

Carotid Arterial Ultrasound Interpretation Guidelines

ICA Stenosis Grading Criteria:

Stenosis	Primary Parameters		Secondary Parameters	
	ICA PSV	Plaque Estimate	PSV Ratio	ICA EDV
None	<180 cm/sec	None	<2.0	<40 cm/sec
Mild (<50%)	<180 cm/sec	≤50%	<2.0	<40 cm/sec
Moderate (50-69%)	180-230 cm/sec	≥50%	2.0-4.0	40-100 cm/sec
Severe (≥70%)	>230 cm/sec	≥50%	>4.0	>100 cm/sec
Near Occlusion	variable	visible	variable	variable
Total Occlusion	no flow	visible	NA	NA

ICA Stent Stenosis Grading Criteria:

Stenosis	In Stent PSV	Stent:CCA Ratio
None	<150 cm/sec	<2.15
Mild (20-49%)	150-219 cm/sec	2.15-2.69
Moderate (50-79%)	220-339 cm/sec	2.70-4.14
Severe (≥80%)	≥340 cm/sec	≥4.15

ECA Stenosis Grading Criteria:

Stenosis	ECA PSV	ECA/CCA	Caveat
>50%	>148 cm/sec	≥1.45	if ICA <50% stenosis
>50%	>179 cm/sec	≥1.89	if ICA >50% stenosis

Proximal Vertebral Stenosis Grading Criteria:

Stenosis	PSV	PSV Ratio	EDV
None	<85 cm/sec	<1.3	<27 cm/sec
Mild (<50%)	85-139 cm/sec	1.3-2.0	27-34 cm/sec
Moderate (50-69%)	140-209 cm/sec	2.1-3.9	35-49 cm/sec
Severe (≥70%)	≥210 cm/sec	≥4.0	≥50 cm/sec

Additional Criteria:

- Carotid intima media thickness (IMT) should be ≤0.9mm.