

# Screening for Brain Injury

presented at  
The Inaugural  
Brain Injury and Resource Facilitation  
Regional Conference  
October 2016

Claire Brownson, M.A.  
Coordinator of Training & Education

# Objectives

- To define why screening is important
- To train to use the OSU-TBI screening measure
  - Including additional items for ABI screening
- To optimize knowledge through presentation of Resource Facilitation case examples

# OSU-TBI-ID

- Originally published in 2007 by John Corrigan, PhD
- A standardized procedure for eliciting lifetime history of TBI via a structured interview
- Strong psychometric properties

*Corrigan, J.D., Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. J Head Trauma Rehabil, 22(6):318-329.*

# Why is Screening Important?

- Because you might have patients who have suffered a brain injury and you don't know it yet.
  - This is going to have an effect on clinical outcomes
    - It might explain why your patient is less responsive to the treatment provided
    - Brain injuries are usually not visible disorders
    - Often patients don't know they've suffered a brain injury
    - Documentation may be lacking in medical records
- Because understanding brain injuries and their effects can jumpstart recovery and healing.
  - You can more easily assess current cognitive and emotional states
- Because knowledge is power and can aid in vocational achievement.

# Why Self-Report?

- “While self-report is not an ideal for determining how much compromise a person’s brain may have incurred as a result of lifetime exposure to TBI, it is for now the gold standard for both research and clinical uses.”
  - We know self-report leaves much to be desired...
    - However, a face-to-face interview conducted in a standardized manner by a trained interviewer is indeed the “gold standard” for determining lifetime history of TBI.
  - Be warned:
    - Self-report is vulnerable to under-reporting

# Ohio Valley Center for Brain Injury Prevention and Rehabilitation



- Web-based Training Module: TBI Identification Method may be viewed on this site
  - CEUs available here also
- Can find information on “Background for the OSU TBI Identification Method” and “Federally Funded Projects Using OSU TBI-ID” there as well

*<http://ohiovalley.org/informationeducation/screening/index.cfm>*

# Clinical and Research Resources for OSU TBI-ID

- **We utilize an adapted version of the OSU TBI-ID Short Version because:**
  - Of clinical, research or programmatic purposes
  - It can typically be administered in 5 minutes
  - It can be used free of charge, and
  - It can be used without further permission from the authors as long as no changes are made to the provided version.

*<http://ohiovalley.org/tbi-id-method/>*

# Benefits of Using OSU

- “The OSU TBI-ID can be adapted for specific populations and situations; primarily via adaptation of the ‘probe’ questions that are intended to elicit injuries that may have been TBIs.”
  - Versions can vary in length and can be customized for clinical screening, treatment planning, system administration or research applications.
- We have adapted the Short Version to what we need:
  - OSU TBI-ID + ABI

<http://ohiovalley.org/informationeducation/screening/index.cfm>

# Adapted ABI items

- Introduced as a supplement to aid in identification of non-traumatic brain injury
  - Stroke
  - Loss of oxygen
  - Lightning
  - Infection
  - Tumor
  - Brain surgery
  - Toxic exposure

## Ohio State University TBI Identification Method + ABI — Interview Form

### Step 1

Ask questions 1-5 below.

Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

NO YES—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

NO YES—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

NO YES—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

NO YES—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

NO YES—Record cause in chart

Interviewer Instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

### Step 2

Interviewer Instruction:

If the answer is "yes" to any of the questions in Step 1, ask the following additional questions about each reported injury and add details to the chart below.

6. Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

### Step 3

Interviewer Instruction:

Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	No	

If more injuries with LOC: How Many? \_\_\_\_ Longest knocked out? \_\_\_\_ How many ≥ 30 mins.? \_\_\_\_ Youngest age? \_\_\_\_

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect		Age			
	Dazed/memory gap, no LOC	LOC	Dazed/memory gap, no LOC	LOC < 30 min	Dazed/Mem Gap	LOC > 24 hrs	Begin	Ended

Step 4 Cause	Medication Treatment (Y/N)		Hospitalization (Y/N)		Age

### Step 4

Interviewer Instruction:

Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"

NO YES—Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.

NO YES—Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

NO YES—Record cause in chart

4. Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"

NO YES—Record cause in chart

5. Have you ever had a tumor in your brain?

NO YES—Record cause in chart

6. Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.

NO YES—Record cause in chart

7. Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.

NO YES—Record cause in chart

# Step 1

## Step 1

Ask questions 1-5 below.

Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

NO YES—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

NO YES—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

NO YES—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

NO YES—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

NO YES—Record cause in chart

Interviewer instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction:

If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

## Step 3

Interviewer instruction:

Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out			Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	

If more injuries with LOC: How Many? \_\_\_\_\_ Longest knocked out? \_\_\_\_\_ How many ≥ 30 mins.? \_\_\_\_\_ Youngest age? \_\_\_\_\_

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect		Age			
	Dazed/memory gap, no LOC	LOC	Dazed/memory gap, no LOC	LOC < 30 min	Dazed/Mem Gap	LOC > 24 hrs.	Begin	Ended

Step 4 Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

## Step 4

Interviewer instruction:

Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"

NO YES—Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.

NO YES—Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

NO YES—Record cause in chart

4. Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"

NO YES—Record cause in chart

5. Have you ever had a tumor in your brain?

NO YES—Record cause in chart

6. Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.

NO YES—Record cause in chart

7. Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.

NO YES—Record cause in chart

# Step 1

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

No

Yes – Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle, or ATV?

No

Yes – Record cause in chart

# Step 1

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

No

Yes – Record cause in chart

# Step 1

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

No

Yes – Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

No

Yes – Record cause in chart

# Step 2

## Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

NO YES—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

NO YES—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

NO YES—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

NO YES—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

NO YES—Record cause in chart

Interviewer instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction: If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out			Dazed/Mem Gap		Age
	No LOC	< 5 Min	30 Min-24 hrs	> 24 hrs	Yes	

If more injuries with LOC: How Many? \_\_\_\_\_ Longest knocked out? \_\_\_\_\_ How many ≥ 30 mins.? \_\_\_\_\_ Youngest age? \_\_\_\_\_

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect		Age			
	Dazed/mem gap, no LOC	LOC	Dazed/mem gap, no LOC	LOC < 30 min	Dazed/Mem gap	LOC > 24 hrs	Begin	Ended

Step 4 Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

## Step 3

Interviewer instruction: Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

## Step 4

Interviewer instruction: Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"

NO YES—Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.

NO YES—Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

NO YES—Record cause in chart

4. Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"

NO YES—Record cause in chart

5. Have you ever had a tumor in your brain?

NO YES—Record cause in chart

6. Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.

NO YES—Record cause in chart

7. Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.

NO YES—Record cause in chart

# Step 2

6. Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

Step 1	Step 2						
Cause	Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	No	

# Step 3

## Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

- I am going to ask you about injuries to your head or neck that you may have had anytime in your life.
- In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.  
NO YES—Record cause in chart
  - In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?  
NO YES—Record cause in chart
  - In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?  
NO YES—Record cause in chart
  - In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?  
NO YES—Record cause in chart
  - In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.  
NO YES—Record cause in chart

Interviewer instruction:  
If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction:  
If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

- Were you knocked out or did you lose consciousness (LOC)?
- If yes, how long?
- If no, were you dazed or did you have a gap in your memory from the injury?
- How old were you?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/Knocked out			Memory Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	

If more injuries with LOC: How Many? \_\_\_\_\_ Longest knocked out? \_\_\_\_\_ How many ≥ 30 mins.? \_\_\_\_\_ Youngest age? \_\_\_\_\_

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect		Age	
	Dazed/memory gap, no LOC	LOC	Dazed/Mem gap	LOC > 24 hrs.	Begin	Ended

Step 4 Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

## Step 3

Interviewer instruction:  
Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

- Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?
- If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?
- If no, were you dazed or did you have a gap in your memory from the injury?
- What was the most severe effect from one of the times you had an impact to the head?
- How old were you when these repeated injuries began?
- Ended?

## Step 4

Interviewer instruction:  
Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

- I am going to ask you about any other illness or medical problem you may have had.
- Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"  
NO YES—Record cause in chart
  - Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.  
NO YES—Record cause in chart
  - Have you ever been electrocuted or struck by lightning?  
NO YES—Record cause in chart
  - Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"  
NO YES—Record cause in chart
  - Have you ever had a tumor in your brain?  
NO YES—Record cause in chart
  - Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.  
NO YES—Record cause in chart
  - Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.  
NO YES—Record cause in chart

# Step 3

## Step 3

### Interviewer instruction:

Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

# Step 3

Step 3	Typical Effect		Most Severe Effect				Age	
Cause of repeated injury	Dazed/ memory gap, no LOC	LOC	Dazed/ memory gap, no LOC	LOC < 30 min	30 Min-24 hrs	LOC > 24 hrs.	Begin	Ended

# New ABI items: Step 4

## Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

- I am going to ask you about injuries to your head or neck that you may have had anytime in your life.
- In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.
 

NO YES—Record cause in chart
  - In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?
 

NO YES—Record cause in chart
  - In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?
 

NO YES—Record cause in chart
  - In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?
 

NO YES—Record cause in chart
  - In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.
 

NO YES—Record cause in chart

Interviewer instruction:  
If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction:  
If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

- Were you knocked out or did you lose consciousness (LOC)?
- If yes, how long?
- If no, were you dazed or did you have a gap in your memory from the injury?
- How old were you?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out			Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	

If more injuries with LOC: How Many? \_\_\_\_\_ Longest knocked out? \_\_\_\_\_ How many ≥ 30 mins? \_\_\_\_\_ Youngest age? \_\_\_\_\_

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect		Age			
	Dazed/mem gap, no LOC	LOC	Dazed/mem gap, no LOC	LOC < 30 min	Dazed/Mem gap	LOC > 24 hrs	Begin	Ended

Step 4 Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

## Step 3

Interviewer instruction:  
Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

- Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?
- If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?
- If no, were you dazed or did you have a gap in your memory from the injury?
- What was the most severe effect from one of the times you had an impact to the head?
- How old were you when these repeated injuries began?
- Ended?

## Step 4

Interviewer instruction:  
Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

- I am going to ask you about any other illness or medical problem you may have had.
- Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct".
 

NO YES—Record cause in chart
  - Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.
 

NO YES—Record cause in chart
  - Have you ever been electrocuted or struck by lightning?
 

NO YES—Record cause in chart
  - Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis".
 

NO YES—Record cause in chart
  - Have you ever had a tumor in your brain?
 

NO YES—Record cause in chart
  - Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.
 

NO YES—Record cause in chart
  - Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.
 

NO YES—Record cause in chart

# Step 4

- 1. Have you ever been told that you have had a stroke or bleeding in your brain?** Other words you may have heard include “ruptured aneurysm” or “infarct”
  
- 2. Have you ever been told that you have had a loss of oxygen to the brain?** This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack / heart stopping, breathing stopped, or inability to wake up after a medical procedure.

# Step 4

3. **Have you ever been electrocuted or struck by lightning?**
4. **Have you ever had an infection in your brain?** You may have heard the words “meningitis” or “encephalitis”
5. **Have you ever had a tumor in your brain?**

# Step 4

- 6. Have you ever had brain surgery?** This could have been surgery for epilepsy, shunt placement, or tumor removal
  
- 7. Have you ever been exposed to toxic hazards?** This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide

# Step 4

Step 4			
Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

# SCORING CRITERIA

Total number of injuries with LOC = \_\_\_\_\_

Classifying Worst Injury (circle one):

<b>IMPROBABLE TBI</b>	If all interview questions #1-5 are “no” or if in response to question #6, interview data reports never having LOC, being dazed or having memory lapses.
<b>POSSIBLE MILD TBI WITHOUT LOC</b>	If in response to question #6, interview data reports being dazed or having a memory lapse.
<b>MILD TBI WITH LOC</b>	If in response to question #6, interview data reports LOC does not exceed 30 minutes for any injury.
<b>MODERATE TBI</b>	If in response to question #6, interview data reports LOC for any one injury is between 30 minutes and 24 hours.
<b>SEVERE TBI</b>	If in response to question #6, interview data reports LOC for any one injury exceeds 24 hours.

# RF Case Example #1

- Mr. Doe
  - 57 y.o. male
  - Status-post MVA in 2012; treated at the scene; no acute medical
    - LOC was only 5 minutes
  - Worked in factory for 25+ years
  - Returned to work following MVA; but began having difficulties:
    - Making errors on tasks, written up for these errors
    - Balance and vision changes
    - Mood lability
  - Key incident – threw hot coffee on a co-worker; escorted out of the building
  - On LTD from job due to cognitive difficulties, vision & balance issues, and mood lability
  - Has been participating in speech, vision, vestibular, & neuropsychology rehabilitation therapies for the past year

# Mr. Doe's OSU-TBI-ID + ABI rating

## Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

NO YES—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

NO  YES—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

NO YES—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

NO YES—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

NO YES—Record cause in chart

Interviewer instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction: If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

5. Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

## Step 3

Interviewer instruction: Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

No

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	No	
MVA		X					53

If more injuries with LOC: How many? \_\_\_\_\_ Longest knocked out? \_\_\_\_\_ How many > 30 mins? \_\_\_\_\_ Youngest age? \_\_\_\_\_

Step 3 Cause of repeated injury	Step 3 Typical Effect		Most Severe Effect				Age	
	Dazed/mem gap, no LOC	LOC	Dazed/mem gap, no LOC	LOC < 30 min	Dazed/mem gap	LOC > 24 hrs		Began

Step 4 Cause	Step 4 Medication Treatment (Y/N)		Hospitalization (Y/N)		Age

## Step 4

Interviewer instruction: Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"

NO YES—Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.

NO YES—Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

NO YES—Record cause in chart

4. Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"

NO YES—Record cause in chart

5. Have you ever had a tumor in your brain?

NO YES—Record cause in chart

6. Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.

NO YES—Record cause in chart

7. Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.

NO YES—Record cause in chart

# SCORING CRITERIA

Total number of injuries with LOC =   1  

Classifying Worst Injury (circle one):

<b>IMPROBABLE TBI</b>	If all interview questions #1-5 are “no” or if in response to question #6, interview data reports never having LOC, being dazed or having memory lapses.
<b>POSSIBLE MILD TBI WITHOUT LOC</b>	If in response to question #6, interview data reports being dazed or having a memory lapse.
<b>MILD TBI WITH LOC</b>	If in response to question #6, interview data reports LOC does not exceed 30 minutes for any injury.
<b>MODERATE TBI</b>	If in response to question #6, interview data reports LOC for any one injury is between 30 minutes and 24 hours.
<b>SEVERE TBI</b>	If in response to question #6, interview data reports LOC for any one injury exceeds 24 hours.

# RF Case Example #2

- Mrs. Doe
  - 52 y.o. female
  - History of “multiple” brain injuries
    - 1<sup>st</sup> brain injury at 8 y.o., hit by a car as a pedestrian
      - LOC more than a day
    - Violent fight where she was also hit in the head in H.S.
      - LOC, but brief
    - MVA at age 19
      - No LOC but dazed
  - Primary complaints
    - Long history of psychiatric issues including anger outbursts and suicide attempts
    - Short-term memory problems
    - Poor social relationships
  - Obtained an Associate’s Degree in 2011
  - Very unstable work history

# Mrs. Doe's OSU-TBI-ID + ABI rating

## Step 1

Ask questions 1-5 below.

Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

NO  YES —Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing on other moving vehicle like a bicycle, motorcycle or ATV?

NO  YES —Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

NO  YES —Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently?

Have you ever been shot in the head?

NO  YES —Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

NO  YES —Record cause in chart

Interviewer instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction:

If the answer is "yes" to any of the questions in Step 1, ask the following additional questions about each reported injury and add details to the chart below.

6. Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

## Step 3

Interviewer instruction:

Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

**No**

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	No	
Hit by Car MVA				X			8
Hit in head	X					X	19
		X					14

If more injuries with LOC: How Many? \_\_\_\_ Longest knocked out? \_\_\_\_ How many ≥ 30 mins.? \_\_\_\_ Youngest age? \_\_\_\_

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect				Age	
	Dazed/memory gap, no LOC	LOC	Dazed/memory gap, no LOC	LOC < 30 min	Dazed/Mem Gap	LOC > 24 hrs		Beg'n

Step 4 Cause	Medication Treatment (Y/N)	Hospitalization (Y/N)	Age

## Step 4

Interviewer instruction:

Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"

NO  YES —Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.

NO  YES —Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

NO  YES —Record cause in chart

4. Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"

NO  YES —Record cause in chart

5. Have you ever had a tumor in your brain?

NO  YES —Record cause in chart

6. Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.

NO  YES —Record cause in chart

7. Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.

NO  YES —Record cause in chart

# SCORING CRITERIA

Total number of injuries with LOC = 2

Classifying Worst Injury (circle one):

<b>IMPROBABLE TBI</b>	If all interview questions #1-5 are “no” or if in response to question #6, interview data reports never having LOC, being dazed or having memory lapses.
<b>POSSIBLE MILD TBI WITHOUT LOC</b>	If in response to question #6, interview data reports being dazed or having a memory lapse.
<b>MILD TBI WITH LOC</b>	If in response to question #6, interview data reports LOC does not exceed 30 minutes for any injury.
<b>MODERATE TBI</b>	If in response to question #6, interview data reports LOC for any one injury is between 30 minutes and 24 hours.
<b>SEVERE TBI</b>	If in response to question #6, interview data reports LOC for any one injury exceeds 24 hours.

# RF Case Example #3

- Doe Jr.
  - 24 y.o. male
    - Minor electrocution incident during childhood
      - No hospitalization or medical treatment
  - Primary complaints
    - Long history of drug abuse in late teens
    - Learning disorder diagnosis
    - Short-term memory problems
    - Volatile temper
    - Poor social relationships
  - 1 suicide attempt (drug OD) at the age of 17
    - Medicated and hospitalized
  - Dropped out of High School and enlisted in Army 7 years ago
    - Several *repeat* blast injuries (no LOC)
    - CO poisoning (hospitalized but not medicated)

# Doe Jr.'s OSU-TBI-ID + ABI rating

## Step 1

Ask questions 1-5 below.

Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

YES—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

YES—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

YES—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

YES—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

YES—Record cause in chart

Interviewer instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

## Step 2

Interviewer instruction:

If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

6. Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

## Step 3

Interviewer instruction:

Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

**Yes**

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began?

Ended?

Cause	Step 2 Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 Min	30 Min-24 hrs	> 24 hrs	Yes	No	

If more injuries with LOC: How Many? \_\_\_\_ Longest knocked out? \_\_\_\_ How many > 30 mins? \_\_\_\_ Youngest age? \_\_\_\_

Cause of repeated injury	Step 3 Typical Effect			Most Severe Effect			Age	
	Dazed/memory gap, no LOC	LOC	Dazed/memory gap, no LOC	LOC < 30 min	Dazed/Mem Gap	LOC > 24 hrs		Began
<b>Blasts</b>	<b>X</b>				<b>X</b>		<b>17</b>	<b>24</b>

Cause	Step 4 Medication Treatment (Y/N)		Hospitalization (Y/N)		Age
	Yes	No	Yes	No	
<b>Drug OD</b>	<b>Yes</b>		<b>Yes</b>		<b>17</b>
<b>Electrocution</b>	<b>No</b>		<b>No</b>		<b>6</b>
<b>CO Poisoning</b>	<b>No</b>		<b>Yes</b>		<b>22</b>

## Step 4

Interviewer instruction:

Ask the following questions to help identify other Acquired Brain Injury (ABI) and complete the chart below.

I am going to ask you about any other illness or medical problem you may have had.

1. Have you ever been told that you have had a stroke or bleeding in your brain? Other words you may have heard include "ruptured aneurysm" or "infarct"

NO YES—Record cause in chart

2. Have you ever been told that you have had a loss of oxygen to the brain? This could result from losing consciousness or passing out after a drug overdose, strangulation, near-drowning, heart attack/heart stopping, breathing stopped or inability to wake up after a medical procedure, excessive blood loss, complications of anesthesia.

NO YES—Record cause in chart

3. Have you ever been electrocuted or struck by lightning?

NO YES—Record cause in chart

4. Have you ever had an infection in your brain? You may have heard the words "meningitis" or "encephalitis"

NO YES—Record cause in chart

5. Have you ever had a tumor in your brain?

NO YES—Record cause in chart

6. Have you ever had brain surgery? This could have been surgery for epilepsy, shunt placement, or tumor removal.

NO YES—Record cause in chart

7. Have you ever been exposed to toxic hazards? This could result from exposure to lead, mercury, uranium/radiation, environmental hazards, or carbon monoxide.

NO YES—Record cause in chart

# SCORING CRITERIA

Total number of injuries with LOC =   1  

Classifying Worst Injury (circle one):

<b>IMPROBABLE TBI</b>	If all interview questions #1-5 are “no” or if in response to question #6, interview data reports never having LOC, being dazed or having memory lapses.
<b>POSSIBLE MILD TBI WITHOUT LOC</b>	If in response to question #6, interview data reports being dazed or having a memory lapse.
<b>MILD TBI WITH LOC</b>	If in response to question #6, interview data reports LOC does not exceed 30 minutes for any injury.
<b>MODERATE TBI</b>	If in response to question #6, interview data reports LOC for any one injury is between 30 minutes and 24 hours.
<b>SEVERE TBI</b>	If in response to question #6, interview data reports LOC for any one injury exceeds 24 hours.

# Now you should be able:

- To define why screening is important
- To train to use the OSU-TBI screening measure
  - Including additional items for ABI screening
- To optimize knowledge through presentation of Resource Facilitation case examples

# References

Corrigan, J. D., & Bogner, J. (2007). Initial reliability and validity of the Ohio State University TBI identification method. *The Journal of head trauma rehabilitation*, 22(6), 318-329.

<http://ohiovalley.org/>

# Questions?

## Contact:

Claire Brownson, M.A.  
Coordinator of Training & Education  
Claire.brownson@rhin.com  
(317) 329-2262

Your Local Support Network Leader:

Penny Torma, North Region  
Wendy Waldman, Central Region  
Jean Capler, South Region

# THANK YOU!