Duplex Scanning

Medicare Advantage Medical Policy #MA-030
Original Effective Date: 01/01/2025
Current Effective Date: 01/01/2026

Applies to all products administered or underwritten by the Health Plan, unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

Note: Any code listed on a medical policy will require prior authorization.

When Services May Be Eligible for Coverage

Coverage for eligible medical treatments or procedures, drugs, devices or biological products may be provided only if:

- *Benefits are available in the member's contract/certificate, and*
- *Medical necessity criteria and guidelines are met.*

Arterial inflow and venous outflow of abdominal, pelvic, scrotal contents and/or retroperitoneal organs:

Based on review of available data, the Health Plan may consider duplex scanning of arterial inflow and venous outflow of abdominal, pelvic, scrotal contents and/or retroperitoneal organs **eligible for coverage**** when performed for the following indications:

- To evaluate patients presenting with signs or symptoms such as epigastric or periumbilical postprandial pains that last for 1-3 hours and/or with associated weight loss resulting from decreased oral intake which may indicate chronic intestinal ischemia.
- To evaluate patients presenting with an acute onset of crampy or steady epigastric and periumbilical abdominal pain combined with minimal or no findings on abdominal examination and a high leukocyte count to rule out acute intestinal ischemia.
- To evaluate a patient who has sustained trauma to the abdominal, pelvic and/or retroperitoneal area resulting in a possible injury to the arterial inflow and/or venous outflow of the abdominal, pelvic and/or retroperitoneal organs.
- To evaluate a suspicion of an aneurysm of the renal artery or other visceral artery based on a patient's signs and symptoms of abdominal pain or noted as an incidental finding on another radiological examination.
- To evaluate a hypertensive patient who has failed first line antihypertensive drug therapy in order to rule out renovascular disease such as renal artery stenosis, renal arteriovenous fistula, or renal aneurysm as a cause for the uncontrolled hypertension.
- To evaluate a patient with signs and symptoms of portal hypertension. These may include abdominal discomfort and distention, abdominal collaterals (caput medusae), abdominal bruit, ascites, encephalopathy, esophageal varices, splenomegaly, etc.
- To evaluate patients suspected of an embolism, thrombosis, hemorrhage or infarction of the portal vein, renal vein and/or renal artery. These patients may present with many different

symptoms such as abdominal discomfort, hematuria, cardiac failure, diastolic hypertension, jaundice, fatigue, weakness, malaise, etc.

- To evaluate patients with pain or swelling of scrotal contents which may be as a result of suspected obstruction in arterial inflow or venous outflow to the testicles or related structures. The use of duplex scanning of scrotal contents should only be performed after conventional diagnostic test, such as ultrasound, have proven to be "non-definitive".
- To evaluate patients for complications of transplanted organ: kidney, liver or pancreas.
- To evaluate patients diagnosed with hypertensive and normotensive renovascular disease with impaired renal function.

Aorta, inferior vena cava, iliac vasculature, or bypass grafts:

Based on review of available data, the Health Plan may consider duplex scanning of aorta, inferior vena cava, iliac vasculature, or bypass grafts to be **eligible for coverage**** when performed for the following indications:

- To confirm a suspicion of an abdominal or iliac aneurysm raised by a physical examination or noted as an incidental finding on another radiological examination. The physical examination usually reveals a palpable, pulsatile and nontender abdominal mass.

- To monitor aneurysms based on the following criteria:
  - Stable aortic aneurysm without prior repair:
    - 4.5 cm or greater: every 6 months
    - 3.5 to 4.4 cm: 6 months and 12 months following diagnosis, then annually
    - 3 to 3.4 cm: At one year following diagnosis, then every 3 years
    - 2.6 to 2.9cm: every 5 years
  - Stable iliac aneurysm without prior repair:
    - 3 cm or greater: every 6 months
    - Less than 3 cm: annually
  - Stable aneurysms treated with endografts:
    - Duplex arterial ultrasound annually
  - Stable aneurysms treated with open surgical repair: every 5 years

- To evaluate patients presenting with signs and symptoms of a thoracic aneurysm. The symptoms usually associated with a thoracic aneurysm are substernal chest pain, back or neck pain described as deep and aching or throbbing as well as symptoms due to pressure on the trachea (dyspnea, stridor, a brassy cough), the esophagus (dysphagia), the laryngeal nerve (hoarseness), or superior vena cava (edema in neck and arms, distended neck veins).

- To evaluate patients presenting with signs and symptoms of an abdominal aneurysm. The symptoms usually associated with an abdominal aneurysm are constant pain located in the midabdomen, lumbar region or pelvis which can be severe and may be described as having a

boring quality. A leaking aneurysm is characterized by lower back pain, whereas, acute pain and hypotension usually occur with rupture.

- To evaluate a patient presenting with signs and symptoms suggestive of an aortic dissection. A patient with an aortic dissection has symptoms such as a sudden onset of severe, continuous tearing or crushing pain in the chest that radiates to the back and is generally unaccompanied by EKG evidence of a myocardial infarction. On physical examination, the patient is agitated, has a murmur of aortic regurgitation, asymmetric diminution of arterial pulses and systolic bruits over the areas where the aortic lumen is narrowed.

- Initial evaluation of a patient presenting with signs and symptoms such as intermittent claudication in the calf muscles, thighs and/or buttocks, rest pain, weakness in legs or feeling of tiredness in the buttocks, etc. which may suggest occlusive disease of the aorta and iliac arteries. The physical examination usually reveals decreased or absent femoral pulses, a bruit over the narrowed artery, and possibly muscle atrophy. If severe occlusive disease exists, the patient will have atrophic changes of the skin, thick nails, coolness of the skin with pallor and cyanosis.

- To evaluate patients suspected of an abdominal or thoracic arterial embolism or thrombosis. These patients usually present with severe pain in one or both lower extremities, numbness, and symmetric weakness of the legs, with absent or severely reduced pulses below the embolism site.

- To evaluate patients presenting with complaints of pain in the calf or thigh, slight swelling in the involved leg, tenderness of the iliac vein, etc. which may suggest phlebitis or thrombophlebitis of the iliac vein or inferior vena cava.

- To evaluate a patient who has sustained trauma to the chest wall and/or abdomen resulting in a possible injury to the aorta, inferior vena cava and/or iliac vasculature.

- To assess the continued patency of both native venous and prosthetic arterial grafts following surgical intervention. Usually this is performed at 6 weeks, 3 months, then every six (6) months.

- To monitor the sites of various percutaneous interventions, including, but not limited to angioplasty, thrombolysis/thrombectomy, atherectomy, or stent placement. Usually this is performed at 6 weeks, 3 months, then every six (6) months.

When Services Are Considered Not Medically Necessary

Based on review of available data, the Health Plan considers duplex scanning to be **not medically necessary**** for conditions in which another diagnostic test is recommended.

Background/Overview

Duplex imaging is a combination of direct vascular ultrasound imaging and Doppler interrogation of both arterial and venous flow. In many clinical scenarios, duplex imaging is recommended before advanced vascular imaging because it is readily available, portable, not associated with radiation exposure, and lower cost. Duplex imaging is, however, highly operator dependent. Furthermore, in evaluation prior to revascularization, duplex imaging may not need to be performed if advanced imaging will also be required.

Phases of the care continuum are broadly defined as follows:

- Screening is testing in the absence of signs or symptoms of disease
- Diagnosis is testing based on a reasonable suspicion of a particular condition or disorder, usually due to the presence of signs or symptoms
- Management is testing to direct therapy of an established condition, which may include preoperative or postoperative imaging, or imaging performed to evaluate the response to nonsurgical intervention.
- Surveillance is the periodic assessment following completion of therapy, or for monitoring known disease that is stable or asymptomatic

Given its wide availability and ability to diagnose or exclude a wide variety of causes of symptoms, ultrasound is generally the initial modality used in the evaluation of abdominal aortic aneurysm (AAA). Several studies have reported high sensitivity and specificity, 94%-100% and 98%-100%, respectively.

A high-quality evidence-based guideline recommends follow up surveillance of AAA at 12-month intervals for AAA of 35 to 44 mm in diameter and at 6-month intervals for AAA 45 to 54 mm in diameter. Following endovascular repair, surveillance is recommended after 1 month, 12 months, and annually thereafter. Shorter intervals may be appropriate when there are abnormal findings warranting closer surveillance. If there is no evidence of endoleak or AAA sac enlargement in the first year after endovascular repair, using duplex ultrasound for annual screening supplemented with non-contrast CT at 5-year intervals may be considered. Following open surgical repair, surveillance may be considered at approximately 5-year intervals and may be performed with duplex ultrasound or CT.

Four randomized trials compared the outcomes of population-based studies with or without screening for AAA. The prevalence of AAA was 5.5% in these studies, and AAA screening in men greater than 65 years of age was associated with a statistically significant decline in AAA-related mortality over 10 years. No similar benefit was seen in women, though women were included in only 1 of the trials and comprised a small number of patients (9342 out of a total 127,891 patients). Rescreening of patients has demonstrated few positive results, suggesting that a single ultrasound scan should be sufficient for screening. The Society for Vascular Surgery strongly recommends a one-time screening duplex ultrasound in patients 65-75 with a first

degree relative with AAA. They do note that screening in women is more controversial due to limited data being available and note that the USPSTF recommended against screening women aged 65-75 who had never smoked, and stating that there was insufficient evidence to recommend for or against screening in women aged 65-75 with a smoking history.

References

1. FCSO reference LCD number(s) – L28863, L29159, L29420
2. American Medical Association. (2001). Principles of CPT® Coding (2nd ed).
3. Coding and Payment Guide for Radiology Services. (2003). An essential coding, billing, and reimbursement resource for the Radiologist (11th ed.). Ingenix St Anthony Publishing/Medicode.
4. Fauci, A. S., Braunwald, E., Isselbacher, K. J., Wilson, J. D., Martin, J. B., Kasper, D. L., Hauser, S. L., & Longo, D. L. (Eds.). Harrison's principles of internal medicine (14th ed.). New York: McGraw-Hill.
5. Hockerberger, R., Marx, J., & Walls, R. (Ed). (2002). Rosen's emergency medicine: concepts and clinical practice(5th ed.). St. Louis: Mosby, Inc. Used to provide appropriate indication for procedure.
6. Johansson, M., Jenson, G., Aurellm, Friberg, P., Herlitz, H., Klingenstierna, H., et al. Evaluation of duplex ultrasound and captopril renography for detection of renovascular hypertension. Kindy Int 2000; 58(2): 774-82.
7. Mohler, E.R., Gornik, H.L., Gerhard-Herman, M., et al. (2012). ACCF/ACR/AIUM/ASE/ASN/ICAVL/SCAI/SCCT/SIR/SVM/SVS 2012 Appropriate use criteria for peripheral vascular ultrasound and physiological testing part I: arterial ultrasound and physiological testing. *Journal of the American College of Cardiology.* 60(3):242-276.
8. Tabers cyclopedic medical dictionary (17th ed.). (1989). Philadelphia: F. A. Davis Company.
9. Tierney, L. M., McPhee, S. J., & Papadakis, M. A. (Eds.). (1998). Current medical diagnosis and treatment (37th ed.). Stamford: Appleton & Lange.
10. Erbel R, Aboyans V, Boileau C, et al. 2014 ESC Guidelines on the diagnosis and treatment of aortic diseases: Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult. The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC). Eur Heart J. 2014;35(41):2873-926.
11. Chaikof EL, Dalman RL, Eskandari MK, et al. The Society for Vascular Surgery practice guidelines on the care of patients with an abdominal aortic aneurysm. J Vasc Surg. 2018;67(1):2-77.e2.
12. Waxman AD, Bajc M, Brown M, et al. Appropriate use criteria for ventilation-perfusion imaging in pulmonary embolism: summary and excerpts. J Nucl Med. 2017;58(5):13n-5n.
13. Optum, Inc. (2025). *InterQual® Imaging Criteria: Abdomen and Pelvis – Duplex Scan, Abdominal Aorta (AAA)* (Mar. 2025 Release).

Policy History

Original Effective Date: 01/01/2025
Current Effective Date: 06/01/2025
09/26/2024 Utilization Management Committee Review. New policy.
03/18/2025 Utilization Management Committee Review. Coverage criteria for monitoring of aneurysms added. Background information updated.
10/21/2025 Additional criteria for monitoring abdominal aortic aneurysms less than 3cm added.
Next Scheduled Review Date: 10/2026

Coding

The five character codes included in this medical policy are obtained from Current Procedural Terminology (CPT®)‡, copyright 2024 by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.

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Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	93975, 93976, 93978, 93979
HCPCS	No codes
ICD-10 Diagnosis	All related diagnoses

**Medically Necessary (or "Medical Necessity") - Health care services, treatment, procedures, equipment, drugs, devices, items or supplies that a Provider, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are:

A. In accordance with nationally accepted standards of medical practice;

B. Clinically appropriate, in terms of type, frequency, extent, level of care, site and duration, and considered effective for the patient's illness, injury or disease; and
C. Not primarily for the personal comfort or convenience of the patient, physician or other health care provider, and not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient's illness, injury or disease.

For these purposes, "nationally accepted standards of medical practice" means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, Physician Specialty Society recommendations and the views of Physicians practicing in relevant clinical areas and any other relevant factors.

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NOTICE: If the Patient's health insurance contract contains language that differs from the Health Plan's Medical Policy definition noted above, the definition in the health insurance contract will be relied upon for specific coverage determinations.

NOTICE: Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Health Plan recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.

NOTICE: Federal and State law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage.

NOTICE: All codes listed on the Medical Policy require prior authorization. This ensures appropriate utilization and alignment with current clinical guidelines.

Medicare Advantage Members

Established coverage criteria for Medicare Advantage members can be found in Medicare coverage guidelines in statutes, regulations, National Coverage Determinations (NCD)s, and Local Coverage Determinations (LCD)s. To determine if a National or Local Coverage

Determination addresses coverage for a specific service, refer to the Medicare Coverage Database at the following link: https://www.cms.gov/medicare-coverage-database/search.aspx. You may wish to review the Guide to the MCD Search here: https://www.cms.gov/medicare-coverage-database/help/mcd-bene-help.aspx.

When coverage criteria are not fully established in applicable Medicare statutes, regulations, NCDs or LCDs, internal coverage criteria may be developed. This policy is to serve as the

summary of evidence, a list of resources and an explanation of the rationale that supports the adoption of this internal coverage criteria.

InterQual®
Interqual® is utilized as a source of medical evidence to support medical necessity and level of care decisions. InterQual® criteria are intended to be used in connection with the independent professional medical judgment of a qualified health care provider. InterQual® criteria are clinically based on best practice, clinical data, and medical literature. The criteria are updated continually and released annually. InterQual® criteria are a first-level screening tool to assist in determining if the proposed services are clinically indicated and provided in the appropriate level or whether further evaluation is required. The utilization review staff does the first-level screening. If the criteria are met, the case is approved; if the criteria are not met, the case is referred to the medical director.