

Carotid Artery Assessment

Purpose

Extracranial cerebrovascular Duplex ultrasound examinations are carried out to assess for the presence of pathology and the haemodynamic status of the common carotid artery (CCA), internal carotid artery (ICA) external carotid artery (ECA) and vertebral artery. The department will accept direct referrals from Vascular Surgery, Stroke Medicine and Neurology.

Common Indications

- Common indications for performance of this examination can include:
- Transient ischemic attacks (TIA)
- Amaurosis fugax
- Cerebrovascular Accident (CVA)
- Follow-up of known carotid stenosis
- Post intervention follow-up e.g. carotid endarterectomy, stent or bypass
- Trauma in the distribution of the carotid artery e.g. suspected dissection, arteriovenous fistula or pseudo aneurysm
- Pulsatile neck masses
- Evaluation of suspected subclavian steal syndrome

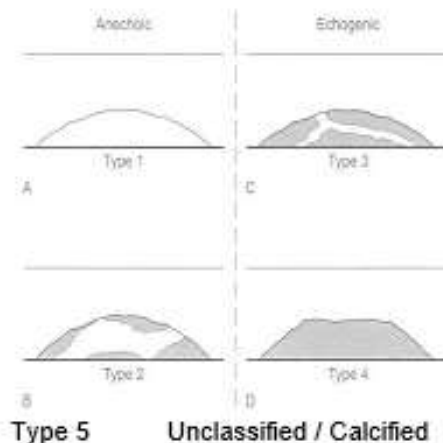
Examination:

The patient is asked to adjust their clothing to expose the neck area. The patient is examined in the supine position with their head/neck positioned in such a manner that allows the CVS maximum access to the vessels to be examined. The patient's dignity and privacy should be maintained at all times.

The standard examination should examine bilaterally the arterial supply to the head encompassing the common carotid artery (CCA), carotid bifurcation, external carotid artery (ECA) and internal carotid artery (ICA) to its most accessible distal extracranial segment. The vertebral artery should be identified to confirm direction of flow. In the presence of reversed or partially reversed flow the subclavian artery should be examined.

The CCA, carotid bifurcation, ECA and ICA are identified in B Mode using the transverse plane and longitudinal plane; B-mode can be used to classify echogenicity of any plaque according to the Gray-Weale Plaque Classification.

Gray-Weale Plaque Classification. Gray-Weale AC et al (1988)



Using longitudinal plane with colour and spectral doppler, the extracranial carotid arteries should be assessed for any areas for velocity increase or turbulence from the CCA to the distal ICA and the vertebral artery.

Peak systolic velocities (PSV) and end diastolic velocities (EDV) should be measured and documented for the CCA and ICA, and PSV for the ECA. Direction of flow must also be documented in the vertebral artery.

The anatomical location of any haemodynamically significant lesion should be documented.

The CAVATAS criteria below should be used primarily for grading stenosis.

% Diameter Reduction	PSV (cm/s)	EDV (cm/s)	PSV _{ICA} /PSV _{CCA}
0-29	<100	<40	<3.2
30-49	110-130	<40	<3.2
50-59	>130	<40	<3.2
60-69	>130	40-110	3.2-4.0
70-79	>210	110-140	>4.0
80-95	>210	>140	>4.0
96-99	"STRING FLOW"		
100	"NO FLOW"		

Adapted for CAVATAS from Sidhu P and Allan P. (1997).

These criteria apply to grading of ICA stenosis only and the percentages are equivalent to NASCET diameter stenosis.

The *Joint Recommendations for Reporting Carotid Ultrasound Investigations in the United Kingdom* CP Oates et al, can also be used if required to help stratify any discrepancies in grading from the CAVATAS criteria. ICA PSV/ CCA PSV of greater than 2 is particularly useful as a discriminator of greater than 50% stenosis.

Joint Recommendations for Reporting Carotid Ultrasound Investigations in the United Kingdom
CP Oates et al

Percentage Stenosis (NASCET)	Internal carotid peak systolic velocity cm/sec	Peak systolic velocity ratio	St Mary's Ratio ICA PSV /CCA EDV
		ICA PSV /CCA PSV	
<50	<125	<2	<8
50-59	>125	2-4	8-10
60-69			11-13
70-79	>230	>4	14-21
80-89			22-29
>90 but less than near occlusion	>400	>5	>30
Near occlusion	High, low - string flow	Variable	Variable
Occlusion	No flow	Not applicable	Not applicable

The following criteria should be used for grading ECA stenosis:-

Normal – no evidence of plaque present

Minor – PSV <200cm/sec

Moderate – PSV 200-300cm/sec

Severe – PSV >300cm/sec

Zwiebel, 2000

The Report

The reporting should include:

- Which arteries have been assessed & record the presence/absence of disease
- The following velocities should be recorded on the report form:
 - PSV & EDV in the CCA 1-2cm below the bifurcation
 - PSV & EDV in the ICA at the point of highest velocity
 - PSV in the ECA at the point of highest velocity

- Percentage degree of stenosis
- Any limitations e.g. calcified plaque causing acoustic shadowing

RESOURCES:

Society for Vascular Ultrasound Vascular Technology Professional Performance Guidelines Extracranial Cerebrovascular Duplex Ultrasound Evaluation 2011 www.svunet.org

American Institute of Ultrasound in Medicine Practice Guideline for the Performance of an Ultrasound Examination of the Extracranial Cerebrovascular System 2011 www.aium.org

Australasian Society for Ultrasound in Medicine Policies and Statements D17 Extracranial Cerebrovascular Ultrasound www.asum.com.au

Physiological Measurement – Service Specifications Vascular Technology Test: Carotid Duplex www.svtgbi.org.uk

de Bray J M, Baud J M, Dauzat M 1997 Consensus concerning the morphology and the risk of carotid plaques. *Cerebrovascular Disease* 7: 289–296

European Carotid Plaque Study Group 1995 Carotid artery plaque composition – relationship to clinical presentation and ultrasound B-mode imaging. *European Journal of Endovascular Surgery* 10: 23–30

Bock RW et al Carotid plaque morphology and interpretation of the echolucent lesions. *Diagnostic vascular ultrasound*. Edward Arnold, London, pp 225–236 1992

Carotid artery stenosis: grey-scale and Doppler ultrasound diagnosis – Society of Radiologists in Ultrasound Consensus Conference Grant EG et al *Radiology* 2003; 229: 340–346

Oates CP et al., Joint Recommendations for Reporting Carotid Ultrasound Investigations in the United Kingdom, *Eur J Vasc Endovasc Surg* (2008), <http://www.bmus.org/policiesguides/CarotidRecommendationsPublishedPaperCO.pdf>

National Institute for Health and Clinical Excellence Stroke Diagnosis and initial management of acute and transient ischaemic attack (TIA) July 2008 www.nice.org.uk

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

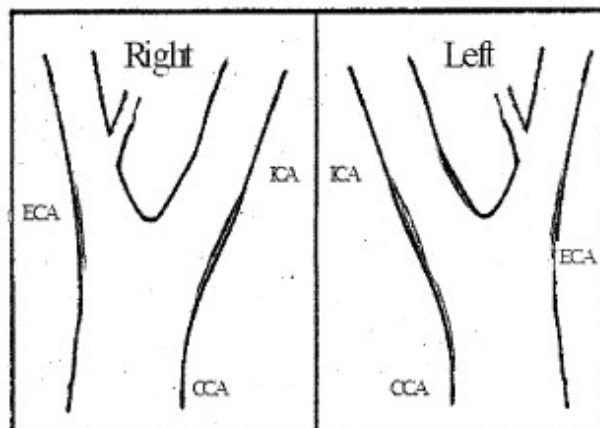
Carotid Duplex Assessment

	Date: 07.12.2023 Time: 10.15
	Consultant: 165

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	95	73	116	86	63	104
EDV cm/s	28	20	29	25	19	26

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	17	17
ICA	<30%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report: no significant stenosis demonstrated bilaterally.

A. Moly B.
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

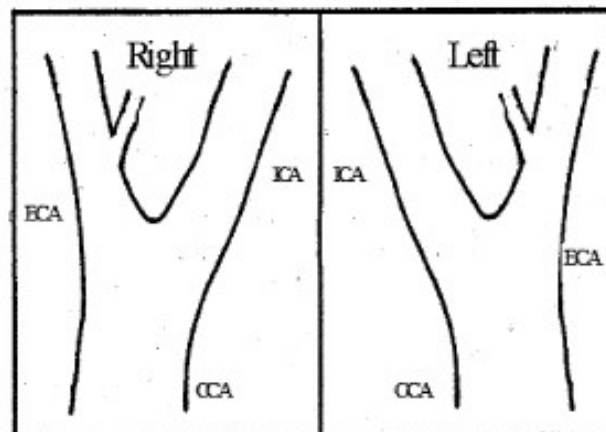
Carotid Duplex Assessment

	Date: 15.12.2023	Time: 11:00
	Consultant: PMB TIA-	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	125	76	77	124	69	144
EDV cm/s	15	13	7	15	21	11

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	Normal	Normal
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	Normal
Vertebral A	Antegrade.	Antegrade.



Report: No significant stenosis demonstrated bilaterally

AMW
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

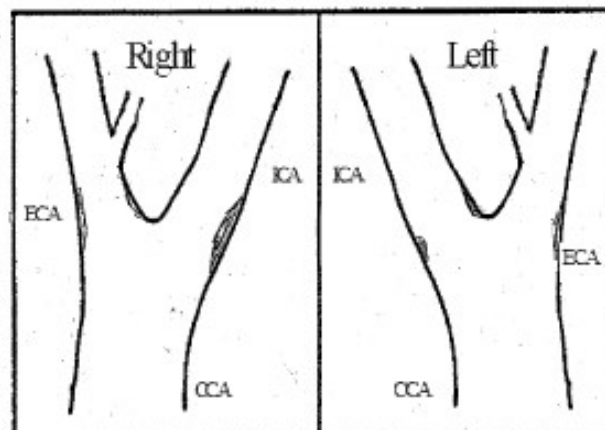
Carotid Duplex Assessment

	Date: 30.11.2023	Time: 11:00
	Consultant: MK3	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	81	76	80	57	54	59
EDV cm/s	16	20	7	14	19	6

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	< 30%	< 30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report: no significant stenosis demonstrated bilaterally

A. Molyneux
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

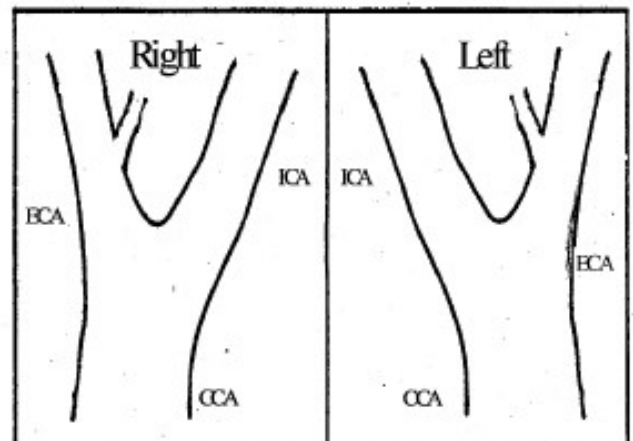
Carotid Duplex Assessment

N:		Date: 02.12.2023	Time: 10.00
H:		Consultant: SKR	
D:			

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	81	65	94	77	62	87
EDV cm/s	20	27	16	26	26	17

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	Normal	Normal
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	IT
Vertebral A	Antegrade	Antegrade



Confidence:

Report: No significant stenosis demonstrated bilaterally.
Tortuous left distal ICA.

A. Mayhew
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

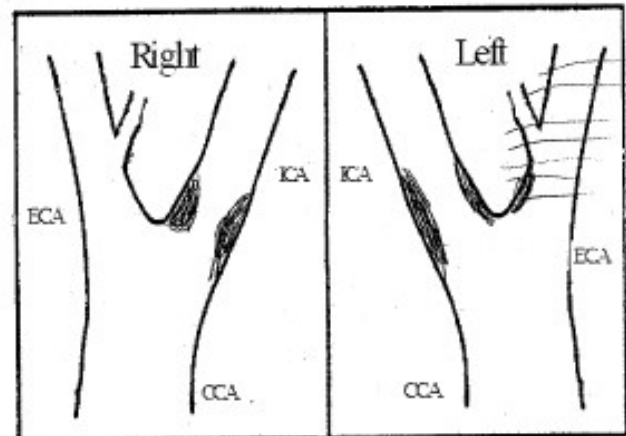
Carotid Duplex Assessment

	Date: 22.11.2023	Time: 11:30
	Consultant: SKR	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	42	137	75	79	85	64
EDV cm/s	18	22	11	19	22	8

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	15	Normal
ICA	50-59%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type	4	
ECA	Normal	Minor
Vertebral A	Antegrade	Antegrade



Report:

RIGHT: - Technically challenging assessment due to tortuous vessels.
There is a 50-59% stenosis noted at the proximal ICA at the level of the bifurcation.

LEFT:
No significant stenosis demonstrated.
ECA is poorly visualised / calcified.

A. Moley-Burn
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

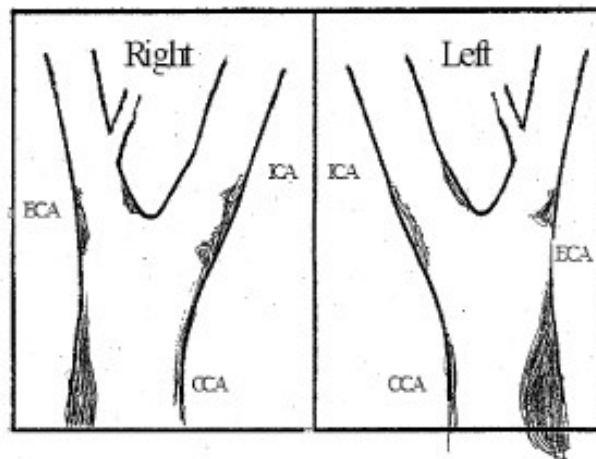
Carotid Duplex Assessment

	Date: 01.12.2023	Time: 11:10.
	Consultant:	
	JPA	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	103	100	68	134	128	128
EDV cm/s	14	14	2	17	13	0

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	<30%	<50%
ICA	<30%	30-49%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report:

No significant stenosis demonstrated.

Amaly R
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

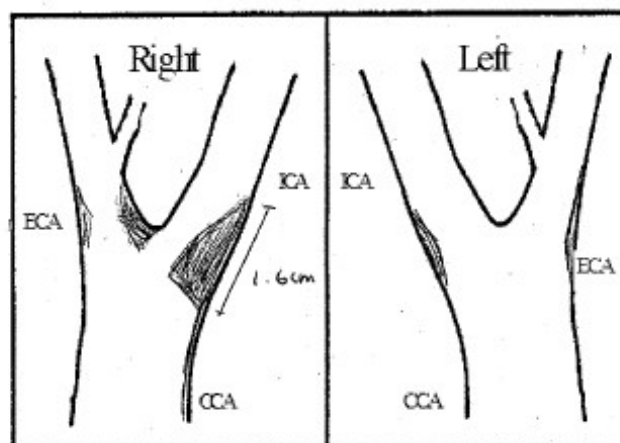
Carotid Duplex Assessment

	Date: 07.11.2023	Time: 10:45.
	Consultant: JPA TID.	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	22	458	608	100	88	159
EDV cm/s	8	209	311	31	28	25

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	IT	IT
ICA	80-95%	20%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type	4/5	
ECA	severe	minor
Vertebral A	Antegrade	Antegrade



Report: RIGHT

There is an 80-95% stenosis noted at the proximal ICA this is ~ 1.6 cm in length. The ICA is patent distally. Severe stenosis demonstrated in the right ECA.

LEFT

No significant stenosis demonstrated.

A. Motes
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

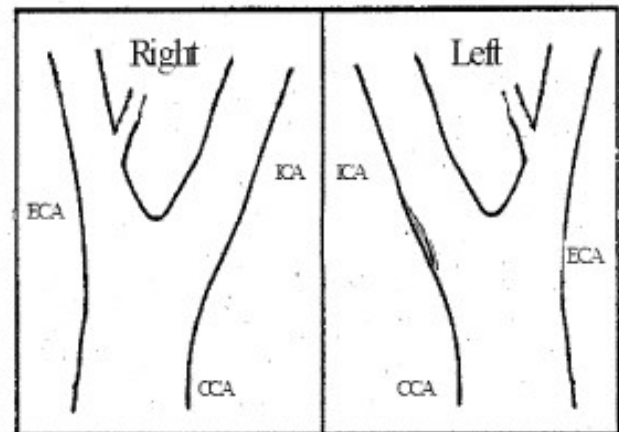
Carotid Duplex Assessment

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	Consultant: IGS	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	104	62	12.8	94	56	103
EDV cm/s	19	23	17	21	25	14

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	Normal	2301.
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	Normal
Vertebral A	Antegrade.	Antegrade



Report: No significant stenosis demonstrated bilaterally

A. Motes B.
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

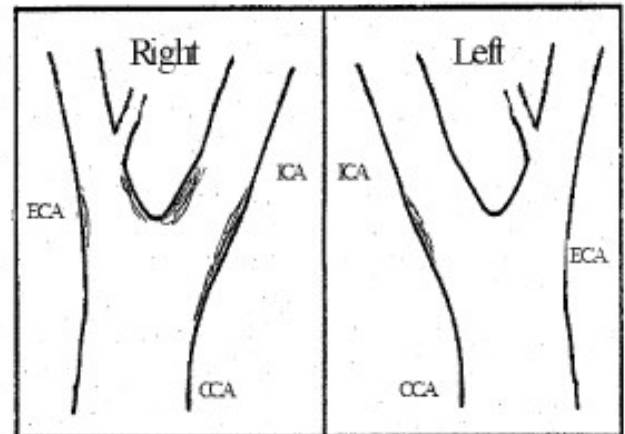
Carotid Duplex Assessment

Name: [Redacted]	Date: 28.11.2023	Time: 12:30
	Consultant: NSS T.M.	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	114	125	155	114	18	67
EDV cm/s	28	19	15	24	15	7

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	17	17
ICA	30-49%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	normal
Vertebral A	Antegrade	Antegrade



Report: no significant stenosis demonstrated bilaterally

A. Mole *A. Mole*
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

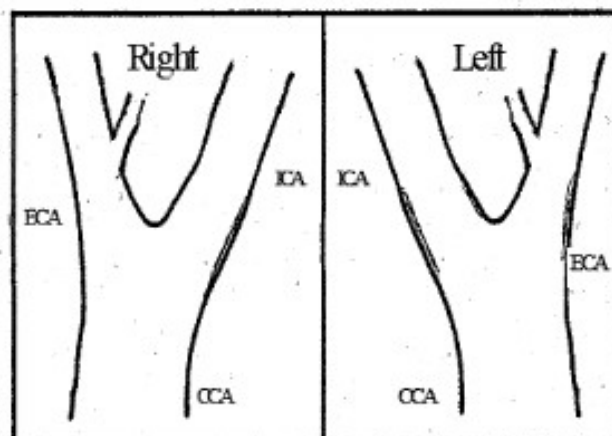
Carotid Duplex Assessment

	Date: 19.12.2023	Time: 11.10
	Consultant: AKS.	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	91	68	64	87	76	64
EDV cm/s	18	17	10	21	26	9

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	<30%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	minor
Vertebral A	Antegrade	Antegrade



Report: no significant stenosis demonstrated bilaterally.

AKS
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

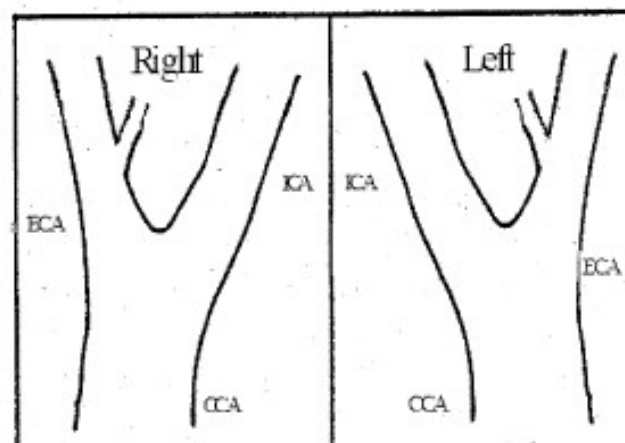
Carotid Duplex Assessment

	Date: 01.12.2023	Time: 10:40
	Consultant: JPA TJA	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	102	64	94	96	61	94
EDV cm/s	31	25	21	31	25	21

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	Normal	Normal
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	Normal
Vertebral A	Antegrade	Antegrade



Report: No significant stenosis demonstrated bilaterally

A. Woley-Brown
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

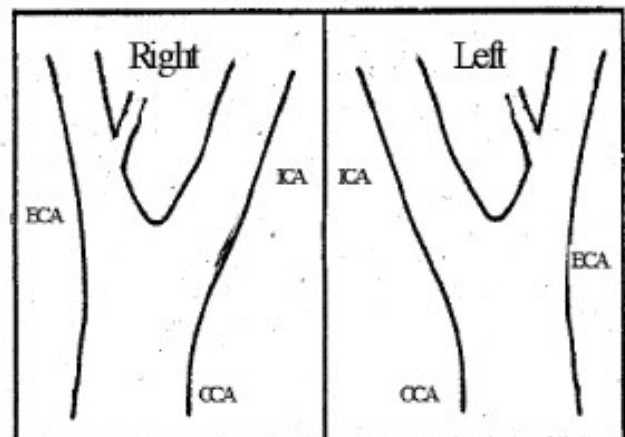
Carotid Duplex Assessment

	Date: 15.12.2023	Time: 11.30
	Consultant: PMB T.H.	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	103	67	100	85	83	99
EDV cm/s	37	26	14	31	23	19

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	<30%	Normal
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	Normal
Vertebral A	Antegrade	Antegrade



Report: no significant stenosis demonstrated bilaterally.

f. m. h.
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

Carotid Duplex Assessment

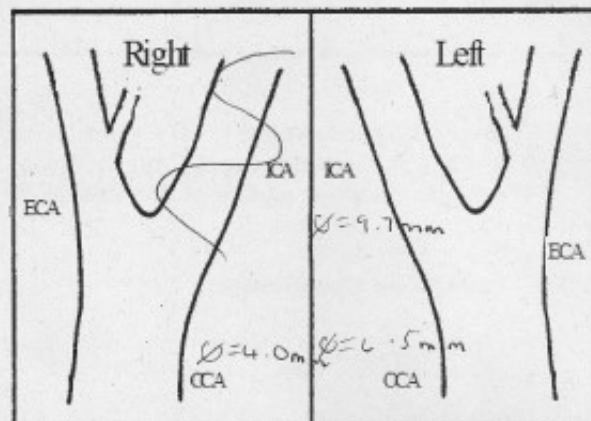
[Redacted Patient Information]

Date: 18.12.2023 Time:
 Consultant: WAT

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	74		74	69	61	57
EDV cm/s	16		16	22	27	16

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	? absent ? hypoplastic	Normal
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	Normal
Vertebral A	Antegrade	Antegrade



Report: RIGHT

No significant atheroma noted.
Bifurcation not visualised however, branches present suggestive of ECA present. ? hypoplastic ICA ? ICA agenesis
Normal distal CCA waveforms.
? Alternative imaging

LEFT

No significant atheroma. Normal diameter noted.

A. Mayhew / 5, SUFFOLK
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

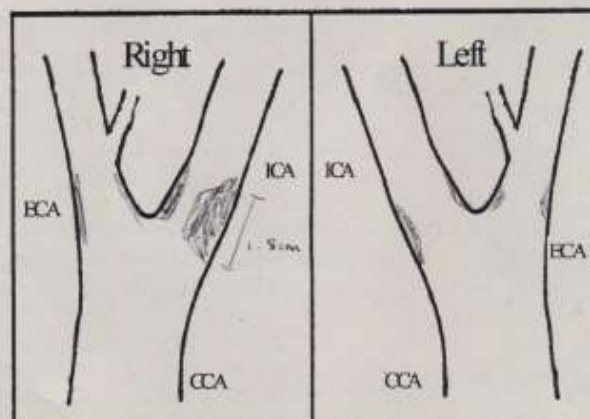
Carotid Duplex Assessment

	Date: 6.12.2023	TIME:
	Consultant:	
	7.415	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	62	354	66	78	54	80
EDV cm/s	11	64	0	8	14	0

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	17	17
ICA	70-79%	63%
Plaque surface	Smooth ☐ Irregular ☒ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type	3/4	
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Confidence:

Report: RIGHT:

70-79% stenosis in the proximal ICA. This extends into the vessel for ~1.5cm. Patent distally.

LEFT:

No significant stenosis demonstrated.

[Signature]
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

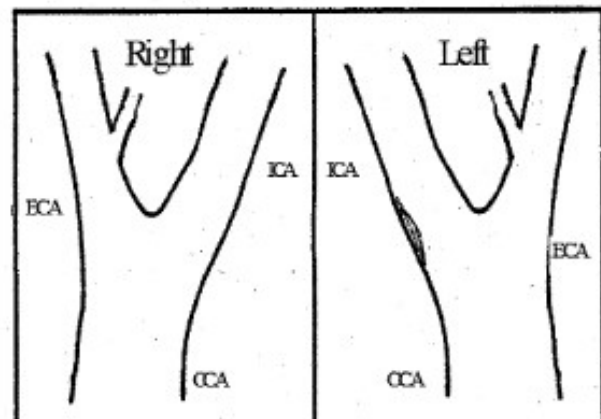
Carotid Duplex Assessment

	Date: 12.12.2023 Time: 10:45
	Consultant: ACS

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	78	84	100	66	72	73
EDV cm/s	32	40	18	31	31	28

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	Normal
ICA	Normal	< 30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	Normal	Normal
Vertebral A	Antegrade	Antegrade



Report: No significant stenosis demonstrated bilaterally

A. Molyneux
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

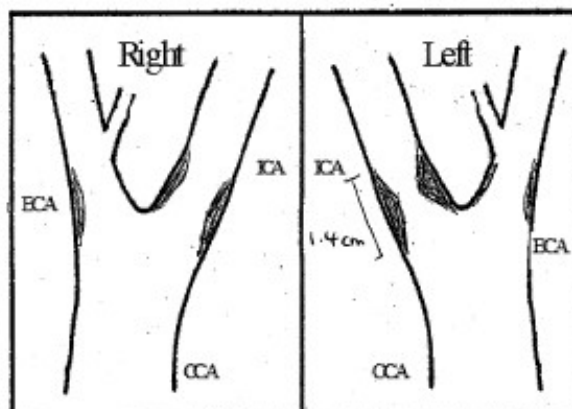
Carotid Duplex Assessment

	Date: 12.12.2023	Time:
	Consultant:	
	K C Z	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	53	71	82	53	461	65
EDV cm/s	14	23	11	11	193	19

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	17	17
ICA	230%	80-95%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		2 / 3
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report:

RIGHT:

No significant stenosis demonstrated.

LEFT:

80-95% proximal ICA stenosis, this is of mixed echogenicity. This begins at the ~~base~~ origin of the vessel and extends for ~ 1.4 cm in length. The distal vessel is patent.

A. Morgan
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

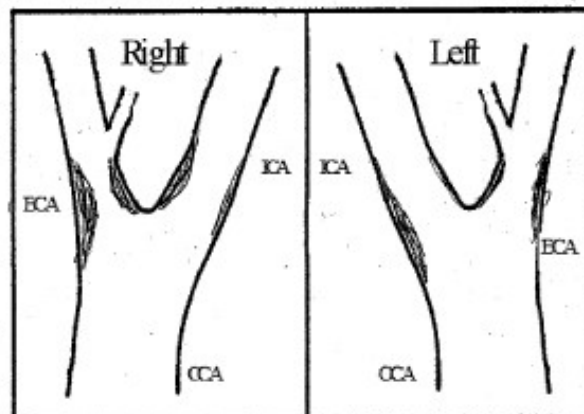
Carotid Duplex Assessment

	Date: 11.12.2023	Time: 10:20
	Consultant: ICS	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	60	73	223	84	73	99
EDV cm/s	13	20	22	19	19	20

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	1T	1T
ICA	<30%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	moderate	minor
Vertebral A	Antegrade	Antegrade



Report:

no significant stenosis demonstrated bilaterally.

Amalga
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

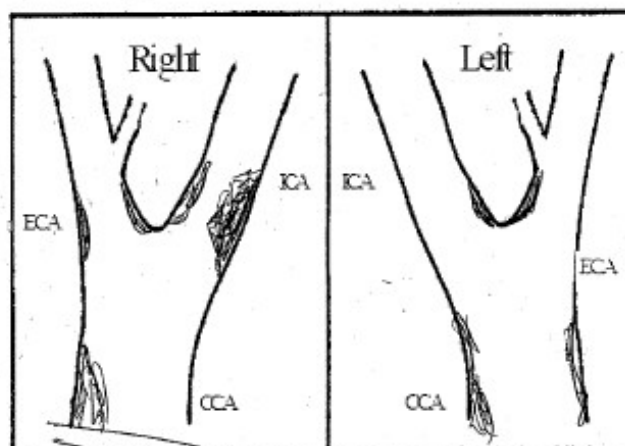
Carotid Duplex Assessment

	Date: 26.10.2023	Time:
	Consultant: YK2	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	96	167	55	101	81	77
EDV cm/s	17	23	8	14	18	5

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	minor	minor
ICA	50-59%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type	4/5	
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Calcified plaque causing limited views of proximal CCA + subclavian artery.

Report:

Right:
There is a 50-59% stenosis in the proximal ICA, mixed with mixed and calcified atheroma noted.

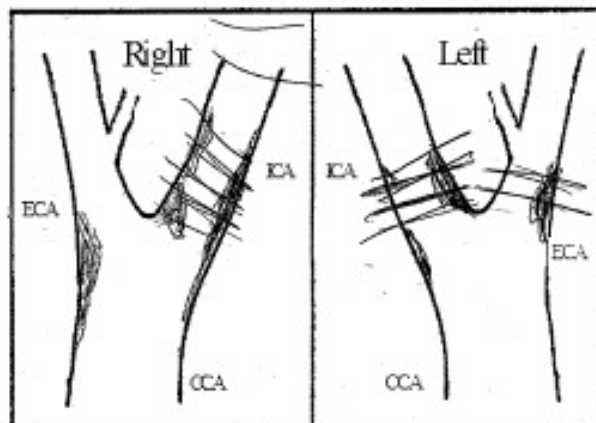
A. M. B. R.
Clinical Vascular Scientist

	Date: 26.10.2023	Time:
	Consultant:	
	EVAE	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	54	238	81	55	506	368
EDV cm/s	12	28	1	0	155	11

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	minor	IT
ICA	>70-79%	80-95%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	severe
Vertebral A	Antegrade	Antegrade



Report: Technically challenging assessment due to patient positioning and calcified vessel walls

Right:

Poorly visualised due to calcification resulting in ultrasound drop out.
ICA: Elevated PSV noted distally suggestive of a >70-79% stenosis.

Left:

Poorly visualised due to calcification resulting in ultrasound drop out.

ICA: Elevated PSV noted just distally to the obscured region, suggestive of a >80-95% stenosis.

A. Moberg
Clinical Vascular Scientist

Ken Ambler

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

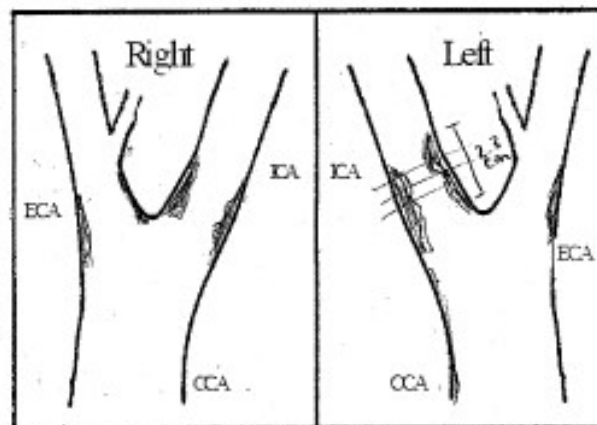
Carotid Duplex Assessment

	Date: 21.11.2023	Time: 11:15
	Consultant: EAE TIA	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	90	101	177	80	184	103
EDV cm/s	21	28	12	17	53	14

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	17	17
ICA	30 - 49 %	50 - 69 %
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report:

RIGHT:

no significant stenosis demonstrated (< 50%).

LEFT:

Calcified atheroma noted proximally, elevated PSV consistent with 50 - 69 % stenosis. This is ~2.3 cm in length and begins at the bifurcation.

Skand / A. Nelyk
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

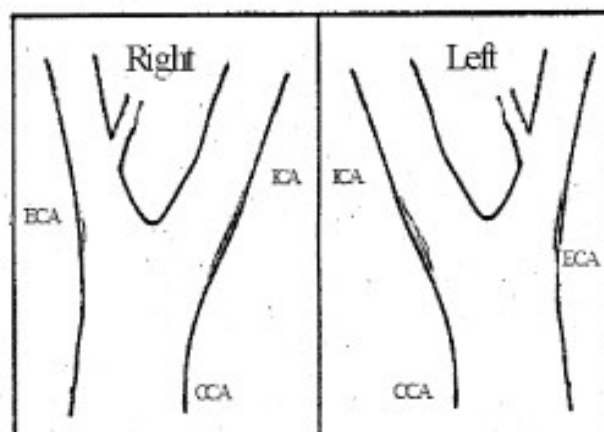
Carotid Duplex Assessment

	Time:
	64

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	70	70	109	69	63	91
EDV cm/s	10	14	0	13	15	0

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	15	15
ICA	<30%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report: no significant stenosis demonstrated bilaterally.

A. Moley
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

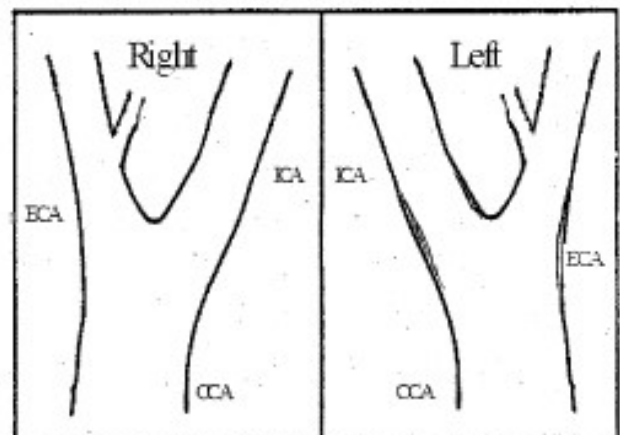
Carotid Duplex Assessment

	Date: 05.12.2023	Time: 12:00
	Consultant: ICS	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	81	53	73	84	57	95
EDV cm/s	18	14	8	24	18	10

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	IT	normal
ICA	normal	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	normal	minor
Vertebral A	Antegrade	Antegrade



Report:

No significant stenosis demonstrated bilaterally.

A. Mohan
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

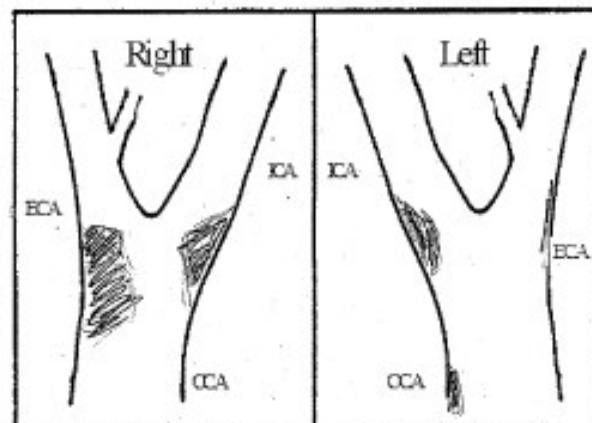
Carotid Duplex Assessment

	Date: 5-12-2023	Time:
	Consultant: MK3 - C4	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	89	114	102	82	55	98
EDV cm/s	14	37	12	18	18	6

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	< 50%	< 30%
ICA	30-49%	< 30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Waale Plaque Type		
ECA	minor	minor
Vertebral A	antegrade	antegrade



Report:

No significant stenosis demonstrated bilaterally.

RIGHT:

Atheroma noted in the distal CCA, extending into the bifurcation. However, this is not haemodynamically significant. Velocities suggest

30-49% narrowing.

[Signature]
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

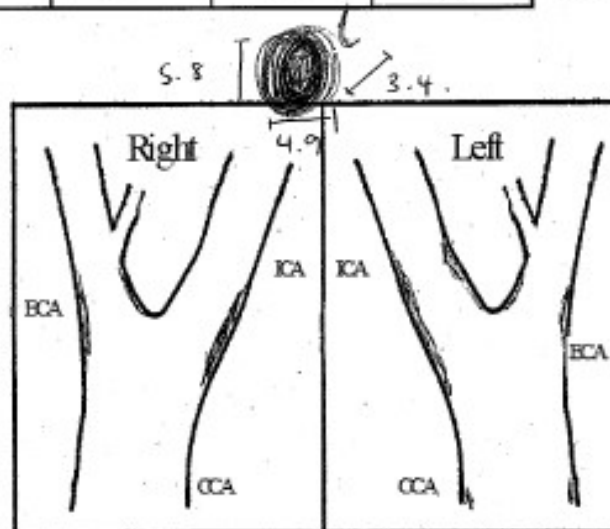
Carotid Duplex Assessment

	Date: 15.12.2022 Time: 10.15
	Consultant: PMB TIM

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	73	55	72	75	53	54
EDV cm/s	16	12	16	17	14	10

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	normal	minor
ICA	<30%	<20%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report:

No significant stenosis demonstrated bilaterally

RIGHT

* INCIDENTAL FINDING *

Noticeable lump on neck just below ear - mixed echogenic area noted, this appears vascularized and measures 5.8 x 4.9 x 3.4 cm. ? Aetiology - ? Further imaging if clinically indicated.

A. M. R.
Clinical Vascular Scientist

The Vascular Laboratory

Department of Vascular and Endovascular Surgery

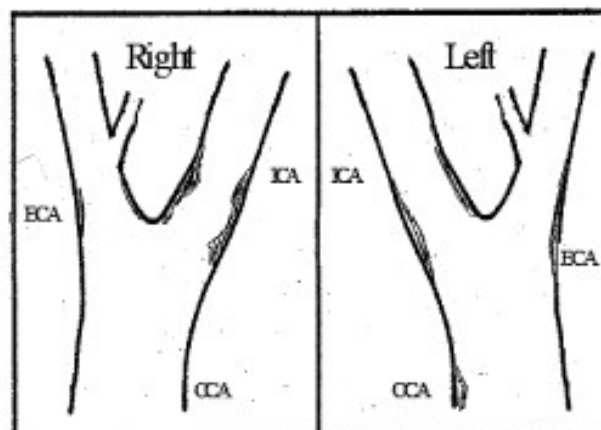
Carotid Duplex Assessment

	Date: 15.12.2023	Time: 12:30
	Consultant: OMB. SOEC.	

	Rt CCA	Rt ICA	Rt ECA	Lt CCA	Lt ICA	Lt ECA
PSV cm/s	60	119	139	68	60	93
EDV cm/s	18	48	14	13	18	10

Percentage Stenosis (diameter reduction)

	Right	Left
CCA	Normal	minor
ICA	30-49%	<30%
Plaque surface	Smooth ☐ Irregular ☐ Ulcerated ☐	Smooth ☐ Irregular ☐ Ulcerated ☐
Gray-Weale Plaque Type		
ECA	minor	minor
Vertebral A	Antegrade	Antegrade



Report: No significant stenosis demonstrated bilaterally.

Amber
Clinical Vascular Scientist