
Guideline for Neurological Monitoring After Epidural or Spinal

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Date Revised: April 2024
Approved by: Clinical Guideline Group & Labour Ward Forum
Date for Review: April 2027

Introduction

Neuraxial Anaesthesia (Epidural, spinal or combined spinal-epidural (CSE)) is commonly used for operative delivery and interventional analgesia during labour. Like all interventions there are associated risks. Unexpectedly dense or persistent motor or sensory block may indicate serious underlying complications such as unintended intrathecal block of an epidural catheter or neurological pathology. Whilst most complications are relatively minor, more serious complications such as spinal canal haematoma, arachnoiditis and infection can cause permanent disability if not acted upon promptly.

Recent guidelines state that following obstetric neuraxial block, a woman should be able to straight-leg raise at four hours from her epidural removal or spinal dose. (1)

Whilst rare, vertebral canal haematoma following regional anaesthesia is potentially catastrophic and can cause permanent injury.

Management is time critical, requiring detection, escalation, and surgery within 8-12 hours.

Aim

This guideline has been written to guide midwives and anaesthetists on how to monitor patients for the above rare complications. We will be implementing a 'Regional Anaesthetic Alert Bracelet'; a yellow bracelet that will be placed at the time of spinal dose or epidural removal stating when the patient should be able to straight leg raise (lift heel off bed).

Definition of successful straight leg raise: Able to lift heel off bed with both legs (one at a time), even if not sustained.

Responsibilities for placing 'Regional Anaesthetic Alert Bracelet'

Yellow bracelet attached to patient's arm stating: the time that patient should be able to straight leg raise (4-hours post spinal dose/epidural removal).

If patient delivers in theatre, then placing the bracelet is the responsibility of the anaesthetist.

If patient delivers in the room, then placing the bracelet is the responsibility of the midwife looking after the patient.

When to test motor power

During Labour

The midwife caring for a woman with an epidural should continue to check the epidural block hourly, including motor block as already described on the epidural chart.

After labour

Regional anaesthetic alert bracelet should be placed by midwife after delivery, with time of epidural removal documented and time 4 hours later stated. At 4 hours after epidural removal the midwife should alert the anaesthetist if a woman is unable to straight-leg raise (ability to raise heel off bed against gravity, even if not sustained).

During recovery phase after a spinal anaesthetic or epidural top-up for a procedure.

The anaesthetist should inform the woman at the end of the operative procedure that she should be able to lift her heel off the bed four hours after the spinal dose or epidural removal. The anaesthetist is responsible for placing the bracelet; ensuring this is both communicated to the midwife at post-operative handover and documented on the anaesthetic chart.

After appropriate handover, the midwife should check the patient's ability to straight leg raise at 4 hours post epidural removal / spinal anaesthetic dose (as documented on RAAB).

Response to straight leg raise test

Definition of successful straight leg raising: Able to lift heel off bed with both legs (one at a time), even if not sustained.

If patient is able to straight-leg raise (lift heel off bed with both legs, even if not sustained) successful at 4-hours, the bracelet may be discarded, and this documented by midwife (see flow chart below).

If unable to straight leg raise then the on call anaesthetist should be informed on 25857 (if unavailable then ring either 25858 (8-5PM weekdays) or 25854 at all other times). Document that this has been done and it is then the anaesthetists responsibility to review the patient. Should no anaesthetist have been to see the patient within 1 hour then ring the above numbers again to remind them.

Anaesthetic response

Once informed of a patient that is unable to straight leg raise at 4 hours it is the anaesthetist's responsibility to attend that patient in a timely manner.

Full neurological examination should be performed and documented. Explanation should be given to the patient. They should then be re-examined (ideally by the same person) after 1 hour to look for signs of resolution of neurology. Any signs of resolution are re-assuring. Ongoing monitoring is appropriate to ensure signs continue to resolve. Patients should be followed up until neurology signs have resolved.

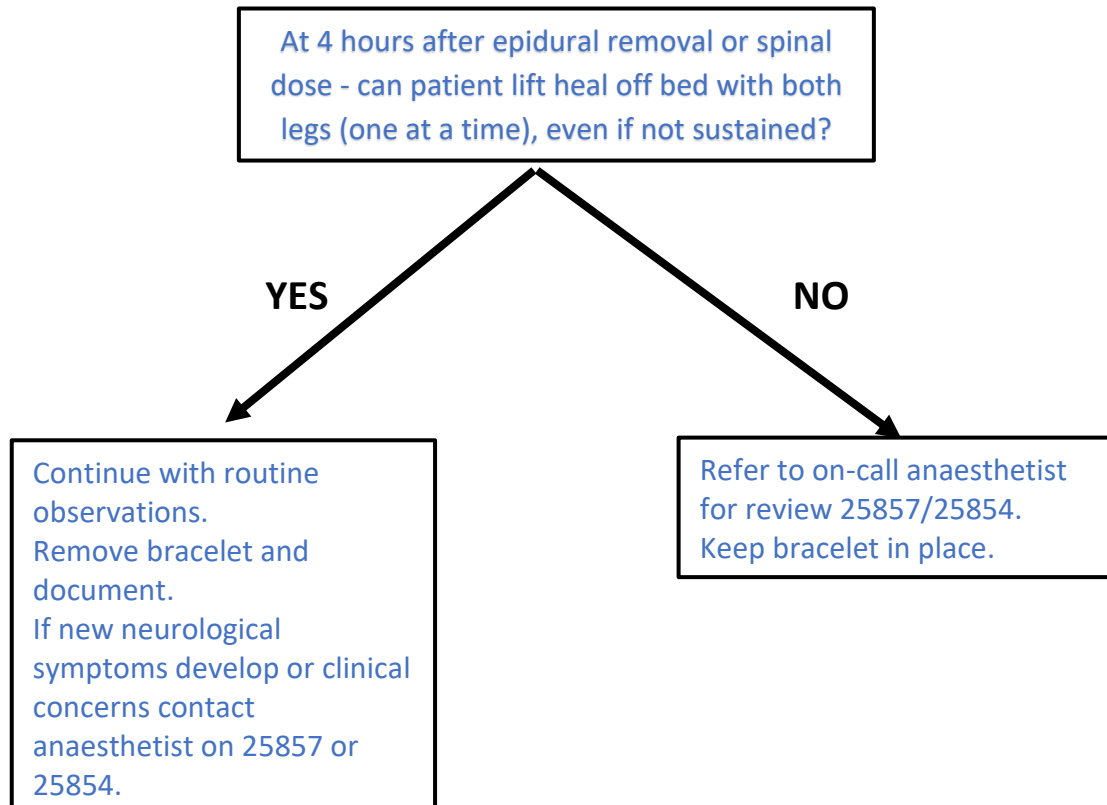
If no signs of resolution occur over the hour, then the patient will need to be discussed with the consultant anaesthetist on call and consideration as to whether the patient needs an urgent MRI. Early involvement of neurosurgical team at UHW is to be advised however, they will not accept the patient until the results of the MRI are known.

Follow up

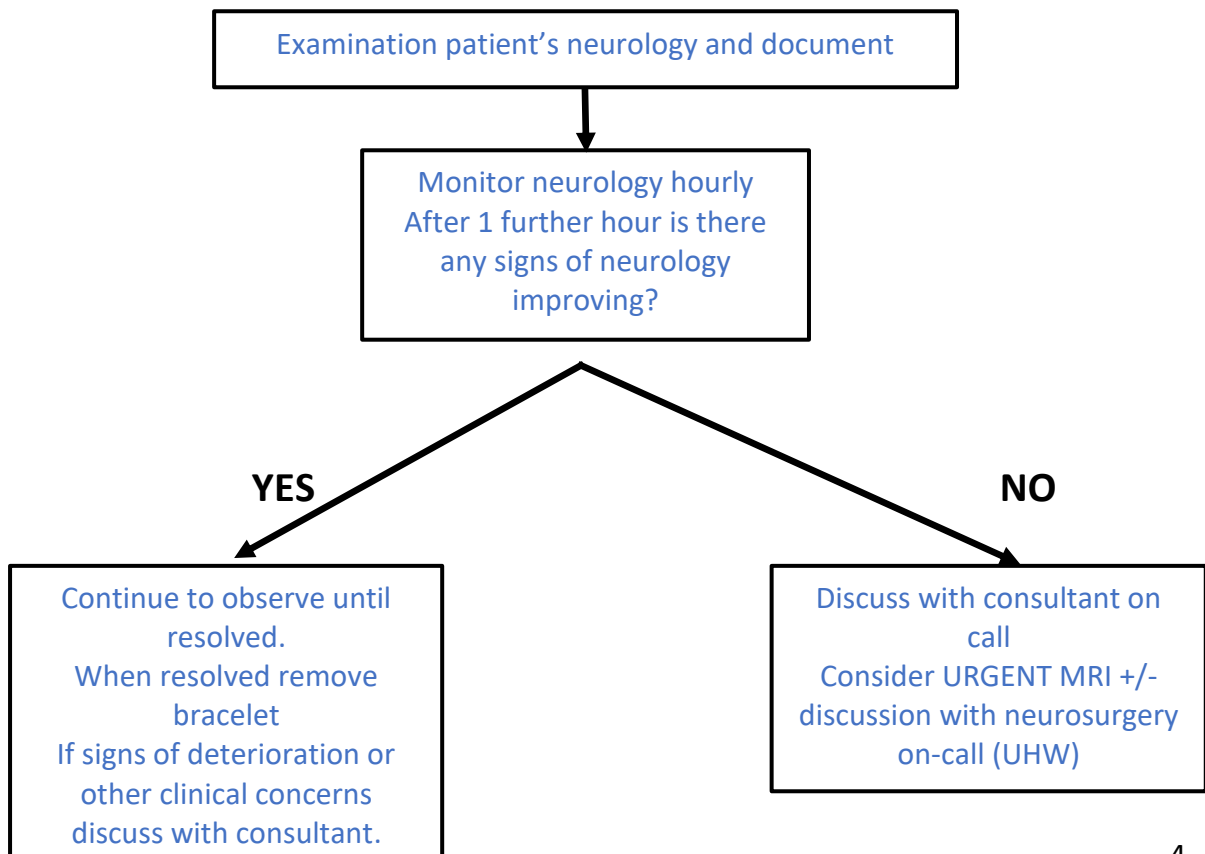
For those patients who needed anaesthetic input with slowly resolving blocks, consideration should be given to whether they need a 6 week follow up appointment to undergo a debrief.

Neuraxial Flow Chart

Midwife



Anaesthetist



Reference

1. Yentis S.M et al. Safety Guideline : neurological monitoring associated with obstetric neuraxial block 2020. A joint guideline by the Association of Anaesthetists and the Obstetric Anaesthetist's Association.

Maternity Services

Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	Guideline for Neurological Monitoring After Epidural or Spinal
Name(s) of Author:	Barry Robertson
Chair of Group or Committee approving submission:	Labour Forum
Brief outline giving reasons for document being submitted for ratification	New guideline
Details of persons included in consultation process:	Labour forum
Name of Pharmacist (mandatory if drugs involved):	
Issue / Version No:	1
Please list any policies/guidelines this document will supercede:	N/A
Date approved by Group:	April 2024
Next Review / Guideline Expiry:	April 2027
Please indicate key words you wish to be linked to document	Neurological monitoring
File Name: Used to locate where file is stores on hard drive	