



VASCULAR TECHNOLOGY

PROFESSIONAL PERFORMANCE GUIDELINES

Screening for Abdominal Aortic Aneurysms (AAA)

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PURPOSE

Abdominal aortic duplex is performed to determine the presence or absence of aneurysmal disease in participants without specific signs or symptoms. Screening does not replace diagnostic examinations for symptomatic individuals.

APPROPRIATE INDICATIONS

- Screening exams do not require specific signs or symptoms
- Select participants who will benefit most from screening on the basis of risk factors, age and family history such as:
 - Men and women aged 65 to 75 years old with current or previous history of smoking
 - Men aged 65 to 75 years old who have never smoked
 - Family history of peripheral vascular disease (PVD)
 - Hypertension
 - History of smoking
 - Hyperlipidemia
 - Obesity

CONTRAINDICATIONS AND LIMITATIONS

- Participants who have been previously diagnosed with aortic aneurysmal disease (a diagnostic study is recommended instead of screening)
- Participants who have been previously diagnosed with peripheral arterial aneurysmal disease (a diagnostic study is recommended instead of screening)
- Patient body habitus
- Large hiatal hernia preventing complete visualization of the aorta

PARTICIPANT PREPARATION

- Performing the screening in the morning may allow for a more optimal exam.
- A six to eight hour fast may facilitate visualization
- Participants should be asked to wear clothing that can be pulled down at the waist without undressing
- Participants should be asked to wear clothing that can be pulled up from the waist to the sternum without undressing

PARTICIPANT COMMUNICATION

- Respond to questions and concerns about the abdominal aortic examination
- Participant education is one of the most important components of a vascular screening program
- Inform participants how results of the screening will be disseminated

PARTICIPANT ASSESSMENT

- Obtain a risk factor checklist prior to screening to document the following:
 - Age
 - Family history of AAA
 - Family history of PVD
 - Diabetes
 - Hypertension
 - History of smoking
 - Hyperlipidemia
 - Obesity

Patients with known aneurysmal disease should not participate in abdominal aortic aneurysm screening.

PARTICIPANT POSITIONING

- Supine position
- Decubitus positions may be utilized

INSTRUMENTATION

- Duplex ultrasound with color flow Doppler
- Imaging frequencies appropriate for the structures evaluated
 - Typically 2.0-6.0 MHz
 - Curvilinear transducer or phased array transducer
- Visual display and a permanent recording of the image or images

EXAM PROTOCOL

Throughout each examination, the sonographer or examiner should:

- Observe the sonographic characteristics of the normal and abnormal tissues, structures, and blood flow to allow necessary adjustments to optimize exam quality
- Analyze sonographic findings to ensure that sufficient data is provided to the physician to render a final diagnosis
- Sweep through the native abdominal aorta with 2-D ultrasound from the level of the diaphragm through the common iliac artery bifurcation in the transverse plane to evaluate
 - Proximal abdominal aorta
 - Mid abdominal aorta
 - Distal abdominal aorta

- Common iliac artery bifurcation

Normal Exam:

- Minimum of one transverse image (defined as perpendicular to the long axis of the aorta) with the single widest outer wall to outer wall diameter measurement.

Suspected Abnormal Exam:

- Minimum of one transverse image (defined as perpendicular to the long axis of the aorta) with the single widest outer wall to outer wall diameter measurement.
- One transverse image (defined as perpendicular to the long axis of the aorta) with the single widest outer wall to outer wall diameter measurement of a non-dilated segment for comparison.
- Additional images may be taken per facility protocol

REVIEW OF SCREENING ABDOMINAL AORTA DUPLEX EXAM FINDINGS

The sonographer or examiner should:

- Review data acquired during the examination to ensure that a complete and comprehensive evaluation has been performed and documented.

PRESENTATION OF SCREENING RESULTS

- Provide preliminary results to interpreting physician.
- Present record of diagnostic images, data, explanations, and technical worksheet to the interpreting physician for use in rendering a diagnosis and for archival purposes.
- Have a protocol in place in the event of a critical finding (i.e., aortic dissection, aneurysm ≥ 7 cm).

EXAM TIME RECOMMENDATIONS

High quality, accurate results are fundamental elements of the lower extremity venous insufficiency evaluation. A combination of indirect and direct exam components is the foundation for maximizing exam quality and accuracy.

- Indirect exam components include:
 - Pre-exam activities: obtaining previous exam data, initiating exam worksheet and paperwork, equipment and exam room preparation, patient assessment and positioning, patient communication
 - Post-exam activities: exam room cleanup, compiling and processing exam data for preliminary and/or formal interpretation, and exam billing activities.
- Direct exam components include:
 - Equipment optimization and the actual hands-on, examination process.

- While study times may vary depending on testing protocols, patient condition, and clinical complexity of the evaluation being performed, these are the times necessary to provide a quality diagnostic evaluation. Listed are the recommended examination times for performing each CPT related to this guideline, which were derived from the direct time inputs from the Resource Based Relative Value Scale (RBRVS).
 - 76706 48 minutes

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