1. Introduction and who the guideline applies to:

This guideline aims to ensure effective and safe use of epidural analgesia and anaesthesia on the labour wards. A 24 hour on - request epidural service is available. However, availability will depend on adequate midwifery staffing levels and the clinical environment at the time. Epidurals can only be performed in the obstetric led delivery rooms. Women in the midwifery led care rooms must be moved into a room on the main delivery suite first.

This guideline is for use by midwives, anaesthetists, obstetricians, pharmacists and nurses in the care of a woman with epidural analgesia in labour.

2. Recommendations:

1. Consent must be obtained prior to the procedure

- The anaesthetist should as a matter of routine visit the woman before performing the epidural and explain the technique, complications and what to expect
- A verbal consent must be obtained and documented in the health record
- If there has been previous administration of IM Opioid the woman should be informed of the increased risk of itching
- An epidural analgesia information sheet may be offered. Translations of this document are available on the OAA website.

Please note that this may not be the most recent version of the document. The definitive version is in the Policy and Guidelines Library.
6 Months Review Date Extension Approved by Director of CLA as Document Remains Fit for Purpose & Legislative Requirements.

2. IV access must be secured

- Intravenous access must be secured using a 14 or 16g cannula
- An intravenous infusion should be commenced using 1000mls Hartmann's solution
- Preloading is only necessary if the woman is evidently dehydrated

3. The woman must be positioned correctly

- The woman must be positioned to avoid aorta-caval compression throughout labour and delivery
- The epidural may be inserted in the sitting or full lateral position.
- If she wishes to lie supine after epidural insertion, at least 15 degrees of lateral tilt should be applied by wedging under the hips

4. The woman and fetus should be closely monitored

- The IV access should be examined at each top up to ensure it is intact
- The epidural site should be examined at each top up to ensure it is intact
- The woman's position should be changed at least every 2 hours if possible in order to prevent pressure sores developing
- The skin should be inspected and the woman's position recorded at every top up
- Blood pressure, heart rate, respiratory rate and auscultation of the fetal heart should be taken and documented in the health record at least every 30 minutes as a minimum
- The woman should have plenty of opportunity to empty her bladder as reduced bladder sensation and side effects of epidural opioids can cause urinary retention. A Foleys catheter will need to be in place

should a second in and out catheter be required (see bladder care guideline)

- Continuous electronic fetal monitoring (if not already in use) must be commenced after insertion of the epidural and prior to administration of the test dose for at least 30 minutes and also after each bolus dose of 10ml or more

- If there are any concerns about the fetal heart rate then effective monitoring **prior** to the siting of the epidural should be established. Use of a fetal scalp electrode may need to be considered.

5. A test dose must be administered

- A test dose should be given by the anaesthetist. This is the first dose given via the epidural. The recommended test dose is 10 -15mls of Bupivacaine 0.1% with Fentanyl 2 mcg/ml given slowly

- A pre dose blood pressure must be taken and documented in the health record

- Following the **test dose** the blood pressure, heart rate, respiratory rate and auscultation of the fetal heart should be taken and documented in the health record every 5 minutes for 20 minutes

- The woman should not be left unattended for the 20 minutes following the test dose

6. Boluses must be administered correctly

- PCEA (Patient Controlled Epidural Analgesia) should be the first line technique for epidural analgesia. The pump should be programmed by the anaesthetist

- The chosen regime should be Levo-Bupivacaine 0.1% with Fentanyl 2mcg/ml – 10mls bolus dose with 30 minutes lockout. (27 minutes set in the Saphire pump as the bolus takes 3 minutes to be delivered). This is available as a pre-set programme. A 15ml top up is available as an alternative

- The epidural bag should be labelled with the patient details and an epidural form must be completed

- Epidural boluses should only be administered by a midwife competent to do so, or a midwife being supervised by a midwife

- PCEA bolus by the woman should be done only in the presence of a trained midwife. A pre dose blood pressure should be taken and documented in the health record

- Following a **bolus dose** the blood pressure, heart rate, FHR and respiratory rate should be taken at 10 minutes and documented in the health record

7. Combined spinal and epidural should be managed appropriately

- Spinal injection of 1ml Bupivacaine 0.25% and 25 micrograms (0.5mls) of Fentanyl should provide analgesia for 1 to 1.5 hours. An alternative is to give 2.5-3.5ml of 0.1% bupivacaine/2mcg/ml fentanyl using the vials of low dose mixture

- Blood pressure, heart rate, respiratory rate and auscultation of the fetal heart should be taken pre dose and at 5, 10, 15 and 20 minutes

- Once the woman starts to feel some discomfort from contractions again, the epidural should be topped up

- The first top up of 10 – 15mls of Bupivacaine 0.1% and Fentanyl 2 micrograms/ml must be given by the anaesthetist

- After this, the epidural PCEA can be commenced and can be managed by the midwife

8. The second stage of labour should be managed appropriately

- Once established, epidural analgesia should be continued until after completion of the third stage of labour and any necessary perineal repair

- Upon confirmation of full cervical dilatation in women with epidural analgesia, unless the woman has an urge to push or the presenting part is visible, pushing should be delayed for at least 1 **hour and longer if the woman wishes providing there are no concerns a bout the woman or fetus**

- After the passive phase of 1 hour, pushing should be encouraged

- Following the diagnosis of full dilatation in a woman with regional analgesia, a plan should be agreed with the woman in order to ensure that birth will have occurred within 4 hours regardless of parity. (NICE 2007)

8. Trouble shooting

- If the woman complains of inadequate analgesia, this should be reviewed by the anaesthetist who should:
  - Test the block
  - Ensure the epidural catheter has not become displaced
  - Consider an immediate resite of the epidural
  - Consider withdrawal of the epidural catheter, by 1-2cm
  - Top up in lateral position for unilateral block
  - Administer a higher volume of the low dose mixture to improve the block

Where these measures fail, the epidural may be re-sited if it is appropriate, following full explanation to the woman

9. The correct procedure must be followed when the woman is to undergo emergency caesarean section or trial of instrumental delivery in theatre

- A “trial of instrumental delivery” should be topped up as for caesarean section (see below).
- Before topping up an epidural catheter with potent local anaesthetics, intrathecal or intravenous placement should be excluded. The existing block should be assessed and an appropriate test dose should be given e.g. 1mg/kg lignocaine with 1:200,000 adrenaline (3-4mls 2% lignocaine with adrenaline)
- If the existing epidural appears not to be working then it may be appropriate to consider alternative anaesthesia. This should be discussed with a senior anaesthetist.
- Up to 20mls of Lidocaine 2% with 1 in 200,000 adrenaline (0.1ml of 1 in 1000 added to 20ml 2% Lidocaine) with or without the addition of 2ml 8.4% Sodium Bicarbonate may be used. Alternatively up to 20mls of 0.75% Ropivacaine or up to 20mls of 0.5% Levobupivacaine may be given. Epidural fentanyl up to 100mcg may also be given. The epidural catheter should be aspirated before, during and after the top up.
- The initial top up can be given in the room but the anaesthetist must stay with the patient at all times after this.
- The woman must be closely monitored at all times following this top up until arrival in theatre except during transit from the room to the theatre`
- Remember to use wedge / lateral tilt to avoid aorto – caval compression

10. Removal of epidural catheter following delivery

- The epidural catheter can be removed by the Midwife or a Maternity Support Worker (who has had the appropriate training) along with the anaesthetist or OPD
- The Midwife or MSW must make sure that the epidural catheter can be removed before doing so
- Staff must wait 12 hours after the administration of a prophylactic dose of low molecular weight heparin before the catheter can be removed or 4 hours before the next dose is due
- The procedure is explained and discussed with the patient and verbal consent obtained
- The catheter is removed using an aseptic technique and an occlusive dressing applied
- Staff must check that the blue tip of the catheter is present and the catheter is disposed of in the clinical waste

- The epidural tip may be sent for culture and sensitivity if infection is suspected
- It must be documented in the woman's notes that the epidural catheter has been removed including date and time

Accidental Dural Puncture in Obstetrics – Guideline for Management	University Hospitals of Leicester NHS Trust

1. Accidental Dural Puncture should be managed immediately

- The catheter should be resited in an adjacent intervertebral space and help from a senior colleague should be sought if necessary.
- Alternatively the catheter can be left in place and used as an intrathecal catheter (after discussion with a consultant anaesthetist).
- The situation should be explained to the woman and her partner in a reassuring manner. The appropriate documentation should be completed and follow up should be arranged.
- The midwife and obstetrician must be informed

2. Labour should be appropriately managed

- Hartmann's solution should be given intravenously at a rate of 1 litre over 8 hours
- All top – ups of resited epidural or intrathecal catheters should be given cautiously by the anaesthetist
- If an intrathecal catheter is used then appropriate signage should be placed on the delivery room door. All on-call anaesthetic staff (including at handover) should be informed
- A short active second stage of labour not exceeding 30 – 45 minutes is advisable (elective forceps delivery is not necessary)

3. The post partum period should be appropriately managed

- The epidural catheter should be left in situ until the block has worn off
- The catheter should then be removed

- Good hydration should be maintained using intravenous fluids if necessary, bearing in mind the cardiovascular status of the woman
- There is no need to nurse the woman flat. She should be allowed to mobilise freely. However, if she develops a headache she will be more comfortable in the supine position
- The woman should be handed over and receive daily follow up from the anaesthetic staff whilst in hospital
- If the woman develops a headache, regular, simple analgesia should be used (paracetamol or diclofenac) and a good fluid intake encouraged
- If the woman develops a significant headache and is not responding to simple analgesia a senior anaesthetist should review the woman and discuss autologous blood patching. This should be a consultant decision
- The woman should be advised to telephone the maternity assessment unit should problems arise on discharge from hospital
- The midwife needs to ask
- 1. Does she have a headache
- 2. Does she have paraesthesia or pins and needles
- 3. Does she have leg weakness
- 4. Does she have any bladder or bowel problems
- 5. Does she have visual or hearing problems
- If she has any of the above symptoms or is concerned about the epidural the midwife needs to inform the anaesthetists on labour ward. For these symptoms we would normally ask the patient to come in and see us
- A six week follow up appointment in the Obstetric Anaesthetist Clinic should be arranged

4. Autologous blood patch

- This should be performed in theatre on the delivery suite

- Following the procedure the woman should be advised to remain supine for at least 4 to 6 hours with gradual mobilization after this period.
- The woman should be advised to avoid lifting and bending over for two weeks as this may prevent recurrent headaches

3 . Supporting References:

1. Clinical Guideline CG55 *Intrapartum care: care of healthy women and their babies during childbirth (NICE 2007).*

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Guideline development:

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REVIEW RECORD			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
June 2013	V2	As above	Reflects current practice and addition of standard letter
September 2014	V3	L Matthews	Use of CEFM clarified in accordance with NICE guidance
March 2018	V3	As above	General update
October 2019	V4	D Wilson and A Ling	Guidance for removal of epidural catheter added

DISTRIBUTION RECORD:			
Date	**Name**	**Dept**	**Received**
9.14	All Managers for cascading to Midwives, Obstetricians and Anaesthetists		
March 2018	All Obstetric Anaesthetists, Obstetricians and Midwives	Maternity	
October 2019	All Obstetric Anaesthetists, Obstetricians and Midwives	Maternity	

NHS Trust
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9 August 13

Anaesthetic ....

To,

Dear Doctor,

Patient details:

The above patient was seen by us in our .... at
...................................., had .... for ....

This patient was seen by us for ...., and received the following intervention: ....

Clinical information:

This letter is for your kind information and for the following action:
....

Further information:

Please do not hesitate to contact us for further clarifications or queries.

Yours sincerely,

Dr
....

Trust Headquarters, Glenfield Hospital, Groby Road, Leicester, LE3 9QP
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R Vedantham, A Joseph; anaesthetic letter version 1.0 5/2013