

<b>Subject: Brain MRA Angiography Brain (70544 ,70545, 70546)</b>		<b>Original Effective Date: 12/13/17</b>
<b>Policy Number: 609</b>	<b>Revision Date(s): 11/21/18</b>	
<b>Review Date: 12/13/17, 12/13/18</b>		

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**DESCRIPTION OF PROCEDURE/SERVICE/PHARMACEUTICAL**

Magnetic Resonance Angiography (MRA) is a non-X-ray (no ionizing radiation) imaging scan that uses a strong magnetic field and radiofrequency waves to produce detailed images of vascular structures. MRA may be performed either without or with the injection of (gadolinium) contrast material into a vein. MRA images are electronically processed to remove surrounding non-vascular anatomy, so that only the arteries or veins of interest are displayed. These vascular images can be reconstructed and rotated in different planes. MRA can sometimes replace or can be used to supplement conventional invasive catheter angiography. Note: A single authorization covers either or both MRA and MRV.

**RECOMMENDATIONS**

**Aneurysm or Dissection**

- For evaluation of a known or suspected aneurysm, dissection or AVM
- For evaluation of headaches in a patient with a medical condition known to be associated with cerebral aneurysms or having a first degree family member with a history of cerebral aneurysm.
- For evaluation of known or suspected vertebrobasilar insufficiency (VBI) in patients with symptoms such as vision changes, vertigo, or abnormal speech.
- Screening for aneurysm in asymptomatic patients with two family members having a history of a known aneurysm. Can be repeated every 5-10 years.
- Screening for aneurysm in asymptomatic patients known to have fibromuscular dysplasia, polycystic kidney disease, neurofibromatosis, Ehlers-Danlos syndrome, Marfan's syndrome

known aortic coarctation, or other medical conditions not explicitly mentioned which have associations with cerebral aneurysms. Can be repeated every 5-10 years.

- Evaluation of pulsatile tinnitus

### **Embolism or other occlusions**

- For evaluation of suspected embolism or thrombus of the brain
- For evaluation of suspected central venous sinus thrombosis
- For distinguishing pseudotumor cerebri (benign intracranial hypertension) from central venous sinus thrombosis
- For evaluation of known or suspected vasculitis (e.g. Takayasu's arteritis)
- For evaluation of new TIA or stroke
- Evaluation of cognitive or neurologic problem or headache in sickle cell patient
- For evaluation of stroke risk in a patient with sickle cell and elevated transcranial Doppler studies when results will be used to guide treatment

### **Fistula**

- For evaluation of known or suspected arteriovenous malformation

### **Tumors**

- Differentiate between vascular and nonvascular tumors

### **Evaluate hemorrhage or trauma**

- To evaluate the source of hemorrhage
- To evaluate the vascular compromise due to trauma

### **Congenital**

- To evaluate congenital disorders of the blood vessels involving the brain

### **Pre/Post Procedural**

- Pre-operative/pre-procedural evaluation when blood vessel detail is needed
- Post-operative/post-procedural for routine recommended follow up or for potential post-operative complications.
- A repeat study may be needed to help evaluate a patient's progress after treatment procedure intervention or surgery. The reason for the repeat study and that it will affect care must be clear.

### **Combination - Brain MRA with Brain MRI and Neck MRA**

- Evaluation of new stroke symptoms
- Pulsatile tinnitus

## **ADDITIONAL CRITICAL INFORMATION**

The above medical necessity recommendations are used to determine the best diagnostic study based on a patient's specific clinical circumstances. The recommendations were developed using

evidence based studies and current accepted clinical practices. Medical necessity will be determined using a combination of these recommendations as well as the patient's individual clinical or social circumstances.

- Tests that will not change treatment plans should not be recommended.
- Same or similar tests recently completed need a specific reason for repeat imaging.

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	<b>Description</b>
70544	70544: MR (Magnetic Resonance Imaging) Angiography Brain without contrast)
70545	70545: MR (Magnetic Resonance Imaging) Angiography Brain with contrast)
70546	70546: MR (Magnetic Resonance Imaging) Angiography Brain without and with contrast)