**Urgent and out-of-hours CT Brain for subarachnoid haemorrhage and subsequent Lumbar Puncture**

**Descriptor:**

Urgent and out-of-hours CT brain undertaken to identify subarachnoid haemorrhage (SAH) or contra-indications to subsequent lumbar puncture (LP).

**Background:**

A significant number of urgent or out-of-hours requests for CT brain are made to identify a visible SAH.  Normal CT brain examinations then usually require LP. This is dependent on a normal CT scan.  All current national guidance requires a LP following a normal CT brain (Ref.1-7).  This should be carried out with a degree of clinical urgency but should not be performed within 12 hours of onset of headache.

## The Cycle

**The standard:**

In all cases where patients undergo urgent or out-of-hours CT as a prerequisite for proceeding to a LP, if CT does not reveal either a contraindication to LP or any finding rendering LP unnecessary, then an LP should be performed no sooner than 12 hours from the onset of symptoms ( Ref 8, 11, 13.)

**Target:**

100%.

## Assess local practice

**Indicators:**

• Cases in which patients undergo urgent or out-of-hours CT for SAH as a prerequisite for proceeding to an LP and the CT does not reveal either a contraindication to LP, or any finding rendering LP unnecessary

• Percentage who actually undergo the LP and have the LP results available no sooner than 12 hours from headache onset.

**Data items to be collected:**

For each patient:

• Whether appropriate clinical details are included in the request (e.g. timing of headache onset, sign of raised intracranial pressure, GCS, focal neurological deficits)

• The time of the CT examination

• Whether a SAH is demonstrated

• Whether the CT reveals a contraindication to LP

• If and when the LP was performed

• The result of the report on the LP

• The result and time of the report on the LP

**Suggested number:**

40 consecutive requests.

**Suggestions for change if target not met:**

• Discuss the audit results with radiologists and clinical referring teams

• Reinforce the local guidelines for CT urgent requests

• Clinicians must be aware that a normal CT does not exclude raised intra-cranial pressure and clinical findings need also to be taken into account

• Agree with clinicians that only a consultant or a specialist registrar at year 3 or higher can request an urgent CT scan in these circumstances

**Resources:**

- Review of request forms

- Review of patients’ notes / discharge letters

- Review of laboratory log books

- Radiologist (8 hours)

**References:**

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Taken from Clinical Audit in Radiology 100+ recipes RCR 1996, updated by B Morrissey & L Narayanan

**Published Date:**

Monday 7 January 2008

**Last Reviewed:**

Thursday 9 January 2020