## **Patient Information**

1. Study ID number:
2. Date and time of study \_\_\_ \_\_\_ - \_\_\_ \_\_\_ \_\_\_ - \_\_\_ \_\_\_ \_\_\_ \_\_\_ (DD-MMM-YYYY)

(HH:MM, 24 hr clock): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. [[1]](#footnote-1)NIH Stroke Scale (NIHSS) at time of study (0-42): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Scan purpose (Select all that apply):

[ ]  Diagnostic

[ ]  Post-treatment

[ ]  Monitoring

[ ]  Other, specify:

**Technical Information**

1. Probe:
	* 1. Type:
		2. Frequency (Hz): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Patient type:
	1. [ ]  Asymptomatic
	2. [ ]  Acute Stroke

If Acute Stroke, indicate study type:

* 1. [ ]  Initial
	2. [ ]  Follow-up 1
	3. [ ]  Follow-up 2
	4. [ ]  Chronic Stroke
	5. [ ]  Brain Death
	6. [ ]  Sickle Cell
	7. [ ]  Arteriovenous Malformation
	8. [ ]  Monitoring
	9. [ ]  Right Shunt
1. [ ]  Left Shunt
	1. [ ]  Vasospasm
2. Interpretation site:
	1. [ ]  Onsite
	2. [ ]  Offsite

If Offsite, indicate type:

[ ]  Video

[ ]  Print

[ ]  Digital

1. Contrast Agent:

[ ]  Yes

[ ]  No (Skip to Question 5)

* 1. Agent:
	2. Type:

[ ]  Bolus

[ ]  Infusion

[ ]  Other, specify:

[ ]  Unknown

[ ]  Not applicable

1. Read type (Select all that apply):

[ ]  Local read

[ ]  Local report

[ ]  Central read

1. Reader blinded to clinical data:

[ ]  Yes

[ ]  No

[ ]  Unknown

1. Study technically satisfactory:

[ ]  Yes

[ ]  No

[ ]  Unknown

[ ] Not applicable

1. Insonation plane:
	1. Orbital:

[ ]  Excellent

[ ]  Fair

[ ]  Poor

* 1. Temporal:

[ ]  Excellent

[ ]  Fair

[ ]  Poor

* 1. Posterior:

[ ]  Excellent

[ ]  Fair

[ ]  Poor

## Vessels

(All elements in this section are considered highly recommended for Stroke imaging studies for TCD).

1. M1

1M1 Vessels Table

| Side | Right | Left |
| --- | --- | --- |
| Depth | (mm): | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulsatility  |
| Flow Direction: | [ ]  Towards[ ]  Away from | [ ]  Towards[ ]  Away from |

1. A1

2A1 Vessels Table

| Side | Right | Left |
| --- | --- | --- |
| Depth | (mm): | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulsatility  | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  |
| Flow Direction: | [ ]  Towards[ ]  Away from | [ ]  Towards[ ]  Away from |

1. P1

3P1 Vessels Table

| Side | Right | Left |
| --- | --- | --- |
| Depth | (mm): | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  |
| Flow Direction: | [ ]  Towards[ ]  Away from | [ ]  Towards[ ]  Away from |

1. Ophthalmic

4 Ophthalmic Vessels Table

| Side | Right | Left |
| --- | --- | --- |
| Depth | (mm): | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulsatility  |
| Flow Direction: | [ ]  Towards[ ]  Away from | [ ]  Towards[ ]  Away from |

1. Siphon

5Siphon Vessels Table

| Side | Right | Left |
| --- | --- | --- |
| Depth | (mm): | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  |
| Flow Direction: | [ ]  Towards[ ]  Away from | [ ]  Towards[ ]  Away from |

1. Vert

6Vert Vessels Table

| Side | Right | Left |
| --- | --- | --- |
| Depth | (mm): | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  |
| Flow Direction: | [ ]  Towards[ ]  Away from | [ ]  Towards[ ]  Away from |

1. Basilar

7:Basilar Vessels Table

| Side | Right |
| --- | --- |
| Depth | (mm): |
| Velocity | Peak velocity (cm/sec):Mean velocity (cm/sec): |
| Findings: (select all that apply) | [ ]  No Signal[ ]  Systolic Spike[ ]  Reversed Diastolic Flow[ ]  Reduced upstroke/ Pulpability  |
| Flow Direction: | [ ]  Towards[ ]  Away from |

## **Power M Mode**

1. Left MCA:

[ ]  Absent

[ ]  High Resistance

[ ]  Low Resistance

1. Right MCA:

[ ]  Absent

[ ]  High Resistance

[ ]  Low Resistance

## **Microembolic Signals**

1. Unidirectional?

[ ]  Yes

[ ]  No

[ ]  Unknown

1. Duration time (msec): \_\_\_\_\_\_\_\_\_\_\_
2. Intensity (dB):
3. Settings:
	1. Leading cols (mm): \_\_\_\_\_\_\_\_
	2. Trailing cols (mm): \_\_\_\_\_\_\_\_
	3. Threshold (mm): \_\_\_\_\_\_\_\_\_
	4. Rejection (mm): \_\_\_\_\_\_\_\_\_
4. A1:
	1. Right:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

* 1. Left:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

1. Siphon:
	1. Right:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

* 1. Left:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

1. P1:
	1. Right:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

* 1. Left:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

1. M1:
	1. Right

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

* 1. Left:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

1. Ophthalmic:
	1. Right:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

* 1. Left:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

1. Vert:
	1. Right:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

* 1. Left:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

1. Basilar:

[ ]  Yes

[ ]  No

[ ]  Unknown

Number: \_\_\_\_\_\_\_

Start Time: \_\_\_\_\_\_\_

End Time: \_\_\_\_\_\_\_

(hh:mm, 24 hr clock)

## Vasomotor Response (VMR)

1. Vessel(s):

[ ]  MCA

[ ]  Other, specify:

1. VMR:

[ ]  Normal (Skip to Diagnosis)

[ ]  Abnormal

1. Breath-holding index (BHI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## **Diagnosis**

1. Extracranial stenosis:

[ ]  Yes (Select all that apply)

[ ]  No (Skip to Question 2)

* 1. [ ]  Collateral:

[ ]  OA

[ ]  ACA

[ ]  VA

* 1. [ ]  Reduced upstroke
	2. [ ]  Reduced Pulpability Index (PI)
	3. [ ]  VMR
	4. [ ]  Reduced velocity

[ ]  Unknown

1. Intracranial stenosis:

[ ]  Yes

[ ]  No (Skip to Question 3)

* 1. Vessel(s):

[ ]  MCA

[ ]  ICA

[ ]  VA

[ ]  Basilar

[ ]  Other, specify:

* 1. % Stenosis:
	2. PSV criterion:
	3. Mean velocity criterion: \_\_\_\_\_\_\_\_\_
	4. Other:

[ ]  Unknown

1. Vasospasm:

[ ]  Yes

[ ]  No (Skip to Question 4)

* 1. [ ]  Normal

[ ]  Abnormal

[ ]  Unknown

* 1. Severity:

[ ]  Mild

[ ]  Moderate

[ ]  Severe

* 1. Vessel(s):

[ ]  MCA

[ ]  ICA

[ ]  VA

[ ]  Basilar

* 1. Criterion:
	2. Lindegaard ratio:
	3. Posterior ratio:
	4. Intracranial pressure (ICP):

[ ]  Resistive Index (RI), specify:

[ ]  Other:

* 1. Partial pressure of carbon dioxide (PCO2):
	2. Hemoglobin:
1. Brain Death:

[ ]  Yes (Select all that apply)

[ ]  No (Skip to Question 5)

* 1. Vessel(s):

[ ]  MCA

[ ]  ICA

[ ]  VA

[ ]  Basilar

[ ]  Ophthalmic Artery

* 1. [ ]  Reversed diastolic flow
	2. [ ]  Systolic spike
	3. [ ]  No signals

[ ] Unknown

1. Sickle Cell:

[ ]  Yes

[ ]  No (Stop)

* 1. Vessel(s):

[ ]  MCA

[ ]  Other, specify

* 1. Velocity:
	2. Criterion:
	3. Diagnosis:

[ ]  Normal

[ ]  Conditional

[ ]  Abnormal

[ ] Unknown

## **General Instructions**

This CRF contains data that would be collected when an imaging study is performed using TCD to examine the brain vessels and evaluate cerebral hemodynamics.

Important note: None of the data elements included on this CRF Module are considered Core (i.e., strongly recommended for SCD clinical studies to collect if imaging studies are performed). The data elements are supplemental and should only be collected if the research team considers them appropriate for their study.

## **Specific Instructions**

Please see the Data Dictionary for definitions for each of the data elements included in this CRF Module. The CRF includes all instructions available for the data elements at this time.

1. NIH Stroke Scale should be collected separately. [↑](#footnote-ref-1)