

Appendix 2

MANUAL
for the
VA TBI Identification Clinical Interview

Developed by:

Rodney D. Vanderploeg, Ph.D., ABPP-CN
Shirley Groer, Ph.D.
Heather G. Belanger, Ph.D., ABPP-CN

With consultation and suggestions from:

Kerry T. Donnelly, PhD, ABPP-CN
Henry L. Lew, MD, PhD
Gail Powell-Cope, PhD, ARNP, FAAN
Nina A. Sayer, PhD
Melody Schiaffino, MPH
Jennifer J. Vasterling, PhD
Marina Waisman, MD
William C. Walker, MD

MANUAL: VA TBI Identification Clinical Interview

The **VA TBI Identification Clinical Interview** is a semi-structured interview and set of processes designed to provide a structured, valid, reliable, and consistent approach for interviewing an individual and collecting information regarding a possible traumatic brain injury (TBI). No “leading questions” are asked and the patient is not told that this is attempting to determine whether or not they sustained a TBI. Rather, the patient is told:

“I am interested in understanding the effect of ‘physical forces’ on you. Tell me about the **physically most powerful event you experienced – things like vehicle accidents, getting knocked on the head or to the ground, being hit by fragments or shrapnel, feeling a shock wave, or being hit by debris during an explosion.”**

There are three parts to the interview process:

1. **Part A:** This is a series of open-ended questions (and follow-up probes) to:
 - a. facilitate the patient’s freely-told, spontaneous description of the event,
 - b. help determine if the event resulted in a concussion or TBI,
 - c. determine the cause of the physical trauma (e.g., motor vehicle accident, fall, explosive blast, etc.),
 - d. identify any immediate new onset symptoms or problems, and
 - e. determine the course of any new symptoms.
2. **Part B:** This is a checklist form for recording the patient’s spontaneously reported information from the Part A semi-structured interview.
3. **Part C:** This final part is a series of questions and recording form for confirming the patient’s responses acquired during Part A and recorded on the Part B form. To help ensure that patients don’t forget to report important symptoms or problems, negative responses are also confirmed – both for the event and any possible alteration of consciousness, as well as for any post-event symptoms.

The answers to the questions (and follow-up probes) in **Part A** should be spontaneously produced, believable, and consistent with the known natural history of TBI (and its severity levels). Therefore, it is essential that the examiner understand:

- exactly what is a TBI,
- what determines the severity of TBI, and
- what is the natural course of TBI.

What is a traumatic brain injury?

A traumatic brain injury can only have occurred if there was a substantial physical force to the head resulting in a demonstrable lesion to the brain (e.g., positive neuroimaging) or a physiological disruption of brain functioning as evidenced by a loss or alteration of consciousness. Being momentarily dazed, confused, and disoriented are the minimal criteria demonstrating evidence of physiological disruption of brain functioning. This minimal criteria provide evidence of a concussion or a mild TBI. Subjectively, the patient may report gaps in their memory for time immediately before or after the event, or report not being able to mentally function at the scene – not making sense, not knowing what was going on, being confused and

incoherent, or having nonsensical speech. These type of symptoms are evidence for physiological disruption of brain functioning; i.e., a concussion.

However, one can be dazed, confused, and disoriented for reasons other than a physiological disruption of brain functioning. For example, most individuals who are in a serious accident in which others are seriously injured or killed or who are close to an unexpected explosion in which they feel the force of the blast will have an adrenalin rush and experience an alteration of consciousness – fear, anxiety, alteration of attention, confusion, and/or change in environmental awareness. This is a typical psychological response. There is a phenomenon of “adrenaline shakes” following a stressful or frightening event. Individuals’ hearts start pounding, they take deeper and faster breaths, and may have a decreased pain response – their body’s reaction is the well-known “fight or flight” response. Sometimes the body gets hit with so much adrenaline, that afterward they shake uncontrollably. However, this type of alteration of consciousness does not reflect a physiological disruption of brain functioning and would not mean that the person sustained a TBI. Careful clinical interviewing is necessary to tease apart these two types of alteration of consciousness. Asking a Soldier to compare a blast-related consciousness altering event to other combat events in which there clearly was not a physical force to the body may be useful in determining if a TBI occurred (e.g., comparing subjective experiences between a combat firefight and a blast event).

Understanding TBI Severity: “Knocked Out”, “Loss of Consciousness”, “Coma”:

The indications of physiological disruption of brain functioning (i.e., meeting criteria for concussion or TBI) will range from being momentarily confused, unable to process information normally, not making sense, and being mentally disoriented on the low end of severity to being “knocked out”, “in a coma”, or “unconscious” for some period of time on the high end. The greater the degree of consciousness alteration and the longer the period of “altered consciousness” the more severe the brain injury.

From lowest level of injury severity (disruption of brain functioning) to highest level of injury, the following are **all considered mild TBI with a good recovery expected**:

- Being confused and disoriented at the scene
- Having memory gaps for seconds to minutes immediately after the injury (and sometimes a few minutes immediately before the injury)
- Not functioning mentally normally for up to 24 hours (e.g., disoriented and not responding normally to questions, or having no or fragmented memory for events for up to a full day)
- Being “knocked out” or unconscious for up to 30 minutes

If individuals are unable to mentally process information (even if awake and responsive to basic stimuli) then that information will not be formed into a new memory. They will have a period of time during which they have no memory for what happened. Most individuals will report this as being “knocked out” or “unconscious” when in fact they were walking and talking, but not forming new memories. Therefore it is important to clarify with a patient whether or not they were actually unconscious (coma, knocked out). **If a person is unconscious they will be lying or slumped down, unable to open their eyes, entirely unresponsive to stimuli, and at best moan if prodded or poked. It will look as if they are asleep.** Often there are other individuals

at the scene with whom a patient will have talked with later, who can and will tell them if they were lying unresponsive as if asleep (i.e., unconscious) or if they were talking or walking around, but not making sense (i.e., in a state of post-traumatic amnesia, with no memory for a period of time). Sorting through these alternatives will help determine the severity of the TBI.

What is the natural history of a mild TBI or concussion?

The natural history of TBI is immediate loss or alteration of consciousness. With mild TBI or concussion either immediately or within the first 72 hours post-injury some postconcussion symptoms typically will develop. The most common immediate postconcussion symptoms are new onset or significant worsening of headaches, dizziness, nausea, vomiting, or concentration, memory, or thinking problems. Later within the first week a patient may report excessive fatigue (mental and/or physical) and increased irritability. The presence of these postconcussion symptoms is not necessary to diagnosis or identify that a TBI occurred. However, their immediate or early onset of symptoms helps confirm that the event did result in a TBI; i.e., that the reported alteration of consciousness was a physiological disruption of brain functioning.

Following this immediate or early onset the natural course of these postconcussion symptoms is gradual reduction over the course of several days or perhaps a few weeks. Symptoms should not get worse over time unless there is some other acute medical/neurological condition (e.g., a developing subdural hematoma) or a co-existing psychological/psychiatric condition (e.g., depression, anxiety, acute stress disorder). Following a concussion or mild TBI, symptoms typically completely resolve within one month. New onset of symptoms more than a week after the possible TBI event (or months later) are not indicative of a TBI. Similarly, a variable symptom course of worsening, improvement, worsening, improvement, etc. is inconsistent with TBI being the causative condition.

Part A: Spontaneous Description of the Event and Immediate Symptoms or Problems

The questions and follow-up probes in **Part A** are designed to help the patient tell his/her story of what happened. The purpose is to gather information that will allow the examiner to determine whether or not a TBI has occurred. It is not essential that every question be asked, but rather the questions provide a means to query the patient about an event that may or may not have resulted in a TBI. If the items in **Part B** can be completed without asking all of the questions in **Part A**, then the remainder of **Part A** questions do not need to be asked. At that point, the examiner can use the information from **Part A** (that was recorded on **Part B**) to confirm that they correctly understand what they were told (i.e., complete the questions in **Part C**).

In **Part A** the patient is asked to:

“Describe for me in detail events you experienced during which **you directly experienced a powerful force or blow to your upper body or head**. You may or may not have been physically injured. This might have happened in explosions or blasts, crashes or accidents, fights, falls, or even sporting events. I’m interested in understanding the effects of this **physical force** on you. Some events may be very emotionally powerful or upsetting, but for now I’m going to ask you to focus on those

events that were physically powerful or injurious (of course, they may also have been emotionally disturbing). . . . Try to **walk me through what happened step-by-step, minute-by-minute, from about 5 minutes beforehand, through the event itself, and then what happened afterward.**”

If patients describe the potential TBI event in detail, no other questions will need to be asked. However, follow-up questions are provided as prompts or cues to help guide the patient to provide the needed information.

Apparently contradictory information should always be queried further. The best way to do this is to say something like, “a few minutes ago you said ‘XXXX’ (e.g., that you were knocked unconscious), but now you just said ‘YYYY’ (e.g., that others told you that you were walking and talking immediately after the event). I’m confused. These seem contradictory, can you help me understand.”

However, until the confirmatory **Part C** patients are **never asked directly about:**

- TBI or TBI-related conditions,
- Loss of consciousness; memory gaps; or being dazed, confused or disoriented, or
- Specific symptoms.

Open-ended questions and follow-up probes are provided to facilitate getting this type of information from the patient. The clinician asks probing questions to get the patient to talk about the event in detail. If gaps in the story occur, the examiner should say something like, “You said this happened and then you told me about something else that happened later. What happened in-between?” If they have a memory gap reflective of brain dysfunction, the memory gap will remain, unless others have told them what happened in between. If they provide “missing gaps” with information not reported spontaneously earlier, they should be asked if they remember that or were told that information by others.

The goal is to get the patient’s story and while doing so **carefully listen for information that addresses:**

1. Was there an event with enough physical force to potentially cause a TBI?
 - a. Was the patient injured?
 - b. Were any other individuals injured or killed?
2. Were criteria for TBI met?
 - a. Loss of consciousness (unresponsive; unable to see, speak, or move; lying with eyes closed)?
 - b. Having clear gaps in memory for time immediately before or after the event?
 - c. Not able to mentally function at the scene, not making sense, confused, incoherent, speech, or nonsensical behavior?
 - d. Being dazed and confused at the scene?
3. Immediately afterward were there new symptoms (or symptoms significantly worse than usual)?
 - For example, headaches, nausea/vomiting, concentration problems, balance problems or dizziness, etc.?

4. Did new symptoms develop over the next several days (up to one week)?
-- For example, headaches, nausea, balance problems or dizziness, sleep problems, concentration problems, irritability, excessive fatigue, etc.?
5. What was the course of these new symptoms over time?

The answer to **Part A** questions should be spontaneously produced, believable, consistent with the known natural history of TBI, and internally consistent (i.e., they do not provide contradictory information that cannot be clarified with follow-up questioning). Again, if the questions in **Part B** can be completed without asking all of the questions in **Part A**, then the remainder of **Part A** questions do not need to be asked. At that point, the examiner can use the information from **Part A** (that was recorded on **Part B**) to complete the confirmatory questions in **Part C**.

Part B: Recording Form for Spontaneously Reported Information

Part B is a form the examiner completes as they ask the open-ended questions from the **Part A** semi-structured interview. It is used to record what the patient says that specifically addresses the five core questions or issues.

1. Was there an event with enough physical force to potentially cause a TBI?
2. Were criteria for TBI met?
3. Following this event were there new symptoms (or symptoms significantly worse than usual)?
4. Did any other new symptoms develop immediately or over the next several days?
5. Was the course of these new symptoms (from questions 3 and 4) consistent with TBI, gradually improving over the course of days to weeks?

The examiner fills in this **Part B** form as they listen to the patient's story. They use the questions and follow-up probes from **Part A** to get more detailed information, if necessary, to complete the **Part B** form.

Part B is designed to be in the interviewer's hand (or on the desk top) to check off or circle information spontaneously reported by the patient. **Part A** and **Part B** sit side-by-side, with the clinician asking questions and follow-up probes from **Part A** as he/she records information on **Part B**.

Once the patient has completely told his/her story of the event in question from several minutes before the event to several days after the event and this information has been recorded on **Part B**, then the examiner should complete the corresponding **Part C**.

The interview has three sections, corresponding to pages 1-2, 3-4, and 5-6 of the bi-fold interview form. **Parts A, B, and C** of each section should be completed before moving on to the next section.

- Pages 1-2: Event, etiology, and any alteration or loss of consciousness.
- Pages 3-4: New, immediate onset symptoms.
- Pages 5-6: Course of those symptoms over the next several days to weeks.

Part C: Follow-up Confirmatory Questions

Within each section, **Part C** begins by saying to the patient “Now I’m going to ask some additional questions to make sure that I correctly understood what you experienced.”

These are the first direct and closed-ended questions that are asked of the patient. However, the questions are using the information the patient reported during the **Part A** interview and recorded on the **Part B** form, to simply confirm what was reported spontaneously.

The questions and issues are the same:

1. Confirming the Etiology of the Event
2. Confirming the presence or absence of a TBI event (was there a loss or alteration of consciousness?)
3. Confirming the new onset of symptoms immediately after the event.
4. Confirming any additional symptoms that began within the next several days to one week.
5. Confirming the course of the new symptoms over time (improved, resolved, got worse, etc.).

Assuming the examiner has determined or highly suspects that the event described in **Part A** resulted in a TBI, at this point on page 7 of the interview, three additional issues are addressed:

1. Question 6: Total number of events in which there likely was a physiological disruption of brain functioning. The interviewee is asked:
“What was the total number of events experienced with significant physical force to your head that resulted in a loss of consciousness, or memory gaps for part of the event or what happened immediately afterward, or not being able to function normally afterward (that is, being confused, not making sense, not knowing what was going on).”
2. Question 7: Re-confirmation of date and severity of most severe injury. (This should be the event described in **Part A**, and confirming what was recorded on page 2, **Part C, Question 3**).

In rare occasions the interviewee may at this point indicate that the event described initially was not the most severe TBI they experienced in the time frame of interest. If this occurs the examiner may wish to return to Part A Question 2 and repeat the interview process to get more information about this event. The decision whether or not to do with will depend upon why the interview was being conducted.

3. Question 8 (on page 8): Date and severity of most recent injury. The interviewee is asked:
 - What was the date of the most recent event (if there have been more than 1 TBI in the timeframe of interest)?
 - What was the severity of the most recent event (if there have been more than 1 TBI in the timeframe of interest)?

The number of likely TBI events and the date of the most recent TBI event may be useful in understanding the possible additive effects of multiple concussions and possible longer recovery times following multiple concussions.

Finally on page 8, the examiner is asked to rate the likelihood that the patient sustained at least one TBI during the timeframe of interest, based on all of the available information – **Part A**, **Part B**, and **Part C**.

<input type="checkbox"/> Clearly no TBI	NO
<input type="checkbox"/> TBI unlikely	
<hr/>	
<input type="checkbox"/> TBI somewhat likely	YES
<input type="checkbox"/> TBI very likely	
<input type="checkbox"/> TBI almost certainly	

The examiner is also ask to indicate if there is any medical record verification of TBI. This would come from any available medical records that include either positive neuroimaging or acute medical provider notes (EMS, on-scene medic, or Emergency Department). Notes by a medical provider days, weeks, or months after the event and based only on the patient's self-report CANNOT be considered medical verification.

Y / N TBI verified by medical records
(circle in addition to one of the above likelihood options, if it applies)