<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. Is the scan completely normal? (No new or old vascular lesion and no non-vascular lesion).</td>
<td>Yes, No</td>
<td>[Go to Q33]</td>
</tr>
<tr>
<td>Q2. Is there any sign of ACUTE parenchymal ischaemic change?</td>
<td>Yes, No</td>
<td>[Go to Q17]</td>
</tr>
<tr>
<td>Q3. Side of the brain with Acute ischaemic change?</td>
<td>Left, Right, Both</td>
<td>Note: If there is more than one acute lesion, please use the following questions to code the largest lesion. Other smaller acute lesions can be coded later.</td>
</tr>
</tbody>
</table>

### Table: ist02

<table>
<thead>
<tr>
<th>Column</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan norm</td>
<td>Y, N</td>
</tr>
<tr>
<td>acute ischaemia</td>
<td>Y, N</td>
</tr>
<tr>
<td>side of ischaemic</td>
<td>L, R, B</td>
</tr>
</tbody>
</table>
4. Signs of acute ischaemic change: Density change, please indicate the degree of any acute hypodensity.
   ● None
   ● Mild hypodensity
   ● Severe hypodensity

**Hypodensity**: Has the grey matter of the cortex, caudate or lentiform nucleus reduced to the same density as that of normal white matter? Is there loss of grey/white matter differentiation or basal ganglia outline?

**Severe Hypodensity**: Has the grey or white matter density reduced below the density of normal white matter?

**Note**: In the case of an MR scan, please choose "Mild Hypodensity" in the case of a lesion visible on diffusion imaging but not FLAIR or T2, choose "Severe Hypodensity" in the case of a lesion visible both on diffusion imaging and FLAIR or T2.

### hypodeg

- **N** None
- **M** Mild hypodensity
- **S** Severe hypodensity

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5. Signs of acute ischaemic change: Swelling, please indicate maximum visible swelling.
   ● Sulcal Effacement
   ● Ventricular Effacement
   ● Both Sulcal Effacement and Ventricular Effacement
   ● Midline Shift
   ● Uncal Herniation
   ● None

### Hypodegsite

- **S** Sulcal Effacement
- **V** Ventricular Effacement
- **B** Both Sulcal Effacement and Ventricular Effacement
- **M** Midline Shift
- **U** Uncal Herniation
- **N** None
Q6. Are there any early ischaemic changes in the middle cerebral artery (MCA) territory?

- MCA territory not affected
- Less than 33% of MCA territory
- More than 33% of MCA territory

Note: If you want to code an acute lacunar lesion, answer 'No' to MCA involvement because there is a separate question for known lesions later on.

mca
N MCA territory not affected
L Less than 33% of MCA territory
H More than 33% of MCA territory

Q7. Classify site and size of acute ischaemic lesion of MCA territory. Select one only which most closely describes the main lesion.

- Small Cortical (fig. 1) [Note: could be anywhere in MCA territory]
- Basal Ganglia Striatocapsular (fig. 2)
- Lateral to Ventricle Striatocapsular (fig. 3)
- Anterior Cortical MCA territory (fig. 4) [Note: may involve lateral part of basal ganglia & insula]
- Posterior Cortical MCA territory (fig. 5) [Note: may involve lateral part of basal ganglia & insula]
- Whole of Cortical MCA territory (fig. 6)
- Whole of Cortical MCA territory with lateral part of basal ganglia (fig. 7)
- Whole MCA territory (fig. 8)

Note: Lesions of whole MCA + part or whole ACA, or part of whole of PCA should be coded using the MCA codes for the MCA component and the ACA or PCA codes for the ACA/PCA parts.

affmca
A Small Cortical
B Basal Ganglia Striatocapsular
C Lateral to Ventricle Striatocapsular
D Anterior Cortical MCA territory
E Posterior Cortical MCA territory
F Whole of Cortical MCA territory
G Whole of Cortical MCA territory with lateral part of basal ganglia
H Whole MCA territory
Q8. For the MCA territory on the side of the brain which you think shows acute ischaemic change, please mark named region as 'normal' or 'ischaemic'.

<table>
<thead>
<tr>
<th>Region</th>
<th>Normal</th>
<th>Ischaemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caudate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lentiform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insula</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Capsule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Yes (ie Ischaemic)  No


Q9. Is any other arterial territory / part of brain involved in the acute ischaemic lesion?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

[go to Q16]
Q10. Is there any acute infarct in the Anterior cerebral artery (ACA) territory affected?
- ACA territory not affected
- Less than 50% of ACA territory
- More than 50% of ACA territory
- Complete ACA territory

Q11. Is there any acute infarct in the Posterior cerebral artery (PCA) territory affected?
- PCA territory not affected
- Less than 50% of PCA territory
- More than 50% of PCA territory
- Complete PCA territory

Q12. Please specify any acute small subcortical infarctions (i.e. lacunar) that are present.
- None
- Internal Capsule / Lentiform (fig.1) [Note: including basal ganglia]
- Internal Border Zone (fig.2)
- Centrum Semiovale (fig.3)
- Thalamus (fig 4)

Note: Brainstem or cerebellar lacunar infarcts are recorded later.
<table>
<thead>
<tr>
<th>X</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Internal Capsule / Lentiform</td>
</tr>
<tr>
<td>B</td>
<td>Internal Border Zone</td>
</tr>
<tr>
<td>C</td>
<td>Centrum Semiovale</td>
</tr>
<tr>
<td>D</td>
<td>Thalamus</td>
</tr>
</tbody>
</table>

**Change the screen layout by dragging the above white bar up and down.**

### Q13. Are there any acute cortical borderzone infarctions?

- None
- Anterior Border Zone (fig 1)
- Posterior Border Zone (fig 2)
- Both Anterior and Posterior Border Zone

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**cbzinf**

<table>
<thead>
<tr>
<th>N</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Anterior Border Zone</td>
</tr>
<tr>
<td>P</td>
<td>Posterior Border Zone</td>
</tr>
<tr>
<td>B</td>
<td>Both Anterior and Posterior Border Zone</td>
</tr>
</tbody>
</table>

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### Q14. Is there any acute cerebellar infarction?

- None
- Lacunar Infarction (ie small deep cerebellar lesion)
- Less than 50% of cerebellar hemisphere (ie involves some cerebellar cortex)
- More than 50% of cerebellar hemisphere (ie involves some cerebellar cortex)

---

**cinf**

<table>
<thead>
<tr>
<th>N</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Lacunar Infarction (ie small deep cerebellar lesion)</td>
</tr>
<tr>
<td>L</td>
<td>Less than 50% of cerebellar hemisphere (ie involves some cerebellar cortex)</td>
</tr>
<tr>
<td>H</td>
<td>More than 50% of cerebellar hemisphere (ie involves some cerebellar cortex)</td>
</tr>
</tbody>
</table>
Q15. Is there any acute brainstem infarction?

- None
- Lacunar Infarction (ie small deep infarct in brainstem)
- Less than 50% of brainstem
- More than 50% of brainstem

Q16. Describe the degree of tissue swelling in the acute infarct. Note, although the diagram shows an infarct in the MCA, the classification can be applied to any territory. (Pick maximum swelling present)

- 0. None (not shown)
- 1. Effacement of the sulci overlying the infarct (fig.1)
- 2. Minor effacement of the adjacent lateral ventricle (fig.2)
- 3. Complete effacement of the lateral ventricle (fig.3)
- 4. Effacement of the lateral and third ventricle (fig.4)
- 5. Shift of the midline away from the side of the infarct (fig.5)
- 6. Effacement of the basal cisterns (not shown)
Q17. Is there a hyperdense artery sign (potentially due to acute thrombus, rather than calcification)? In the case of an MR scan, please indicate which artery, if any, has an absent flow void or increased signal in the artery that would suggest intraarterial thrombus. Select all affected, skip if none.

- Middle cerebral artery (MCA) main stem
- Insular MCA
- Internal Carotid Artery (ICA)
- Anterior Cerebral Artery (ACA)
- Posterior Cerebral Artery (PCA)
- Basilar Artery (BA)
- Vertebral Artery (VA)

Y   Yes
N   No 

Q18. Is there another (minor) new ischaemic lesion?

- Yes
- No

Y   Yes
N   No 

[go to Q20]
Q19. Please state the likely regions of the brain, sides and sizes of the minor acute lesions. You can **add** up to two lesions. Note, old lesions are coded later.

<table>
<thead>
<tr>
<th>Region</th>
<th>Side</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please select</td>
<td>Please select</td>
<td>Please select</td>
</tr>
</tbody>
</table>

List of (minor) new ischaemic lesions

To delete one or more of the selected items, simply check the appropriate checkboxes and then press the [Delete] button.

Delete
Q19. Please state the likely regions of the brain, sides and sizes of the minor acute lesions. You can **add** up to two lesions. Note, old lesions are coded later.

<table>
<thead>
<tr>
<th>Region</th>
<th>Side</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please select</td>
<td>Please select</td>
<td>Please select</td>
</tr>
</tbody>
</table>

List of (minor) new ischaemic lesions

- ACA
- MCA
- PCA
- Borderzone
- Lacunar
- Brainstem
- Cerebellum

**silregion**

**silside**

- Right
- Left

**silsize**

- Small
- Medium
- Large

**silorder**

<int> <Numerical Order>

---

Q20. Are there any microhaemorrhages?

- Yes
- No
- Not Applicable (i.e. CT scan)

**anymicrohaem**

Y  Yes
Q21. Please indicate the number of microhaemorrhages.

- 1
- 2
- 3-5
- 6-10
- >10

microhaemcount

A 1
B 2
C 3-5
D 6-10
E >10

Q22. Is there any haemorrhage anywhere?

- Yes
- No

anyhaem

Y Yes
N No
Note: Before completing the next question please study the image on the right. The question relates to classifying all haemorrhages that are present, not just the main one (ie subdural plus parenchymal haematoma, etc)

- Significant haemorrhagic transformation of infarct should be used to indicate patchy haemorrhage throughout the infarct and/or a large discrete haematoma in the infarct.
- Parenchymal haematoma should be used to indicate any discrete haematoma in the infarct without petechial haemorrhage.
- Parenchymal haematoma remote from the infarct should be used to indicate haematomas outside of the infarct.

Fig 1. Petechial haemorrhage of edges of infarct i.e. no discrete haematoma.
Fig 2. Petechial haemorrhage / small haematoma in infarct but occupies less than half of infarct with no or only slight mass effect.
Fig 3. Haematoma occupying much of infarct with definite mass effect compressing surrounding tissue.

Both Fig 2 and Fig 3 would classify as ‘Parenchymal haematoma in infarct’.

Q24. Please classify all haemorrhages that are present. Select their type and size and then press the [Add] button. You can add more than one. You must list all haemorrhages present, not just the main one (eg subdural plus parenchymal haematoma, etc).

Ordered list of selected items. Please put the haemorrhages in order of most important (ie largest, most likely to worsen symptoms) first. To change the order use the UP and DOWN arrows on the left.

To delete one or more of the selected items, simply check the appropriate checkboxes and then press the [Delete] button.
**haemtype**

- Petechial Haemorrhage
- Significant haemorrhagic transformation of infarct
- Parenchymal haematoma
- Parenchymal haematoma clearly remote from infarct
- Subdural haematoma
- Subarachnoid haemorrhage
- Extradural haemorrhage

**haemsize**

- <3cm
- 3-5cm
Q25. In your opinion, if in the infarct, is the haemorrhage likely to have worsened mass effect or involved more brain in the damage present than the original infarct and so worsened symptoms? Or, if remote from the infarct, is the haemorrhage likely to have contributed significantly to the burden of brain damage and worsened symptoms?

- Yes
- No

Q25. Please classify any reduction in brain tissue volume. (See example)

**Central Atrophy**
- None [Fig 1]
- Moderate [Fig 2]
- Severe [Fig 3]

**Cortical Atrophy**
- None [Fig 4]
- Moderate [Fig 5]
- Severe [Fig 6]

Note: This question is not asked for follow-up scans

**RedbtvolA**
- N  None
- M  Moderate
- S  Severe
Cortical Atrophy

**redbtvolB**

- **N** None
- **M** Moderate
- **S** Severe

Note: This question is not asked for follow-up scans

### Anterior
- None in this area (Rank=0)
- Lucency restricted to region adjoining ventricles (Rank=1)
- Lucency covering entire region from lateral ventricle to cortex (Rank=2)

### Posterior
- None in this area (Rank=0)
- Lucency restricted to region adjoining ventricles (Rank=1)
- Lucency covering entire region from lateral ventricle to cortex (Rank=2)

### Anterior Lucencies
- Slice through choroid plexus
- Slice through cella media
- Slice through centrum semiovale

### Posterior Lucencies
- Slice through choroid plexus
- Slice through cella media
- Slice through centrum semiovale

Ref: van Swieten et al. JNPP 1990;50:1080-1083

### Q27. Please classify extent of any periventricular white matter lucencies

**Anterior**

- **C** None in this area
- **A** Lucency restricted to region adjoining ventricles
- **B** Lucency covering entire region from lateral ventricle to cortex

**Posterior**

- **C** None in this area
- **A** Lucency restricted to region adjoining ventricles
- **B** Lucency covering entire region from lateral ventricle to cortex

### Q28. Are there any old vascular lesions anywhere in the brain?

- **Yes**
- **No**
Note: This question is not asked for follow-up scans

oldlesion
Y  Yes  [goto Q30]
N  No

Q23. Please classify any old vascular lesions anywhere in the brain (indicate all present).
- Old cortical infarcts
- Old striatocapsular infarcts
- Old borderzone infarcts
- Old lacunar infarcts
- Old brainstem/cerebellar infarcts
- Probable old haemorrhage

Note: This question is not asked for follow-up scans
Old cortical infarcts  oldlesion1
Old striatocapsular infarcts  oldlesion2
Old borderzone infarcts  oldlesion3
Old lacunar infarcts  oldlesion4
Old brainstem/cerebellar infarcts  oldlesion5
Probable old haemorrhage  oldlesion6

Y  Yes
N  No

Q30. Are there any non stroke lesions anywhere in the brain?
- Y  Yes
- N  No

Note: This question is not asked for follow-up scans

nslesion
Y  Yes  [Go to 33]
N  No
Q31. Please select all relevant non stroke lesions.
- Cerebral Tumour
- Encephalitis
- Demyelation (eg Multiple Sclerosis)
- Cerebral Abscess
- Other (eg Contusion, incidental calcification)

Note: This question is not asked for follow-up scans
Cerebral Tumour nslesion1
Encephalitis nslesion2
Demyelation (eg Multiple Sclerosis) nslesion3
Cerebral Abscess nslesion4
Y Yes
Other (eg Contusion, incidental calcification) nslesion5
Y Yes [Go to Q32]
N No [Go to Q33]

Q32. On the previous question, you stated 'Other'; please specify below.

Note: This question is not asked for follow-up scans
nslnotes
NOTES

Q33. Scan Quality
- Good
- Moderate
- Poor
scanqual
G  Good
M  Moderate
P  Poor