CAROTID ASSESSMENT

SCANNER SETTING: Carotid

5-8MHz PROBES

PATIENT POSITION

Supine with support for head and neck with head just above the pillow rotated to the contra-lateral side and neck slightly stretched.

DISEASE GRADING

Obtain measurement. Intimal wall thickening -Noticable thickening of intimal-medial layer

Minor plaque -Localised areas of plaque, not causing flow disturbance.

Mild plaque -Flow disturbance evident and causing <50% diameter

grading criteria being quoted. Significant ->50% diameter reduction with PSV's and/or stenosis

the plaque is i.e. low, medium or high, or if it is a smooth or irregular plaque and whether it is homogenous (one type of plaque) or heterogenous (different types of plaques) Plaque Morphology:-Plaque can be characterised into how echogenic

present note its position in the vessel and estimate the distance from the Stenosis grading: Stenoses are graded using the criteria recommended by the joint working group(attached). When a stenosis is angle of the mandible. Also note how far the disease extends up the vessel.

seen and also specifically at key points of proximal CCA, ECA and distal recorded. Note any abnormalities and specific structures related to the investigation. Obtain images as necessary with descriptive text of what was <u>IMAGES:</u>

When obtaining images ensure that the correct side and site is

IC Sept 12

<u>Prior to Scanning:</u> Ensure the patient is comfortable and there is clear access to the

SCANNING TECHNIQUE

- artery. On the left this is not generally possible due to the anatomy, but still 1. Start in a transverse view in B-mode, at the base of the neck. On the right scan down to identify the origin of the CCA and the innominate scan down as far as possible
- 2. Scan up the neck to identify the bifurcation and determine the orientation of the ICA and ECA, noting any plaque or other anomalies that may be present.
- flow disturbance or aliasing Switch on the colour Doppler and repeat the scan looking for any
- affecting the position of the Doppler sample, ask the patient to stop breathing 4. Turn the probe into a longitudinal view and obtain a Doppler waveform from the CCA at the base of the neck. If the patients' breathing is for a few seconds if possible.
- 5. Scan up the CCA and using the Doppler assess the flow as necessary and grade any plaque present. Record the peak systolic and end diastolic velocities within 2cm of the bifurcation at a point where the vessel still has a uniform diameter.
- Using the transverse scan from memory and also the colour Doppler, identify the ECA noting any plaque and obtaining a Doppler
- Doppler at the level where the highest PSV is seen, obtaining images and recording the peak systolic and end diastolic velocities and the level of the as possible. When there is significant plaque assess and grade it with the stenosis from the angle of the mandible. Identify and assess the ICA obtaining a Doppler waveform as distal
- of proximal disease assess the vertebral proximally and the flow in the spine can be seen. Identify the vertebral artery between the processes or as it dives into the processes at the level of the 6th vertebra. Using the subclavian artery. Doppler assess the flow noting the direction. If flow is reversed or suggestive bifurcation. Slowly move the probe laterally until the transverse processes of Whilst in longitudinal view scan down to just below the level of the

Carotid

Date	СНІ	Scan
07/11/2018	1308472056	Carotid
12/11/2018	806592028	Carotid
27/11/2018	2411332122	Carotid
28/11/2018	106342053	Carotid
11/12/2018	2305375255	Carotid
13/12/2018	2005522317	Carotid
13/12/2018	2205692062	Carotid
17/12/2018	607442050	Carotid
17/12/2018	2601812087	Carotid
18/12/2018	1404322094	Carotid
19/12/2018	3103592132	Carotid
19/12/2018	1801621219	Carotid
31/12/2018	3101352118	Carotid
31/12/2018	2212452187	Carotid
03/01/2019	1504472446	Carotid
07/01/2019	802562140	Carotid
15/01/2019	1512312053	Carotid
15/01/2019	910462119	Carotid
15/01/2019	607442115	Carotid
15/01/2019	2509502522	Carotid
15/01/2019	2612532250	Carotid
17/01/2019	2305492065	Carotid
17/01/2019	2702505406	Carotid
22/01/2019	2012592309	
23/01/2019	2507422076	Carotid

Consultant:



Stroke Care Ward 403 Episode date 07/11/2018

Ward Outpatient

Patient:

Unit Number 0188409

CHI

1308472056

Tests performed:

Carotid Duplex

Results:

Difficult scan due to shadowing, only proximal ICA and ECA seen clearly on both th eright and left.

Right

Common Carotid - Within normal limits

Internal Carotid -

Mild disease proximally (it was noted that there was a enlarged area in the proiximal segment

of the vessel ~10mm)

External Carotid -

Proximal seen only with mild disease

Vertebral -

Patent with antigrade flow

<u>Left</u>

Common Carotid - Within normal limits

Internal Carotid -

Mild disease in the bulb

External Carotid -

Proximal seen only with mild disease

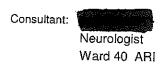
Vertebral -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

07/11/2018

101632



Episode date 12/11/2018

Ward Outpatient



Unit Number 0857556

0806592028

Tests performed:

Carotid Duplex

Results:

disscussed with consultant - send for CTA

Right

Common Carotid - Appears within normal limits

Internal Carotid -Mild disease proximally

External Carotid -Mild disease proximally

<u>Vertebral</u> -Patent with antigrade flow

<u>Lett</u>

Common Carotid - Appears within normal limits

Occlusion from orgin, Unable to detectet flow in vessel however walls are calcified therefore Internal Carotid -

difficult to confirm

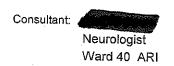
External Carotid -Mild disease proximally

<u>Vertebral -</u> Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

12/11/2018

101683



Episode date 27/11/2018

Ward Outpatient

Patient:

Unit Number 0468957

СHI 2411332122

Tests performed:

Carotid Duplex

Results:

difficult scan due to patient having difficulty breathing.

Right

Common Carotid - Minor disease throughout

Internal Carotid -

Moderate disease at bifucation

External Carotid -

Moderate disease at bifucation

<u>Vertebral</u> -

Not imaged

<u>Left</u>

Common Carotid - Minor disease throughout

Internal Carotid -

Appears occluded however difficult to image

External Carotid -

moderate disease throughout

<u>Vertebral</u> -

Not imaged

Scanned By:- Heather Lynn Trainee Clinical Scientist

27/11/2018

101827

Consultant:

Episode date

28/11/2018

Ward Outpatient

Patient:

Unit Number 0468060

CHI

0106342053

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Mild calcified disease throughout

Internal Carotid -

There is calcified palque proximally that using a carotid stenosis critria works ou to be 50 -59% however in grey scale it appear great ~ 70%

External Carotid -

Moderate calcified disease prox - mid segment

<u>Vertebral</u> -

Patent with antigrade and calcified disease

<u>Left</u>

Common Carotid - Mild calcified disease throughout

Internal Carotid -

There is calcified palque proximally that using carotid stenosis critria works out to be a 50 -59% stenosis.

External Carotid -

Moderate calcified disease prox - mid segment

<u>Vertebral -</u>

Patent with antigrade and calcified disease

Scanned By:- Heather Lynn Trainee Clinical Scientist

28/11/2018

101833

Consultant:

Episode date

Ward

11/12/2018

Outpatient

Patient:

Mr.

Unit Number 2110729

CHI

2305375255

Tests performed:

Carotid Duplex

Results:

<u>Right</u>

Common Carotid - Mild disease throughout

Internal Carotid -

Significant localised plaque in the bulb in grey scale appears over 90% stenosis however using

carotid critéria calculation it works out to be 80% stenosis. distally the vessel is patent with

minimal disease.

External Carotid -

Mild disease thoughout

Vertebral -

Not imaged

Left

Common Carotid - Mild disease thoughout

Internal Carotid -

moderate disease in the bulb

External Carotid -

Mild disease thoughout

Vertebral -

Not imaged

Scanned By:- Heather Lynn Trainee Clinical Scientist

11/12/2018

101975

Consultant:

Episode date 13/12/2018

Ward Outpatient

Patient:

Unit Number **0929317**

CHI

2005522317

Tests performed:

Carotid Duplex

Results:

Right

. Common Carotid - Mild calcified disease throughout

<u>Internal Carotid - Mild calcified disease throughout</u>

External Carotid - Mild calcified disease throughout

Vertebral - Not iimaged

Left

Common Carotid - Mild calcified disease throughout

Internal Carotid - Mild calcified disease throughout

External Carotid - Mild calcified disease throughout

<u>Vertebral -</u> Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

13/12/2018

102018

Consultant:

Episode date 13/12/2018

Ward Outpatient

Patient:

ration.

Unit Number **0510478**

CHI

2205692062

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid - Appears within normal limits

External Carotid - Appears within normal limits

<u>Vertebral</u> patent with antigrade flow

<u>Left</u>

Common Carotid - Appears within normal limits

<u>Internal Carotid -</u> Appears within normal limits. There was a right angle kink in the vessel in the mid section

which increase the PSV's however ever using calculation it worked out to be less than 50%

and no significant plaque was noted.

External Carotid - Appears within normal limits

<u>Vertebral</u> - Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

13/12/2018

102030

Consultant:

Episode date 17/12/2018

Ward Outpatient

Patient:

Unit Number **0416400**

CHI

0607442050

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid -

Mild plaque in bulb

External Carotid -

Mild disease throughout

<u>Vertebral -</u>

Patent with antigrade flow

Left

Common Carotid - Appears within normal limits

Internal Carotid -

Mild plaque in bulb

External Carotid -

Mild disease throughout

Vertebral -

Not imaged

Scanned By:- Heather Lynn Trainee Clinical Scientist

17/12/2018

102046

Consultant:



Stroke Care Ward 204 ARI Episode date 17/12/2018

Ward Outpatient

Patient:

Unit Number **0701826**

CHI

2601812087

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid -

Appears within normal limits

External Carotid -

Appears within normal limits

Vertebral -

Patent with antigrade flow

<u>Left</u>

Common Carotid - Appears within normal limits

Internal Carotid -

Appears within normal limits

External Carotid -

Appears within normal limits

<u>Vertebral</u> -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

17/12/2018

102048

Consultant:

Episode date 18/12/2018

Ward Outpatient

Patient:

Unit Number **0102755**

CHI

1404322094

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Minor disease throughout

Internal Carotid -

Mild disease throughout .

External Carotid -

Significant elevated proximal (max PSV's 300cm/sec

<u>Vertebral</u> -

Patent with antigrade flow

<u>Left</u>

Common Carotid - Minor disease throughout

Internal Carotid -

Mild disease throughout

External Carotid -

Mild disease throughout

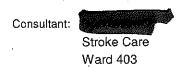
Vertebral -

Patentwith antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

18/12/2018

102060



Episode date 19/12/2018

Ward Outpatient

Patient:

Unit Number **2192281**

СНІ **3103592132**

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid -

Mild disease in bulb

External Carotid -

Appears within normal limits

<u>Vertebral -</u>

Patent with antigrade flow

<u>Left</u>

Common Carotid - Appears within normal limits

Internal Carotid -

Appears within normal limits

External Carotid -

Mild disease throughout

<u>Vertebral -</u>

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

19/12/2018

102080

Consultant:

Episode date 19/12/2018

Ward Outpatient

Patient:

Unit Number **2173456**

CHI

1801621219

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

<u> Internal Carotid -</u>

Moderate disease in bulb ~40% reduction in diameter

External Carotid -

Appears within normal limits

<u>Vertebral</u> -

Patent with antigrade flow

<u>Left</u>

Common Carotid - Appears within normal limits

Internal Carotid -

Moderate disease in bulb ~40% reduction in diameter

External Carotid -

Appears within normal limits

Vertebral -

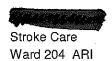
Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

19/12/2018

102079

Consultant:



Episode date 31/12/2018

Ward Outpatient

Patient:



Unit Number **020925**

сні **3101352118**

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Minor disease throughout

Internal Carotid -

Mild disease throughout

External Carotid -

Mild disease throughout

Vertebral -

Patent with antigrade flow

Left

Common Carotid - Minor disease throughout

Internal Carotid -

Moderate disease proximally,

External Carotid -

Mild disease throughout

<u>Vertebral -</u>

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

31/12/2018

102166

Consultant: Macana

Stroke Care -Ward 204 ARI Episode date

31/12/2018

Ward Outpatient

Patient:

Ms.

Unit Number

0326234

CHI

2212452187

Tests performed:

Carotid Duplex

Results:

technically difficult due to pateint unable to respond to instructions and in bed

Right

Common Carotid - Appears within normal limits

Internal Carotid -

Minor disease in bulb

External Carotid -

Minor disease throughout

Vertebral -

Not imaged

Left

Common Carotid -Appears within normal limits

Internal Carotid -

Minor disease in bulb

External Carotid -

Minor disease throughout

<u>Vertebral</u> -

Not imaged

Scanned By:- Heather Lynn Trainee Clinical Scientist

31/12/2018

102167

Consultant:

Episode date

03/01/2019

Ward Outpatient

Patient:

Unit Number 0450318

CHI

1504472446

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Minor disease throughout

Internal Carotid -

Tortuous vessel no significant disease

External Carotid -

Minor disease throughout

Vertebral -

Patent with antigrade flow

Left

Common Carotid - Minor disease throughout

Internal Carotid -

Tortuous vessel no significant disease

External Carotid -

Minor disease throughout

Vertebral -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

03/01/2019

102181

Consultant:

Episode date 07/01/2019

Ward Outpatient

Patient:

Unit Number **0452474**

CHI

0802562140

Tests performed:

Carotid Duplex

Results:

<u>Right</u>

Common Carotid - Minor wall thickening throughout

Internal Carotid -

mild/moderate disease proximally

External Carotid -

Mild disease proximally

<u>Vertebral</u> -

not imaged

<u>Left</u>

Common Carotid - MInor wall thickening throughout

Internal Carotid -

mild/moderate disease proximally

External Carotid -

Mild disease proximally

Vertebral -

Patent with antigrdae flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

07/01/2019

102209

Consultant:



Stroke Care Ward 403 Episode date 15/01/2019

Ward Outpatient

Patient:



Unit Number **0101742** CHI

1512312053

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - minor disease throughtout

Internal Carotid -

Mild disease in bulb

External Carotid -

Minor disease throughout

Vertebral -

Not imaged

<u>Left</u>

Common Carotid - minor disease throughtout

Internal Carotid -

Mild disease in bulb

External Carotid -

Minor disease throughout

Vertebral -

Not imaged

Scanned By:- Heather Lynn Trainee Clinical Scientist

15/01/2019

102322

Consultant: Vascular Surgeon
Ward 215 ARI

Episode date 15/01/2019

Ward Outpatient

Patient:

Unit Number **0172762**

CHI

0910462119

Tests performed:

Carotid Duplex

Results:

<u>Right</u>

Common Carotid -

Internal Carotid -

External Carotid -

Vertebral -

<u>Left</u>

<u>Common Carotid -</u> Tortuous vessel with mild disease.

Internal Carotid -

Using carotid criteria there is a 70 -79% stenosis in the proximal ICA. 4 cm below the mandible, distally the vessel is patent. It was noted the stenosis appear like a shelf which the

blood is vortexing around

External Carotid -

Mild disease throughout

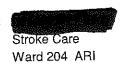
Vertebral -

Scanned By:- Heather Lynn/LS Trainee Clinical Scientist

15/01/2019

102318

Consultant:



Episode date 15/01/2019

Ward Outpatient

Patient:

Mr.

Unit Number **0458270**

CHI

0607442115

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - MInor disease throughout

Internal Carotid -

Mild disease in bulb

External Carotid -

Mild disease throughout

<u>Vertebral</u> -

Not imaged

<u>Left</u>

Common Carotid - Minor d

Minor disease throughout

Internal Carotid -

Mild disease in bulb

External Carotid -

Mild disease throughout

Vertebral -

patent with retrograde flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

15/01/2019

102329

Consultant:

Stroke Care

Stroke Care Ward 403 Episode date 15/01/2019

Ward Outpatient

Patient:

Ms.

Carotid Duplex

Unit Number **0836875**

CHI

2509502522

Results:

Tests performed:

Right

Common Carotid - Minor disease throughout

Internal Carotid -

Minor disease throughout

External Carotid -

Minor disease throughout

Vertebral -

Patent with antigrade flow

Left

Common Carotid - Minor disease throughout

Internal Carotid -

Minor disease throughout

External Carotid -

Minor disease throughout

<u>Vertebral -</u>

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

15/01/2019

102330

Consultant:



Episode date 15/01/2019

Ward Outpatient

Patient:

Mr.

Unit Number **0812749**

CHI

2612532250

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Moderate disease proximally

Internal Carotid -

Mild disease throughout

External Carotid -

Mild disease throughout

<u>Vertebral -</u>

Patent with antigrade flow

<u>Left</u>

Common Carotid - Mild disease throughout

Internal Carotid -

Mild disease throughout

External Carotid -

Mild disease throughout

<u>Vertebral</u> -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

15/01/2019

102331

Consultant:

Episode date 17/01/2019

Ward Outpatient

Patient:

Mrs.

Unit Number **0377732**

CHI

2305492065

Tests performed:

Carotid Duplex

Results:

Hibifurcation

Right

Common Carotid - Mild calcified disease throughout

Internal Carotid -

Mild disease in bulb

External Carotid -

Unable to image due to high bifurcation and vein

Vertebral -

Patent with antigrade flow

<u>Left</u>

Common Carotid - Minor/Mild calcified disease throughout

Internal Carotid -

Minor/ Mild disease in bulb

External Carotid -

Mild disease with PSV's 150cm/sec

<u>Vertebral</u> -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

17/01/2019

102368

Consultant: Dr R Clarke

Stroke Care Ward 403

Episode date 17/01/2019 Ward Outpatient

Patient:

Mrs

Unit Number 2058349

CHI

2702505406

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid -

Mild disease throughout

External Carotid -

Mild disease throughout

Vertebral -

Patent with antigrade flow

Left

Common Carotid -

Appears within normal limits

Internal Carotid -

Mild disease throughout

External Carotid -

Mild disease throughout

Vertebral -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

17/01/2019

102353

Consultant:

Episode date 22/01/2019

Ward

Patient Ms.

Unit Number **0252244**

CHI

2012592309

Tests performed:

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid - Appears within normal limits

External Carotid - Appears within normal limits

<u>Vertebral</u> - Patent with antigrade flow

<u>Left</u>

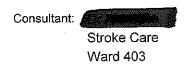
Common Carotid - Appears within normal limits

Internal Carotid - Appears within normal limits

External Carotid - Appears within normal limits

<u>Vertebral -</u> Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist



Episode date 23/01/2019

Ward Outpatient

Patient:

Mr.

Unit Number **0329977**

CHI

2507422076

Tests performed:

Carotid Duplex

Results:

Right

Common Carotid - Appears within normal limits

Internal Carotid -

Moderare diseasein bulb

External Carotid -

Mild disease throughout

<u>Vertebral</u> -

Not imaged

<u>Lett</u>

Common Carotid - Appears within normal limits

Internal Carotid -

Moderate disease in bulb

External Carotid -

Mild disease throughout.

Vertebral -

Patent with antigrade flow

Scanned By:- Heather Lynn Trainee Clinical Scientist

23/01/2019

102416