

Benchmark No. 10

Subarachnoid Haemorrhage



British Association of Neuroscience Nurses



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History

The Neuroscience Nursing Benchmarking Group (NNBG) was established in the 1990's as a result of increasing concerns over inconsistencies in practices as part of a subsidiary of BANN. The group aims to improve on the quality of care by comparing and sharing practice with each other, and set explicit standards for comparison of current practice against the ideal standard. The group is committed to searching for the best evidence related to specific areas of neuroscience practice. Membership of the group consists of representatives from neuroscience units within the UK and Ireland, together with educational colleagues from both the NHS/HSC and Higher Educational Institutes. The group is further subdivided into regions and this benchmark was developed by the national group of the NNBG in 2012.

In 2016, the NNBG consolidated back into BANN and further information about NNBG can be found on the BANN website www.BANN.org.uk.

BANN would like to acknowledge the leadership and significant contribution made by the NNBG, and all its contributors, to neuroscience nursing over the years.

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Subarachnoid Haemorrhage

To achieve this benchmark, the following factors have been identified:

Key points

- Unless stated otherwise, this benchmark relates to pre / peri and post treatment aspects of the care of the person following a subarachnoid haemorrhage (SAH).
- The positioning of the person in bed is determined by the person's preference in order to manage pain and optimise haemodynamic stability (bathroom privileges may be deemed appropriate according to the person's clinical condition), however, this must be negotiated with the medical team.
- A fluid balance of intake and output is recorded at all times and reviewed at least four hourly with the aim of maintaining euvolaemia, ensuring optimal hydration to support blood pressure and cerebral perfusion.
- Nimodipine is commenced following diagnosis (within four days of ictus) and continues for 21 days.
- Full blood biochemistry is performed at least daily to ensure electrolyte homeostasis.
- Blood pressure is managed within perimeters prescribed by the medical staff.
- The person's temperature is monitored with the aim of maintaining normothermia.
- A venous thromboembolism (VTE) assessment is completed both pre- and post-treatment.
- Nicotine replacement therapy should be considered (as per individual need).
- People displaying symptoms of dysphagia are screened by a competent practitioner using a validated tool.
- Early mobilisation following treatment is promoted, dependent on the person's clinical condition.
- Staff receive training/education on promoting lifestyle choices with special reference to reducing hypertension and smoking cessation.
- People should have access to a vascular Clinical Nurse Specialist to offer support throughout their treatment and on-going support following discharge.
- People are given information to facilitate access to psychological support following discharge.

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Date completed: June 2019
Date to be reviewed: June 2021

FACTOR 1 – Documentation

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
1.0	On admission the following information is documented: <ul style="list-style-type: none"> • Baseline neurological observations • Comprehensive past medical history • Grade of SAH 	NCEPOD (2013)			
1.1	Following confirmed diagnosis of SAH, symptoms are graded and documented according to a recognised grading system e.g., WFNS.	NCEPOD (2013)			
1.2	Prior to any clinical interventions, a clear management plan has been documented by the medical team to guide nursing practice.	RCP (2016) Whitfield <i>et al.</i> (2001).			
1.3	A nursing care plan is available that details all aspects of care as per protocol (<i>Factor 2</i>).	AANN (2018)			
1.4	Following treatment there is clear documentation to support verbal handover following interventional radiology nurse. This should include: <ul style="list-style-type: none"> • The intervention carried out • The type of device used • Any complications occurring peri-treatment • Medication administered – Sedation, Anti-coagulants • Fluid balance post procedure • Haemodynamic targets 	AANN (2018)			
1.5	Following a negative CT angiogram/digital subtraction angiography (DSA) result; people continue to be supported by the specialist vascular nurse/medical team.	Molyneux <i>et al</i> (2012) RCP (2016)			

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
1.6	<p>Post-treatment, the following is documented as per protocol:</p> <ul style="list-style-type: none"> • Neurological observations • Pain score targets • Groin site observations • Pedal pulse observations • Post-operative instructions from radiologists/neurosurgeons • Fluid balance • Target levels for Oxygen saturation • Cardiovascular parameters • Mobilisation • Glycaemic monitoring 	<p>AANN (2018)</p> <p>Nichols <i>et al.</i> (2013)</p> <p>Karic <i>et al</i> (2016).</p> <p>Okowski <i>et al.</i> (2017).</p> <p>Chowdhury <i>et al.</i> (2017)</p>			

FACTOR 2 – Protocol

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
2.0	Consideration is given to optimise haemodynamic stability, cerebral perfusion and the person's comfort. Bathroom privileges may be considered if the medical team consents and the person's clinical condition permit.	AANN (2018)			
2.1	Environmental noise is minimised: <ul style="list-style-type: none"> Sensory overload is actively reduced - ear plugs, eye masks Level of stimulation is managed - advice to relatives & friends. 	Hussein (2017)			
2.2	A comprehensive continence assessment is completed on admission with specific reference to: <ul style="list-style-type: none"> Maintenance of the person's normal bowel regime including use of medications where appropriate. Minimising risk associated with urinary catheter associated infections. 	RCP (2016) AANN (2018)			
2.3	An accurate balance of fluid intake and output is maintained and is continuously re-evaluated with the aim of maintaining euvolaemia (unless contraindicated by clinical condition). If IV fluids are required crystalloid fluids are recommended.	Oddo <i>et al.</i> (2018) Kissoon <i>et al.</i> (2015) Ibrahim <i>et al.</i> (2013)			
2.4	Any signs or concerns of a developing hyper/hypovolaemia (biochemistry or clinical symptoms) are promptly escalated to the medical team. Polyuria (urine output >30 mL/kg body weight or >200 mL/h for 2 h consecutively) regardless of overall balance is escalated to the clinical team).	Ibrahim & Macdonald (2013) Oddo <i>et al.</i> (2018)			

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
2.5	A validated pain tool is used to assess the person's level of pain both pre- and post-administration of analgesia. <ul style="list-style-type: none"> Any escalation of pain (despite administration of analgesia) is reported to the medical team 	RCP (2016) AANN (2018)			
2.6	Nimodipine is commenced and administered as soon as the diagnosis has been confirmed, within 4 days of ictus, and continued at a dose of 60mg administered 4hrly for 21 days. <ul style="list-style-type: none"> 30mg 2hrly can be considered if the patient is unable to tolerate the higher dose 	RCP (2016) Oddo <i>et al.</i> (2018)			
2.7	Anti-emetics are prescribed for regular and/or PRN administration.	RCP (2016) AANN (2018)			
2.8	Nicotine replacement therapy is considered based on pre-morbid history and consultant preference.	RCP (2016)			
2.9	The person's blood biochemistry profile is reviewed daily.	Oddo <i>et al</i> (2018)			
2.10	Target levels for blood pressure control have been prescribed by the medical team with the aim of optimising cerebral perfusion pressure (CPP), cerebral blood flow and oxygenation.	Nichols <i>et al.</i> (2013)			
2.11	Pre-interventions - a mean arterial blood pressure (MAP) greater than 110mm/hg is escalated for medical review.	RCP (2016)			
2.12	The person's temperature is monitored with the aim of maintaining normothermia.	Nichols <i>et al.</i> (2013)			
2.13	Pyrexia is treated with anti-pyretic medication. <ul style="list-style-type: none"> Monitor for signs and symptoms of developing hospital acquired infections (HAI). 	Abulhasan <i>et al.</i> (2018)			
2.14	A VTE assessment is completed on admission and regularly reviewed.	Dringer <i>et al.</i> (2011)			

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
2.15	Supplemental oxygen is prescribed and titrated against the person's SpO ₂ and clinical requirements.	AANN (2012) O'Driscoll <i>et al.</i> (2017)			
2.16	People receiving anti-epileptic medication for seizure control during their acute admission are reviewed by medical staff prior to discharge and in follow-up clinics.	Dringer <i>et al.</i> (2011)			
2.17	People displaying symptoms of dysphagia are screened by a competent practitioner using a validated tool.	RCP (2016)			
2.18	Low molecular weight heparin is administered 24 hours post treatment (unless contraindicated, e.g. platelet count, inter-cerebral haematoma, device insertion/removal, additional surgical interventions).	Dringer <i>et al.</i> (2011) RCP (2016)			
2.19	Wound care: <ul style="list-style-type: none"> • The wound site is checked with every set of observations. • The femoral artery puncture is checked with every set of observations • Pedal pulses are checked with every set of observations 	RCN (2017) Abdulhasan <i>et al.</i> (2018).			
2.20	A protocol/guidance is available for the management of people presenting with delayed neurological deficit (DND)	Cook (2004) Nichols <i>et al.</i> (2013). Preece (2014)			
2.21	People can access support from a Clinical Nurse Specialist throughout their patient journey.	NCEPOD (2013)			
2.22	Consideration is given to optimise haemodynamic stability, cerebral perfusion and personal comfort. Bathroom privileges may be considered if the medical team consents and the person's clinical condition permit.	AANN (2018)			

FACTOR 3 – Education

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
3.0	<p>Staff education and training packages must include information on the following:</p> <ul style="list-style-type: none"> • Anatomy and physiology of the neurovascular and CSF systems • SAH grading system • Treatment options for SAH and what these involve • Signs, symptoms and management of vasospasm • Signs of neurological deterioration and escalation process • Signs, symptoms and treatment of associated conditions including: <ul style="list-style-type: none"> ○ SIADH, cerebral salt wasting, hydrocephalus, ventriculitis ○ Negative angiography ○ Sub clinical seizure activity in people with no identifiable reason for neurological deterioration. • Care and management of a person with an EVD or Lumbar drain. • Recognition of the impact of prolonged bed rest on maintaining normal bladder and bowel function. • Recognition of the impact of cardiac damage following SAH • Methods of reducing overstimulation • An awareness of the long-term complications resulting from SAH and the effects on health and wellbeing, occupation and family. 	<p>Preece (2014) RCP (2016)</p> <p>Cook (2004)</p> <p>Nichols <i>et al.</i> (2013).</p> <p>Okowski <i>et al.</i> (2017).</p> <p>mRS scale – Patel <i>et al.</i> (2012)</p>			
3.1	<ul style="list-style-type: none"> • Staff have training on sign-posting to alternative lifestyle choices, with specific reference to managing hypertension and smoking cessation. 	RCP (2016)			

FACTOR 4 – Patient Information

Statement of Best Practice		Evidence	Achieved	Not Achieved	Variables
4.0	<p>People receive information on the following:</p> <ul style="list-style-type: none"> • Contact information • Impact of over stimulation e.g. visitors, quiet times • Smoking cessation • Nimodipine administration at home • Pain control options. • Recognition and escalation of change in symptoms including: <ul style="list-style-type: none"> ○ New neurological deficit ○ Change in consciousness ○ Seizures ○ Increased headaches ○ Wound concerns • Psychological support (reinforcing escalation and sign posting following discharge). • Resumption of normal activity including returning to work, sexual activity. 	<p>RCP (2016) NCEPOD (2013)</p> <p>Brain & Spine (2018)</p>			
4.1	<p>People receive follow up support from a Clinical Nurse Specialist on discharge.</p>	NCEPOD (2013)			
4.2	<p>People are provided with appropriate advice regarding driving (DVLA)</p>	RCP (2016)			

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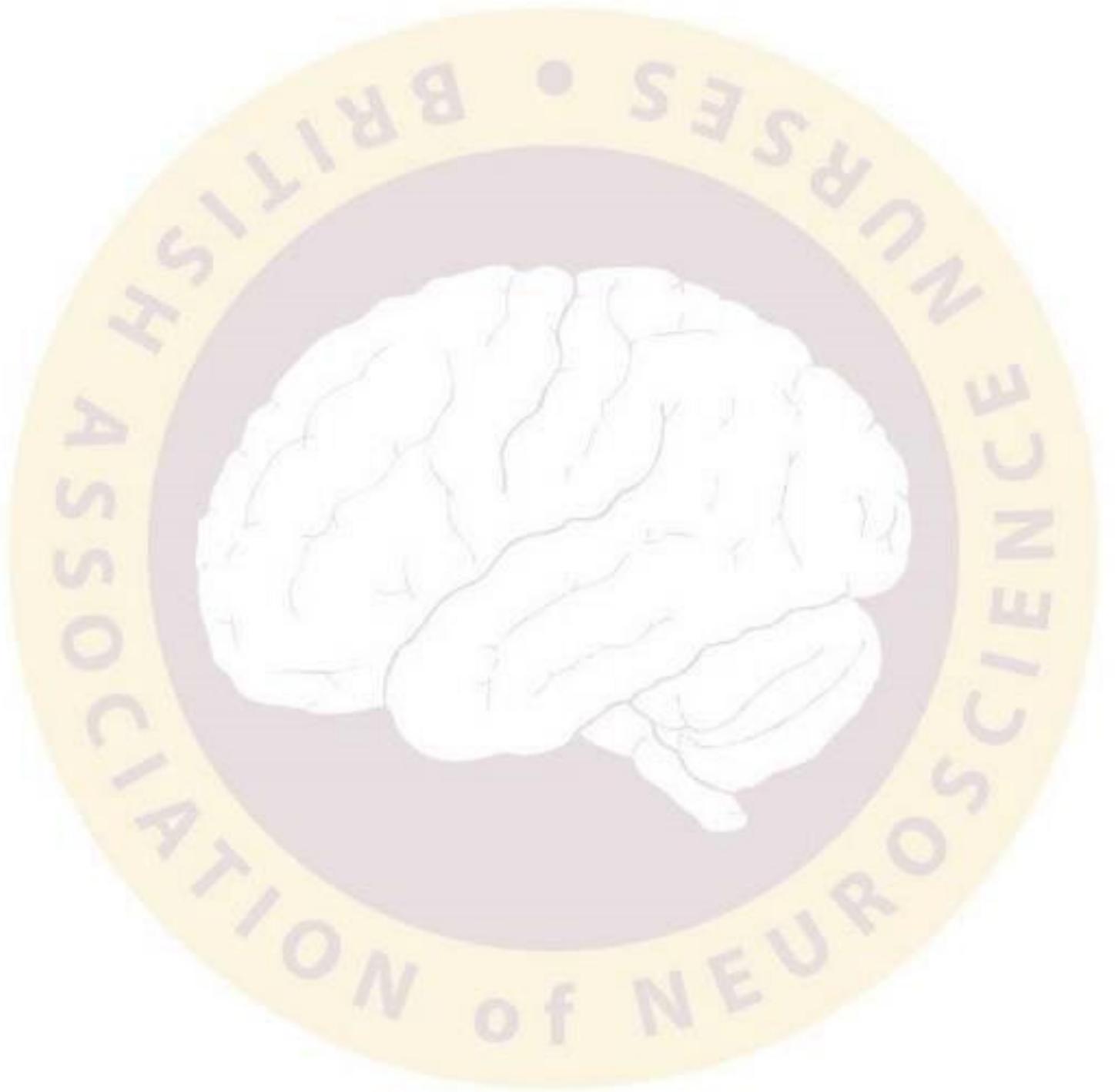
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