Peripheral vascular disease (PVD)

ICD-10-CM

Clinical overview

Disclaimer

This document is intended for physicians and office staff. The information here is not intended to serve as official coding or legal advice.

All coding should be considered on a case-by-case basis and should be supported by medical necessity and the appropriate documentation in the medical record.

Definition

"Peripheral vascular disease" is a broad term that refers to diseases of the blood vessels outside the heart and brain. These diseases, over time, cause occlusion of the peripheral blood vessels by the following mechanisms:

- Inflammation: narrowing of blood vessels
- Atherosclerosis (fatty deposits): blockage of blood vessels
- Thrombus (clot) formation: blockage of blood vessels

Occlusion of the peripheral blood vessels results in restriction of blood flow.

Peripheral venous (vein) disease

The most common type of peripheral venous disease is deep vein thrombosis (DVT), or clot. See the separate DVT coding guideline.

Peripheral arterial (artery) disease (PAD)

This guideline focuses on the most common type of peripheral vascular disease: peripheral arterial disease.

- PAD is most commonly caused by atherosclerosis or "hardening of the arteries." This problem occurs when fatty material (plaque) builds up along the walls of the arteries (similar to coronary artery disease), causing narrowing of the arteries that reduces blood flow. In addition, the arterial walls become stiffer and cannot widen (dilate) properly, which also interferes with normal blood flow.
- People with PAD often also have coronary artery disease (CAD) and, thus, have a higher risk of heart attack or stroke. PAD mainly affects the arteries of the arms, legs, kidneys and stomach, but usually begins in the legs.

Causes and risk factors

- Atherosclerosis
- Diabetes mellitus
- Smoking
- Abnormal cholesterol levels
- Hyperlipidemia
- Heart disease
- High blood pressure/hypertension
- Obesity
- Older age
- Family history of PAD

Signs and symptoms (usually affect lower extremities)

- Most common symptom of PAD is intermittent claudication (pain or discomfort in the lower extremities and buttocks that occurs with exercise/activity and resolves with rest)
- Diminished pulses in legs or feet
- Decreased blood pressure in the affected limb(s)
- Arterial bruits (a whooshing sound heard with a stethoscope over the artery)
- Ulceration and sores with poor healing
- Hair loss on the legs and feet
- Discoloration of skin (bluish, dusky)
- Decreased warmth in the lower extremities

Diagnostic tools

- Medical history and physical exam
- Ankle-brachial index (ABI) test (compares blood pressures of the ankle and arm)
- Laboratory testing (e.g., blood testing for elevated cholesterol or diabetes)
- Ultrasound of the lower extremities
- Angiography of the arteries of the lower extremities

Complications

- Ulcers or open sores in or on legs and feet that can become infected and can lead to amputation
- Increased risk for heart attack and stroke

Treatment

- Smoking cessation

- Management of underlying conditions such as diabetes, high cholesterol and high blood pressure
- Diet management, exercise and weight control
- Medications (to prevent blood clots, to control pain if needed, to improve blood flow, etc.)
- Surgery (e.g., angioplasty)

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Best documentation practices for physicians

Subjective

In the subjective section of the medical record, document the presence or absence of any current symptoms related to peripheral vascular disease (e.g., pain, cold extremities, intermittent claudication, etc.).

Objective

The objective section should include current associated physical exam findings (diminished pulses, hair loss, skin discoloration, etc.) and related diagnostic testing results.

Assessment

Abbreviations:

- Best documentation practice is to limit – or avoid altogether – the use of acronyms and abbreviations. The abbreviation PVD is sometimes used to refer to peripheral vascular disease; however, PVD can have other meanings (e.g., posterior vitreous detachment, portal vein dilation). Further, in handwritten office notes, "PVD" is sometimes misinterpreted as "PUD" (e.g., peptic ulcer disease).
- The meaning of an abbreviation can sometimes – *but not always* – be determined based on context.
- Best practice is to clearly spell out and fully describe the particular type of peripheral vascular disease that is present and all related manifestations.

Specificity:

- "Peripheral vascular disease" is a broad, vague and nonspecific diagnosis.
- The final diagnostic statement should spell out in full and clearly describe *the particular type* of peripheral vascular disease condition that is present.
  - Document the site/location or particular body part or system affected.
  - Specify underlying causative condition and related manifestations by using appropriate descriptors or linking terms such as "due to," "secondary to," "associated with," "related to," etc.

    Example: "Atherosclerotic peripheral vascular disease of bilateral lower extremities with intermittent claudication"

- When documenting occlusive peripheral arterial disease, specify the cause of the occlusion (e.g., atherosclerotic, thrombotic, embolic, external compression).
- Include the current status of peripheral vascular disease condition (stable, improved, worsening, etc.).
- Remember that *peripheral* vascular disease refers to locations outside the brain, carotid arteries and heart.

Current versus historical:

- Do not describe current peripheral vascular disease as "history of." In diagnosis coding, the phrase "history of" means the condition is historical and no longer exists as a current problem.
- Do not document a past peripheral vascular condition that has resolved as if it is current.

Terms of uncertainty:

- Do not use terms that imply uncertainty ("probable," "apparently," "likely," "consistent with," etc.) to describe a current, confirmed peripheral vascular disease condition.
- Do not document suspected and unconfirmed peripheral vascular disease as if it were confirmed. Document signs and symptoms in the absence of a confirmed diagnosis.

Plan

- Document a clear and specific treatment plan.
- Clearly link PVD to medications that are being used to treat the condition.
- Include orders for diagnostic testing.
- Document to whom/where referrals or consultation requests are made.
- Note the date of the patient's next appointment.

Electronic health record (EHR) issues

Other and unspecified codes with descriptions:

Some electronic health records insert ICD-10-CM code descriptions into the medical record to represent the final diagnosis. Examples:

I73.89 Other specified peripheral vascular diseases

I73.9 Peripheral vascular disease, unspecified

These are vague descriptions and incomplete diagnoses.

- Codes titled "other" or "other specified" are for use when the medical record documents a specific diagnosis description for which a specific diagnosis code does not exist.
- The "other" ICD-10-CM code with description should not be used, by itself, as a final diagnosis without clear documentation that specifies the particular "other" peripheral vascular disease.
- Unspecified diagnosis descriptions should be used only when sufficient clinical information is not known or available to the provider at the time of the encounter.

Mismatch between final diagnostic statement and EHR-inserted diagnosis code with description:

Another scenario that causes confusion is one in which the assessment section documents a provider-stated diagnosis *PLUS* an EHR-inserted diagnosis code with description that does not match – or may even contradict – the stated diagnosis. Example:

Assessment: Peripheral arterial disease
I7Ø.213 Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs

Here the final diagnosis in **bold** is simply "Peripheral arterial disease," which codes to I73.9. The EHR-inserted diagnosis code with description does not match the stated diagnosis. No information was found elsewhere in the record that clearly supported this specificity.This creates confusion regarding which diagnosis code should be reported.

To avoid confusion and ensure accurate diagnosis code assignment, the provider-stated final diagnosis must either

a) match the code with description; OR
b) it must classify in ICD-10-CM to the EHR-inserted diagnosis code with description.

Note: ICD-10-CM is a statistical classification; it is not a substitute for a provider's final diagnostic statement. It is the provider's responsibility to provide legible, clear, concise and specific documentation of each final diagnosis described to the highest level of specificity, which is then translated to a code for reporting purposes.
It is not appropriate for providers to simply list a code number or select a code number from a list of codes in place of a written final diagnosis.

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Tips and resources for coders

Coding PVD

There are many different descriptors that specify the various types of peripheral vascular disease. For accurate and specific diagnosis code assignment, the coder must:

- Review the entire medical record to verify the PVD condition is current.
- Note the exact PVD description documented in the medical record; then, in accordance with ICD-10-CM official coding conventions and guidelines:
  a) Search the alphabetic index for that specific description.
  b) Verify the code in the tabular list, carefully following all instructional notes as applicable.

- Vague diagnoses, such as "peripheral vascular disease" or "intermittent claudication" without further specification, should be clarified with the physician. However, when physician query is not possible and the medical record clearly supports a current diagnosis stated simply as "peripheral vascular disease," the code that must be assigned is I73.9, Peripheral vascular disease, unspecified. This code includes:
  - Intermittent claudication
  - Peripheral angiopathy not otherwise specified
  - Spasm of artery

Abbreviation - PVD

A common coding error involves misinterpretation of the abbreviation PVD, especially in handwritten notes (for example, PUD for peptic ulcer disease can easily be misread as PVD). Further, the abbreviation PVD can have other meanings. Use caution when coding PVD – code I73.9 should not be assigned unless the individual medical record clearly shows PVD is being used to represent peripheral vascular disease.

Intermittent claudication

The most common symptom of peripheral arterial disease (PAD) is intermittent claudication – pain or discomfort in the lower extremities and buttocks that occurs with exercise or activity and resolves with rest.

- PVD, PAD and intermittent claudication all code to I73.9, but they are not all one and the same.
- PVD and PAD are the underlying disease conditions themselves, while intermittent claudication is a symptom of PVD and PAD that is not present in all cases of PVD or PAD.
- In some cases, the symptom of intermittent claudication can decrease or even go away with treatment (even though the underlying PVD or PAD may still remain).
- Claudication not further specified codes to I73.9.

Atherosclerosis of the native arteries of the extremities

Atherosclerosis of the native arteries of the extremities classifies to subcategory I7Ø.2-.

- Fifth and sixth characters are added to specify the progression of the disease as noted in the grid below (i.e., unspecified, intermittent claudication, rest pain, ulceration and gangrene); and the site, including laterality.
- An additional code is used, if applicable, to identify chronic total occlusion of artery of extremity (I7Ø.92).

I7Ø.2Ø-	Unspecified atherosclerosis of native arteries of extremities
I7Ø.21-	Atherosclerosis of native arteries of extremities with intermittent claudication
I7Ø.22-	Atherosclerosis of native arteries of extremities with rest pain (includes any intermittent claudication)
I7Ø.23- I7Ø.24- I7Ø.25	Atherosclerosis of native arteries of extremities with ulceration (includes any rest pain and/or intermittent claudication) Code L97.- is used with I7Ø.23- and I7Ø.24-, and code L98.49- is used with I7Ø.25, to identify the severity of the ulcer.
I7Ø.26-	Atherosclerosis of native arteries of extremities with gangrene (includes any or all of the preceding conditions). Use an additional code to identify the severity of any ulcer (L97.-, L98.49-), if applicable.

These codes are listed in order of priority; and the codes are hierarchical – meaning the higher-level codes include the conditions of the lower-level codes. For example, if the patient has atherosclerosis of native arteries with ulceration and gangrene, only a code from subcategory I7Ø.26- is assigned, as this code includes both gangrene and ulceration.

Atherosclerosis of extremities involving a graft

Atherosclerosis of extremities involving a graft codes to I7Ø.3- through I7Ø.7- as shown in the grid below.

- Fifth and sixth characters are added to indicate the same progression of disease discussed above under subcategory I7Ø.2- (i.e., unspecified, intermittent claudication, rest pain, ulceration and gangrene); and the site, including laterality.
- An additional code is used, if applicable, to identify chronic total occlusion of artery of extremity (I7Ø.92).

I7Ø.3-	Atherosclerosis of unspecified type of bypass graft(s) of the extremities
I7Ø.4-	Atherosclerosis of autologous vein bypass graft(s) of the extremities
I7Ø.5-	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities
I7Ø.6-	Atherosclerosis of nonbiological bypass graft(s) of the extremities
I7Ø.7-	Atherosclerosis of other type of bypass graft(s) of the extremities

As with atherosclerosis of the native arteries of the extremities, review and follow all instructional notes under each subcategory, as applicable (for example, an instruction to use an additional code to identify the severity of ulcer).

Chronic total occlusion

Code I7Ø.92 is assigned as an additional code with subcategories I7Ø.2- through I7Ø.7- when a chronic total occlusion is present with atherosclerosis of the extremities (native arteries or involving a graft).

- A chronic total occlusion of an artery of the extremities (I7Ø.92) develops when hard, calcified plaque accumulates in an artery over an extended period of time, resulting in a clinically significant decrease in blood flow.
- Approximately 40% of patients with peripheral vascular disease present initially with partial occlusion, which progresses to a chronic total occlusion, which makes intervention and treatment more complex.

Diabetic peripheral vascular disease

- Diabetic vascular disease codes to diabetes by type (EØ8–E13) with fourth and fifth characters added for greater specificity:
  - .51 with diabetic peripheral angiopathy without gangrene
  - .52 with diabetic peripheral angiopathy with gangrene
  - .59 with other circulatory complications
- Peripheral vascular disease is a common complication of diabetes mellitus. When PVD is caused by diabetes, best practice is for the physician to clearly link PVD to diabetes as the cause. However, coders and physicians alike need to be aware that ICD-10-CM coding conventions advise the coder to presume cause-and-effect linkage between diabetes and certain conditions – including PVD – unless the physician specifically indicates the conditions are not related.
- According to this coding convention, conditions that appear in the alphabetic index as indented subterms under the various types of "**Diabetes** > with" are coded as diabetic complications, even in the absence of physician documentation explicitly linking them, unless the documentation clearly indicates these conditions are not caused by diabetes — for example, by stating the actual nondiabetes-related cause; or the cause is not diabetes; or diabetes is without complications; or the cause is unknown.
- "Peripheral vascular disease" is synonymous with peripheral angiopathy. In accordance with the "**Diabetes** > with" coding convention noted above, even when the medical record does not link PVD to diabetes as the cause, the linkage is presumed unless the physician specifically indicates they are not related.

Example excerpt from Alphabetic Index:
Diabetes, diabetic (mellitus) (sugar) E11.9
with
peripheral angiopathy E11.51
with gangrene E11.52

- Peripheral arteriosclerosis is a type of peripheral angiopathy that, according to the AHA Coding Clinic, is also subject to the "**Diabetes** > with" coding convention. When a medical record documents peripheral arteriosclerosis in a diabetic patient – and there is no documentation that clearly indicates the peripheral arteriosclerosis is not caused by diabetes – the coder should presume cause-and-effect linkage and code the condition as diabetic peripheral angiopathy.

  An additional code from subcategory I7Ø.2-, Atherosclerosis of native arteries of the extremities, should also be assigned to fully capture the patient's condition when the documentation provides specificity about the atherosclerosis such as laterality, affected vessel as well as additional manifestations of the disease (i.e., claudication, rest pain, etc.)
  (References: AHA Coding Clinic, Second Quarter ICD-10 2018, Page 7, Diabetes with peripheral angiopathy; AHA Coding Clinic Third Quarter ICD-10 2018, page 4, Diabetes mellitus with arteriosclerotic peripheral artery disease.)

- ICD-10-CM does not presume a cause-and-effect relationship between diabetes mellitus and coronary artery disease, cardiomyopathy or cerebrovascular disease.
  - These conditions are coded separately unless the physician documents a causal relationship.
  - The blood vessels of the heart and brain are not part of the peripheral circulatory system. Thus, when atherosclerotic heart or brain disease is specifically linked in the record to diabetes mellitus as the cause, they are not coded as peripheral vascular diseases. Rather, these types of diabetic vascular complications are coded to EØ8 – E13 with .59 to designate diabetes with other circulatory complications.

Combination codes
ICD-10-CM Official Guidelines for Coding and Reporting (Section I.B.9) advise a combination code is a single code used to classify two diagnoses; or a diagnosis with an associated secondary process (manifestation) or a diagnosis with an associated complication.

Assign only the combination code when that code fully identifies the diagnostic conditions involved or when the Alphabetic Index so directs. Multiple coding should not be used when the classification provides a combination code that clearly identifies all of the elements documented in the diagnosis. Example of a single combination code that fully identifies the diagnostic conditions involved:

E11.51 Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene

It is inappropriate and incorrect to also assign code I73.9 Peripheral vascular disease, unspecified because a) combination code E11.51 fully identifies both diagnostic conditions involved; and b) peripheral vascular disease is not unspecified, rather, it is specified as diabetic peripheral vascular disease.

When the combination code lacks necessary specificity in describing the manifestation or complication, an additional code should be used as a secondary code. Example:

E11.22 Type 2 diabetes mellitus with diabetic chronic kidney disease
N18.3Ø Chronic kidney disease, stage 3 (unspecified)

Coding examples

Example 1	
Final diagnosis	Type 2 diabetes mellitus with hypertension
ICD-10-CM code(s)	**E11.9** Type 2 diabetes mellitus without complication **I10** Essential (primary) hypertension
Comments	The word "with" in the provider's final diagnostic statement does not, by itself, establish a causal relationship between diabetes and hypertension. In the ICD-10-CM coding manual there is no presumed causal relationship between diabetes and hypertension. There is no direct coding path for **Diabetes** > with > hypertension.

Example 2	
Final diagnosis	Peripheral vascular disease
ICD-10-CM code(s)	**I73.9** Peripheral vascular disease, unspecified (if unable to query the physician for further specification)
Comments	Technically, "peripheral vascular disease" is a broad and vague diagnosis – the particular type of peripheral vascular disease is not specified. Documentation of a vague and nonspecific diagnosis leads to assignment of a nonspecific code.

Example 3	
Final diagnosis	Intermittent claudication
ICD-10-CM code(s)	**I73.9** Peripheral vascular disease, unspecified (if unable to query the physician for further specification)
Comments	Intermittent claudication – a symptom of occlusive peripheral vascular disease – codes the same as peripheral vascular disease. Ideally, the final diagnosis should describe the particular type of peripheral vascular disease with the associated symptom. **Example final diagnosis:** "Atherosclerotic peripheral vascular disease of bilateral lower extremities with intermittent claudication" This more specific diagnosis leads to a more specific diagnosis code: **I7Ø.213** Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs

Example 4	
Final diagnosis	Chronic atherosclerotic peripheral arterial disease of native arteries of bilateral lower extremities with rest pain due to diabetes mellitus type 1
ICD-10-CM code(s)	**E1Ø.51** Type 1 diabetes mellitus with diabetic peripheral angiopathy without gangrene **I7Ø.223** Atherosclerosis of native arteries of extremities with rest pain, bilateral legs
Comments	This coding example documents a more specific diagnosis of "chronic atherosclerotic peripheral arterial disease of native arteries of bilateral lower extremities with rest pain due to diabetes mellitus Type 1." The appropriate code for the type of diabetes mellitus with diabetic peripheral angiopathy is assigned, along with an additional code from subcategory I7Ø.2-, Atherosclerosis of native arteries of extremities, to fully capture the patient's condition. Reference: AHA Coding Clinic, Third Quarter 2018, Diabetes mellitus with arteriosclerotic peripheral artery disease

Example 5	
Final diagnosis	Large gangrenous ulcer of left calf due to peripheral arteriosclerosis
ICD-10-CM code(s)	**I7Ø.262** Atherosclerosis of native arteries of extremities with gangrene, left leg **L97.229** Nonpressure chronic ulcer of left calf with unspecified severity
Comments	The diagnostic statement could be more specific by documenting the severity of the ulcer.

References: American Hospital Association (AHA) Coding Clinic; American College of Cardiology; ICD-10-CM Official Guidelines for Coding and Reporting; ICD-10-CM and ICD-10-PCS Coding Handbook; Mayo Clinic; Medline Plus; WebMD