## **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)