staff who record clinical observations should have had appropriate training and are therefore competent to do so, thus ensuring any changes to a woman/person's vital signs are noted and responded to appropriately.

4.1 MEOWS physiological parameters

The MEOWS chart of the Maternal Observation Bundle is a modified version of the NEWS2 chart used within the wider Trust specifically for pregnant/newly birthed women/people. It is a scoring tool using the following basic physiological parameters:

- Temperature
- Pulse
- Respiratory rate
- Oxygen saturation
- Systolic and diastolic blood pressure
- Neurological response (AVPU)
- Pain score
- Lochia/wound
- Appearance/looks unwell

All parameters must be assessed at each set of observations in order to provide an accurate MEOWS score.

The MEOWS Observation Bundle also contains the Maternity Fluid Balance Chart, Post Anaesthetic Monitoring, Pressure Ulcer Risk Assessment and Visual Infusion Phlebitis (VIP) Score.

5.0 Responsibilities

5.1 Registered staff

Midwives, nurses and other registered staff should ensure:

- They have accessed, read, understood and followed this SOP.
- Used their professional judgement in application of this SOP.
- They have the appropriate level of knowledge and skill required to undertake and record patient's vital signs/ observations. They have full understanding of Maternal Observation Bundle and its application.
- They are competent and trained in the use of monitoring equipment used to record patient observations.

- The Registered professional must make known any limitations they have to the Co-ordinator/Manager as they are accountable for their practice and the practice of those unregistered health care support workers who they delegate tasks to.
- When recording patient observations it is essential that these are entered in a timely manner onto the Maternal Observation Bundle. Observations should not be documented at a later time.
- When recording vital signs various factors may affect the readings, it may be difficult to obtain accurate data, this must be documented in patients notes and taking into consideration when assessing the woman/person's condition.
- They change the frequency of patient observations as per MEOWS Escalation section on the front of the Maternal Observation Bundle.
- Any changes to woman/person's condition in the maternity notes with clear record of actions taken and plan of care.

5.2 Maternity care assistants / students / unregistered staff

Maternity Care Assistants (MCAs) should ensure that:

- They have the appropriate level of knowledge and skill to undertake and record the woman/person's vital signs/observations.
- They are competent and trained in the use of MEOWS and monitoring equipment used to record patient observations.
- They make known any limitations in vital sign recording or use of equipment they have to the co-ordinator/manager in charge of the shift.
- When recording patient observations it is essential that these are entered in a timely manner onto the MEOWS chart ie as soon as recorded.
- When recording vital signs various factors may affect the readings, it may be difficult to obtain accurate data; this must be reported to the midwife responsible for the woman/person who will ensure it is documented in their maternity notes.
- If the MEOWS score is more than 0 this must be reported to the midwife responsible for that woman/person.
- If the score is 0 but they have any concerns that the woman/person's clinical condition has changed or deteriorated, this must be reported to the midwife responsible for that woman/person.

5.3 Medical Staff

Medical staff should ensure that:

- They leave clear instructions for the maternity team of any changes to frequency or observation requirements; this must be documented in the woman/person's maternity notes.
- Must leave clear instruction for midwifery staff regarding when they would like to be informed should patient MEOWS score or parameters change.
- There is a timely response to MEOWS score generated from the observations recorded when requested by the midwife or co-ordinator.
- Their response should be clearly documented in woman/person's maternity notes

5.4 Management, Matrons and Co-ordinators

Management, Matrons and Co-ordinators should ensure that:

- This SOP is reviewed as required in line with Trust and National recommendations.
- This SOP is accessible to all relevant staff.
- They remain competent in vital sign taking and recording and are competent in use of Maternal Observation Bundle, to be able to support clinically in the maternity unit and supporting junior staff.
- They undertake review of compliance with observation timeliness, recording of vital signs and escalation protocols when reviewing care of women/people for incidents or complaints, ensuring thorough investigation, and any learning for the staff involved, ward team or wider divisional sharing occurs, with action plans in place if needed.
- They review monitoring of women/people when undertaking other documentation audits that may be requested.
- They are fully aware of the acuity within their areas of responsibility to support ward.
- Shortfall of resources either staffing or equipment has been identified are managed.
- Processes are in place to ensure bank and agency staff are trained and provided access to the Maternal Observation Bundle within clinical areas.
- All staff who undertake observations and monitoring are trained and competent in the accurate undertaking and recording of all vital signs using the appropriate equipment and completion of documentation. This includes the ability in interpreting these to recognise the deteriorating patient.
- An appropriate number of observation recording machines (manual and electronic) are readily available, with appropriate disposables, for the above monitoring to be undertaken with ease.
- Monitors and equipment are kept in good service, with regular planned servicing by the bio-medical engineering department. Defective equipment is withdrawn immediately from patient use and sent to biomedical engineering / Medical Electronics Department if medical equipment.
- Appropriate Maternal Observation Bundles are readily available to record the observations.
- They are aware of the acuity within their areas of responsibility and support staff on the wards when shortfall of resources has been identified. Staffing levels should be in place that reflects the acuity of the patients within the ward ensuring that the recording of observation as per MEOWS scoring is facilitated.
- The Co-ordinator/Ward Manager should assist in re-allocating workload of the midwife caring for a woman/person's whose MEOWS has generated a higher score and an elevation in the frequency of observations is required, to enable them to undertake this level of monitoring and ensure patient safety is maintained.

- If the staffing is not adequate to meet this need, then this should be escalated as per UHSC022 Maternity Escalation Policy with the matron being notified immediately in order to enable support to the ward if possible.
- Training records or induction checklists should be completed to demonstrate competence and assessment has taken place.

6.0 Training

- All staff using equipment must be trained in its use (e.g. oral/tympanic/infrared thermometers, pulse oximetry, manual sphygmomanometers, automated blood pressure monitors, ECG monitors etc).
- Any member of staff asked to use equipment to which they are not competent must declare their limitation and ask for training before using independently.
- Senior midwives should ensure that all new registered midwives/HCAs (if undertaking observation monitoring) have both the practical and cognitive skills required to undertake the observations as listed in section 4.1. Competence should be signed off in their Trust induction folders. Deficiency in capability/competence must be dealt with by the Line Manager/Matron.
- Student midwives undertaking observations should be assessed by their mentor using the university practice competency document. Deficiencies should be fed back to the university link tutor and recorded in their practice book. Local processes for completing the Maternal Observation Bundle will need to be completed on the ward at the start of placements.

7.0 Assessment and monitoring in Maternity

- The midwife or registered professional caring for the woman/person is accountable for the frequency with which the observations should be undertaken. Guided by the previous observations, MEOWS score and escalation pathway on the front of the Maternal Observation Bundle, plus any extra care the patient is receiving, for instance induction of labour, PET or caesarean section.
- The midwife or registered professional should use clinical judgement to assess frequency of observations, where other signs or symptoms exist and are cause for concern, despite a low or normal MEOWS score, and increase frequency of observations and escalate to co-ordinator and obstetric team as appropriate.
- Baseline measurements of vital signs must be recorded on admission for all women/people admitted to the maternity unit or being seen in DAU/Triage.
- MEOWS score should be calculated with each set of observations recorded and acted on as indicated by the MEOWS Escalation table on the front of the Maternal Observation Bundle. (See Appendix 1)
- SOP to be used in conjunction with CG21009 Maternity Fluid Management as an In-Patient or During Labour Guideline.

8.0 Frequency of maternal/birthing parent observations

The flowchart below is a guide of minimum observations that should be performed. Frequency should be increased according to individual clinical need, MEOWS escalation pathway and obstetric plan. For fetal heart monitoring frequency please see CG1116 Fetal monitoring guideline.

Key

BP – Blood Pressure
P – Pulse
RR – Respiration Rate
Temp – Temperature

Antenatal Admission on ward

Antenatal Admission
4-hourly: BP, P, RR, Temp, cumulative fluid balance.

IOL
4-hourly: BP, P, RR, Temp, cumulative fluid balance.

Other & High Risk
Observations to be increased as per individual obstetric plan, MEOWS escalation pathway and individual applicable guideline eg Hypertensive Disorders in Pregnancy Guideline.

Labour

Low Risk Labour

First stage:
Hourly: Pulse
4-hourly: BP, Temp, RR, cumulative fluid balance.

Second stage:
Every 15 mins – Pulse
Hourly - BP
4-hourly - Temp, cumulative fluid balance.
(Waterbirth: Temp ½ hourly)

Active 3rd stage:
BP, P, Temp after delivery of placenta.

Physiological 3rd stage:
BP, P after 30 mins
BP, P & Temp after delivery of placenta.

IOL

Observations as per 'Low Risk Labour'
except for
High risk:
Fluid monitoring increases to hourly fluid balance with 4-houly cumulative fluid balance.

Epidural

Set up of epidural:
Every 5 mins for 20 mins: BP, P
Then every 30 mins: BP, P
Hourly: fluid balance
4-hourly: RR, T, cumulative fluid balance

Second Stage:
Every 15 mins – Pulse
½ hourly - BP
Hourly: fluid balance.

Active 3rd stage:
BP, P, Temp after delivery of placenta.

Other & High Risk Labour

Observations as per 'Low Risk Labour'
except for
Fluid monitoring increases to hourly fluid balance with 4-houly cumulative fluid balance.
Observations to be increased as per individual obstetric plan, MEOWS escalation pathway and individual applicable guideline eg Severe PET & Eclampsia Guideline.

Post Birth

Low Risk

BP, P, RR, Temp prior to transfer to ward.
4-hourly cumulative fluid balance continues.

Caesarean Birth

Every 5 mins for 15 mins: BP, P, RR
2 x ½ hourly: BP, P, RR
Hourly for 2 hours: urine output & temp.
Hourly: BP, P, RR until Recovery Checklist Criteria met.
4 hourly motor & sensory block review for 24 hours.

Post Recovery criteria met:
4-hourly: BP, P, RR, T, cumulative fluid balance.

Epidural or Spinal

Observations as per 'Post Birth Caesarean Birth'.
If at higher risk of respiratory depression*:
12-hours: Continuous pulse oximetry.
Hourly: BP, P, RR, T
Once stable commence 4-hourly observations.
4 hourly motor & sensory block review for 24 hours.
** eg significantly raised BMI or sleep apnoea*

Other & High Risk

Observations to be increased as per individual obstetric plan, MEOWS escalation pathway and individual applicable guideline eg Severe PET & Eclampsia Guideline.

Postnatal Ward

Low risk

First 24 hours:
12-hourly: BP, P, RR, T measure 2x urine post birth then discontinue fluid balance
Post 24 hours until discharge:
Once daily BP, P, RR, T with postnatal check.

Caesarean Birth

First 24 hours:
4-hourly: BP, P, RR, T, cumulative fluid balance until catheter removed.
Post 24 hours until discharge:
12-hourly: BP, P, RR, T.
Once catheter removed and TWOC successfully completed fluid balance can be stopped.

Epidural or Spinal

Observations as per 'Postnatal Caesarean Birth.'

Other & High Risk

Observations to be increased as per individual obstetric plan MEOWS escalation pathway and individual applicable guideline eg Hypertensive Disorders in Pregnancy.

9.0 Audit

Suggested auditable questions:

On AN ward – observations every 4 hours
For CS or operative delivery pathway - post-op observations taken as per guideline
For vaginal / non-theatre delivery pathway – post-delivery observations taken as per guideline

On PN Wards - observations every 4 hours for 24 hours post-LSCS
For vaginal / non-theatre delivery – PN observations completed as per guideline

If Yellow/Red scores identified - evidence of increased observations
If Yellow/ Red scores identified - evidence of escalation documented by midwife
If escalated to obstetrician - evidence of plan documented in notes by doctor
All observations completed on Maternal Observation Bundle

References

National Institute for Health and Clinical Excellence 2019 CG190 Intrapartum care for healthy women and babies NICE

National Institute for Health and Clinical Excellence 2021 NG192 Caesarean birth NICE

National Institute for Health and Clinical Excellence 2021NG194 Postnatal care NICE

National Institute for Health and Clinical Excellence 2021 NG201 Antenatal care NICE

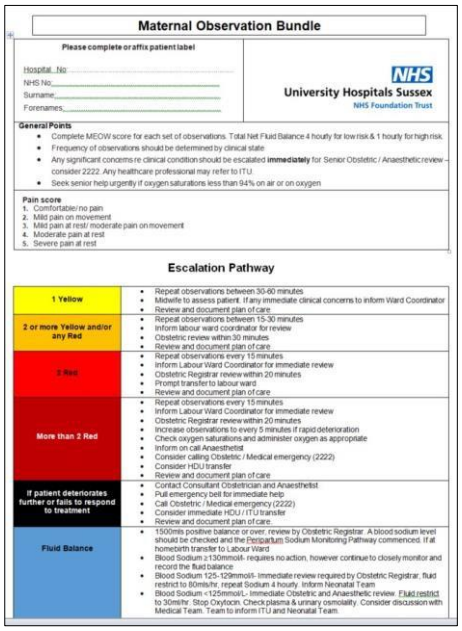
Appendix 1: MEOWS Escalation

Escalation Pathway

1 Yellow	• Repeat observations between 30-60 minutes • Midwife to assess patient. If any immediate clinical concerns to inform Ward Coordinator • Review and document plan of care
2 or more Yellow and/or any Red	• Repeat observations between 15-30 minutes • Inform labour ward coordinator for review • Obstetric review within 30 minutes • Review and document plan of care
2 Red	• Repeat observations every 15 minutes • Inform Labour Ward Coordinator for immediate review • Obstetric Registrar review within 20 minutes • Prompt transfer to labour ward • Review and document plan of care
More than 2 Red	• Repeat observations every 15 minutes • Inform Labour Ward Coordinator for immediate review • Obstetric Registrar review within 20 minutes • Increase observations to every 5 minutes if rapid deterioration • Check oxygen saturations and administer oxygen as appropriate • Inform on call Anaesthetist • Consider calling Obstetric / Medical emergency (2222) • Consider HDU transfer • Review and document plan of care
If patient deteriorates further or fails to respond to treatment	• Contact Consultant Obstetrician and Anaesthetist • Pull emergency bell for immediate help • Call Obstetric / Medical emergency (2222) • Consider immediate HDU / ITU transfer • Review and document plan of care.
Fluid Balance	• 1500mls positive balance or over, review by Obstetric Registrar. A blood sodium level should be checked and the Peripartum Sodium Monitoring Pathway commenced. If at homebirth transfer to Labour Ward • Blood Sodium ≥130mmol/l- requires no action, however continue to closely monitor and record the fluid balance • Blood Sodium 125-129mmol/l- Immediate review required by Obstetric Registrar, fluid restrict to 80mls/hr, repeat Sodium 4 hourly. Inform Neonatal Team • Blood Sodium <125mmol/L- Immediate Obstetric and Anaesthetic review. Fluid restrict to 30ml/hr. Stop Oxytocin. Check plasma & urinary osmolality. Consider discussion with Medical Team. Team to inform ITU and Neonatal Team.

Appendix 2: Maternal Observation Bundle

Example of Maternity Observation Bundle – **DO NOT PRINT FROM GUIDELINE**



Maternal Observation Bundle

Please complete or affix patient label

Hospital No:
NHS No:
Surname:
Forenames:

NHS University Hospitals Sussex NHS Foundation Trust

General Points

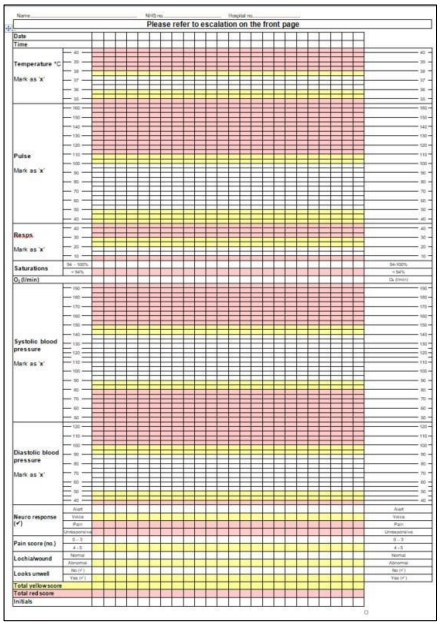
- Complete MEOW score for each set of observations. Total Net Fluid Balance 4 hourly for low risk & 1 hourly for high risk.
- Frequency of observations should be determined by clinical state.
- Any significant concerns re clinical condition should be escalated **immediately** for Senior Obstetric / Anaesthetic review – consider 2222. Any healthcare professional may refer to ITU.
- Seek senior help urgently if oxygen saturations less than 94% on air or on oxygen

Pain score

1. Comfortable/ no pain
2. Mild pain on movement
3. Mild pain at rest/ moderate pain on movement
4. Moderate pain at rest
5. Severe pain at rest

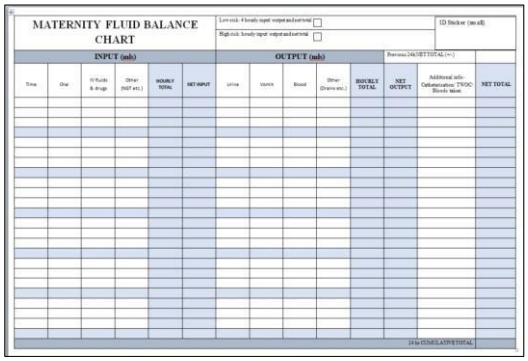
Escalation Pathway

1 Yellow	• Repeat observations between 30-60 minutes • Midwife to assess patient. If any immediate clinical concerns to inform Ward Coordinator • Review and document plan of care
2 or more Yellow and/or any Red	• Repeat observations between 15-30 minutes • Inform labour ward coordinator for review • Obstetric review within 30 minutes • Review and document plan of care
2 Red	• Repeat observations every 15 minutes • Inform Labour Ward Coordinator for immediate review • Obstetric Registrar review within 20 minutes • Prompt transfer to labour ward • Review and document plan of care
More than 2 Red	• Repeat observations every 15 minutes • Inform Labour Ward Coordinator for immediate review • Obstetric Registrar review within 20 minutes • Increase observations to every 5 minutes if rapid deterioration • Check oxygen saturations and administer oxygen as appropriate • Inform on call Anaesthetist • Consider calling Obstetric / Medical emergency (2222) • Consider HDU transfer • Review and document plan of care
If patient deteriorates further or fails to respond to treatment	• Contact Consultant Obstetrician and Anaesthetist • Pull emergency bell for immediate help • Call Obstetric / Medical emergency (2222) • Consider immediate HDU / ITU transfer • Review and document plan of care.
Fluid Balance	• 1500mls positive balance or over: review by Obstetric Registrar. A blood sodium level should be checked and the Peripartum Sodium Monitoring Pathway commenced. If at homebirth transfer to Labour Ward • Blood Sodium ≥130mmol/l- requires no action, however continue to closely monitor and record the fluid balance • Blood Sodium 125- 129mmol/l- Immediate review required by Obstetric Registrar, fluid restrict to 80ml/hr, repeat Sodium 4 hourly. Inform Neonatal Team • Blood Sodium <125mmol/L- Immediate Obstetric and Anaesthetic review. Fluid restrict to 30ml/hr. Stop Oxytocin. Check plasma & urinary osmolality. Consider discussion with Medical Team. Team to inform ITU and Neonatal Team.



Please refer to escalation on the front page

Date
Time
Temperature °C
Mark as 'x'
Pulse
Mark as 'x'
Resps
Mark as 'x'
Saturations
O_2 (l/min)
Systolic blood pressure
Mark as 'x'
Diastolic blood pressure
Mark as 'x'
Neuro response (AVPU)
Pain score (no.)
Lochia/wound
Looks unwell
Total yellow score
Total red score
Initials



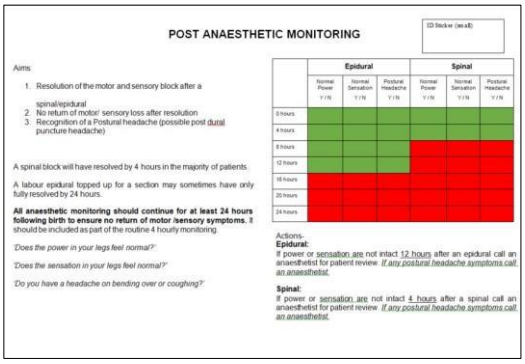
MATERNITY FLUID BALANCE CHART

ID Sticker (as all)

INPUT (mls) | OUTPUT (mls)

Time | Oral | IV fluids & drugs | Other (NGT etc.) | HOURLY TOTAL | NET INPUT | Urine | Vomit | Blood | Other (Drains etc.) | HOURLY TOTAL | NET OUTPUT | Additional info- Catheterisation/ TVOC Bloods taken | NET TOTAL

24 hr CUMULATIVE TOTAL



POST ANAESTHETIC MONITORING

ID Sticker (as all)

Aims:

1. Resolution of the motor and sensory block after a spinal/epidural
2. No return of motor/ sensory loss after resolution
3. Recognition of a Postural headache (possible post dural puncture headache)

A spinal block will have resolved by 4 hours in the majority of patients.

A labour epidural topped up for a section may sometimes have only fully resolved by 24 hours.

All anaesthetic monitoring should continue for at least 24 hours following birth to ensure no return of motor/ sensory symptoms. It should be included as part of the routine 4 hourly monitoring.

'Does the power in your legs feel normal?'

'Does the sensation in your legs feel normal?'

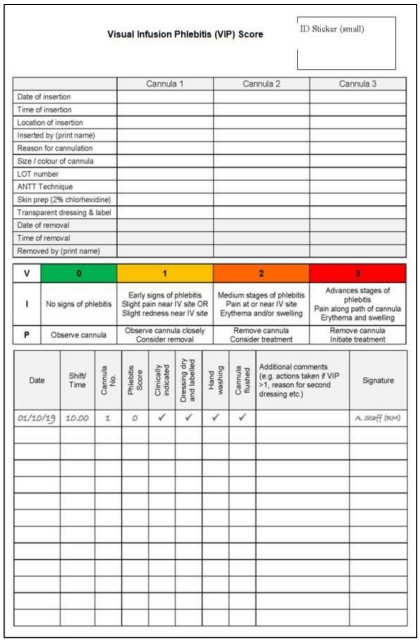
'Do you have a headache on bending over or coughing?'

	Epidural			Spinal		
	Normal Power Y/N	Normal Sensation Y/N	Postural Headache Y/N	Normal Power Y/N	Normal Sensation Y/N	Postural Headache Y/N
0 hours						
4 hours						
8 hours						
12 hours						
16 hours						
20 hours						
24 hours						

Actions.

Epidural:
If power or sensation are not intact 12 hours after an epidural call an anaesthetist for patient review. *If any postural headache symptoms call an anaesthetist.*

Spinal:
If power or sensation are not intact 4 hours after a spinal call an anaesthetist for patient review. *If any postural headache symptoms call an anaesthetist.*



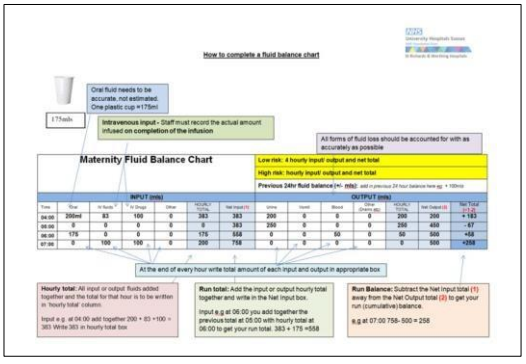
Visual Infusion Phlebitis (VIP) Score

ID Sticker (small)

	Cannula 1	Cannula 2	Cannula 3
Date of insertion			
Time of insertion			
Location of insertion			
Inserted by (print name)			
Reason for cannulation			
Size / colour of cannula			
LOT number			
ANTT Technique			
Skin prep (2% chlorhexidine)			
Transparent dressing & label			
Date of removal			
Time of removal			
Removed by (print name)			

V	0	1	2	3
I	No signs of phlebitis	Early signs of phlebitis Slight pain near IV site OR Slight redness near IV site	Medium stages of phlebitis Pain at or near IV site Erythema and/or swelling	Advances stages of phlebitis Pain along path of cannula Erythema and swelling
P	Observe cannula	Observe cannula closely Consider removal	Remove cannula Consider treatment	Remove cannula Initiate treatment

Date	Shift/ Time	Cannula No	Phlebitis Score	Clinically indicated	Dressing dry and labelled	Hand washing	Cannula flushed	Additional comments (e.g. actions taken if VIP >1, reason for second dressing etc.)	Signature
01/10/19	10.00	1	0	✓	✓	✓	✓		A. Staff (NM)



How to complete a fluid balance chart

Oral fluid needs to be accurate, not estimated. One plastic cup =175ml

175mls

Intravenous input - Staff must record the actual amount infused on completion of the infusion

All forms of fluid loss should be accounted for with as accurately as possible

Maternity Fluid Balance Chart

Low risk: 4 hourly input/ output and net total

High risk: hourly input/ output and net total

Previous 24hr fluid balance (+/- mls): add in previous 24 hour balance here eg: + 100mls

INPUT (mls) | OUTPUT (mls)

Time | 1Oral | IV fluids | IV Drugs | Other | HOURLY TOTAL | Net Input (A) | Urine | Vomit | Blood | Other (Drains etc) | HOURLY TOTAL | Net Output (B) | Net Total (A-B)

Time	1Oral	IV fluids	IV Drugs	Other	HOURLY TOTAL	Net Input (A)	Urine	Vomit	Blood	Other (Drains etc)	HOURLY TOTAL	Net Output (B)	Net Total (A-B)
04:00	200ml	83	100	0	383	383	200	0	0	0	200	200	+183
05:00	0	0	0	0	0	383	200	0	0	0	200	400	-87
06:00	175	0	0	0	175	558	0	0	50	0	50	500	+58
07:00	0	100	100	0	200	758	0	0	0	0	0	500	+258

At the end of every hour write total amount of each input and output in appropriate box

Hourly total: All input or output fluids added together and the total for that hour is to be written in 'hourly total' column.

Input e.g. at 04:00 add together 200 + 83 +100 = 383 Write 383 in hourly total box

Run total: Add the input or output hourly total together and write in the Net Input box.

Input e.g.at 06:00 you add together the previous total at 05:00 with hourly total at 06:00 to get your run total. 383 + 175 =558

Run Balance: Subtract the Net input total (1) away from the Net Output total (2) to get your run (cumulative) balance.

e.g.at 07:00 758- 500 = 258

Please check against Staffnet that this printout is the most recent version of this document.

Appendix 3: Method and rationale for observations

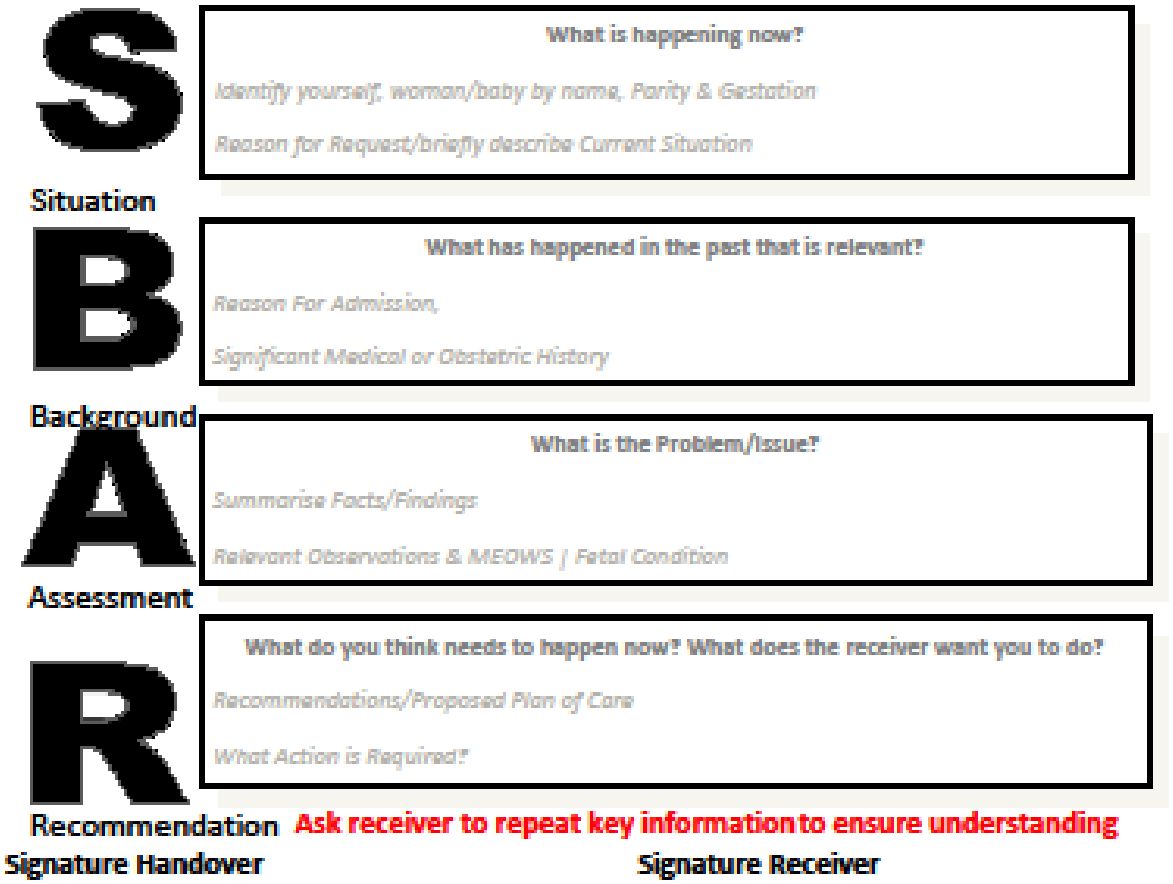
Respiratory Rate (RR)		
Method	**Rationale**	**Comments**
Count for 1 minute (Can be discretely taken at the same time as the pulse is noted)	To assess respiratory rate, depth, pattern and ease of breathing. Less obvious, therefore less likely to cause patient to alter their respiratory pattern	• **RR is a sensitive marker of acute illness.** It can also be affected by changes in metabolic, neurological and cardiac status. • **Looking** at the patients breathing pattern and colour (cyanosis) - Assessment may vary depending on patients skin tone, consider assessing conjunctiva and nail beds for pallor as cyanosis may be more difficult to determine. • **Listening** for additional breath, sounds such as an audible wheeze and **feeling** the patients skin: are they cool and clammy?
Oxygen Saturation (using pulse oximetry)		
Method	**Rationale**	**Comments**
Using finger or dedicated ear probe. Ensure adequate waveform.	It is an adjunct to assess oxygenation and / effectiveness of oxygen therapy (if applicable). **It does not replace RR measurement**	• If a patient is poorly perfused the accuracy of the reading will be affected – a poor waveform or inability to give % would generally suggest poor perfusion. More central placement such as ear lobe may improve waveform. • If the patient is anaemic it will not give an accurate reflection of oxygenation. • Consideration should be given to the accuracy of saturation readings in those with dark skin and clinical assessment and other methods such as ABGs taken to verify the oxygenation levels. • Ensure use correct probe for position taken eg not finger probe on ear and vice versa.

Blood Pressure (BP)		
Method	**Rationale**	**Comments**
For antenatal women/people BP manual readings should be taken (using auscultation method with sphygmomanometer and stethoscope). For postnatal women/people an automated BP machine (ABP uses oscillation method) can be used. **For accuracy in both methods the appropriate size cuff must be used.** A lying and standing BP may be required to assess the patient for postural hypotension.	ABP are useful for repeated reading on same patient however should not be used on pregnant women/people. Risk of inaccurate readings if inappropriate size cuff used. Under size cuff cuffing – due to a too narrow or too small bladder can lead to an over estimation of BP. Over-sized cuff can under estimate BP. Cuff must be placed on the arm with the centre of the bladder over the brachial artery (usually marked on the cuff).	• A decrease in BP is usually **a late sign** of acute illness it therefore must be treated promptly. • Manual method is more accurate for low BP readings and arrhythmias. Students and maternity care assistances should be encouraged to continually develop their clinical skills of auscultatory method by using this method in preference to the automated BP system. • A lying and standing manual BP may also be required to assess the patient for postural hypotension (a risk factor for patient falls). • Automated system should **not** be used for patients with arrhythmias, are pregnant, have pre-eclampsia and some vascular diseases. • Refer to manufacturer's instructions for details on use of ABP (to be held in resource file on ward). • Re-useable cuffs wear out. As soon as Velcro stops "holding" on inflation cuff it should be replaced. • Ward manager should be informed and ensure adequate supply for department.

Pulse		
Method	**Rationale**	**Comments**
Take radial pulse manually for at least 30 seconds. It **must not** be read from the pulse oximeter or automatic BP monitor.	To assess rate, volume, regularity. Taking manual pulse also aids other assessments e.g. skin temperature.	• If unable to obtain radial pulse due to poor perfusion - use the carotid artery to assess central pulse. • If no radial pulse MCAs and student nurses should summon help immediately.
Conscious Level		
Method	**Rationale**	**Comments**
A - Alert **C** - New or worsening confusion **V** - Responds to Voice **P** - Responds to Pain **U** - Unresponsive	This is a simple assessment tool. If the patient does not measure "A" or "V" a more detailed Glasgow coma scale should be used.	• **Conscious level is a sensitive marker of changes in the patient's condition.** • Any new or worsening confusion could be a sign of hypoxia, sepsis, poor cerebral perfusion or electrolyte imbalance. • If a patient is only responsive to pain "P" or unresponsive "U" **seek help immediately** – check blood sugar for signs of hypoglycaemia. • Correctly perform ACVPU on all patients, (if asleep/post sedation etc) if any doubt about actual conscious level undertake full GCS. • If a patient communicates via sign language or does not use spoken word the relevant communication support service should be accessed for overseas speakers and British Sign language.

Temperature		
Method	**Rationale**	**Comments**
Tempadot Single patient use plastic strip with heat sensitive spots. Place under tongue or axilla. **Tympanic** Core temperature reading using infrared machine with disposable probe covers. Discard after use. **HuBDIC Therofinder** Infrared forehead thermometer. **Oral –** disposable probe covers, discard after use.	1 minute for oral temperature reading. 3 minutes for axillary reading. Reading within seconds. Ensure. using correct technique to gain accurate reading. Non-contact, measure 2-3cm from temple. Reading within seconds. 1 minute for oral temperature reading.	Tempadot accuracy of reading can be affected by: • Own body temperature (Do not carry strips in pockets) • Sunlight – Do not leave in sunlight If reading cannot be obtained use tympanic thermometer. Oral: • Do not use if patient has recently had a warm drink, is confused or is at risk of seizures. • Ensure oral probe is correctly placed sublingually, and patient has not recently had a hot or cold drink.

Appendix 4: SBAR



Appendix 5: MET call criteria

Criteria for calling Emergency Teams 2222

Criteria	MET, Anaesthetic Emergency or Cardiac Arrest (2222)
Airway	• Upper airway obstruction / stridor /snoring. • Support required because of loss of consciousness. • **Anaphylaxis / choking.**
Breathing	• Respiratory Rate: **Acute** change to > 30 / min or < 8 / min. • Oxygen saturations: **Acute** change to < 90% despite O_2 therapy.
Circulation	• Systolic BP: **Acute** change to < 90mmHg. • Heart Rate: **Acute** change to <40 / min or >130 / min.
Disability (conscious level)	• **Acute** change in conscious state. • Seizures. • Hypoglycaemia, blood glucose 4mmol/l or less.
Exposure	• Blood loss (unexpected blood loss from wound, PV, PR etc.).
Urine Output	• **Acute** change to < 50mls over last 4 hrs.
Other	• Staff member worried about the patient despite the above criteria not being met. • Chest pain / stroke-like symptoms. • Continued raise in MEOWs score above 2 red despite review and interventions.