

Table 3 Criteria for classification of internal carotid artery disease by duplex scanning with spectral waveform analysis of pulsed Doppler signals

Degree of stenosis, %	ICA/PSV, cm/s	Plaque estimate, %	ICA EDV, cm/s	ICA CCA PSV ratio
Normal	<125	0	<40	<2
<50	<125	<50	<40	<2
50-69	125-230	>50	40-100	2-4
>70	>230	>50	>100	>4
Subtotal occlusion	Variable	>50 Narrow lumen	>0	Variable
Total occlusion	0	>50	0	<1

CCA, Common carotid artery; EDV, end-diastolic velocity; ICA, internal carotid artery; PSV, peak systolic velocity.

Table 6 Diagnostic criteria for significant renal artery stenosis

Renal artery to aorta peak systolic velocity ratio is >3.5
 PSV > 200 cm/s with evidence of poststenotic turbulence
 EDV > 150 cm/s (>80% renal artery stenosis)
 RI > 0.8 (used to predict response of blood pressure, renal function, to renal revascularization)
 An occluded renal artery demonstrates no flow in the affected vessel

EDV, End-diastolic velocity; PSV, peak systolic velocity; RI, resistive index ($1 - [EDV/\text{maximum systolic velocity}] \times 100$).

Table 8 Diagnostic criteria for abdominal aortic aneurysm and endoleak

- Aneurysm: diameter > 3.0 cm
- Endoleak: flow outside of the aortic endograft, and within the aneurysm sac
- Dissection: true and false lumen present

Table 10 Criteria for abnormal segmental pressure study

Level of disease	Findings
Aortoiliac	High thigh/brachial index < 0.9 bilaterally
Iliac	High thigh/brachial index < 0.9
SFA disease	Gradient between high and low thigh cuffs
Distal SFA/popliteal	Gradient between thigh cuff and calf cuff
Infrapopliteal	Gradient between calf and ankle cuffs
Pressure gradient between 20-30 mm Hg is borderline, ≥ 30 mm Hg is abnormal	

SFA, Superficial femoral artery.

Table 13 Interpretation of postexercise ankle-brachial index

- ABI < 0.90 at 1 minute after exercise indicates hemodynamically significant PAD

ABI, Ankle-brachial index; PAD, peripheral arterial disease.

Table 15 Diagnostic criteria for peripheral arterial diameter reduction

	Diameter reduction	Waveform	Spectral broadening	PSV distal/PSV proxim
Normal	0	Triphasic	Absent	+++ No change
Mild	1%-19%	Triphasic	Present	< 2:1
Moderate	20%-49%	Biphasic	Present	< 2:1
Severe	50%-99%	Monophasic	Present	> 2:1*

PSV, Peak systolic velocity.

*>4:1 Suggests >75% stenosis, >7:1 suggests > 90% stenosis.

Table 17 Diagnostic criteria for vein graft lesions using peak systolic velocity

- Minimal stenosis <20% with PSV ratio < 1.4 and < 125 cm/s
- Moderate stenosis of 20% to 50% with PSV ratio 1.5 to 2.4 and a PSV <180 cm/s
- Severe stenosis 50% to 75% with PSV ratio 2.5 to 4 and a PSV >180 cm/s
- High-grade stenosis > 75% with PSV ratio > 4 and PSV > 300 cm/s

PSV, Peak systolic velocity.

Table 18 Interpretation criteria for arterial stenosis after percutaneous revascularization

- PSV >180 cm/s
- PSV ratios >2 indicate significant stenosis
- Changes in waveform shape and velocity measurements on serial examinations warrant close interval follow-up

PSV, Peak systolic velocity.

Table 20 Criteria for diagnosis of pseudoaneurysm sac

- Extravascular arterial sac with flow
- Communication between sac and artery
- Native artery with forward and reverse flow, ie, to and fro

Additional helpful criteria:

SMV < 275 cm/s, > 275 = 70 % stenosis, EDV > 45 = 70 % stenosis

Celiac < 200 cm/s (fasting), PSV > 200 = 75 % stenosis, EDV > 55 = 50 % stenosis

Renal < 200 cm/s, PSV > 200 + RAR < 3.5 = < 60 % stenosis, PSV > 200 + RAR > 3.5 => 60 % stenosis
From onset to systole should be less than < 100 ms, if more- then parenchymal disease

Normal aortic velocity- between 40 and 100

Renal transplant RAS criteria: PSV > 200, RA: Iliac > 1.8, RI < 0.5, AT > 0.1s

Hepatic transplant: RI < 0.55 suggests hepatic artery stenosis

Peripheral arteries: doubling of PSV compared to adjacent segments + turbulence => 50 % stenosis