AmeriHealth Caritas Louisiana

National Imaging Associates, Inc.	
Clinical guidelines **PELVIS MRA/MRV (Angiography/Venography)**	**Original Date: May 2008**
CPT Codes: 72198	**Last Revised Date: ~~April 2022~~March 2023**
Guideline Number: NIA_CG_039	**Implementation Date: January 202~~3~~4**

GENERAL INFORMATION

- *It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*
- ***Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.***

IMPORTANT NOTE: Abdomen/Pelvis Magnetic Resonance Angiography (MRA) ~~&~~with Lower Extremity MRA Runoff Requests: Two authorization requests are required, one Abdomen MRA, CPT code 74185 and one for Lower Extremity MRA, CPT code 73725 (a separate Pelvic MRA request is not required). This will provide imaging of the abdomen, pelvis, and both legs.

INDICATIONS FOR PELVIS MR ANGIOGRAPHY / MR VENOGRAPHY (MRA/MRV)

Arterial

Evaluation of known or suspected pelvic vascular disease

~~• Evidence of vascular abnormality seen on prior imaging studies~~
~~For pelvic extent of known large vessel diseases (abdominal aorta, inferior vena cava, superior/inferior mesenteric, celiac, splenic, renal or iliac arteries/veins), e.g.,~~ **Abdominal Aortic Aneurysm (AAA) (also approve Abdomen MRA):**

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- For asymptomatic known or suspected abdominal aortic aneurysms, ultrasound should be done prior to advanced imaging. Only when the ultrasound is inconclusive, is advanced imaging with CT or MRI needed
- For symptomatic known or suspected AAA (such as recent-onset abdominal pain or back pain, particularly in the presence of a pulsatile or epigastric mass, suspected dissection, or significant risk factors for AAA) CTA/MRA is appropriate and generally preferred over CT/MRI. (If contrast is contraindicated or other clinical indications for abdomen and/or pelvic imaging are present, then CT/MR may be approved rather than CTA/MRA)
- If there is known complex vascular anatomy, CTA/MRA may be needed.

Other vascular abnormalities seen on prior imaging studies:

- Initial evaluation of inconclusive vascular findings on prior imaging
- Follow-up of known visceral vascular conditions in the pelvis (such as aneurysm, dissection, compression syndromes, arteriovenous malformations (AVMs), fistulas, intramural hematoma, and vasculitis)

~~- For suspected pelvic extent of aortic dissection (approve CTA/MRA abdomen and pelvis)~~

~~- For evaluation of known or suspected aneurysms limited to the pelvis or evaluating pelvic extent of aortic aneurysm[1-3]~~

- ~~Known or suspected~~ For assessment in patients with spontaneous coronary artery dissection (SCAD), can be done at time of coronary angiography (also approve MRA abdomen)[1]
- Vascular invasion or displacement by tumor (conventional CT or MRI also appropriate)[2]
- For known large vessel diseases (inferior vena cava or iliac arteries/veins), e.g., aneurysm/dissection (non-aortic disease), arteriovenous malformations (AVMs), and fistulas, intramural hematoma, and vasculitis[3-5]
    - Surveillance is done with ultrasound at intervals similar to AAA, however, CTA/MRA rather than CT/MRI is needed for non-aortic disease when ultrasound is inconclusive[6]
- Follow-up of iliac artery aneurysm ~~AND equivocal or indeterminate Doppler~~when ultrasound ~~results~~is inconclusive and ~~contraindication~~CI to CTA is provided (see Background)
    - ~~If repeat Doppler ultrasound is indeterminate~~
- Suspected complications of known aneurysm as evidenced by clinical findings such as new onset of pelvic pain

~~- Follow-up of iliac artery aneurysm:~~

- ~~Every three years for diameter 2.0 – 2.9 cm~~
- ~~Annually if between 3.0-3.4 if Doppler ultrasound is inconclusive~~
- ~~If >3.5 cm, < six month follow-up (and consider intervention)[3]~~

- ~~To determine a vascular source of retroperitoneal hematoma or hemorrhage in the setting of trauma, tumor invasion, fistula or vasculitis when CTA is contraindicated (CT rather than MRA/CTA is the modality of choice for diagnosing hemorrhage[4])~~
- ~~For known or suspected mesenteric ischemia/ischemic colitis when CTA is contraindicated (can approve MRA abdomen and pelvis)[5]~~
- ~~Vascular invasion or displacement by tumor (Conventional CT or MRI also appropriate)[6]~~

Vascular ischemia or hemorrhage:

- **To determine the vascular source of retroperitoneal hematoma or hemorrhage when CT is insufficient to determine the source and CTA is contraindicated (may also approve Abdomen MRA; CT rather than MRA/CTA is the modality of choice for diagnosing hemorrhage)[7]**
- **For evaluation of known or suspected mesenteric ischemia/ischemic colitis when CTA is contraindicated (can approve MRA abdomen and pelvis)[8]**

For patients at increased risk for vascular abnormalities (CTA or MRA):

- For patients with fibromuscular dysplasia (FMD), a one-time vascular study of the abdomen and pelvis ~~(CTA or MRA)[7]~~[9]
- For patients with vascular Ehlers-Danlos syndrome or Marfan syndrome ~~recommend~~, a one-time **vascular** study of the abdomen and pelvis ~~(CTA/MRA)~~
- For Loeys-Dietz ~~imaging at least every two years[8]~~**, imaging at diagnosis and then every two years, more frequently if abnormalities are found (Imaging may include head, neck, chest, abdomen and pelvis)[10, 11]**

- ~~For assessment in patients with spontaneous coronary artery dissection (SCAD) can be done at time of coronary angiography (also approve CTA pelvis)[9]~~

Venous

- For evaluation of suspected pelvic vascular disease or pelvic congestive syndrome when findings on ultrasound are indeterminate (MR or CT venography (CTV) may be used as the initial study for evaluating pelvic thrombosis or thrombophlebitis)[~~10, 11~~12, 13]

- ~~For diffuse, unexplained lower extremity edema with negative or inconclusive ultrasound[12]~~
  - ~~For evaluation of venous thrombus in the inferior vena cava[13]~~**For unexplained lower extremity edema (typically unilateral or asymmetric) with negative or inconclusive ultrasound[14]**
  - **For evaluation of venous thrombus in the inferior vena cava[15]**
  - Venous thrombosis if previous studies have not resulted in a clear diagnosis[~~14~~16]
  - Vascular invasion or displacement by tumor (Conventional CT or MRI also appropriate)[~~6~~2]
  - For known/suspected May-Thurner Syndrome (iliac vein compression syndrome)[~~15, 16~~17, 18]

Pre-operative evaluation~~17 19~~19-21

- Evaluation prior to interventional vascular for luminal patency versus restenosis due to conditions such as atherosclerosis, thromboembolism, and intimal hyperplasia
- Evaluation prior to endovascular aneurysm repair (EVAR)
- Imaging of the deep inferior epigastric arteries for surgical planning (breast reconstruction surgery) include CTA/MRA abdomen~~18~~
- Prior to uterine artery embolization for fibroids~~20~~22
- **Prior to solid organ transplantation when vascular anatomy is needed**

Post-operative or post-procedural evaluation

- Post-operative complications of renal transplant allograft~~21~~23
- Endovascular/interventional vascular procedures for luminal patency versus restenosis due to conditions such as atherosclerosis, thromboembolism, and intimal hyperplasia
- Post-operative complications, e.g., pseudoaneurysms related to surgical bypass grafts, vascular stents, and stent-grafts in the pelvis
- Follow-up for post-endovascular repair (EVAR) or open repair of abdominal aortic aneurysm (AAA~~) and iliac artery aneurysms~~)[24] **or abdominal extent of iliac artery aneurysms (CT preferred unless MRA/CTA is needed for procedural planning or to evaluate complex anatomy)**
    - Routine, baseline study (post-op/intervention) is warranted within ~~1-3~~**the first month after EVAR:**
    - **Repeat in 6** months~~2, 22 (abdomen and pelvis MRA when CTA~~ **if type II endoleak is seen (continue every 6 months x 24 months, then annually)**
    - **Repeat in 12 months if no endoleak or sac enlargement is seen**
    - **If neither endoleak nor AAA enlargement is seen on imaging one year after EVAR, CT is needed only if US** is inconclusive ~~or cannot be performed~~**for annual surveillance (until year 5 as below)**

~~- Asymptomatic at six (6) month intervals, for one (1) year, then annually~~
    - ~~Symptomatic/complications~~**Non-contrast CT of entire aorta (abdomen and pelvis) is needed every 5 years after open repair of AAA or EVAR**
    - **If symptomatic or imaging shows increasing, or new findings** related to stent graft – more frequent imaging may be needed
    - **For suspected complication such as: new-onset lower extremity claudication, ischemia, or reduction in ABI after aneurysm repair**
- Follow-up study may be needed to help evaluate a patient's progress after treatment, procedure, intervention, or surgery. Documentation requires a medical reason that clearly indicates why additional imaging is needed for the type and area(s) requested.

Other Indications

Further evaluation of indeterminate findings on prior imaging (unless follow up is otherwise specified within the guideline):

- For initial evaluation of an inconclusive finding on a prior imaging report that requires further clarification
- One follow-up exam of a prior indeterminate MR/CT finding to ensure no suspicious interval change has occurred. (No further surveillance unless specified as highly suspicious or change was found on last follow-up exam)

Chest MRA, Abdomen MRA, or Abdomen/Pelvis MRA combo

- Acute aortic dissection (CTA or CT preferred)
- Takayasu's arteritis
- Marfan syndrome
- Loeys-Dietz syndrome
- Spontaneous coronary artery dissection (SCAD)
- Vascular Ehlers-Danlos syndrome
- Post-operative complications
- Significant post-traumatic or post-procedural vascular complications reasonably expected to involve the chest and/or abdomen and/or pelvis

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BACKGROUND

Magnetic resonance angiography (MRA) generates images of the arteries that can be evaluated for evidence of stenosis, occlusion, or aneurysms. It is used to evaluate the arteries of the abdominal aorta and the renal arteries. Contrast-enhanced MRA requires the injection of a contrast agent which results in very high-quality images. It does not use ionizing radiation, allowing MRA to be used for follow-up evaluations.

OVERVIEW

Bruits: Blowing vascular sounds heard over partially occluded blood vessels. Abdominal bruits may indicate partial obstruction of the aorta or other major arteries such as the renal, iliac, or femoral arteries. Associated risks include but are not limited to; renal artery stenosis, aortic aneurysm, atherosclerosis, AVM, or coarctation of aorta.

MRA and Chronic Mesenteric Ischemia – Contrast-enhanced MRA is used for the evaluation of chronic mesenteric ischemia, including treatment follow-up. Chronic mesenteric ischemia is usually caused by severe atherosclerotic disease of the mesenteric arteries, e.g., celiac axis, superior mesenteric artery, inferior mesenteric artery. At least two of the arteries are usually affected before the occurrence of symptoms such as abdominal pain after meals and weight loss. MRA is the technique of choice for the evaluation of chronic mesenteric ischemia in patients with impaired renal function.

MRA and Abdominal Aortic Aneurysm Repair – MRA may be performed before endovascular repair of an abdominal aortic aneurysm. Endovascular repair of abdominal aortic aneurysm is a minimally invasive alternative to open surgical repair, and its success depends on precise measurement of the dimensions of the aneurysm and vessels. This helps to determine selection of an appropriate stent-graft diameter and length to minimize complications, such as endoleakage. MRA provides images of the aorta and branches in multiple 3D projections and may help to determine the dimensions needed for placement of an endovascular aortic stent graft. MRA is noninvasive and rapid and may be used in patients with renal impairment.

Iliac aneurysm ultrasound screening intervals:

- **Aneurysm size 2.0-2.9 cm, every 3 years**
- **Aneurysm size 3.0-3.4 cm, annually**
- **Aneurysm size > 3.5 cm, every 6 months**[6]

MRI/CT and acute hemorrhage: MRI is not indicated and MRA/MRV (MR Angiography/ Venography) is rarely indicated for evaluation of intraperitoneal or retroperitoneal hemorrhage, particularly in the acute setting. CT is the study of choice due to its availability, speed of the study, and less susceptibility to artifact from patient motion. Advances in technology have allowed conventional CT to not just detect hematomas but also the source of acute vascular extravasation. In special cases, finer vascular detail to assess the specific source vessel responsible for hemorrhage may require the use of CTA. CTA in the diagnosis of lower gastrointestinal bleeding is such an example.[23][25]

MRA/MRV is often utilized in non-acute situations to assess vascular structure involved in atherosclerotic disease and its complications, vasculitis, venous thrombosis, vascular congestion, or tumor invasion. Although some of these conditions may be associated with hemorrhage, it is usually not the primary reason why MRI/MRA/MRV is selected for the evaluation. A special condition where MRI may be superior to CT for evaluating hemorrhage is to detect an underlying neoplasm as the cause of bleeding.[4][7]

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POLICY HISTORY

Date	Summary
March 2023	• Aneurysm: specified guidance on initial imaging and screening intervals with emphasis on requiring ultrasound on initial imaging and indications for advanced imaging, specified guidance on post-repair imaging • Other vascular abnormalities: clarified indication for non-aortic vascular conditions • Transplant: added section • General Information moved to beginning of guideline with added statement on clinical indications not addressed in this guideline • Added statement regarding further evaluation of indeterminate findings on prior imaging
April 2022	• Added "(abdomen and pelvis MRA when CTA is inconclusive or cannot be performed)
~~April 2021~~	• ~~Updated for concordance w/ CTA abdomen/pelvis~~
~~May 2020~~	• ~~Added suspected vascular cause of retroperitoneal hemorrhage or hematoma~~ • ~~Added pelvic congestion syndrome~~ • ~~Added for evaluation of diffuse unexplained LE edema with neg ultrasound~~ • ~~Added FMD, Ehlers-Danlos, Marfans, Loeys-Dietz~~ • ~~Added for surgical planning breast reconstruction Deep inferior epigastric arteries~~ • ~~Added prior to uterine artery embolization~~ • ~~Added indications for combo imaging~~
~~May 2019~~	• ~~Modified the follow up for iliac aneurysm~~ • ~~Added 'chronic' to mesenteric ischemia indication; added acute mesenteric ischemia should be assessed with CTA unless contraindicated~~ • ~~Added indications for post-operative complications of renal transplant allograft; venous thrombus in inferior vena cava; suspected May-Thurner syndrome~~

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ADDITIONAL RESOURCES

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Reviewed / Approved by NIA Clinical Guideline Committee

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~~**GENERAL INFORMATION**~~

~~*It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*~~

~~**Disclaimer:** Magellan Healthcare service authorization policies do not constitute medical advice and are not intended to govern or otherwise influence the practice of medicine. These policies are not meant to supplant your normal procedures, evaluation, diagnosis, treatment and/or care plans for your patients. Your professional judgement must be exercised and followed in all respects with regard to the treatment and care of your patients. These policies apply to all Magellan Healthcare subsidiaries including, but not limited to, National Imaging Associates ("Magellan"). The policies constitute only the reimbursement and coverage guidelines of Magellan. Coverage for services varies for individual members in accordance with the terms and conditions of applicable Certificates of Coverage, Summary Plan Descriptions, or contracts with governing regulatory agencies. Magellan reserves the right to review and update the guidelines at its sole discretion. Notice of such changes, if necessary, shall be provided in accordance with the terms and conditions of provider agreements and any applicable laws or regulations.~~