Epidural Analgesia in Labour

Classification:	Guideline		
Authors Name:	Dr Nicolas Suarez[1], Dr Eleanor Tyagi[2]		
Author's Job Title:	Anaesthetic registrar[1], consultant[2]		
Author's Division:	Surgery		
Departments/Group this Document applies to:	Anaesthetics		
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Unique Identifier: MIDW/GL/44	**Status:** Approved	**Version No:** 7	
Guideline to be followed by (target staff): Anaesthetists, midwives			
To be read in conjunction with the following documents:			
Are there any eCARE implications? No			
CQC Fundamental standards: Regulation 9 – person centred care Regulation 10 – dignity and respect Regulation 11 – Need for consent Regulation 12 – Safe care and treatment Regulation 13 – Safeguarding service users from abuse and improper treatment Regulation 14 – Meeting nutritional and hydration needs Regulation 15 – Premises and equipment Regulation 16 – Receiving and acting on complaints Regulation 17 – Good governance Regulation 18 – Staffing Regulation 19 – Fit and proper			

Disclaimer

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.

The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

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Guideline Statement

This guideline details the initiation and maintenance of epidural analgesia during labour.

Executive Summary

Labour can be painful, and epidural analgesia is a well-established technique to reduce this pain.

Administering epidural analgesia using low concentration local anaesthetic administered via a "Programmed Intermittent Epidural Bolus" (PIEB) supplemented with "Patient Controlled Epidural Analgesia" results in improved maternal satisfaction and decreased local anaesthetic use. This may be associated with an increased ability to move the legs during labour.

The aim of this document is to ensure safety and satisfaction of patients with epidural infusion.

Definitions

"Programmed Intermittent Epidural Bolus" (PIEB): An infusion of medicine into the epidural space that is given as a bolus at predetermined intervals, rather than as a continuous infusion.

"Patient Controlled Epidural Analgesia" (PCEA): The administration of medicine into the epidural space, via a mechanical pump, when the patient presses a demand button.

"Bag mix": The low dose local anaesthetic mixture usually used in the initiation and maintenance of epidural analgesia. It comprises 0.1% (levo)bupivacaine and 2 mcg/ml fentanyl.

1.0 Roles and Responsibilities:

Anaesthetists

- The time from the anaesthetist being informed until being able to attend should not normally exceed 30 minutes and must be within one hour except in exceptional circumstances.
- If the obstetric anaesthetist anticipates a long delay, he/she should co-ordinate epidural provision with the other available anaesthetists, including the consultant anaesthetist.
- Assuming overall responsibility for the epidural and that adequate anaesthetic assistance is available if called upon to perform duties elsewhere.
- Giving appropriate explanation and obtaining consent.
- Establishing effective epidural analgesia.
- Prescribing and administering the local anaesthetic mixture on eCare.
- Preparing the infusion and connecting the line.
- Responding to concerns of the attending midwife.
- Reviewing the epidural after insertion and after handovers to make sure the patient is comfortable.

Midwives

- Contacting the anaesthetist without delay once the epidural has been requested.
- Clinical care of the patient receiving the epidural as set out within this guideline.
- Monitoring the effectiveness of the block.
- Monitoring the extent of the sensory and motor block.
- Monitoring the patient's vital signs and being able to recognise complications.
- Initiate appropriate responses to a complication.
- Communicating with medical and other staff as appropriate.

- Completing appropriate documentation.
- Encouraging patient to mobilise if appropriate.

Midwife in charge

- It is the responsibility of the midwife in charge to ensure that the patient is cared for on a one to one basis by a midwife who has been assessed as competent.

2.0 Implementation and dissemination of document

This guideline will be available on the Trust intranet.

Midwifery staff will be informed of the new guideline at labour ward forums. At the time of implementation an awareness campaign for midwifery staff will be launched.

Anaesthetic staff will be informed of the new guideline electronically and at clinical governance meetings. It will be provided at departmental induction for new starters.

Hard copies are available in the Obstetric Anaesthetic office.

3.0 Processes and procedures

3.1 Indications and contraindicatons

3.1.1 Indications

- Maternal request for analgesia.
- Recommendation by anaesthetist if general anaesthesia high risk.
- May be beneficial for blood pressure control in hypertensive disorders of pregnancy.

3.1.2 Contraindications

- Absolute:
    - Maternal refusal.
    - Prophylactic dose dalteparin given within 12 hours, therapeutic dose given within 24 hours.
    - Coagulopathy (INR>1.5, APTTR>1.5).
- Relative:
    - Allergy to (levo)bupivacaine.
    - Allergy to fentanyl.
    - Platelet count <80.
    - Local or systemic sepsis.

3.1.3 Intrauterine foetal death

- Contraindications as above
- Should have FBC and coagulation screen within 6 hours prior to siting epidural to rule out consumptive coagulopathy.

- Have a high index of suspicion for sepsis
- Consider morphine PCA as an alternative.

3.2 Consent for epidural analgesia

Verbal consent should be taken by anaesthetist following discussion and should include:

Type of risk	Frequency of risk
Fall in blood pressure	1:50
Inadequate analgesia	1:8
Severe headache	1:100
Temporary nerve damage	1:1000
Permanent nerve damage	1:13,000
Paralysis	1:250,000
Epidural abscess (infection)	1:50,000
Meningitis	1:100,000
Epidural haematoma	1:170,000
Accidental unconsciousness	1:100,000
Leg weakness	
Possible increased chance on instrumental delivery	
Possible slight prolongation of second stage of labour	
Itching	
Fever	
Paraesthesiae.	
Shivering	

This must be documented on the obstetric anaesthetic record, and may also be documented on eCare. An example of an eCare entry (which can be copied and used as an "Autotext") is provided in appendix 2.

3.3 Preparation for epidural insertion

3.3.1 Midwife actions

- Contact the anaesthetist following a request for epidural analgesia.
- Reassess the Waterlow Score on eCare, mobility with an epidural will be restricted and there will be a motor/sensory neurological deficit.
- Gather equipment and drugs for epidural insertion:
    - Epidural pump with patient control button.
    - Yellow infusion delivery tubing.
    - Equipment for siting Epidural (can be found on dedicated epidural trolley).
    - Epidural infusion mixture – ready made mixture of 0.1% (levo)bupivacaine and fentanyl 2micrograms/ml. This is found in the controlled drug cupboard on delivery suite. Further stocks can be acquire from pharmacy or, out of hours, from the emergency pharmacy cupboard which can be accessed by the site manager (contactable via switchboard).
    - 1% lignocaine for local infiltration.

- Normal saline ampoules.

- Prepare the patient for epidural insertion:
  - Change the patient from their own clothes into a gown.
  - Encourage them to empty their bladder.
  - Insert an intravenous cannula if not already done. Intravenous fluids should be immediately available, but should only be administered as required.
  - Take blood samples if not already done (full blood count, group and save and others as indicated).
  - Monitor and record baseline blood pressure (BP), maternal heart rate (HR) and foetal heart rate.

3.3.2 Emergency drugs to be available on delivery suite

- Phenylephrine.
- Naloxone.
- Ephedrine.
- Atropine.
- Adrenaline.

3.4 Inserting the epidural and initiating the epidural infusion

3.4.1 Epidural insertion by anaesthetist

- The following steps should usually be performed:
  - Position patient (usually sitting).
  - Observe full aseptic precautions (hat, gloves, gown, face mask and chlorhexidine 0.5% spray left to dry).
  - Site epidural with loss of resistance to saline or air technique.
  - Leave 3-5cm of catheter within the epidural space.
  - Administer a test dose of 10 ml of bag mix. Set up the epidural infusion pump as detailed below.
  - Explain how to use the PCEA handset.
  - Return to check that analgesia is satisfactory 45-60 minutes following epidural catheter insertion.
  - Prescribe antacid prophylaxis.

3.4.2 Combined spinal-epidural (CSE)

- Consider using a CSE to establish rapid analgesia.
- Use either a needle-through-needle technique, in a cooperative patient, *or* as an initial subarachnoid injection followed by epidural once patient is more comfortable.
- Spinal analgesia can be achieved using approximately 3 ml of the epidural infusion mix *or* 1-2ml 0.25% (levo)bupivacaine.
- After the spinal, the patient should be having breakthrough pain/no motor block before the epidural can be tested and the PCEA commenced.

3.4.3 Setting up the epidural infusion pump

- Having confirmed a satisfactory response to the test dose, load the bag mixture into the epidural pump.
- Prime the giving set.

- Attach the giving set to the epidural catheter.
- Administer a 5 ml bolus of bag mix using the patient demand button.
- Consider administering a further 1 - 5 ml clinician bolus,
- The patient will next receive a programmed bolus of 7ml 20 minutes later.
- The current regime is a PCEA with a background infusion:
    - 5-10 ml background infusion
    - 5ml PCEA
    - 30 minute lockout after each PCEA
- Once we have reprogrammed the pumps or purchased new ones, the PIEB regime will be:
    - 7 ml PIEB every hour.
    - 5 ml PCEA.
    - There is a 20 minute lockout period after each PCEA or PIEB.

3.5 Maintenance of epidural analgesia
3.5.1 Monitoring

- The midwife looking after the patient should have no other clinical duties.
- First 30 minutes following insertion of manual bolus:
    - Measure and record BP and HR every 5 minutes.
    - Continuous CTG monitoring.
    - Document block height at 20 minutes.
    - Midwife to remain in the patient's room.

- After 30 minutes record the following hourly on eCare:
    - BP.
    - HR.
    - Respiratory rate (RR).
    - Volume of local anaesthetic mixture used.
    - Block height using ethyl chloride spray.
    - Pain score.
    - Straight leg raise.
    - Bromage score.
    - The midwife may only leave the room briefly if another adult, capable of calling for help, must be present.

3.5.2 Troubleshooting

- Pain:
    - Midwife:
        - If the patient is in pain 30 minutes after the initiation of epidural analgesia, recall the anaesthetist.
        - If pain develops once epidural analgesia is established:
            - Check the block height using ethyl chloride spray.
            - If the block height is below the umbilicus, administer a PCEA bolus,
            - If there is a one-sided block, position the patient on their side with the unblocked side lowermost and administer a PCEA bolus.
            - If these manouevres fail to provide analgesia, contact the anaesthetist.
    - Anaesthetist:
        - Inadequate block height: Clinician bolus of 10 ml of bag mix, or 10 ml (in two divided doses 5 mins apart) 0.25% (levo)bupivacaine.

- Missed segment/unilateral block: Top up (as above) on side. Consider withdrawing epidural catheter 1-2cm prior to top up.
- Inadequate block density: This is commonly experienced as rectal pressure with an occipito-posterior presentation. Consider top-up with 10 ml (in divided doses) of 0.25% (levo)bupivacaine in the sitting position.

- High sensory blockade (above T8, the xiphisternum):
  - Midwife:
    - Stop the epidural infusion.
    - Check sensory block with ethyl chloride every 15 minutes until block height <T10.
    - Restart epidural infusion once block <T10.
    - Consider contacting anaesthetist, particularly if the block fails to recede, or the patient is in pain with a high block.

- Side effects:
  - Anaesthetist:
    - Itching: Consider ondansetron 4 mg IV or 40 mcg naloxone at 5 min intervals.

- Abnormal observations and emergencies:
  - Low RR (<8 breaths/min):
    - Stop epidural infusion.
    - Give oxygen 4 L/min via mask.
    - Contact anaesthetist.

  - Low systolic BP (<90 mmHg):
    - Stop epidural infusion.
    - Administer 500 ml plasmalyte rapidly.
    - Position the patient in the lateral position.
    - Give oxygen 4 L/min via mask.
    - Contact anaesthetist. Ephedrine may be required.
    - Consider haemorrhage as a cause.

  - Unresponsive patient:
    - Call for help, press the emergency buzzer.
    - Dial 2222 and state "obstetric emergency" and your location.

  - Local anaesthetic toxicity:
    - Typical signs and symptoms include:
      - Light headedness.
      - Tingling lips.
      - Ringing of the ears.
      - Agitation
      - Life-threatening signs and symptoms:
        - Seizures.
        - Loss of consviousness.

    - Stop the epidural infusion.
    - Contact the anaesthetist.
    - If life-threatening reaction, dial 2222 and state "obstetric emergency" and your location.

  - Inability to lift heel from bed (AAGBI safety guideline):

- If the patient is unable to lift her heel from the bed, contact the anaesthetist.
- This level of motor blockade is unusual with low dose techniques and may represent an evolving complication.

- Accidental disconnection from filter:
  - Witnessed within the last 5 mins:
    - Wrap catheter end in sterile gauze
    - Bleep on-call anaesthetist and gather:
      - Sterile Gloves
      - Sterile scissors
      - Chlorhexidine/Alcohol wipe
      - New Epidural Filter

    - The anaesthetist will consider the below steps:
      - Wipe catheter with antiseptic swab and let dry
      - Cut 10cm off the catheter
      - Connect to new epidural filter
      - Reconnect to epidural infusion

  - Unwitnessed
    - Contact anaesthetist.
    - The anaesthetist will.
      - Remove epidural catheter
      - Resite epidural if appropriate
    - However, if difficult epidural access and short period of disconnection then consider reconnection of catheter and discussion with on-call consultant anaesthetist

3.5.3 Mobilising

- If a woman with a working epidural can perform a straight leg raise for 5 seconds with each leg in turn, and she feels capable of weight bearing, she can be assisted to sit out, or stand by the bed.
- If she is able to do a deep knee bend and march on the spot, then she can walk around the delivery suite room.

3.5.4 Nutrition

- Patients with epidurals may continue to have a light diet and should be encouraged to drink water or isotonic fluids.

3.5.5 Documentation

- Use the paper labour ward record to document the insertion of the epidural, and the above observations. Additional information (e.g. top-ups) can also be recorded here.
- Anaesthetists should also consider documenting their insertion and interventions on eCare.
- An example of an eCare entry (which can be copied and used as an "Autotext") is provided in appendix 2.
- The epidural and bag mix should be prescribed on eCare.
- When the anaesthesia module of eCare is activated (expected 2021) *all* documentation will be done on eCare.

3.6 Cessation of epidural anaesthesia

- The below actions should normally be performed by the midwife.

- Disconnect the epidural infusion pump after the 3rd stage of labour, or after perineal repair.
- Record the total volume of bag mix infused. Dispose of the remainder safely and record the volume disposed of in the ward's controlled drug register.
- Do not remove the epidural catheter if there are concerns about coagulation (e.g. in HELLP or major haemorrhage), or the patient has received anticoagulant drugs.
- If there are no such concerns
    - Using an aseptic technique, remove the dressing.
    - With the application of gentle traction, remove the epidural catheter. Do not persist if removal if is difficult. Contact the anaesthetist.
    - Apply opsite spray to the back.
    - Document the presence of the "blue tip" at the catheter's end.
- If the patient is unable to straight leg raise 4 hours following the cessation of epidural analgesia, the anaesthetist should be contacted.
- Do not administer low molecular weight heparin for >4 hours.

3.7 Mobilisation after epidural analgesia

- In order to mobilise safely the patient must have regained adequate motor power to support her body weight and enough sensation to know where she is placing her feet.
- The urinary catheter should be removed before mobilization.

3.8 Follow up

Patients should be reviewed by an anaesthetist after delivery, prior to discharge, and questioned regarding satisfaction with epidural analgesia and to elicit symptoms of complications related to epidural analgesia:

- Post-dural puncture headache
- Urinary retention
- Nerve Damage
- Haematoma/Abscess

3.9 Serious complications

- Contact the anaesthetist urgently if, following the removal of an epidural catheter, the following develop:
    - Headache.
    - Back pain.
    - Leg pain.
    - Numbness or weakness that does not improve within 30 minutes, or new onset numbness or weakness.
    - Evidence of meningitis: Photophobia, neck stiffness, drowsiness, confusion, other visual disturbance.

4.0 Statement of evidence/references

Carvalho B, George RB, Cobb B, et al. (2016) Implementation of Programmed Intermittent Epidural Bolus for the Maintenance of Labor Analgesia. [Online]. Anesth Analg. 2016 Oct;123(4):965-71. Available from: https://dx.doi.org/10.1213/ANE.0000000000001407 [Accessed 30 June 2020]

Gabriel L, Young J, Hoesli I, et al. (2019) Generalisability of randomised trials of the programmed intermittent epidural bolus technique for maintenance of labour analgesia: a prospective single centre cohort study. [Online]. Br J Anaesth. 2019 Aug;123(2):e434-e441.

doi: 10.1016/j.bja.2019.02.016. Epub 2019 Mar 28. Available from: https://dx.doi.org/10.1016/j.bja.2019.02.016 [Accessed 30 June 2020]

LabourPains.com (no date) Epidural information card. [Online]. Available from: https://www.labourpains.com/Epidural-Information-Card [Accessed 30 June 2020]

National Collaborating Centre for Women's and Children's Health (2014; Updated Feb 2017) Mode of administration. In Intrapartum care: care of healthy women and their babies during childbirth. Clinical guideline 190: methods, evidence and recommendations. [Online]. Version 2. pp.355-358. Available from: https://www.nice.org.uk/guidance/cg190/evidence/full-guideline-pdf-248734770 [Accessed 30 June 2020]

National Institute for Health and Care Excellence (2014; Last updated Feb. 2017) Intrapartum care for healthy women and babies. [NICE Clinical guideline CG190]. [Online]. Available from: https://www.nice.org.uk/guidance/cg190 [Accessed 30 June 2020]

National Institute of Health and Care Excellence (2019a) 2019 surveillance of intrapartum care for healthy women and babies (NICE guideline CG190). [Online]. Available from: https://www.nice.org.uk/guidance/cg190/evidence/2019-surveillance-of-intrapartum-care-for-healthy-women-and-babies-nice-guideline-cg190-6713845021?tab=evidence [Accessed 30 June 2020]

National Institute of Health and Care Excellence (2019b) 2019 surveillance of Intrapartum care for healthy women and babies (2014) NICE guideline CG190. Appendix A: Summary of evidence from surveillance. [Online]. Available from: https://www.nice.org.uk/guidance/cg190/evidence/appendix-a-summary-of-evidence-from-surveillance-pdf-6713845022 [Accessed 30 June 2020]

Reeve, A.; Royal Berkshire NHS Foundation Trust (2019) Programmed Intermittent Epidural Bolus Pumps for Labour Analgesia - PIEB Protocol (CG695). [Online]. Version 1.0 [filename signifies v1.1]. Available from: https://www.royalberkshire.nhs.uk/Downloads/GPs/GP%20protocols%20and%20guidelines/Maternity%20Guidelines%20and%20Policies/Anaesthetics%20relating%20to%20Obstetrics/PI%20Epidural%20bolus%20pumps%20protocol_V1.1_CG695_JAN20.pdf [Accessed 30 June 2020]

Wong, C., & Mercier, F. (2019) Programmed intermittent epidural bolus technique for maintenance of labour analgesia: does it work for everyone? [Online]. Br J Anaesth. Aug;123(2):e190-e193. doi: 10.1016/j.bja.2019.02.008. Available from: https://doi.org/10.1016/j.bja.2019.02.008 [Accessed 30 June 2020]

Yentis, S.M., Lucas, D.N., Brigante, L. et al. (2020) Safety guideline: neurological monitoring associated with obstetric neuraxial block 2020: a joint guideline by the Association of Anaesthetists and the Obstetric Anaesthetists' Association. [Online].

Anaesthesia, 75: 913-919. Available from: https://doi.org/10.1111/anae.14993 [Accessed 30 June 2020]

Pressure Ulcer Prevention Guidelines MKUH March 2019 (available on the intranet)

5.0 Governance

5.1 Document review history

Version number	Review date	Reviewed by	Changes made

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Carole Jellicoe	Pain	6/8/2020	6/8/2020	Dr Tyagi central to writing process	Yes
Erica Puri	Midwifery	12/8/2020	1/9/2020	Comments on indications and risks	Yes
Bernadetta Sawarnyska	Obstetric anaesthesia	27/6/2020	30/6/2020	Layout, clarity	Yes
Anaesthetics & Theatres CSU	Anaesthesia	10/09/2020	16/09/2020		Yes
Julie Cooper	Midwifery		1/9/2020		Yes
Clinical Board		11/2020	9/12/2020	Advise re: list of authors, timing of epidural, documentation of risks	No
Manish Nathwani	Pharmacy	08/2020	03/2021	All relevant comments incorporated.	Yes
Trust Documentation Committee	TDC	25/11/2020	11/2020	Presentation at clinical board	Yes
Trust Board		14/4/21	14/4/21	Reference the pressure ulcer prevention guideline	Yes

5.3 Audit and monitoring

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
Number of epidurals sited	Report	Anaesthetic dept	Annual	Women's health CIG Labour Ward Forum
Number and severity of epidural complications	Case review	Anaesthetic dept	Annual	Women's health CIG Labour Ward Forum Anaesthetic M&M

5.4 Equality Impact Assessment

As part of its development, this Guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified. Equality Impact assessments will show any future actions required to overcome any identified barriers or discriminatory practice.

Equality Impact Assessment			
Division	Surgery	Department	Anaesthesia
Person completing the EqIA	Eleanor Tyagi	Contact No.	
Others involved:	Dr Nicolas Suarez	Date of assessment:	18/06/21
Existing policy/service	MIDW-GL-44	New policy/service	No

Will patients, carers, the public or staff be affected by the policy/service?	Yes
If staff, how many/which groups will be affected?	

Protected characteristic	Any impact?	Comments
Age	NO	Positive impact as the policy aims to recognise diversity, promote inclusion and fair treatment for patients and staff
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	NO	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?
How are the changes/amendments to the policies/services communicated?
What future actions need to be taken to overcome any barriers or discrimination?

What?	Who will lead this?	Date of completion	Resources needed

Review date of EqIA	

Checklist for Guideline and guidelines documentation

By submitting a document for review/approval you are confirming that the document has been checked against the checklist below to ensure it meets the Trust standards for producing Trust Documentation (for support please contact your Governance Facilitator/Patient Safety Lead.

Check	Tick
Latest template	☐
Fonts should be Arial 14 for headers 12 for main body	☐
Clear Title and replace with document title Font Arial 22	☐
Authors Job title:	☐
Authors Division:	☐
Department/Groups this document applies to:	☐
Date of approval:	☐
Review date:	☐
Approval Group/approved by (according to policy requirements):	☐
Last review date:	☐
Unique Identifier: if known (new documents will be assigned at publication)	☐
Status: Approved	☐
Version numbers are the same throughout document	☐
Scope: Who will use this document?	☐
To be read in conjunction with the following documents:	☐
Are there any eCARE implications?	☐
Latest CQC fundamental standards referenced: Trust intranet page with fundamental standards	☐
Footers completed to match main page : (on all pages)	☐
References are updated (contact the library (Jayne Plant 3077) for help if required)	☐
Consultation history includes key stakeholders required to embed document. Pharmacy are consulted if the document contains medication	☐
Audit and monitoring criteria is completed and clear (where possible reference the relevant section of the policy)	☐
Include full & correct consultation history	☐
Dissemination should be clear	☐
Check relevant hyperlinks work	☐

Completed by name:	Position:	Division	Date
			(DD/MM/YYY)

Appendix 1: Epidural Information Card

Epidurals in labour – what you need to know

This is a summary. There is further information in the Pain Relief in Labour section in the Obstetric Anaesthesia Association website, http://www.oaa-anaes.ac.uk. Please discuss anything that is not clear with your anaesthetist.

Setting up your epidural

- You will need to have an intravenous cannula and maybe a drip.
- While the epidural is being put in, it is important that you keep still and let the anaesthetist know if you are having a contraction.
- Usually takes 20 minutes to set up and 20 minutes to work.
- Some epidurals do not work fully and need to be adjusted or replaced.

Advantages of an epidural

- Usually provides excellent pain relief.
- Sometimes a spinal is given first for a quicker effect.
- The dose or type of local anaesthetic can sometimes be altered to allow you to move around the bed. This is a low-dose (or mobile) epidural.
- In general epidurals do not affect your baby.
- Can be topped up for caesarean section if required.

Possible problems with your epidural

- Repeated top-ups with stronger local anaesthetic may cause temporary leg weakness and increase the risk of forceps or ventouse delivery.
- The epidural may slow down the second stage of labour slightly.
- You may develop low blood pressure, itching or a fever during the epidural.
- The epidural site may be tender but usually only for a few days. Backache is NOT caused by epidurals but is common after any pregnancy.

Risk of having an epidural or spinal to reduce labour pain

Type of risk	How often does this happen?	How common is it?
Significant drop in blood pressure	One in every 50 women	Occasional
Not working well enough to reduce labour pain so you need to use other ways of lessening the pain	One in every 8 women	Common
Not working well enough for a caesarean section so you need to have a general anaesthetic	One in every 20 women	Sometimes
Severe headache	One in every 100 women (epidural) One in every 500 women (spinal)	Uncommon
Nerve damage (numb patch on a leg or foot, or having a weak leg)	Temporary - one in every 1,000 women	Rare
Effects lasting for more than 6 months	Permanent - one in every 13,000 women	Rare
Epidural abscess (infection)	One in every 50,000 women	Very rare
Meningitis	One in every 100,000 women	Very rare
Epidural haematoma (blood clot)	One in every 170,000 women	Very rare
Accidental unconsciousness	One in every 100,000 women	Very rare
Severe injury, including being paralysed	One in every 250,000 women	Extremely rare

Appendix 2: Autotext entries

Neuraxial analgesia follow up
Routine neuraxial procedure follow up:
- No headache.
- No severe back pain.
- No fevers.
- Mobilising around ward. Not noted any leg weakness or numbness.
- Passing urine normally.

Pleased with anaesthetic experience.

Please contact anaesthetic team if develops headache, back pain, fever, saddle anaesthesia, leg weakness, leg numbness or difficulty passing urine.

Epidural catheter insertion
Time of request **XXXX**.
Time in room **XXXX.**

Preparation
Indication: Maternal request.
Benefit: Decrease intensity of painful contractions.
Consent: Positioning, infection, pain, failure, re-insertion, itch, shivering, fall in BP, motor block, urinary catheter, PDPH, nerve damage including affecting ability to walk.

Procedure
Asepsis: Mask, hat, gown, gloves, drape, 0.5% chlorhexidine spray to back allowed to air dry.
Position: Sitting.
Local anaesthetic: **X** ml 1% Lidocaine at level of Tuffier's line.
Needle: 80 mm 16 G Toughy needle.
Technique: Loss of resistance to saline at **X** cm. Catheter inserted to **X** cm.
Loading: 10 ml 0.1% (levo)bupivacaine + 2 microg/ml fentanyl (bag mix) at **XXXX** and again at **XXXX**.
PCEA: Bag mix 10 ml/hr + 5 ml bolus with 30 min lockout provided.

Post-procedure
No complications.
Please perform routine post-epidural insertion monitoring.
Please alert me if analgesia inadequate 45 mins after second bolus dose.