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## TRUST CLINICAL Guideline

### Labour Patient Controlled Epidural Analgesia (PCEA)

#### Overview

This guideline provides guidance for Anaesthetic, Midwifery and Obstetric staff undertaking care of pregnant women and birthing people using PCEA in labour.

#### How does the document support patient care?

By providing evidence-based guidance for staff caring for pregnant women and birthing people using patient controlled epidural analgesia (PCEA) in labour.

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# **Labour Patient Controlled Epidural Analgesia (PCEA) Guideline**

## **1.0 Introduction**

This guideline provides guidance for Anaesthetic, Midwifery and Obstetric staff undertaking care of pregnant women and people using PCEA in labour.

Patient controlled epidural analgesia (PCEA) was introduced for labour analgesia in 1998. In PCEA the woman or birthing person controls their analgesia more directly by means of a PCA pump. The woman or birthing person can activate top-ups (according to pre-set criteria including a maximum allowable dose) when required. This technique has been shown to have several benefits over a continuous epidural infusion:

- Reduced total dose of local anaesthetic.
- Reduced motor block.
- Reduced clinician / midwifery intervention.
- Greater maternal and birthing person control leading to greater satisfaction.

The addition of a low dose background epidural infusion to the PCEA has shown conflicting results. All studies conferring a benefit had a low volume PCEA bolus regimen, with a higher bolus there may be no need for an additional high rate continuous infusion.

Newer studies suggest a mandatory epidural bolus once an hour may enhance the PCEA leading to less breakthrough pain and greater maternal and birthing person satisfaction. This could be achieved by a set automated bolus via the pump or encouraging the woman or birthing person to push the PCEA button at least once every hour.

Dilute mixtures of levobupivacaine (e.g. 0.1% w/v) and fentanyl 2 micrograms/ml administered into the epidural space are described as "mobile epidurals". The advantages over the previously used more concentrated solutions (e.g. 0.25-0.5% w/v bupivacaine) used in obstetric analgesia are:

1. Minimal effect on muscle strength so the ability to move during labour is preserved. There is also thought to be less effect on the course of labour and method of birth.
2. Bladder sensation, the urge to bear down and the sensation of birth may be retained.
3. Less loss of control and greater maternal or birthing person satisfaction

## **2.0 Scope**

This guideline is for use by:

- Anaesthetists,
- Midwives
- Obstetricians

### 3.0 Responsibilities

Anaesthetists, midwives & obstetricians:

- To access, read, understand and follow this guidance.
- To use their professional judgement in application of this guideline.

Management:

- To ensure the guideline is reviewed as required in line with Trust and National recommendations.
- To ensure the guideline is accessible to all relevant staff.

### 4.0 Abbreviations used within this guideline

<b>PCEA</b> - Patient Controlled Epidural Anaesthesia	<b>CSE</b> - Combined Spinal-Epidural
<b>LDM</b> - Low Dose Epidural	<b>CTG</b> - Cardiotocograph
<b>ODP</b> - Operating Department Practitioners	<b>CSF</b> - Cerebrospinal Fluid
<b>PET</b> - Pre-Eclampsia	<b>LMWH</b> - Low Molecular Weight Heparin
<b>PCA</b> - Patient controlled analgesia	<b>MIS</b> - Maternity Information System
<b>FBC</b> - Full Blood Count	<b>U&amp;Es</b> - Urea & Electrolytes
<b>IV</b> - Intravenous	<b>IM</b> - Intramuscular

### 5.0 Key points

Epidural pain relief is available on request to any woman or birthing person unless medically contraindicated.

If parenteral opioid has been given in previous 4 hours, use epidural opioids with caution.

The midwife must have attended the mandatory annual update on epidural care.

When a woman or birthing person expresses a desire for epidural analgesia or when pain relief is discussed, the midwife should give a copy of the Epidural Information Sheet ([Appendix 1](#)) to the woman or birthing person and their partner. This should be documented on the epidural chart.

Routine preloading is not required however a bag of crystalloid and giving set should be readily available in the labour room after the epidural is sited.

Before the epidural is inserted, the midwife assesses the stage of labour, monitors the fetal heart with CTG and measures maternal or birthing person blood pressure. The pregnant woman or birthing person should be encouraged to empty bladder in case of delay with urinary catheterisation.

The anaesthetist is then called by the midwife.

The anaesthetist must be aware of the full obstetric and medical history of the woman or birthing person before siting the epidural.

The anaesthetist discusses the epidural with the woman or birthing person and their partner (pre insertion), including side-effects and documents this by signing the epidural chart ([Appendix 2](#)) after insertion (this should be annotated to indicate which of the side effects listed were discussed). Ideally this should also be documented on MIS.

The use of PCEA mandates the need for 1:1 midwife care of a woman or birthing person receiving epidural analgesia in labour.

## 6.0 Setting up

IV cannulation is required with a large-bore cannula 16G or 18G and should already be sited if possible. FBC, U&Es and Group and Save should be taken at the time of insertion of cannula.

Insertion of epidural as standard. Initial dose as below.

Two separate applications of chlorhexidine 2% spray should be applied to the back prior to skin puncture. This is in response to a clinical incident review regarding an abscess at the epidural site postnatally.

Aspiration should be performed when the epidural is sited. Thereafter it need only be performed if doses of more than 15mg of bupivacaine / levobupivacaine are given at any one time (e.g. more than 6mL of 0.25% w/v or 3mL of 0.5% w/v)

## 7.0 Epidural drugs

Low Dose Mix (LDM) is 0.1% w/v levobupivacaine with 2 microgram/mL fentanyl in a 100mL cassette.

## 8.0 Initial dose

The Anaesthetist should double-check all epidural drugs and epidural infusion connections with another trained member of staff prior to administration, unless to do so would incur an unacceptable delay in an emergency.

**Note: \*\*It is important to check that a yellow epidural cassette is attached rather than the grey opioid PCA cassette \*\***

The standard initial dose is 15mL of the LDM withdrawn from the cassette and administered as a hand held bolus by the anaesthetist.

It is the responsibility of the anaesthetist to set up and connect the PCEA pump and line to the epidural catheter and document the correct connection by signing on the epidural chart. This should be countersigned by the midwife, ODP or another anaesthetist.

Analgesia should be apparent within 10-20 minutes, although the sensation of contractions may still be present.

## **9.0 Monitoring of maternal or birthing person and fetal conditions**

Monitoring of maternal or birthing person should be documented on MIS on Epidural/Spinal Assessment forms and on the epidural chart.

The midwife measures maternal BP and pulse every 5 minutes for 20 minutes, offer continuous CTG to all women and birthing people on insertion of regional analgesia (for example, an epidural) for at least 30 minutes during establishment of regional analgesia. If the CTG is normal this can be discontinued and IA used unless there are other risk factors that indicate CEFM throughout labour or the woman or birthing person wishes to continue with CEFM. ([NICE 2022](#))

The anaesthetist should be immediately available during this time should the blood pressure fall or another complication occur.

Between 5 to 20 minutes the anaesthetist assesses the components of the block: **sympathetic**: warm feet, **motor**: ability to raise legs off the bed against resistance and **sensory**: reduced sensation to cold (ethyl chloride or cold sticks if available). An upper level of T8 - 10 is usually adequate.

Occasionally, the anaesthetist may give the first dose as a spinal (2.5mL of the low dose mix from the cassette) or 1mL 0.25% w/v levobupivacaine/bupivacaine. This can be either as a single shot spinal followed by standard epidural insertion or by using a combined spinal-epidural (CSE) technique.

The CSE technique is useful for rapid onset of analgesia, e.g. near or in the 2nd stage or when the woman or birthing person is particularly distressed. Analgesia should occur within 5 minutes. After this type of spinal, monitoring and management should be the same as above.

## **10.0 Subsequent management**

### **10.1 Fetal**

After epidural has been established and CTG performed for at least 30 minutes, it can be discontinued if normal and intermittent auscultation commenced, unless there are other risk factors that indicate CTG should continue.

CEFM should be recommenced for a further 30 minutes after any epidural boluses of 10mL or more (PCEA) or if stronger epidural solutions are given by the anaesthetist. ([NICE 2022](#))

## **10.2 Maternal or birthing person**

Maternal or birthing person BP, pulse, pain score and block height should be measured every 30 minutes.

The initial level of the block and the motor block should be assessed by the anaesthetist and recorded. Subsequently, the height of block and motor block should be assessed and recorded every 30 minutes on the epidural chart (see [Appendix 2](#)) and scanned into MIS once completed.

Levobupivacaine 0.1% w/v and fentanyl 2 micrograms/mL will be supplied in a 100mL cassette. The PCEA pump will be set up and connected by the anaesthetist. The bag and connection should be checked with another trained member of staff and documented on the epidural chart.

The standard regimen will consist of the initial dose of 15mL of the low dose mix withdrawn from cassette given by the anaesthetist, followed by an 8mL low dose mixture PCEA bolus with a 15 minute lockout. A low dose background infusion at 0-2mL/hr may be run to ensure the integrity of the line.

The midwife may give a clinician bolus via the pump of 8mL if analgesia is inadequate. The anaesthetist must be called if analgesia is still not adequate 20 minutes after this bolus.

Low-dose PCEA will not completely abolish the urge to bear down for more than a few minutes. Do not withhold the PCEA button simply because labour is near or in the 2nd stage if the woman or birthing person is in pain and wants to use it. The woman or birthing person can adopt any position they wish during the 2nd stage except supine.

The anaesthetist should not routinely prescribe solutions stronger than 0.1% w/v levobupivacaine on an 'as required' basis; these solutions should be prescribed on an individual basis only. Different doses of low dose solution bolus may be prescribed at the anaesthetist's discretion.

Recent studies suggest that a mandatory bolus once an hour improves analgesia and patient satisfaction. The woman or birthing person should be encouraged to use the PCEA to administer a bolus at least once an hour.

### **10.2.1 Maternal or birthing person positioning**

No woman or birthing person should lie flat on their back at any time; even for a vaginal examination (a wedge should be used).

Using a PCEA does not need to confine the woman or birthing person to bed or the semi-recumbent position. Women and birthing people should be supported when standing, as some impairment of movement control and sensation may occur.

Midwives can consider use of peanut ball as these have been shown to be a safe and low-cost intervention that shortens the length of labour and may reduce the chance of unplanned caesarean birth (Delgado *et al.*, 2022). See [Appendix 3](#) for different positions that may be used.



### 10.2.2 Maternal and birthing person pressure area care

Women and birthing people who have regional analgesia are at an increased risk of pressure area damage. See [CG20011 Maternity Pressure Care](#) guideline for pressure area risk assessments and care planning. The pressure ulcer risk assessment on MIS should be completed, and all pressure area care should be fully documented on MIS.

Women and people who are unable to move themselves, with a raised BMI, should be moved with appropriate manual handling equipment see [Appendix 6](#).

### 10.2.3 Second stage

Upon confirmation of full cervical dilatation in a woman or birthing person with regional analgesia, unless the woman or birthing person has an urge to push or the baby's head is visible, pushing should be delayed for at least 1 hour and longer if the woman or birthing person wishes, after which actively encourage them to push during contractions.

After diagnosis of full dilatation in a woman or birthing person with regional analgesia, agree a plan with the woman or birthing person in order to ensure that birth will be expected to take place within 3 hours of commencing active second stage for nulliparous and 2 hours for multiparous.

## 11.0 Reasons to call an anaesthetist

Any woman or birthing person wishes to discuss an epidural, even if midwife feels regional anaesthetic inappropriate – the anaesthetist should be involved with the discussion.

Any woman or birthing person with an epidural is dissatisfied with their analgesia. Or if the woman or birthing person is not pain-free 30 minutes after each administration of local anaesthetic/opioid solution.

Any woman or birthing person with an epidural who:

- Has loss of sensation to cold extending above upper abdomen/lower chest.
- Is unable to straight leg raise or has unexpected levels of weakness in lower or upper limbs.
- Has hypotension (20% drop in systolic or systolic less than 100 mmHg).
- Develops severe headache or any other neurological symptoms.

Blood or CSF (clear fluid) is aspirated from epidural catheter.

Severe itching occurs - management of this should comprise reassurance, naloxone 20 micrograms IV (2 doses may be required), chlorpheniramine 10mg IM or ondansetron 4 – 8 milligrams by intramuscular or intravenous injection.

## 12.0 Postpartum management after labour PCEA

Once baby is born and any perineal suturing completed, the epidural catheter can be removed.

On removal, it should be inspected to ensure the blue tip is visible, indicating that it is intact and Opsite spray applied to the site.

After removal of the catheter, a yellow regional anaesthesia wrist band should be applied indicating the time 4 hours after removal. By the time documented on the band the patient should be able to straight leg raise, this is also the time after which LMWH may safely be administered. ([Appendix 4](#))

If the woman or birthing person reports that their legs feel normal and they are able to raise them off the bed against resistance, they may get up for a shower if they wish, 1-2 hours after the PCEA is discontinued.

**If there is any possibility of returning to theatre or a clotting problem, including PET / recent low molecular weight heparin (LMWH) or significant haemorrhage, timing of catheter removal should be discussed with the anaesthetist before removal.**

The epidural catheter should be removed no sooner than 12 hours after a prophylactic dose of low molecular weight heparin (LMWH). No LMWH should be administered for at least 4 hours after the epidural catheter is removed.

No patient should be discharged fewer than 6 hours after their epidural is discontinued.

All patients should be reviewed in the postnatal period by an anaesthetist. If there is severe lower back pain, pyrexia and/or a sensory or motor block within 72 hours after epidural insertion the anaesthetist should be urgently called to review the patient.

All patients should be given a copy of the UHSussex 'Recovery from a spinal or Epidural' leaflet before going home, this can be sent via BadgerNotes. ([Appendix 5](#))

Community midwives should inquire on first day home and on day 5 if the woman or birthing person is experiencing any of the following symptoms:

A headache:

- That limits their ability to look after themselves and their baby.
- Does not resolve with rest, increased fluids and paracetamol.
- Gets worse on standing but feels slightly better when they lie down.
- Has other symptoms such as neck stiffness, hearing changes (such as ringing or feels blocked) or photosensitivity.

And/or backache:

- That is getting worse or is not settling with ibuprofen or paracetamol.
- Pain travels up the spine or down into the buttocks or legs.
- Site of the epidural is inflamed or has a discharge.
- Feels unwell or is pyrexial.
- Loss of control of bladder or bowels.

And/or any other changed sensations in the lower body such as:

- Difficulty walking or weakness in the legs.
- Numbness.
- Pins and needles.

The woman or birthing person should be referred back into the maternity unit for review by the on call obstetric anaesthetist.

### **13.0 Monitoring**

Response times for provision of intrapartum analgesia. Royal College of Anaesthetists: Raising the Standard: a compendium of audit recipes ([www.rcoa.ac.uk/system/files/CSQ-ARB-section8.pdf](http://www.rcoa.ac.uk/system/files/CSQ-ARB-section8.pdf))

## Due Regard Assessment Tool

To be completed and attached to any guideline when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
<b>1.</b>	<b>Does the document/guidance affect one group less or more favourably than another on the basis of:</b>		
	Age	No	
	· Disability	No	
	· Gender (Sex)	No	
	· Gender Identity	No	
	· Marriage and civil partnership	No	
	· Pregnancy and maternity	No	
	· Race (ethnicity, nationality, colour)	No	
	· Religion or Belief	No	
	· Sexual orientation, including lesbian, gay and bisexual people	No	
<b>2.</b>	<b>Is there any evidence that some groups are affected differently and what is/are the evidence source(s)?</b>	No	
<b>3.</b>	<b>If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable?</b>	NA	
<b>4.</b>	<b>Is the impact of the document likely to be negative?</b>	NA	
<b>5.</b>	<b>If so, can the impact be avoided?</b>	NA	
<b>6.</b>	<b>What alternative is there to achieving the intent of the document without the impact?</b>	NA	
<b>7.</b>	<b>Can we reduce the impact by taking different action and, if not, what, if any, are the reasons why the guideline should continue in its current form?</b>	NA	
<b>8.</b>	<b>Has the document been assessed to ensure service users, staff and other stakeholders are treated in line with Human Rights FREDAs principles (fairness, respect, equality, dignity and autonomy)?</b>	Yes	

If you have identified a potential discriminatory impact of this guideline, please refer it to [Insert Name], together with any suggestions as to the action required to avoid/reduce this impact. For advice in respect of answering the above questions, please contact [uhsussex.equality@nhs.net](mailto:uhsussex.equality@nhs.net) (01273 664685).

## Template Dissemination, Implementation and Access Plan

To be completed and attached to any guideline when submitted to Corporate Governance for consideration and TMB approval.

	Dissemination Plan	Comments
1.	Identify:	Midwives, obstetricians
	Which members of staff or staff groups will be affected by this guideline?	Dissemination through the usual Communication channels and highlighted at Safety Huddles.
	How will you confirm that they have received the guideline and understood its implications?	All new members of staff shown where to access Clinical documents that are relevant to their area of practice.
	How have you linked the dissemination of the guideline with induction training, continuous professional development and clinical supervision as appropriate?	Accessed by staff via Sharepoint
2.	How and where will staff access the document (at operational level)?	Midwives, obstetricians

		Yes/No	Comments
3.	Have you made any plans to remove old versions of the guideline or related documents from circulation?		Previous version will be archived as part of the upload to SharePoint procedure.
4.	Have you ensured staff are aware the document is logged on the organisation's register?		Dissemination plan includes notifying staff via email, safety noticeboards, departmental newsletter and social media.

## **Additional guidance and information**

Delgado A et al. (2022) Effectiveness of the peanut ball use for women with epidural analgesia in labour: a systematic review and meta-analysis, *Journal of Obstetrics and Gynaecology*, 42:5, 726-733.

National Institute for Health and Care Excellence (2023) Intrapartum Care. Available at: [NG235 Intrapartum Care 2023](#) (Accessed 27/11/23)

National Institute for Health and Care Excellence (2022) Intrapartum Care. Available at: [NG229 Fetal Monitoring in Labour](#) (Accessed 27/11/23)

NICE guidelines for caesarean sections: [www.nice.org.uk/pdf/CG013fullguideline.pdf](http://www.nice.org.uk/pdf/CG013fullguideline.pdf)

Yentis SM. Editorial: Height of confusion: assessing regional blocks before Caesarean Section. *Int J Obstet Anesth* 2006; 15: 2-6.

McLeod GA, Burke D. Levobupivacaine. *Anaesthesia* 2001; 56: 331-41.

Regan K, O'Sullivan G. Extension of epidural blockade for emergency caesarean section: a survey of UK practice. *Int J Obstet Anesth* 2006;15; S7.

Russell I F. Levels of anaesthesia and intraoperative pain at caesarean section under regional block. *Int J Obstet Anesth* 1995; 4: 71–77

Nageotte MP, Larson D, Rumney PJ, Sidhu M, Hollenbach K. Epidural analgesia compared with combined spinal-epidural analgesia during labor in nulliparous women. *N Engl J Med*. 1997 Dec 11; 337(24):1715-9.

*Br J Obstet Gynaecol* 1994; 101: 839-41. Van der Vyver M, Halpern S, Joseph G. Patient-controlled epidural analgesia versus continuous infusion for labour analgesia: a meta-analysis. *Br J Anaesth* 2002; 89: 459-65.

Holdcroft A, Dob D. *International Journal of Obstetric Anaesthesia* (2003) 12,153- 155 Intrapartum Care: Care of healthy women and their babies during childbirth. National Institute for Health and Clinical Excellence. September 2007

Hillyard SG, Bate TE et al. Extending epidural analgesia for emergency Caesarean section: a meta-analysis. *Br J Anaesth*. 2011 Nov; 107(5):668-78.

George RB, Allen TK et al. Intermittent epidural bolus compared with continuous epidural infusions for labour analgesia: a systematic review and meta-analysis. [Anesth Analg](#). 2013 Jan; 116(1):133-44.

[Capogna G](#), [Camorcia M](#) et al. Programmed intermittent epidural bolus versus continuous epidural infusion for labor analgesia: the effects on maternal motor function and labor outcome. A randomized double-blind study in nulliparous women. [Anesth Analg](#). 2011 Oct; 113(4):826-31.

Wong CA, Ratliff JT et al. A randomized comparison of programmed intermittent epidural bolus with continuous epidural infusion for labor analgesia. [Anesth Analg](#). 2006 Mar; 102(3):904-9.

## Appendix 1: Epidural Information Sheet



### Epidural Information Card

This is a summary. There is fuller information in the [Pain Relief in Labour](#) section. 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 injection 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 100-200 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
Severe injury, including being paralysed	One in every 250,000 women	Extremely rare


\*Subject to individual unit variation

The information available from the published documents does not give accurate figures for all of these risks. The figures shown above are estimates and may be different in different hospitals.

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## Appendix 2: PCEA Labour observation chart

DO NOT PRINT FROM GUIDELINE



### Labour PCEA Epidural Chart

**Patient Label**

Date: \_\_\_\_\_  
Time Requested: \_\_\_\_\_  
Time Sited: \_\_\_\_\_  
Anaesthetist(s): \_\_\_\_\_ Grade: \_\_\_\_\_  
1st \_\_\_\_\_  
2nd \_\_\_\_\_

**Mother / birthing parent:** Parity: \_\_\_\_\_ Cx Dilation: \_\_\_\_\_ BMI: \_\_\_\_\_  
Any obstetric problems: \_\_\_\_\_  
Any relevant PMHx: \_\_\_\_\_  
Indication for epidural: Labour Analgesia / PET / Other: \_\_\_\_\_  
Analgesia Before Epidural: Entonox / Parenteral Opioid / TENS / None

**Midwife:** Mother / birthing parent read information sheet: Y / N IV cannula in situ: Y / N  
Omeprazole given: Y / N Baseline NIBP: \_\_\_\_\_ Baseline CTG: \_\_\_\_\_

**Consent:** Anaesthetist discussed with mother / birthing parent: Hypotension/Headache/Multiple Attempts/Failure/Patchy Block/Effect on Labour/Mobility/Urinary Catheter/Pressure area care  
Neurological damage (temp 1 in 1000, perm 1 in 13,000)/other: \_\_\_\_\_

Signed: \_\_\_\_\_

**Insertion:**

Hat: \_\_\_\_\_ ☐ Position: L / R lateral / sitting Interspace: \_\_\_\_\_  
Gloves: \_\_\_\_\_ ☐ 1% lido. to skin: Y / N Tuohy: 18g / 16g / Other \_\_\_\_\_  
Mask: \_\_\_\_\_ ☐ Paraesthesia: Y / N LOR: Saline / air \_\_\_\_\_  
Gown: \_\_\_\_\_ ☐ Space at: \_\_\_\_\_ cm Cath. Left in: \_\_\_\_\_ cm  
1<sup>st</sup> Chl.hcx+airdry: \_\_\_\_\_ ☐ Aspiration: Blood / clear fluid / negative Difficulty: None / details \_\_\_\_\_  
2<sup>nd</sup> Chl.hcx+airdry: \_\_\_\_\_ ☐


**Prescription:**

Local anaesthetic: ... Levobupivacaine 0.1% ... Additives: ... Fentanyl 2 µg/mL ...  
PCEA settings: Bolus: ... 8 ... mL Lockout: ... 15 ... min Background: ... 0.2 ... mL/h  
IV infusion 1000ml Hartmann's started: Y / N Other instructions: \_\_\_\_\_  
Cassette & connection check (Anaes signature): \_\_\_\_\_ (ODP/MW initials): \_\_\_\_\_  
Yellow epidural sticker on epidural catheter and epidural infusion line: Y / N  
NB: Do not leave epidural cassette unattended before connection

**Initial dose:**  
15 mLs 0.1% Levobupivacaine / Fentanyl 2 mcg/mL  
Level of block is \_\_\_\_\_ after 20 min Right: \_\_\_\_\_ Left: \_\_\_\_\_ Motor Block: \_\_\_\_\_

Initial setup or extra bolus*					BP (every 5 min for 20 min)					Comments incl. Assessment of block/pain relief
Date	Time	Solution	mL	Given by	0	5 min	10 min	15 min	20 min	

\*Extra Bolus: > 10mLs 0.1% levobupivacaine or 5mLs of 0.25% levobupivacaine.



### PCEA Observation Chart

Observations & recordings should ideally be made every 30 min but every 5 min for 15 min after each midwifery / anaesthetic top-up > 10mLs or bolus of 0.25% levobupivacaine. Extra recordings are NOT required after a patient delivered bolus of 8mLs.

Duration of PCEA	Time	Pain relief (Good, Mod, Poor)	Can feel cold on Xiphisternum (Y/N)	Can straight-leg raise (Y/N)	NIBP	PCEA		Total volume infused (mL)	Comments (eg extra top-ups, extra BP recordings etc.)	Sign
						Boluses delivered	Boluses demanded			
30min										
1h										
1h 30min										
2h										
Complete pressure area assessment tool for maternity. Encourage change of position, mobilisation and hydration.						Pressure Area Colour Score:		amber	red	
2h 30min										
3h										
3h 30min										
4h										
Complete pressure area assessment tool for maternity. Encourage change of position, mobilisation and hydration.						Pressure Area Colour Score:		amber	red	
4h 30min										
5h										
5h 30min										
6h										
Complete pressure area assessment tool for maternity. Encourage change of position, mobilisation and hydration.						Pressure Area Colour Score:		amber	red	
6h 30min										
7h										
7h 30min										
8h										
Complete pressure area assessment tool for maternity. Encourage change of position, mobilisation and hydration.						Pressure Area Colour Score:		amber	red	
8h 30min										
9h										
9h 30min										
10h										
Complete pressure area assessment tool for maternity. Encourage change of position, mobilisation and hydration.						Pressure Area Colour Score:		amber	red	
10h 30min										
11h										
11h 30min										

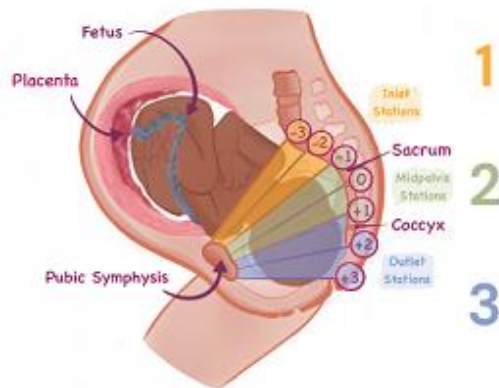
**Epidural catheter: Removed and tip seen? Y / N**  
Date and time removed: \_\_\_\_\_  
Call Anaesthetist if:

- NIBP < 100mmHg or 80% of baseline
- Unable to feel cold at xiphisternum (upper abdomen / lower chest)
- Unable to straight leg raise
- Pain mod/poor 20min after extra top-up

**Tips:**  
If the epidural is working less well on one side, position the mother / birthing parent on that side for a PCEA top-up & for 20min post top-up.  
One 8mL top-up may be delivered manually using the PCEA by the midwife before calling the anaesthetist.  
Ideally, each woman / person should use the PCEA to deliver an 8mL bolus at least once an hour.

## Appendix 3: Peanut Ball Positions

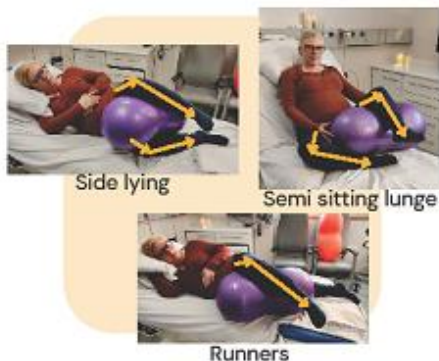
# PEANUT BALL POSITIONS



- Change positions regularly, at least every hour
- Cover peanut ball with patient gown and incos
- Clean with green Clinell wipes NOT ChlorClean
- One person might need different size balls for different positions

1

### POSITIONS TO OPEN THE INLET



open knees to open inlet

2

### POSITIONS TO OPEN THE MID-PELVIS



keep knees and ankles parallel to open the mid-pelvis

3

### POSITIONS TO OPEN THE OUTLET



knees together heels out to open the outlet

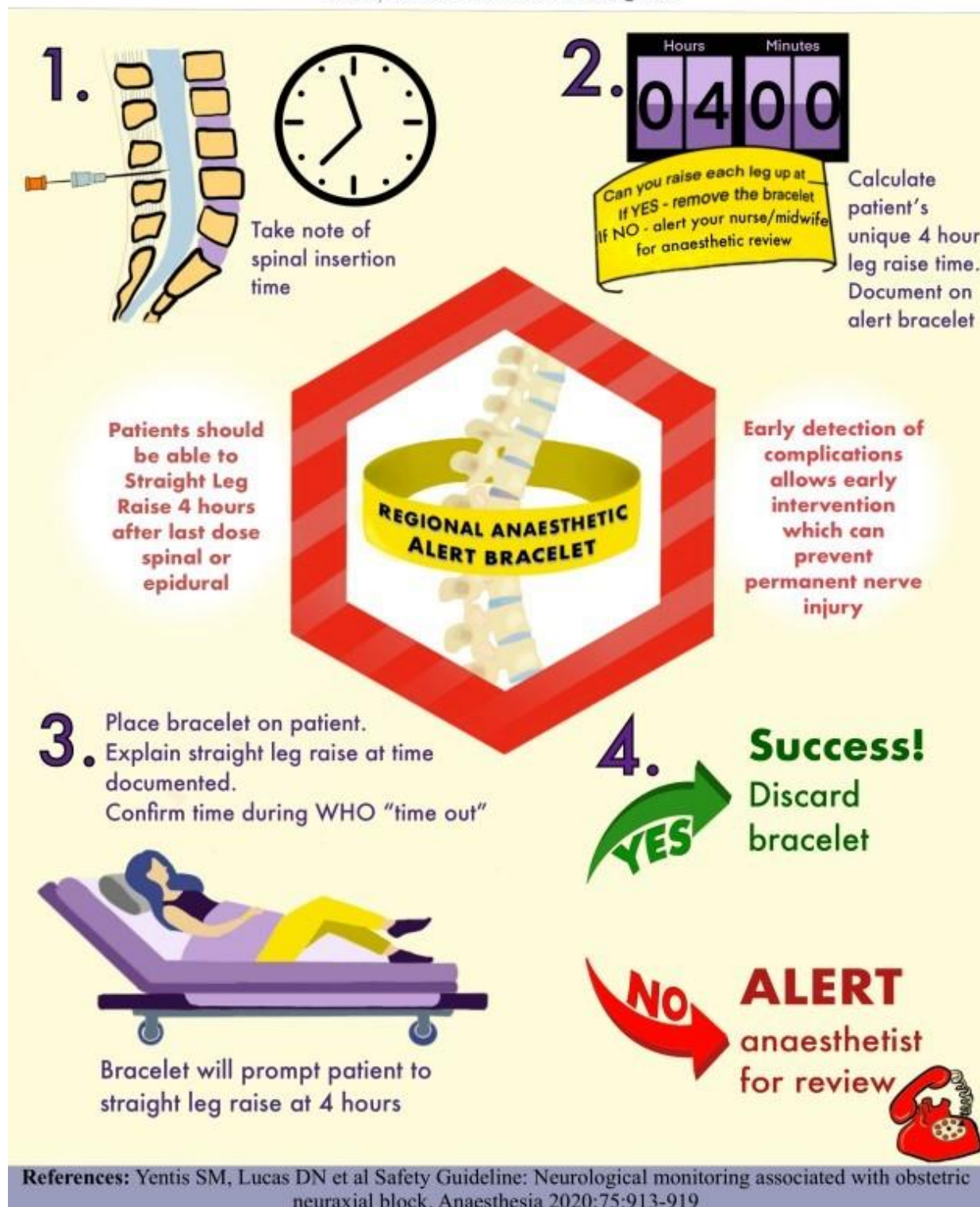


## Appendix 4: Regional anaesthetic alert bracelet

# REGIONAL ANAESTHETIC ALERT BRACELET

## Neurological Monitoring After Spinal or Epidural

Dr Rachel Mathers Consultant Anaesthetist @mathers\_best  
Dr Kathryn Shields CT2 Anaesthetic Trainee @kath\_shields



## Appendix 5: Recovery from a spinal or epidural patient information leaflet

### Recovery from a Spinal or Epidural

This information will help you to identify symptoms which could be related to your spinal or epidural.

The anaesthetic team may review you before you go home to make sure that you have recovered from your spinal or epidural.






**NHS**  
University Hospitals Sussex  
NHS Foundation Trust

### Headache

Contact us if your headache is associated with any other symptom listed below:



-  Limits your ability to look after yourself or your baby
-  Does not go away after you have rested, drunk fluids and taken paracetamol
-  Gets worse while you are upright but feels better when you lie down
-  Comes with other symptoms like neck stiffness, hearing changes (such as ringing or a blocked sensation) or a dislike of bright lights

### Severe headache

Epidural	Spinal
1 in every 100 women*	1 in every 100-200 women*

\*subject to individual unit variation



## Altered sensation in lower body



**Up to 1 in 100 women experience nerve damage after childbirth**

This is usually caused by pressure on nerves in your pelvis during labour or delivery and can cause an altered sensation in your buttocks or legs.

By comparison, nerve damage caused by a spinal or epidural is very rare but causes similar sensations.

Contact us if you feel any changes in your buttocks or legs such as:



Difficulty walking or weakness in the legs



Numbness



Pins and needles

**Contact us:** If you have any concerns while you are still in hospital please ask your midwife to contact the obstetric anaesthetist on duty before you go home.

**If you are at home, then please contact:**

Telephone Triage on 01903 285269 and ask to speak to the duty anaesthetist. This service is available 24 hours a day.

Adapted from LabourPains.com Jan 2023

## Backache

Low back pain is very common after having a baby. Contact us if you have severe back pain near the site of your epidural or spinal injection.

Contact us if your headache is associated with any other symptom listed below:



The pain is getting worse or is not settling with paracetamol or ibuprofen



The pain travels up the spine or down into the buttocks and legs



Your back feels hot or the area is red or oozing



You have a fever and are feeling unwell



You lose control of your bladder or bowels



You have any changed sensation in the lower body as listed below



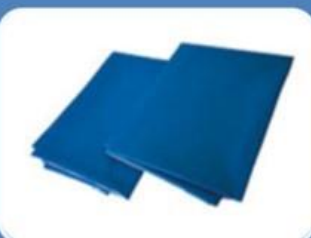
## Appendix 6: Manual handling equipment for women and people with a raised BMI

### Manual handling equipment



#### The larger patient

- Theatre table
- Birthing bed
- Electric profiling bed



#### A lateral

- Theatre table
- Birthing bed
- Electric profiling bed



#### To reposition

- Birthing bed
- Electric profiling bed

## Appendix 7: Guideline Version Control Log

This should be included for all updated guidelines, summarising the changes between the current and previous version. (Earlier changes should be deleted from the list when the guideline is updated.)

Do not list minor and stylistic changes or changes which do not alter the processes described.

If the update includes a significant reorganisation of the material, indicate this and list the main areas where the process itself has changed.

### Change Log - CG14009 Labour Patient Controlled

Version	Date	Author	Status	Comment
1.0	November 2013	Consultant Obstetric Anaesthetists	Archived	New Trust wide Maternity Guideline
2.0	June 2017	Consultant Obstetric Anaesthetists	Archived	3 yearly review and update
3.0	November 2021	Keri Ashpole, Consultant Obstetric Anaesthetists	Archived	Fit for purpose review – no guidance changes required that present a risk. Awaiting new UH Sussex guideline currently being created. Extended for 1 year.
4.0	January 2024	O. Sherwood, Consultant Obstetric Anaesthetist G. Allan, Consultant Obstetric Anaesthetist	LIVE	3 year review <ul style="list-style-type: none"> <li>• Patient information sheets updated (See appendices).</li> <li>• Yellow band with time of last dose and straight leg raise added.</li> <li>• Postnatal surveillance of epidural concerns added.</li> <li>• Chlorhexidine x2 applications prior to skin puncture for epidural.</li> <li>• Pressure area care section added.</li> </ul>