

OBSTETRIC HANDBOOK

**Bradford Teaching Hospitals NHS
Foundation Trust**

Revised May 2021

Revision by Dr Ella Billson
(Reflects the consensus view of the Obstetric Anaesthetic Consultants of
the Bradford Teaching Hospitals NHS Trust at the time of writing)

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Introduction

Welcome to the Bradford Royal Infirmary Maternity unit.

We aim to provide excellent training in this varied and often challenging area of anaesthetic practice. We do our best to be friendly and approachable. We encourage you to be proactive and to let us know how we can help you to get the most out of your time with us.

Our emphasis is always on patient safety and satisfaction. This requires strong communication skills and a positive attitude to requests made on behalf of patients by our colleagues in Midwifery or Obstetrics. This is not always easy as it sounds in an often busy and complicated environment. We will encourage and support you to develop these 'softer' skills as well as your technical ability during your time with us.

This handbook provides a framework for formalised teaching of obstetric anaesthesia in Bradford. It is not designed to be a comprehensive reading text but should help to ensure that you have performed, seen and had teaching on relevant procedures and topics during your attachment to the delivery suite. **The onus is on you to ensure that most areas are covered and that you are confident in dealing with common obstetric anaesthetic problems.**

The handbook is divided into sections including a record of training sessions; procedures/skills seen or performed; assessments of competence; teaching topics / knowledge base; decision making and suggested reading.

**** You will not be able work with distant supervision for obstetric anaesthesia and analgesia until competencies have been signed. ****

All non-consultant grades will be expected to provide proof of obstetric competency prior to providing cover for the delivery suite and undergo a period of orientation on the delivery suite. It is your responsibility to ensure that this is completed prior to taking up on-call commitments.

Changes to practice may be introduced before we next review this handbook: **Contemporary protocols, guidelines and procedures are found on the hospital intranet:**

Click on Policies and Guidelines in the left hand menu of the trust intranet home page. Click Local guidelines>women's services>obstetrics>obstetric - Anaesthetics. This will take you to a list of guidelines.

In addition to this booklet and the guidelines that it directs you to, you should also read the Yorkshire Society of Anaesthetists Obstetric Anaesthesia Emergencies Pocket Guide which we will also supply.

Professionalism on the labour ward:

1. Do not work unsupervised until your competencies have been completed and reviewed by a senior member of staff.
2. Do not start any elective work unless there are two anaesthetists and ODPs present
3. Be contactable at all times. This usually means being present on labour ward and letting the senior midwife know where you are, as well as ensuring bleeps are in order. The anaesthetic obstetric bleep is 976
4. Be meticulous about sterility.
5. Use standard techniques and equipment unless discussed with a Consultant.
6. If in doubt seek appropriate advice / assistance:
 - a. If in doubt call a Consultant
 - b. Out of hours there will be an allocated consultant covering Obstetrics. This is the consultant who is also covering acutes theatres.
 - c. If immediate help is required and a consultant is not on site, call the Senior Specialist Trainee who should either come over themselves, or delegate to another (obstetric competent) trainee.
7. Keep accurate records and enter relevant data onto the database. For emergency work you should record the time that you are informed of the case, time skilled assistance available, time of arrival into theatre, time of spinal in, knife to skin and time baby arrives.
8. Report all complications to a Consultant in order that the patient can be followed up by someone of appropriate seniority

9. Be proactive and get involved with any sick patients on delivery suite. You will have recent critical care experience and can really help the MDT with prompt management.
10. Try to say yes to the smaller jobs (such as cannulation). Remember there is a patient at the end of these requests (and being a team player scores points with the midwifery team – never a bad thing!). Often the midwives will have already attempted cannulation/venepuncture and the obstetric SHO will be busy on MAC or the wards. There is an ultrasound machine on Labour Ward that can be used for difficult cannulation.
11. You are a reflection of the anaesthetic profession: please ensure you maintain high standards of your work as well as behaviour and communication

The maternity Unit in Bradford

We facilitate the delivery of some 6000 babies per annum in Bradford. Approximately 2/3 of these deliveries occur on Labour Ward.

The Unit includes an 11 bedded Labour Ward, an 8 bedded BBC (the midwife-lead Bradford Birthing Centre), two maternity wards (M3 and M4) - where the majority of post natal patients are cared for, Transitional care on M2 and a Maternity Assessment Unit on the Ground floor.

We care for an exciting case-mix; providing plenty of opportunity for you to broaden your experience.

The Anaesthetic Consultants with an Obstetric interest are listed below. You should also introduce yourself to the Midwives, Obstetricians and the team of ODPs and Scrub staff, too numerous to list, who look after patients on labour ward.

Consultant Anaesthetists:

Dr Simon Ali (Obstetric Anaesthesia Lead)

Dr Sarah Cooper

Dr Deborah Horner

Dr Robbie Gill

Dr Mark Greasley

Dr Lesley Hawthorne

Dr Jayne Noden

Dr Fozia Hayat

Dr Louise Jobling

Dr Alastair Hughes

SAS Anaesthetists:

Dr Phil Lucas

Dr Thomas James

We all try to be as approachable as possible.... **DO consult us whenever you are in doubt.**

Knowing labour ward

The induction to labour ward should help you to get to know the (slightly bewildering) layout of the ward, door codes and so on. This is imminently changing as the new labour ward and obstetric theatre build commences.

There are a number of drugs and pieces of equipment that you need to be able to find quickly on labour ward. Make it a priority to learn the location, contents and how to use the contents of the following:

- Difficult Airway Trolley
- Crash Trolley and Defibrillator (including IO access equipment)
- Blood Fridge (and O-ve blood)
- Location of emergency drugs
- Guidelines (hard copies and on the intranet as described earlier)
- Obstetric Anaesthetic Alert folders / system
- Epidural Trolleys
- Dantrolene, Intralipid and Suggamadex
- Rapid Transfusion Equipment (we have a 'mock' giving set to help you learn)
- Ultrasound machine
- TEG and where cartridges are kept
- Cell saver
- HDU room
- Sepsis and Haemorrhage 'tool boxes'
- Remifentanil PCA equipment (instructions, patient information leaflet and jobs chart available on intranet)
- Central Venous access equipment
- Oxygen administration equipment – including nebulisers and venturi masks.
- Thrive : HFNO for GAs (ensure you are trained)
- Rest facilities: During a night shift, where workload allows, there is a camp bed in the anaesthetic office to take some rest. Some trainees prefer to go to the 'wobble room' which is in the old MAC

directly across the corridor from Labour Ward. Code 315. There is a recliner chair in here or you can take the camp bed. Please always let the midwife co-ordinators where you are resting and have the bleep on you at all times. ALWAYS leave this room empty as you find it as it is used clinically during the day.

Five Steps to Safer Surgery: WHO Checklist

The safer Surgery Saves Lives initiative was launched by the World Health Organisation (WHO) in 2008 to reduce the number of surgical errors and enhance patient safety during the perioperative phase of their care. The Five Steps to Safer Surgery was introduced in 2010:

1. Briefing
2. Sign in
3. Time out
4. Sign out
5. Debriefing

The WHO surgical safety checklist forms steps 2,3 and 4 of the five steps. The WHO checklist MUST be carried out for all obstetric patients (elective and emergency) undergoing any procedure in the obstetric theatres. Briefing and Debriefing should be carried out for all elective theatre lists and should include all members of the theatre team.

Clear guidance on how to complete the WHO checklist is provided in the form of a poster in the obstetric theatres.

The checklist is not intended as a tick box exercise. When used properly, it is a powerful tool to improve safety and ensure effective communication within the clinical team.

The Daily Routine

0745 The night and day coordinators meet to handover and allocate midwifery staff.

0800 MDT handover between the day coordinator, anaesthetic and obstetric teams in the coffee room. The night team presents the key issues, to ensure a concise, timely exchange of information and to allow them to leave by 0830h. In addition, the night team should ensure any patients outside of labour ward are handed over.

Ward round immediately follows this handover, with prioritisation of which patients require review first.

There are usually 2 Consultant Anaesthetists present each weekday morning. One looks after labour ward, the other runs the elective LSCS list. Trainees can divide their time between labour ward and theatre as directed by the Consultants of the day.

The day team **checks the anaesthetic machines** in the two operating theatres immediately after handover and **checks there are fresh drugs in all drugs boxes**. There are fridges in both theatres, each containing 4 drug boxes labelled 'supplementary', 'general anaesthetic', 'PPH' and 'epidural top up' which have all drugs you should need during a theatre case. All drug boxes should be kept in the fridges and refreshed every 24hours including thiopentone. All drugs must be labelled with date and time of preparation. For topping up the drug boxes or for any additional medications the drug cupboards are found in the room between theatres.

A **ward round** follows the MDT handover. This is a multidisciplinary ward round. If you are available, you should attend as well as the Consultants. Please be professional and polite on the ward round. No hot/cold drinks are to be taken on the ward round.

You should always input **data relating to any epidural that you site, or theatre case that you have been involved in using the MEDWAY system. Separate training will be provided before you will be given a login for the system.** You will also need training to gain logins for the TEG machines.

You will also be involved in **follow up**** visits to postnatal patients – usually on M3 and M4. You should also record this on Medway. Please ensure that all appropriate patients are followed up every day. Please also ensure that you understand this system and maintain accurate records. For patients that need ongoing follow up, hand this over, leave them on the medway follow up list and write it on the white board in the anaesthetic office (code 2+4 then 3)

Throughout the day, you should liaise with the midwife in charge and the obstetricians in order to keep abreast of developments on labour ward. Further MDT ward rounds take place at around 1pm, 5 pm and 8pm at the start for the night shift along with an 8pm handover at the

front desk. The labour ward safety huddle is at 12:45 pm daily and should be attended by one of the anaesthetic team.

The department is also involved in **research and audit**. You may have the opportunity to engage in these activities during your time with us. You should discuss this with one of the consultants early on in your placement.

**All mothers with anaesthetic input will be followed up the day after delivery, or the day of delivery if early discharge is planned. Specific enquiries will be made concerning complications and maternal satisfaction. All data will be entered onto the anaesthetic computer on delivery suite. Regular reports will be produced under the direction of the clinical lead for obstetric anaesthesia. These will be presented and discussed at anaesthetic clinical governance meetings. Annual reports will be made available to the Labour Ward Forum.

When to call for help

There are some clinical situations when a senior member of staff must be informed. Examples are given below.

On occasions when there is an urgent clinical need for delivery of the baby, do not waste time trying to contact people yourself; ask the co-ordinator to do this for you. They have contact details for the SpR and consultants on duty and are happy to do this.

We would much prefer that you ask for help if you are unsure about a clinical decision or are finding it difficult to perform a procedure than you struggle on alone.

The obvious occasions when you should ask for help include:

- Failed intubation
- Anaphylaxis
- Suspected or actual malignant hyperthermia
- Massive obstetric haemorrhage (more than 1.5 litres in less than 1 hour)
- Eclampsia
- Amniotic Fluid embolus
- Aspiration
- PPH >1500ml with ongoing bleeding

The less obvious ones include:

- Unable to site a regional block
- Severe PET (i.e. on regional protocol on LW and in Room 5)
- Any patient in “high risk” file once admitted to LW
- Any patient who should be in “high risk” file but isn’t
- Dural tap (inform daytime consultant so that the patient is actively followed-up)
- Placenta praevia – grade IV
- Previous CS x3 or more
- Patients with multiple medical conditions
- Any complaints either directed at you or towards another member of staff or by mother or partner
- Request for senior support from obstetrician

Decision making

Elective work:

The vast majority of elective Caesarean sections are done under spinal anaesthesia. The patients are admitted on the day of surgery having attended pre-assessment clinic usually on the previous afternoon. If labour ward workload allows, a member of the anaesthetic team should go and see the elective patients at their pre-assessment appointment. This helps to ensure that no last minute problems arise on the morning of surgery and helps with patient flow on the day of surgery. Patients with significant co-morbidity such as diabetes may be admitted on the day prior to surgery. Look on Medway for any antenatal anaesthetic review.

High risk patients with specific anaesthetic plans will have a copy of their plan in the high risk obstetric anaesthetic clinic folder in the maternity folder of the shared drive. (Shared drive>Maternity>High risk obstetric anaesthetic clinic, then search by month they were seen). This can also be accessed for any high risk patients which may have spontaneous labour and come in out of hours to aid your plan.

Most women can be persuaded to have a regional block, but should a patient adamantly refuse, her wishes should be respected unless there are overwhelming clinical indications for a regional technique.

Occasionally, an epidural, combined spinal/epidural or spinal catheter may be appropriate e.g. potential prolonged or difficult operation, extremes of stature, CVS disease. These cases should involve a consultant or senior member of staff.

We introduced an enhanced recovery programme in 2014, which allows appropriate patients to go home the day after delivery.

Emergency CS:

The majority of “emergency” caesarean sections can be done under regional blockade. There are a few exceptions which include:

- Severe haemorrhage / hypovolaemia
- Ruptured uterus
- Some instances of severe foetal distress i.e. cord prolapse, prolonged bradycardia, late decelerations with no variability, (particularly if other complicating factors)
- Absolute refusal by patient to have a regional block
- Coagulopathy (untreated)
- Failed regional block
- History of anaphylaxis to LA

Please note this list is not definitive and there may be circumstances where it may be appropriate to use existing regional blockade e.g. epidural/raised BMI after discussion with the consultant. This takes into account balance of risks.

Epidurals

Before any epidural is sited the lady must be cannulated, given an epidural leaflet to read and consented verbally. Epidural leaflets can be found in a variety of languages on labourpains.com or in the folder where the epidural trolleys are kept. The midwives will usually cannulate and give the lady a leaflet before asking for your input.

Once the epidural is sited you must sign the yellow epidural record form where the midwives document top ups and observations. It is useful to make notes on depth to space/catheter in skin/difficulties on this record for emergencies.

Don't forget to input the epidural insertion onto medway for follow up.

Top up of epidurals for CS.

When embarking on regional blockade for emergency CS, there are two options – spinal or top-up of existing epidural. Topping up of epidurals seems to cause the most debate and reason for inadequate anaesthesia.

Please also refer to the Trust Guideline on this topic.

Here are a few simple dos and don'ts:

If the epidural has proved sub-optimal pain relief for labour, do not use it for anaesthesia – do a spinal.

If you do decide to top up a functional epidural:

- Double check that you have functional i.v. access
- Aspirate the epidural catheter – do not top up if there is a bloody aspirate indicating i.v. placement of catheter
- **Start topping up in the delivery room** and accompany the woman (tilted towards the left lateral position) to theatre.
- **Be generous with the top-up dose** – give up to 20mls 0.5% levobupivacaine **incrementally** over 5 minutes unless topped up by the midwife within the last 20 mins, or very small stature, in which case give up to 15mls. An initial bolus of 2% lidocaine may be given in category 1 or 2 sections to increase the speed of onset of the block or as a test dose prior to giving levobupivacaine.
- **Always** be aware of the risk of I.V placement of the epidural catheter. (When you get the opportunity do discuss the value of 'test doses' with the Consultants).
- Give 3mg of Diamorphine at your earliest convenience. You do not need to wait for delivery of the baby.
- **Test the block** before allowing the obstetrician to start: There should be a demonstrable block to T 10 by 10 minutes. If after 20 minutes the block is inadequate but rising, a further 5 to 10mls of L- Bupivacaine can be given. If the block has not reached T5 with a good perineal block after a further 10 minutes, it is unlikely to reach this (*required*) level and an alternative anaesthetic should be given.

- **If you are unhappy with the block at this point, do not proceed.** Discuss the situation with the mother and the theatre team. Either site a spinal (reduce the dose to 2.2ml of heavy bupivacaine) if you have time, or proceed with a GA. Leave the epidural catheter in place in the event that you need to use it to 'push the spinal a little higher'. Site the spinal in the space below the epidural catheter or, failing this, in the same space. Do not site the spinal above the site of insertion of epidural. **Make sure all are in agreement with the plan.**

Remember never be pressurised into doing something that you do not feel comfortable with – call for senior help if in doubt.

Preventing and treating pain and nausea during caesarean section

This is the most common cause of complaint and litigation against obstetric anaesthetists.

- **Careful explanation preoperatively and during surgery is very important.** You should explain that feelings of 'pushing and pulling' and moments of discomfort at certain points in the procedure are all normal. Managing expectations can be very helpful.
- You should offer a GA if there is significant distress and are close to the start of surgery. In some cases conversion to GA will be the only practical option. Seek senior help but do not delay in offering GA alongside other measures as follows:
 - You should assess all pain / discomfort and record it on the chart.
 - Stop surgery until it is resolved (unless there is an urgent need to deliver baby)
 - Top up epidurals if in use
 - Alfentanil in aliquots of 250mcg for pain / nausea
 - Nitrous oxide
 - Infiltration with local anaesthetic if the surgery is nearing its end
 - The discussion with the woman about GA should be documented on the chart as well as her response (acceptance or refusal).
 - Ensure that the patient is mentioned at handover to ensure adequate follow up.

The failing epidural on labour ward

Careful assessment and management of a failing epidural is important not just for the delivery of good analgesia during labour, but may also have a bearing on whether you are able to use the epidural for Caesarean section if required.

If you are failing to achieve a significant improvement with the following.... RE-SITE the epidural.

If, on discussion with the obstetricians / midwives it is felt quite likely that a patient will be coming to theatre, you may be more inclined to re-site the epidural without attempting the following.

Top tips:

- Look for the pattern of failure: is it global failure, unilateral block, missed segment, back pain, perineal pain all have different typical explanations and potential solutions.
- Never forget the possibility of equipment failure
- OP presentation: If the epidural appears to be working well for the main part but the patient is experiencing severe back pain, it could be that that baby is presenting in an occipital posterior position. Under these circumstances there may be little more that an epidural can offer. You should explain the limitations of epidural analgesia. A further top up sometimes helps, as can entonox.

Problem	Potential solution	If not improving after this....
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Global failure	Top up with 10ml 0.25% 1-bupivacaine +/- 1mcg / kg fentanyl*.	Re-site
Unilateral block or missed segment	Withdraw epidural catheter a little. Leave at least 3.5 cm in the space. Top up epidural as * with painful side in a dependent position.	Check progress of labour and position –see OP above. Re-site unless advanced labour and consensus view that ‘too late’
Perineal pain	Check sacral block - Top up in sitting position if lacking. Check that bladder is not full. This can cause pain.	Check progress of labour and position –see OP above. Re-site unless advanced labour and consensus view that ‘too late’

Suggested Reading

- Website of the Obstetric Anaesthetists Association;
<http://www.oaa-anaes.ac.uk/home>
- International Journal of Obstetric Anaesthesia.
- Obstetric Anaesthesia Textbooks – there are lots! Authors of note – Birnbach, Brighthouse, Chestnut, Datta, Reynolds, Lyons, May, Morgan, Nelson-Piercy, Russell I, Russell R, Yentis.
- <https://www.npeu.ox.ac.uk/mbrance-uk/reports> MBRRACE –UK : Saving lives, improving Mothers’ Care – Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2014-16.

Protocols / Guidelines

Current policy guidelines are available on the hospital intranet as described earlier (*page 4 in italics*). **Please ensure that you access and are familiar with all of these guidelines.** You can use the list below to help you ‘check off’ each of the policies and guidelines.

If you have any comments or queries, please speak to one of the obstetric anaesthetic consultants.

A specific area not covered by these policies is the provision of skilled assistance for emergency obstetric anaesthetic procedures. If you have a problem in this respect, please contact the Consultant on-call as soon as possible for guidance.

We do not seek specific written consent routinely for siting epidurals, but please ensure that you have explained the material risks (headache, hypotension, incomplete block, nerve injury, back pain) and that your patient has been given the opportunity to read the OAA epidural factsheet. Risks are listed on current epidural forms as “tick” boxes.

List of Guidelines:

- Epidural Analgesia Policy
- Spinal Anaesthesia Policy

- General Anaesthesia Policy
- Epidural Top-up for CS
- Failed Intubation Drill
- High Regional Block Drill
- Dural Puncture Policy
- Post-operative Analgesia
- Management of Preeclampsia (See Intranet Guidelines – also kept in red folder in Room 6)
- Remifentanil for PCAS
- Caesarean Associated Recovery Enhancement
- Perioperative Complications of Central Neuraxial Blockade

Record of training sessions on delivery suite

Trainee name:

Date	am/pm	Procedures seen / performed	Consultant signature

Practical Procedures - Record

Trainee name:

Procedure					
Epidural / CSE pain relief in labour					
Epidural top-up – CS					
Elective CS - spinal/CSE					
Emergency CS – spinal/CSE					
General Anaesthesia – CS					
Anaesthesia for instrumental delivery					
Anaesthesia for retained placenta					
Major Obstetric Haemorrhage					
Pre-eclampsia / Eclampsia					
Shirodkhar suture					
Blood patch					

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Areas for discussion (linked to e-portfolio)				
Changes in anatomy / Physiology	OB-BTC-C01			
Choice of drugs in pregnancy and breast feeding mothers	OB-BTC-C02			
Conduct of general anaesthesia in late pregnancy	OB-BTC-C03			
Obstetric haemorrhage – risk factors and management	OB-BTC-C04			
Anaesthesia and pre-eclampsia	OB-BTC-C05			
Pain relief in labour	OB-BTC-C06			
Diagnosis and management of post dural puncture headache				

rocedure

Workplace Assessment of the Competencies for Obstetric Anaesthesia.

The paperwork contained within this handbook is designed to help you to keep track of your activities on labour ward. You should also continue to complete your e-portfolio as this is the principle source of recorded information that will be used for your assessment.

All non-consultant staff working on delivery suite should have Obstetric Competencies signed prior to independent working without direct supervision.

All trainees new to obstetric anaesthesia should undergo formal training and assessment in Bradford.

More experienced trainees working in Bradford for the first time should produce signed copies of basic obstetric competencies and undergo a period of orientation prior to providing on-call.

Please ensure that the appendix 1 form is completed and signed by 2 Obstetric Anaesthetic Consultants, and returned to Dr S Cooper prior to starting on call work on labour ward.

Please contact the following Consultants for discussion regarding initial assessment of competencies and RCoA Units of Training in Obstetric Anaesthesia:

Initial assessment of competency	Dr J Noden
Intermediate Level Training in Obstetrics	Dr J Noden
Higher Level Training in Obstetrics	Dr J Noden
Advanced Level Training in Obstetrics	Dr D Horner

Finally, we hope that you enjoy your time with us in this sometimes challenging, but often rewarding environment.

Appendix 1: Orientation and Competency Assessment Checklist

Name:

Grade:

On Call start date:

RCoA Obstetric Anaesthesia Training Level:

Orientation :

- Difficult Airway Trolley
- Crash Trolley and Defibrillator
- Blood Fridge (and O-ve blood)
- Location of emergency drugs and drug boxes
- Guidelines
- Obstetric Anaesthetic Alert folders
- Epidural Trolleys
- Dantrolene, Intralipid and Suggamadex

Equipment Training:

- | | Date | Signature |
|-------------------------------|-------|-----------|
| • Rapid Transfusion Equipment | _____ | _____ |
| • Ultrasound machine | _____ | _____ |
| • TEG | _____ | _____ |
| • Cell saver | _____ | _____ |

Medway Training: Date _____

Signature _____

Competent to perform standard procedures with distant supervision:

Signature _____

Date _____