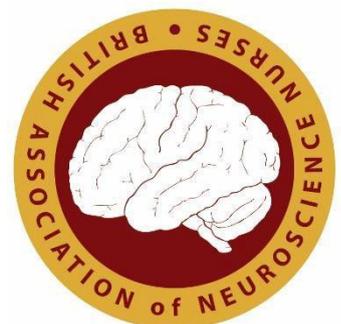


# Benchmark No. 3 Cerebral Angiography



## British Association of Neuroscience Nurses



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## Cerebral Angiography

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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 North East 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](http://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.

# CEREBRAL ANGIOGRAPHY

## KEY POINTS

- ❖ Pre-assessment is an important pre-requisite for elective day case patients.
- ❖ Patients with renal dysfunction may have problems metabolising and excreting the contrast medium, necessitating the importance of obtaining creatinine levels pre-investigation.
- ❖ Patients with diabetes should be carefully monitored.
- ❖ Patients must be carefully monitored for signs of potential complications arising from thrombosis/haemorrhage.
- ❖ All staff caring for patient's pre and post cerebral angiography receives training and a corresponding assessment of competence.
- ❖ Written information should be available for patients undergoing angiography.
- ❖ An individualised, documented care plan should be available that meets the needs of the patient and demonstrates evidence of on-going reassessment.

**FACTOR 1: DOCUMENTATION**

STATEMENT OF BEST PRACTICE	POOR		EXCELLENT
1.0 The decision to proceed is based on a positive CTA, lumbar puncture or MRI (Chapman 2003).			
1.1 A detailed care plan or integrated care pathway meets the needs of the patients. (Lange 2009).			
1.2 The care plan is implemented and any variances are recorded and explained in the documentation.			
1.3 Pre-assessment specifically notes: <ul style="list-style-type: none"> <li>• Pregnancy test (ionising radiation guidelines, 2000).</li> <li>• Diabetic patients taking Metformin (RCR, 2009).</li> <li>• Serum Creatinine levels (RCR, 2009).</li> <li>• Specific contrast allergy</li> <li>• Coagulopathy</li> <li>• Renal insufficiency</li> <li>• Severe hypo/hypertension</li> <li>• MRSA screen (elective cases)</li> </ul>			
1.4 Baseline neurological observations and assessments are recorded and documented as per local policy.			
1.5 Written consent must be obtained whenever possible and supported with written documentation (DOH, 2009).			
1.6 All patients should receive follow up information, including results of investigation and future management plan.			
1.7 All documentation is reviewed every 2 years.			

**FACTOR 2: PROTOCOL**

STATEMENT OF BEST PRACTICE	POOR		EXCELLENT
2.0 The patient is prepared for the procedure according to local policy/avoid shaving.			
2.1 Routine medications should be administered unless otherwise contraindicated (Connolly, 2000).			
2.2 Intravenous access should be established whenever possible using a 18G cannula. (RCR guidelines).			
2.3 Following the procedure, manual pressure should be applied for approximately 10 minutes. Perclose or angioseal may be used by some radiologists to close the puncture site. (refer to local guidelines for care and management). (Geyic et al 2007)			
2.4 Post angiography, assess bilateral pedal pulses, foot colour and temperature: for a minimum of 4hrs and continue these observations according to local policy.			
2.5 Following the procedure, patients should remain on bed rest for a minimum of 3hrs and mobilise after 4hrs ( in accordance with the patient's underlying condition).			
2.6 Following the procedure, neurological observations are performed for a minimum of 4hrs or until discharged and continued in accordance with pre-existing pathology and local policy.			

**FACTOR 2: PROTOCOL**

STATEMENT OF BEST PRACTICE	POOR		EXCELLENT
2.7 In-patients should have a fluid balance recorded to optimise hydration, either orally or intravenously (at least 100mls/hour, starting at least 4 hours before the procedure to 24 hours after contrast administration, depending on their clinical need (ESUR guidelines).			
2.8 Day case patients should receive written instruction recommending that they maintain a good level of hydration prior to attending the hospital for the procedure (i.e. 1 litre/4hrs).			

**FACTOR 3: EDUCATION**

STATEMENT OF BEST PRACTICE	POOR		EXCELLENT
<p>3.1 A structured education programme is available for the care and management of patients requiring angiography. This will include:</p> <ul style="list-style-type: none"> <li>○ Rationale for performing the investigation</li> <li>○ Knowledge of the different types of angiography (invasive and non-invasive). (Salvador 2011)</li> <li>○ Anatomy and physiology of the cerebral circulation. (Johnson 2009)</li> <li>○ Normal electrolyte values, specifically creatinine.</li> <li>○ Signs and symptoms of nephrotoxicity/lactic acidosis.</li> <li>○ Pre and post procedure management</li> <li>○ Fluid management.</li> <li>○ Administration of Metformin</li> <li>○ Completion of relevant documentation.</li> <li>○ Management of neuro-angiographic complications including:                             <ul style="list-style-type: none"> <li>○ Haemorrhage from puncture site.</li> <li>○ Haematomas.</li> <li>○ Pseudo-aneurysm under the puncture site.</li> <li>○ Application of pressure dressing. (Dawkins et al 2007)</li> </ul> </li> </ul>			
<p>3.1 Formal assessment of competence and knowledge is made and recorded in the relevant documentation.</p>			
<p>3.2 Training and support is available at ward level.</p>			

**FACTOR 4: PATIENT EDUCATION**

STATEMENT OF BEST PRACTICE	POOR		EXCELLENT
4.0 Patient/carers are informed of the rationale of the procedure (DOH, 2009. NMC, 2008).			
4.1 Information is available in the appropriate format and appropriate to the patient/carers requirements.			
4.2 Patients undergoing planned cerebral angiography have the opportunity to meet with a member of the radiology team prior to the procedure to ensure written consent has been obtained and to reassure the patient.			
4.3 Patient information is reviewed in accordance with local policy (at least every 2 years).			

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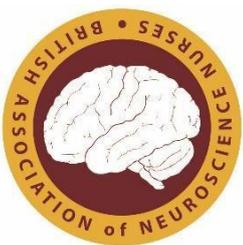
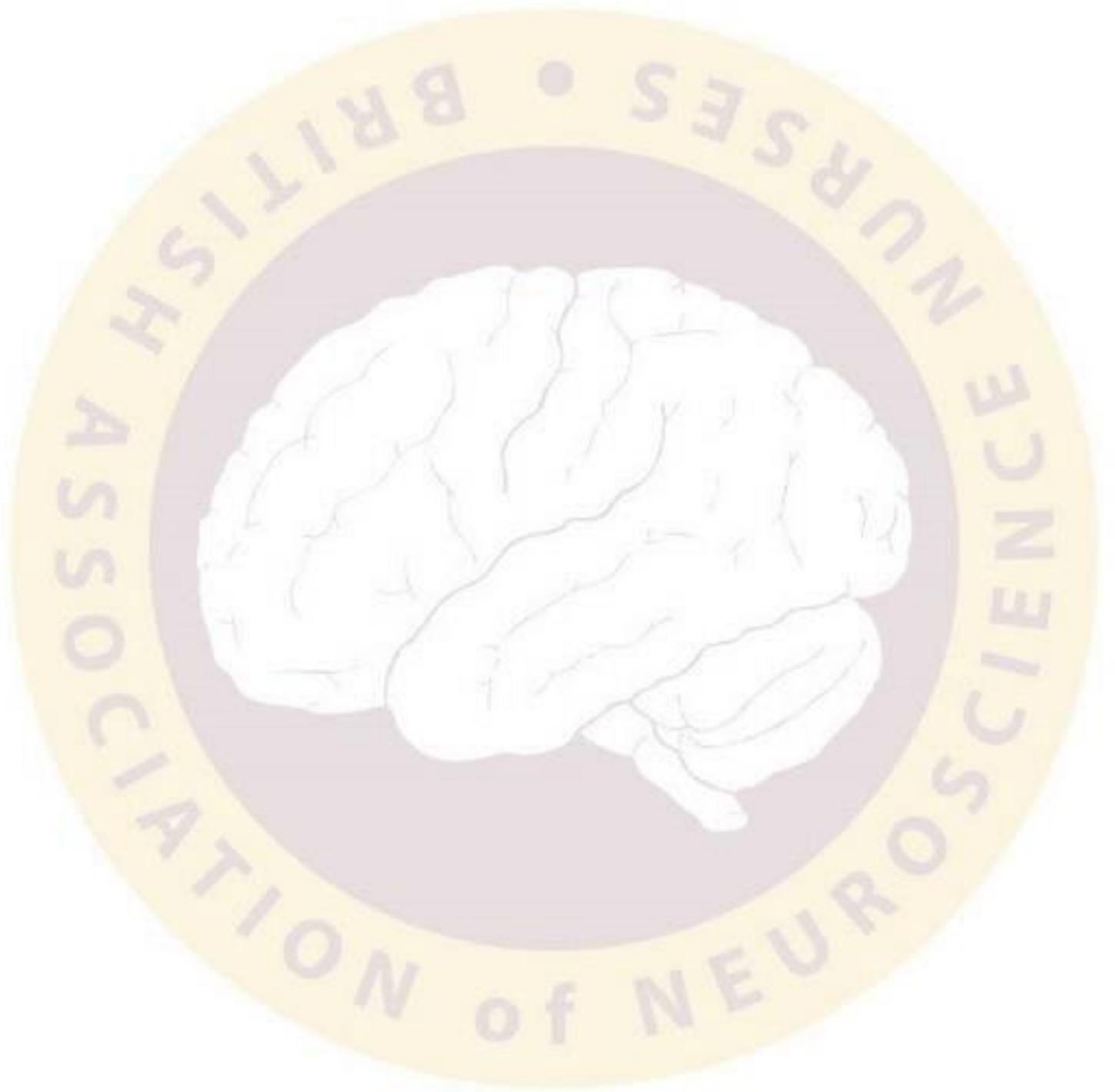
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## ACTION PLAN

Benchmark No. ....

<b>Resources required (what)</b>
<b>Roles and Responsibilities (who)</b>
<b>Risks and Constraints (measures to overcome)</b>
<b>Time Scale (by when)</b>  Start date ..... Finish Date .....
<b>Measures of Success</b>



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