

**MRN:** 10-06-02-150431\  
**DOB:** 1969-12-03      **Age:** 50  
**Gender:** F  
**Race:** Black or African American  
**HR:** 68  
**Height:** 65 in      **Weight:** 130 lbs  
**BP:** 130/60 mmHg      **BSA:** 1.66 m<sup>2</sup>  
**BMI:** 21.63

**Study Time:** 11:55 AM  
**Reading Group:** Aloka Demo Reading  
**Referring Group:** Aloka Demo Referring  
**Ordering Phys:** Anytown Family Practice  
**Verifying Phys:** DEMO Reading Group  
**Sonographer:** DC Sonographer Jones

**Study Quality:** Excellent

**Indications:** Right carotid bruit

**Diagnosis Code:** (R01.1) Carotid bruit

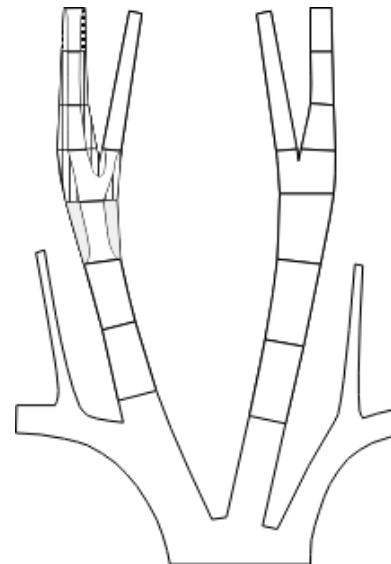
**Procedure Code:** 93880Extracranial bilat study

After informed consent, a duplex Carotid ultrasound was performed.  
ICA stenosis documented by NASCET criteria.

## RIGHT

	PSV (cm/s)	EDV (cm/s)	Stenosis	Waveform
ECA	125	8		Multiphasic
ICA-dis	70	30	1-39%	Low;Mono
ICA-mid	188	60	40-59%	High;Mono
ICA-prox	169	55	40-59%	High;Mono
Bifurcation	140	50	<50%	Inter;Mono
CCA-dis	90	30	<50%	Monophasic
CCA-mid	86	28		Monophasic
CCA-prox	82	20		Monophasic

**PSV ICA/CCA ratio:** 1.88  
**Brachial pressure:** 130 mmHg  
**Vessel Geometry:** Normal  
**Intimal Thickness:** Mildly thickened  
**Vert. Art. Flow:** Antegrade  
**Vertebral PSV:** 42 cm/s  
**Vert. Art. waveform:** Ante;Mono  
**Subclavian PSV:** 140 cm/s  
**Sub. Art. waveform:** Multiphasic  
**Innominate PSV:** 142 cm/s  
**Innom. Art. waveform:** Multiphasic



### Morphology

□ Normal	▨ Heterogeneous
▤ Homogeneous	▩ Calcific
▧ Post-operative	

Image represents data.  
For details see findings/conclusions text.

## LEFT

	PSV (cm/s)	EDV (cm/s)	Waveform
ECA	130	10	Multiphasic
ICA-dis	88	30	Monophasic
ICA-mid	90	32	Monophasic
ICA-prox	88	30	Monophasic
Bifurcation	86	24	Monophasic
CCA-dis	86	20	Monophasic
CCA-mid	84	22	Monophasic
CCA-prox	88	30	Monophasic

**PSV ICA/CCA ratio:** 1.02  
**Brachial pressure:** 130 mmHg  
**Vessel Geometry:** Normal  
**Intimal Thickness:** Normal  
**Vert. Art. Flow:** Antegrade  
**Vertebral PSV:** 40 cm/s  
**Vert. Art. waveform:** Ante;Mono  
**Subclavian PSV:** 140 cm/s  
**Sub. Art. waveform:** Multiphasic

### Right Findings:

Doppler flow velocities in the right distal internal carotid artery (ICA-dis) are consistent with stenosis in the range of 1-39%

with mild homogeneous plaque. Doppler flow velocities in the right mid internal carotid artery (ICA-mid) and proximal internal carotid artery (ICA-prox) are consistent with stenosis in the range of 40-59% with moderate heterogeneous plaque. Doppler flow velocities in the right carotid bifurcation are consistent with stenosis in the range of <50% with mild heterogeneous plaque.

Doppler flow velocities in the right distal common carotid artery (CCA-dis) are consistent with stenosis in the range of <50% with mild plaque.

The right external carotid artery (ECA) waveform demonstrates a multiphasic flow pattern.

The right distal internal carotid artery (ICA-dis) waveform demonstrates a low-resistant, monophasic flow pattern. The right mid internal carotid artery (ICA-mid) waveform demonstrates a high-resistant, monophasic flow pattern. The right proximal internal carotid artery (ICA-prox) waveform demonstrates a high-resistant, monophasic flow pattern.

The right bifurcation waveform demonstrates an intermediate-resistant, monophasic flow pattern.

The right common carotid artery (CCA) waveforms demonstrate a monophasic flow pattern.

The right vessel geometry is normal.

The right vertebral artery waveform demonstrates an antegrade, monophasic flow pattern.

Antegrade right vertebral artery flow.

Right vertebral PSV 42 cm/sec.

The right subclavian artery waveform demonstrates a multiphasic flow pattern.

The right innominate artery waveform demonstrates a multiphasic flow pattern.

Mild right intimal thickening.

#### **Left Findings:**

Peak systolic velocities in the left bifurcation, internal, external and common carotid arteries are within normal limits.

The left external carotid artery (ECA) waveform demonstrates a multiphasic flow pattern.

The left internal carotid artery (ICA) waveforms demonstrate a monophasic flow pattern.

The left bifurcation waveform demonstrates a monophasic flow pattern.

The left common carotid artery (CCA) waveforms demonstrate a monophasic flow pattern.

The left vessel geometry is normal.

The left vertebral artery waveform demonstrates an antegrade, monophasic flow pattern.

Antegrade left vertebral artery flow.

Left vertebral PSV 40 cm/sec.

The left subclavian artery waveform demonstrates a multiphasic flow pattern.

Normal left intima-media thickness.

#### **Conclusions:**

Moderate stenosis in the right internal carotid artery (40-59%).

Mild stenosis in the right common carotid artery (<50%).

Antegrade right vertebral artery flow. Antegrade left vertebral artery flow.

Mild right intimal thickening.

Follow up in one year is appropriate if clinically indicated.

November 20, 2020 09:14 AM EST

CSI Admin Staff

Electronically Signed on Studycast

NOT FINAL - PENDING  
ADDITIONAL PHYSICIAN  
SIGNATURE

#### **Recommendations:**

Follow up ultrasound in 6 months

**Carotid Criteria Table**

Degree of Stenosis(%)	Visual Plaque Size	Primary parameters		Additional parameters		
		PSV (cm/s)	EDV (cm/s)	ICA/CCA PSV	ICA/CCA EDV	
<b>ECA</b>						
<50%	Mild	-	-	-	-	
> 50%	Moderate plaque by imaging	-	-	-	-	
<b>ICA</b>						
Normal	No plaque	<110	<40	<1.8	<2.6	
1-39%	Mild	<110	<40	<1.8	<2.6	
40-59%	Moderate	<130	<40	<1.8	<2.6	
60-79%	Severe	>130	>40	>1.8	>2.6	
80-99%	Critical	>250	>100	>3.7	>5.5	
Occlusion	Marked lumen narrowing	Undetectable	-	-	-	
<b>CCA/Bifurcation</b>						
<50%	Mild	-	-	-	-	
> 50%	Moderate plaque by imaging	-	-	-	-	

Criteria reference: Bluth et al, Radiographics:8.487-506, 1988