IAEM Clinical Standards and Guidelines

Patients Presenting to Emergency Departments with Features Suspicious for Subarachnoid Haemorrhage (SAH) – Joint Guidelines of the Academic Committee of the Irish Association for Emergency Medicine, the National Neurosurgery Care Programme of the Royal College of Surgeons in Ireland and the National Emergency Medicine Programme.

Reference: IAEM Standards and Guidelines SAH 2011

IAEM Standard for the Emergency Department Assessment of Patients with Features Suspicious For Subarachnoid Haemorrhage.

Standard Statement:

All patients who present to Emergency Departments with clinical features suspicious for subarachnoid haemorrhage should be managed according to the best available clinical evidence as provided in the IAEM Guidelines for Patients with Features Suspicious for Subarachnoid Heamorrhage.

Reference IAEM Standard SAH 2011

IAEM Guidelines for the Emergency Department Assessment of Patients with Features Suspicious For Subarachnoid Haemorrhage.

Background to Development of these Guidelines

These guidelines have been developed in collaboration with the National Neurosurgery Care Programme of the Royal College of Surgeons in Ireland, by the Academic Committee of the Irish Association for Emergency Medicine, in conjunction with the National Emergency Medicine Programme. They are intended to supplement the Guidelines for the Management of a Patient with a Subarachnoid Haemorrhage (2010). The IAEM guidelines focus on the initial assessment of patients with suspected subarachnoid haemorrhage (SAH) in an ED setting and provide more detailed guidance to Emergency Medicine (EM) clinicians to support their initial evaluation of patients with suspected SAH. The IAEM guidelines reflect the symptomatic and initially undifferentiated presentation of patients with a “lone severe headache” and other associated symptoms that leads to a clinical suspicion of SAH. Together the IAEM guidelines for the ED assessment of Patients with Features Suspicious for SAH and the National Neurosurgery Care Programme Guidelines for the Management of a Patient with a Subarachnoid Haemorrhage (2010) cover the pathway of patient care from initial symptom presentation through to Neurosurgical Centre management, including inter-hospital transfer and population screening.

Purpose of Document

Integration of guidelines for the emergency management of patients with suspected SAH

Guideline Scope

Primary care, Ambulance service, EM, referring hospitals and specialist centres.

Clinical suspicion

High index of clinical suspicion where a headache is of immediate and severe onset and can include "worst ever" or "thunderclap", neck stiffness, altered level of conscious, cranial nerve palsies, focal neurological deficit or seizure.

Primary care and Ambulance service pre-alert ED for patients with these features.[1]

Confirmation of diagnosis

Mandatory urgent non-contrast CT head performed[2]

If CT negative then lumbar puncture at no sooner than 12 hours since onset of symptoms[3]

Diagnostic Modalities

Imaging	CT non-contrast
Laboratory	CSF spectrophotometric analysis for xanthochromia

Management

Pre-hospital	As per Ambulance Service Clinical Practice Guidelines
ED	As per GEMNET Guideline algorithm[4] ***(Appendix 1)***
Hospital	As per Guidelines for Management of a Patient with a Subarachnoid Haemorrhage[3] *(Algorithm Appendix 2)*

Disposition

Urgent specialist neurosurgical consultation; local medical and intensive care referral and retrieval service / ambulance service involvement for those patients requiring transfer.

References

1. ***Pre Hospital Emergency Care Council Clinical Practice Guidelines***
   http://www.phecit.ie/DesktopDefault.aspx?tabindex=0&tabid=1117

2. ***Consensus opinion, National Neurosurgery Care Programme Committee***

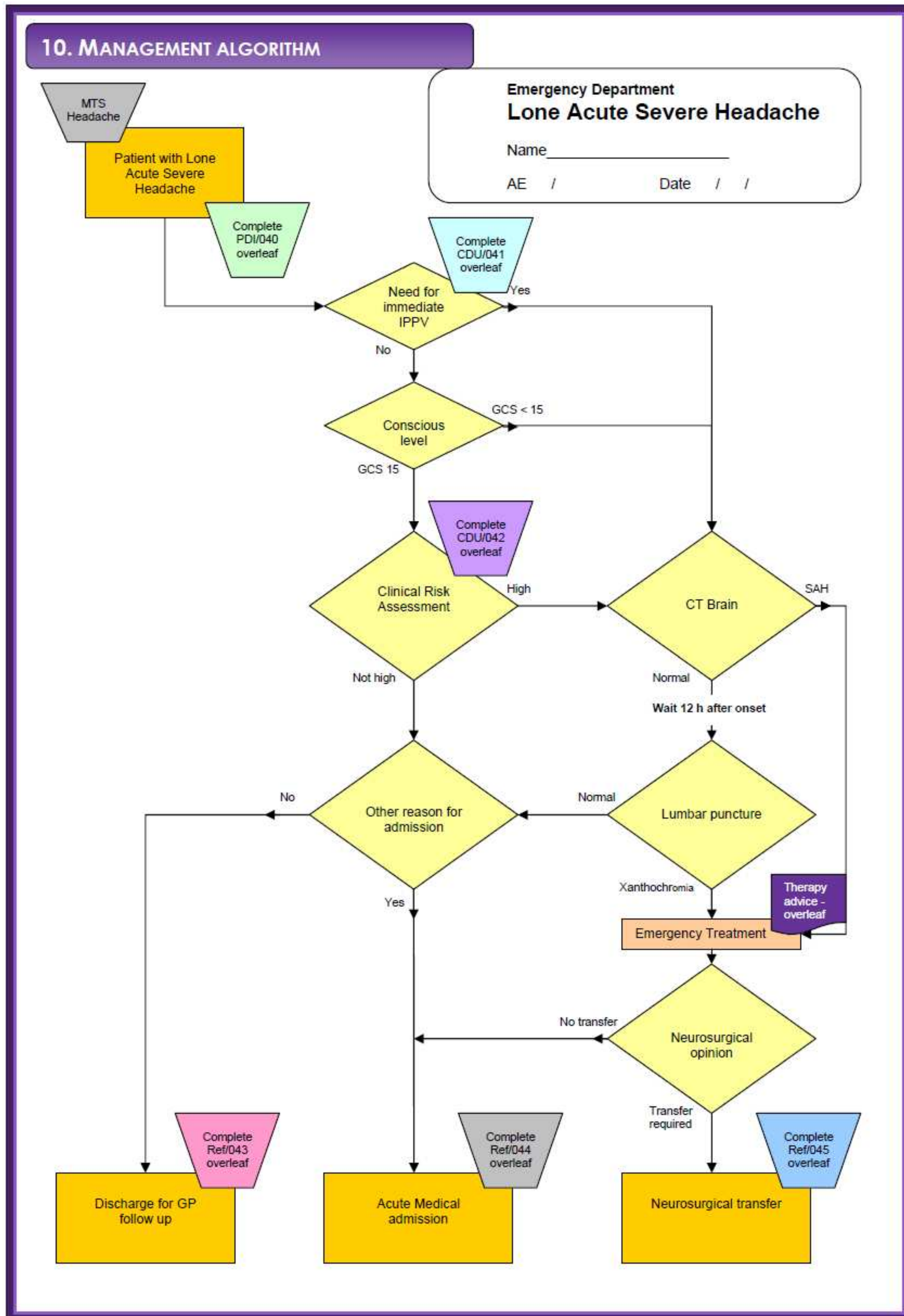
3. ***Guidelines for Management of a Patient with a Subarachnoid Haemorrhage Neurocentre Directorate 26th April 2010***

4. ***GEMNET Guideline for the Management of Lone Acute Severe Headache CEM December 2009***
   http://www.collemergencymed.ac.uk/Shop-Floor/Clinical%20Guidelines/Clinical%20Guidelines/default.asp

Guideline Consultation:

- Mr Donncha O'Brien, National Neurosurgical Care Programme,
  Royal College of Surgeons in Ireland.
- Dr Fergal Cummins on behalf of the Academic Committee of the Irish Association for Emergency Medicine.
- Dr Una Geary, National Emergency Medicine Programme
- Dr Michael Power, National Critical Care Programme Lead.
- Dr Rory Dwyer, Intensive Care Society of Ireland

Appendix 1: GEMNET Guideline for the Management of Lone Acute Severe Headache: Management Algorithm and Decision Support (overleaf)



Used with permission from the GEMNET Group, College of Emergency Medicine, UK.

Appendix 1 (page 2): GEMNET Guideline for the Management of Lone Acute Severe Headache

PDI/040: SUITABILITY FOR PROTOCOL DRIVEN INVESTIGATION (ALL YES)

Abrupt onset (thunderclap) headache	Yes
Not previously diagnosed as benign by Neurologist	Yes

Order: T, P, R, BP, SpO_2, U&E, Glucose, Clotting

CDU/041: NEED FOR IMMEDIATE IPPV (ANY YES)

Airway compromise	Yes
Inadequate respiration (bradypnoea, hypoxia, significant hypercapnia)	Yes
GCS ≤8/15 (consider if GCS<12)	Yes
Hypoxia (SaO2<92% on supplemental O2 or pO2<8 kPa	Yes
Hypercarbia (pCO2>5.5 kPa)	Yes

CDU/042: CLINICAL RISK ASSESSMENT OF LONE ACUTE SEVERE HEADACHE

	H	Not H
Vomiting		
Worst headache ever		
Previous SAH		
Fits		
Cranial nerve palsy		
Neck stiffness		
Focal neurological signs		
None of the above		

Any H then high risk

MEDICAL THERAPY ADVICE

If GCS<8: Perform and document rapid neurological examination. Perform rapid sequence intubation. Proceed to CT scan asap.

GCS 9-11: Consider RSI prior to transfer to CT.

GCS 12-14: Prepare for RSI. Ensure staff competent in advanced airway management available.

Medical therapy: Nimodipine is of benefit only in proven SAH. The use of mannitol and other agents to lower ICP may be required. Antifibrinolytics (e.g. tranexamic acid) are NOT indicated.

Lumbar puncture: Bed rest is not needed after LP. Reinsert needle before removing cannula.

REF/043: SUITABLE FOR DISCHARGE (ALL YES)

Self caring and adequate social support	Yes
Normal CT scan	Yes
Normal LP 12 hours after symptom onset	Yes
Follow up arranged with GP or OPD	Yes
Discharge information given to patient	Yes

REF/044: SUITABLE FOR ACUTE MEDICAL ADMISSION (ALL YES)

REF/045: NEUROSURGICAL TRANSFER

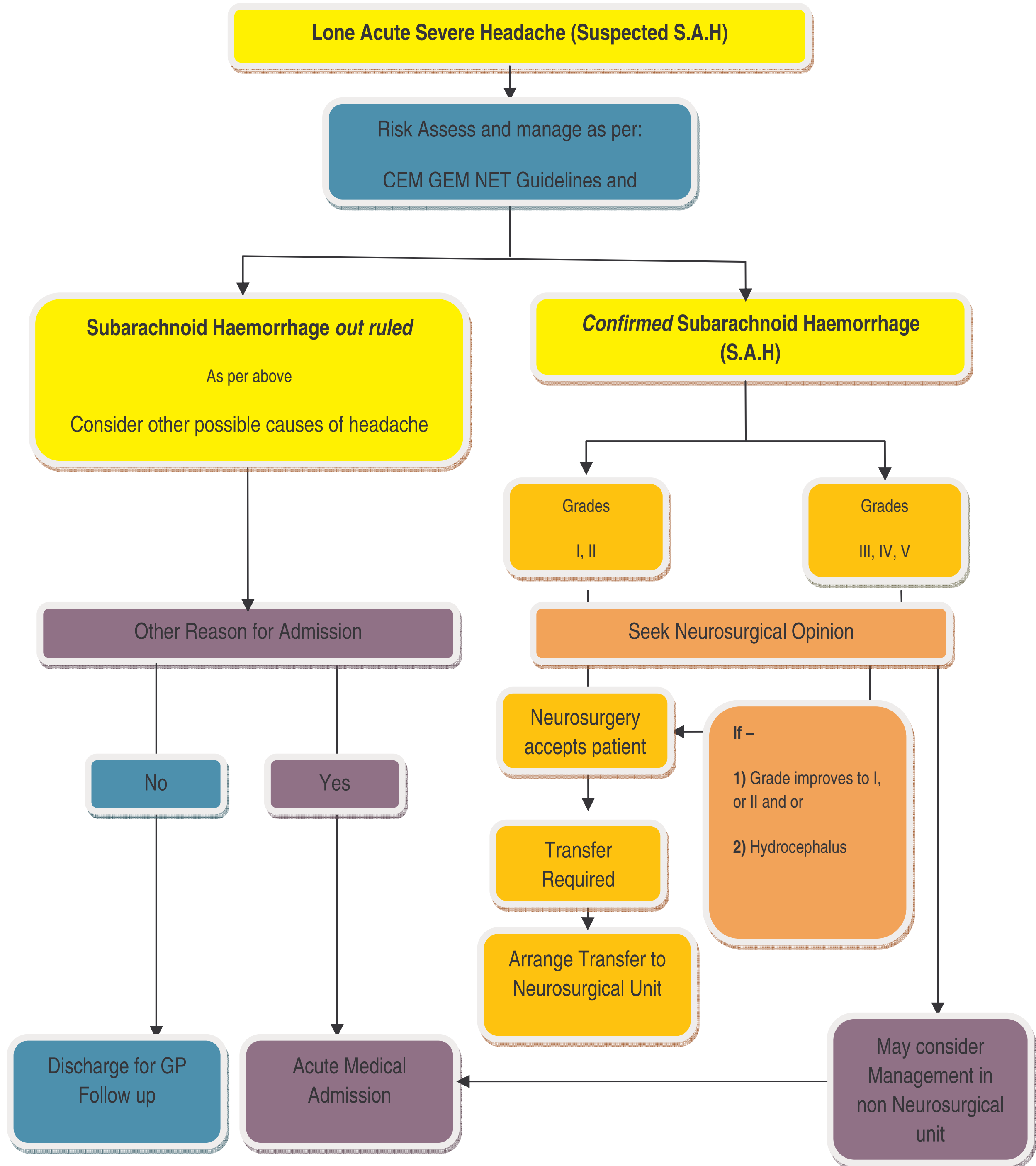
Assess need for ventilation (if not already)	Yes
Ensure staff skilled in advanced airway management conduct transfer	Yes

Guideline for the Management of Lone Acute Severe Headache 23

Used with permission from the GEMNET Group, College of Emergency Medicine, UK.

Please print out, complete and include in patient case-notes.

Appendix 2: Algorithm for the Management of Lone Acute Severe Headache and Guidelines for the Management of a Patient with a Subarachnoid Haemorrhage[3]



This algorithm is to assist clinical decision making in conjunction with national guidelines. It is the responsibility of the practicing clinicians to interpret their application taking account of local circumstances and the needs and wishes of individual patients. **Telephone Beaumont Hospital: 01- 809 3000; Telephone Cork University Hospital: 021 4922000**

Adapted from Subarachnoid Haemorrhage Algorithm, Guidelines for the Management of a Patient with a Subarachnoid Haemorrhage 2010.