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Anomalous Health Incident (AHI) Acute Assessment Training

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CE/CME Credit

- Approved for 2 hours of CE/CME credit through the DHA Continuing Education Program Office (CEPO)
 - Physicians
 - Physician Assistants
 - Nurses
- Learners will be directed to register for the course here, <https://www.dhaj7-cepo.com/content/tbicoe-anomalous-health-incident-ahi-acute-assessment-training-2022-2023>
- The case sensitive access code will be provided during each training

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Learning Objectives

- Introduce learner to Anomalous Health Incidents (AHI)
- Provide detailed guidance for evaluating a patient who reports an AHI exposure using the *Anomalous Health Incident (AHI) Acute Assessment* form (DHA Form 244)
- Apply DHA recommended treatment and referral strategies using the *Progressive Return to Activity Following Acute Concussion/Mild TBI (PRA)*
- Utilize DHA approved coding instruction to identify, characterize, track, and improve AHI-related healthcare

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Anomalous Health Incident (AHI)

- AHI is the term used to describe a constellation of unexplained and sudden symptoms, including the acute onset of audio-vestibular sensory phenomena, that several State Department and DOD personnel have reported since 2016
- Has also been referred to as
 - Havana syndrome
 - Unconventionally-acquired brain injury (UBI)
 - Directed energy exposure
 - Acquired idiopathic neurologic syndrome (AINS)
- Presently lacks a known etiology
 - Exposure to directed pulsed radio frequency energy has been posited
- Combination of several of its characteristics is distinctly unusual and unreported in the medical literature
 - Has not been associated with any specific neurological abnormality

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AHI Introduction

- Reported sensory events
 - Loud sounds
 - ✓ unilateral or bilateral
 - ✓ chirping, screeching or clicking
 - Pressure
 - Heat
 - Vibrations
- Reported symptoms
 - Immediate or gradual onset
 - Persistent or recurrent
 - ✓ Dizziness
 - ✓ Headache
 - ✓ Nausea
 - ✓ Fatigue
 - ✓ Impaired balance
 - ✓ Impaired concentration
 - ✓ Impaired memory
 - ✓ Sleep disturbance
 - ✓ Depression
 - ✓ Irritability
 - ✓ Nervousness
 - ✓ Heightened emotions
 - ✓ Visual disturbance
 - ✓ Hearing changes

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AHI Acute Assessment Overview

- No evidence-based, AHI-specific clinical tool exists that can discriminate presenting symptoms from other medical conditions
 - AHI Acute Assessment ([DHA Form 244](#)) should be utilized on all who meet criteria of both a sensory event and associated onset of symptoms
 - ✓ AHI is akin to traumatic brain injury (TBI) in terms of reported symptoms, assessment findings, and effective treatments delivered
 - ✓ Therefore, many sections of the tool are adopted/modified from TBI-specific evaluations
 - Since many individuals who have been treated immediately after an event have improved, prompt medical evaluation and care is paramount
 - ✓ *DHA Form 244* should be administered within 7 days of sensory event
 - Evaluation should include strong consideration of alternative explanatory diagnoses for patient symptoms (e.g., stroke, migraine, infection, head trauma, vestibular neuritis, acute anxiety disorder, labyrinthitis, etc.)

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AHI Acute Assessment, *DHA Form 244*

Sections

Patient completes:

- A. Demographics
- B. Information About AHI Exposure
- C. Symptom Screening
- D. Activities-Specific Balance Confidence

Healthcare Professional completes:

- E. Medical and Surgical History
- F. Physical Examination
- G. Oculomotor Assessment
- H. Cognitive Exam – Delayed Recall
- I. Vestibular Assessment
- J. Results
- K. Disposition

Note: This image and the following images are taken directly from *DHA Form 244 (2022)*

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SECTION A: DEMOGRAPHICS (Completed By The Patient Note: This form is for use with U.S. uniformed services personnel and U.S. government civilians 18 years and older.)							
1. FULL NAME:	2. TODAY'S DATE: (YYYYMMDD)	3. DATE OF BIRTH: (YYYYMMDD)					
4. DOMINANT HAND: <input type="checkbox"/> Right <input type="checkbox"/> Left	5. GENDER: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Prefer not to answer						
6. Which of the following would you say best describes:							
a. Ethnicity							
<input type="checkbox"/> Hispanic or Latino	<input type="checkbox"/> American Indian or Alaska Native	<input type="checkbox"/> Native Hawaiian or other Pacific Islander					
<input type="checkbox"/> Not Hispanic or Latino	<input type="checkbox"/> Asian	<input type="checkbox"/> White					
<input type="checkbox"/> Black or African American	<input type="checkbox"/> Prefer not to answer	<input type="checkbox"/> Other: _____					
7. LEVEL OF EDUCATION:							
<input type="checkbox"/> High School	<input type="checkbox"/> Some College	<input type="checkbox"/> Undergraduate <input type="checkbox"/> Advanced Degree					
8. DEPARTMENT AFFILIATION:							
<input type="checkbox"/> Active Duty Military	<input type="checkbox"/> Government Civilian						
9. DEPARTMENT:							
SECTION B: INFORMATION ABOUT AHI EXPOSURE (To Be Completed By The Patient)							
10. Are you reporting possible exposure to an unusual sound, heat or sudden intense head pressure, and upon moving away from the area where you heard the sound or experienced the sudden pressure or heat, did the symptoms immediately/rapidly resolve completely?							
<input type="checkbox"/> YES <input type="checkbox"/> NO							
11. Do you report the incident to your organization's counterintelligence personnel, such as have: Criminal Investigative Service (CIS), Army Counter Intelligence (ACI), Air Force Office of Special Investigations (AFOSI) or DoD agency or component counterintelligence team?							
<input type="checkbox"/> YES <input type="checkbox"/> NO							
12. Description of Exposure: Do not put operationally sensitive information in your description.							
SECTION C: SYMPTOM SCREENING (Completed By The Patient)							
Using the 0-6 scale below, indicate the severity of symptoms you experienced at the time of the exposure described in Section B.							
Symptom Screening:	0	1	2	3	4	5	6
Neurocognitive							
13. Headache or Head Pressure:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
14. Fatigued; Foggy and Slowed Down:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
15. Trouble Concentrating:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
16. Trouble Remembering Things:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
17. Word Finding Challenges:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
18. Slowed Speech:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
DHA FORM 244, AUG 2022			CUR (When Filled in)			Page 2 of 10 AEM Designer 6.5	



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Section A: Demographics (Line Items 1-9)

- Documents basic information about patient
- For use on:
 - Military personnel
 - U.S. Government civilians
 - Patients 18 years and older

SECTION A: DEMOGRAPHICS (Completed By The Patient) Note: This form is for use with U.S. uniformed services personnel and U.S. government civilians 18 years and older.		
1. FULL NAME: James Jones	2. TODAY'S DATE: (YYYYMMDD) 20220825	3. DATE OF BIRTH: (YYYYMMDD) 19850701
4. DOMINANT HAND: <input type="checkbox"/> Right <input checked="" type="checkbox"/> Left	5. GENDER: Male	<input type="checkbox"/> Prefer not to answer
6. Which of the following would you say best describes:		
a. Ethnicity		b. Race (Please check all that apply)
<input type="checkbox"/> Hispanic or Latino	<input type="checkbox"/> American Indian or Alaska Native	<input type="checkbox"/> Native Hawaiian or other Pacific Islander
<input checked="" type="checkbox"/> Not Hispanic or Latino	<input type="checkbox"/> Asian	<input type="checkbox"/> White <input type="checkbox"/> Other: <input type="text"/>
	<input checked="" type="checkbox"/> Black or African American	<input type="checkbox"/> Prefer not to answer
7. LEVEL OF EDUCATION:		
<input type="checkbox"/> High School	<input type="checkbox"/> Some College	<input type="checkbox"/> Undergraduate <input checked="" type="checkbox"/> Advanced Degree
8. DEPARTMENT AFFILIATION:		
<input type="checkbox"/> Active Duty Military <input checked="" type="checkbox"/> Government Civilian		
9. DEPARTMENT:		
Department of State		

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Section B: Information About AHI Exposure (Line Items 10-12)

Confirms

- Reported exposure to unusual sound, heat or sudden intense head pressure
 - Relocation from area resulted in immediate or rapid resolution of unusual sound, sudden pressure, or heat
- If incident was reported to counterintelligence personnel

SECTION B: INFORMATION ABOUT AHI EXPOSURE *(To Be Completed By The Patient)*

10. Are you reporting possible exposure(s) to an unusual sound, heat or sudden intense head pressure, and upon moving away from the area where you heard the sound or experienced the sudden pressure or heat, did the symptoms immediately/rapidly resolve completely

YES NO

11. Did you report the incident to your organization's counterintelligence personnel, such as Naval Criminal Investigative Service (NCIS), Army Counter Intelligence (ACI), Air Force Office of Special Investigations (AFOSI) or DoD agency or component counterintelligence team?

YES NO

12. Description of Exposure:

Do not put operationally sensitive information in your description.

Upon leaving my residence this morning and walking to my car, I felt intense pressure by my ears for several minutes. Once I got into my care, the head pressure dissipated but I noticed a humming in my ears for the next hour or so.

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Section B: Information About AHI Exposure cont.

(Line Items 10-12)

Describes exposure

- **DO NOT** include operationally sensitive information
 - Healthcare record is unclassified
 - ✓ Can document general parameters of incident (e.g., location, time of day, month, activity)
 - Direct patient to security team for clarification of exposure details if uncertainty exists
 - Err towards excluding clinically irrelevant details
 - ✓ e.g., speculation on specific devices, country, group, energy sources, technical details responsible for event

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Section C: Symptom Screening (Line Items 13-34)

Subjective measure of symptom severity at time of exposure across 5 domains

- Neurocognitive
- Auditory
- Visual
- Balance
- Mood

Symptom severity rated from 0-6

- None = 0
- Severe = 6

SECTION C: SYMPTOM SCREENING (Completed By The Patient)							
Using the 0-6 scale below, indicate the severity of symptoms you experienced at the time of the exposure described in Section B.							
Symptom Screening:	0	1	2	3	4	5	6
Severity Rating:	None		Mild		Moderate		Severe
Neurocognitive							
13. Headache or Head Pressure:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6
14. Fatigued or Foggy and Slowed Down:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
15. Trouble Concentrating:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
16. Trouble Remembering Things:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
17. Word Finding Challenges:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
18. Slowed Speech:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Auditory							
19. Difficulty Hearing Things:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
20. Ear Pain or Pressure:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6
21. Nose Sensitivity:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
22. Ringing in Ear(s):	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Visual							
23. Sensitivity to Light:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
24. Difficulty focusing on Moving Objects:	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
25. Trouble Reading:	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
26. Colorful Patterns or Stars in Vision:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Balance							
27. Balance Difficulties:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
28. Dizziness:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
29. Nausea:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
30. Difficulty Walking (falling):	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Mood							
31. Sleep Difficulties:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
32. Nervous or Anxious:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
33. Sad:	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
34. Irritable:	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

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Section C: Symptom Screening Scoring and Interpretation

(Line Items 163-167)

- For each of the 5 domains, note the total number of symptoms the patient indicated a symptom severity greater than 0
 - Neurocognitive – max score of 6
 - Auditory – max score of 4
 - Visual – max score of 4
 - Balance – max score of 4
 - Mood – max score of 4

SECTION J: RESULTS					
Minimum Testing					
TEST	NUMERIC VALUE	TIME	DATE	RESULT	
Symptoms: Write in the total number of symptoms from the corresponding domain from Section C (<i>Items 13 to 34</i>), for which the patient indicated a symptom severity greater than 0					
163. Neurocognitive	3 /6	13:35:00	8/25/2022	Positive	
164. Auditory	4 /4	13:35:00	8/25/2022	Positive	
165. Visual	2 /4	13:35:00	8/25/2022	Positive	
166. Balance	1 /4	13:35:00	8/25/2022	Positive	
167. Mood	2 /4	13:35:00	8/25/2022	Positive	

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Section C: Symptom Screening cont. (Line Items 35-40)

- Includes PHQ-4
 - Brief anxiety and depression assessment
- Additional screening questions
 - Difficulty sleeping
 - Change in eating habits

Over the last two weeks, have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
35. Feeling nervous, anxious, or on edge	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
36. Not being able to stop or control worrying	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
37. Little interest in doing things	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
38. Feeling down, depressed, or hopeless	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
39. Difficulty sleeping	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>
40. Changes in your regular eating habits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>

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Section C: Symptom Screening cont.

PHQ-4 Scoring and Interpretation (Line Items 168 and 178)

- Scoring
 - Add up total score for questions 35-38
- Interpretation of scores

- Results

- ✓ Normal: 0-2
- ✓ Mild: 3-5
- ✓ Moderate: 6-8
- ✓ Severe: 9-12

SECTION J: RESULTS				
Minimum Testing				
TEST	NUMERIC VALUE	TIME	DATE	RESULT
168. Patient Health Questionnaire-4 (PHQ-4)--add the total score for items 35 to 38	3	1:35:00 PM	8/25/2022	Mild

- Score ≥ 3 on questions 35 and 36, suggests significant anxiety symptoms
- Score ≥ 3 on questions 37 and 38, suggests significant depressive symptoms

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Section D: Activities-Specific Balance Confidence

(Line Items 41-56)

- A multi-item measure that operationalizes fear of falling as a continuum of balance confidence in various and progressively more challenging situations
- Patients rate level of confidence in ability to perform a variety of tasks without losing balance or becoming unsteady
 - Uses a 0-100% scale to indicate level of confidence
 - If assistive device is normally utilized, (e.g., walker), patient should rate their confidence as if they were using the device
 - If two tasks are mentioned, patient should rate based upon task they consider more difficult

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SECTION D: ACTIVITIES-SPECIFIC BALANCE CONFIDENCE (Completed By The Patient)											
Activities-specific Balance Confidence (ABC) Scale Instructions.											
For each of the following activities, please indicate your level of confidence in doing the activity without losing your balance or becoming unsteady by choosing one of the percentage points on the scale from 0% to 100%. If you do not currently do the activity in question, try and imagine how confident you would be if you had to do the activity. If you normally use a walking aid to do the activity or hold onto someone, rate your confidence as if you were using these supports. For those items that mention two activities in one question (#64, #71, #73, #76, or #77), choose a percentage for the more difficult activity for you.											
0%	10	20	30	40	50	60	70	80	90	100%	
No confidence						Completely Confident					
How confident are you that you will not lose your balance or become unsteady when you...											
41. ...walk around the house?								90			%
42. ...walk up or down stairs?								100			%
43. ...bend over and pick up a slipper from the front of a closet floor?								90			%
44. ...reach for a small can off of a shelf at eye level?								100			%
45. ...stand on your tip toes and reach for something above your head?								80			%
46. ...stand on a chair and reach for something?								70			%
47. ...sweep the floor?								100			%
48. ...walk outside the house to a car parked in the driveway?								100			%
49. ...get into or out of a car?								100			%
50. ...walk across a parking lot to the mall?								100			%
51. ...walk up or down a ramp?								100			%
52. ...walk into a crowded mall where people rapidly walk past you?								90			%
53. ...are bumped into by people as you walk through the mall?								100			%
54. ...step onto or off an escalator while you are holding onto a railing?								80			%
55. ...step onto or off an escalator while holding onto parcels such that you cannot hold onto the railing?								70			%
56. ...walk outside on icy sidewalks?								70			%



Section D: ABC Scoring and Interpretation

(Line Items 169)

- Scoring
 - calculated by dividing total item scores by 16
- Interpretation
 - <80 = abnormal score of low or moderate confidence (increased fall risk)

SECTION J: RESULTS				
Minimum Testing				
TEST	NUMERIC VALUE	TIME	DATE	RESULT
169. Activities-specific Balance Confidence (ABC) Scale	90	13:39:00	8/25/2022	Normal

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Section E: Medical and Surgical History (Line Items 57-78)

- History of Present Illness (HPI)
- Detailed medical history
 - Includes 9-item questionnaire inquiring history of specific diagnoses
- Current list of medications, vitamins, and supplements
- Prior history of concussion, head injury, or TBI and event details

SECTION E: MEDICAL AND SURGICAL HISTORY (Completed By Healthcare Professional) Note: This form is for use with U.S. uniformed services personnel and U.S. government civilians 18 years and older. This form is not a substitute for clinical judgment. Emergent or urgent medical conditions should be excluded from the differential diagnosis before proceeding with this assessment, including but not limited to: 1) Cerebral Vascular Accident/Stroke; 2) Transient Ischemic Attack; 3) Migraine (including vestibular and ocular); and 4) Infectious etiology.

57. History of Present Illness

58. Has the patient been diagnosed with any medical conditions? (Please list):
Dyslipidemia
ADHD
Anxiety

59. What vitamins, medications, or supplements is the patient taking? (Please list):
Simvastatin

60. Has the patient ever been hospitalized? (If yes, please list):
no

61. Please list patient's surgeries (type of surgery/year):
Appendectomy- 2012

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Section F: Physical Examination (Line Items 79-105)

Differential diagnosis must exclude emergent or urgent medical conditions including but not limited to:

Cerebral Vascular Accident/Stroke

Transient Ischemic Attack (TIA)

Migraine (including vestibular and ocular)

Infectious etiology

- Vital Signs
- Cognitive exam using the Standardized Assessment of Concussion (SAC)
 - A standardized means of objectively documenting the presence and severity of neurocognitive impairment associated with concussion
 - Identifies deficits in orientation, memory, and concentration

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Section F: Physical Examination

SAC: Orientation (Line Items 81-91)

- Assesses patient awareness to time, place, and person
- Always consider extraneous factors that may impact ability to answer orientation questions
- Correct response for time must be within 1 hour of the actual time
- Score a point for each correct answer
 - Maximum score is 5

Score one point for each correct response.		
86. "What month is this?"	<input checked="" type="checkbox"/> Correct	<input type="checkbox"/> Incorrect
87. "What is the date or day of the month?"	<input checked="" type="checkbox"/> Correct	<input type="checkbox"/> Incorrect
88. "What day of the week is it?"	<input checked="" type="checkbox"/> Correct	<input type="checkbox"/> Incorrect
89. "What year is it?"	<input checked="" type="checkbox"/> Correct	<input type="checkbox"/> Incorrect
90. "What time do you think it is?"	<input type="checkbox"/> Correct	<input checked="" type="checkbox"/> Incorrect
** correct response must be within 1 hour of correct time. **		
91. Orientation Total Score	4	/5

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Section F: Physical Examination

SAC: Immediate Memory (Line Items 92-97)

- Tests ability to remember a small amount of information over a few seconds/minutes
- Instructions
 - Select a word list column
 - ✓ Same list will be utilized to assess for delayed recall (do not inform patient of this)
 - Read the script provided
 - Read all five words, at a rate of one word per second
 - Repeat for a total of 3 trials, even if all answers are correct in trial 1 or 2
- Score a point for each correct word recalled
 - Maximum score is 15

List A	Trial 1		Trial 2		Trial 3	
	Incorrect	Correct	Incorrect	Correct	Incorrect	Correct
92. Jacket	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
93. Arrow	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
94. Pepper	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
95. Cotton	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
96. Movie	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
97. Immediate Memory Total Score					15	/15

Immediate Memory Alternative Word Lists				
List B	List C	List D	List E	List F
Dollar	Finger	Baby	Candle	Elbow
Honey	Penny	Monkey	Paper	Apple
Mirror	Blanket	Perfume	Sugar	Carpet
Saddle	Lemon	Sunset	Sandwich	Saddle
Anchor	Insect	Iron	Wagon	Bubble

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Section F: Physical Examination

SAC: Concentration - Reverse Digits (Line Items 98-102)

- Tests concentration by having the patient repeat back a string of numbers in reverse order
- Instructions
 - Use same list (A-F) as used in immediate memory
 - Read instructional script provided
 - Starting with the 3-digit string length, read the digits at a rate of one-per-second
 - Do NOT group the digits in any way
 - Trial 2 only required if Trial 1 is incorrect

List A					
Trial 1		Trial 2			
(If Trial 1 is incorrect)				Incorrect	Correct
98.	4-9-3	6-2-9	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	
99.	3-8-1-4	3-2-7-9	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	
100.	6-2-9-7-1	1-5-2-8-5	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	
101.	7-1-8-4-6-3	5-3-9-1-4-8	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	
102. REVERSE DIGITS SCORE				2	/4

Concentration Alternate Number Lists. Note: Use the same list (A-F) that was used previously.

List B		List C		List D	
Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
5-2-6	0	1-4-2	6-5-8	7-8-2	9-2-6
1-7-9-5	4-9-6-8	6-8-3-1	3-4-8-1	4-1-8-3	9-7-2-3
4-8-5-2-7	6-1-8-4-3	4-9-1-5-3	6-8-2-5-1	1-7-9-2-6	4-1-7-5-2
8-3-1-9-6-4	7-2-7-8-5-6	3-7-6-5-1-9	9-2-6-5-1-4	2-6-4-8-1-7	8-4-1-9-3-5
List E		List F			
Trial 1	Trial 2	Trial 1	Trial 2		
3-8-2	5-1-8	2-7-1	4-7-9		
2-7-9-3	2-1-6-9	1-6-8-3	3-9-2-4		
4-1-8-6-9	9-4-1-7-5	2-4-7-5-8	8-3-9-6-4		
6-9-7-3-8-2	4-2-7-9-3-8	5-8-6-2-4-9	3-1-7-8-2-6		

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Section F: Physical Examination

SAC: Concentration – Reverse Digits Scoring (Line Item 102)

- If correct on the 1st or 2nd attempt at a digit string length
 - Score one point for that string
- If both attempts at a digit string are incorrect
 - STOP and record 0 for that string and any remaining
- Total score is sum of correct responses

		List A			
		Trial 1	Trial 2		
		(If Trial 1 is incorrect)		Incorrect	Correct
98.	4-9-3	6-2-9	0	<input type="checkbox"/>	1 <input checked="" type="checkbox"/>
99.	3-8-1-4	3-2-7-9	0	<input type="checkbox"/>	1 <input checked="" type="checkbox"/>
100.	6-2-9-7-1	1-5-2-8-5	0	<input checked="" type="checkbox"/>	1 <input type="checkbox"/>
101.	7-1-8-4-6-3	5-3-9-1-4-8	0	<input checked="" type="checkbox"/>	1 <input type="checkbox"/>
102. REVERSE DIGITS SCORE				2	/4

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Section F: Physical Examination

SAC: Concentration – Reverse Digits example (Line Items 98-102)

- Read the 1st 3-digit string: “4-9-3”
- Correct response would be: “3-9-4”
 - If correct, check (✓) correct box, and go to next string length
 - If incorrect, read trial two in the same digit string length
 - ✓ If correct on trial 2, check (✓) correct box, score as 1 and go to next string length
 - ✓ If incorrect on trial 2, check (✓) incorrect box
 - stop reverse digits assessment here
 - score 0 here
 - check incorrect box for any remaining digit string lengths
- Reverse Digits total score is sum of correct trials (total maximum score is 4)

List A			
Trial 1	Trial 2		
(If Trial 1 is incorrect)		Incorrect	Correct
98. 4-9-3	6-2-9	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
99. 3-8-1-4	3-2-7-9	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
100. 6-2-9-7-1	1-5-2-8-5	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>
101. 7-1-8-4-6-3	5-3-9-1-4-8	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>
102. REVERSE DIGITS SCORE		2	/4

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Section F: Physical Examination

SAC: Concentration – Months in Reverse Order (Line Items 103-104)

Assesses concentration by testing central processing speed for both focused and sustained attention

- Read the instructional script exactly as written
- Mark correct or incorrect
 - Score 1 point for correctly reciting entire sequence
 - Score 0 if 1 or more months are out of sequence or omitted

Concentration: Months in Reverse Order

Read the script exactly how it is written: "Now tell me the months of the year in reverse order. Start with the last month and go backward. So, you'll say: December, November...Go ahead."

103. Correct Response:

December, November, October, September, August, July, June, May, April, March, February, January.

ALL months in reverse order Correct Incorrect

104. Months in Reverse Score /1 **Total score is 1 point**

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Section F: Physical Examination

SAC: Concentration Total Score (Line Item 105)

- Total scores for Reverse Digits and Months in Reverse Order
 - Reverse Digits: maximum score 4 points.
 - Months in Reverse Order: entire sequence correct, score 1 point.
- Concentration Section total (add line item 102 and 104): max 5 points

105. Concentration Total Score

3

/5

Add the number in Item 102. Reverse Digits Score and the number in Item 104. Months in Reverse Score.

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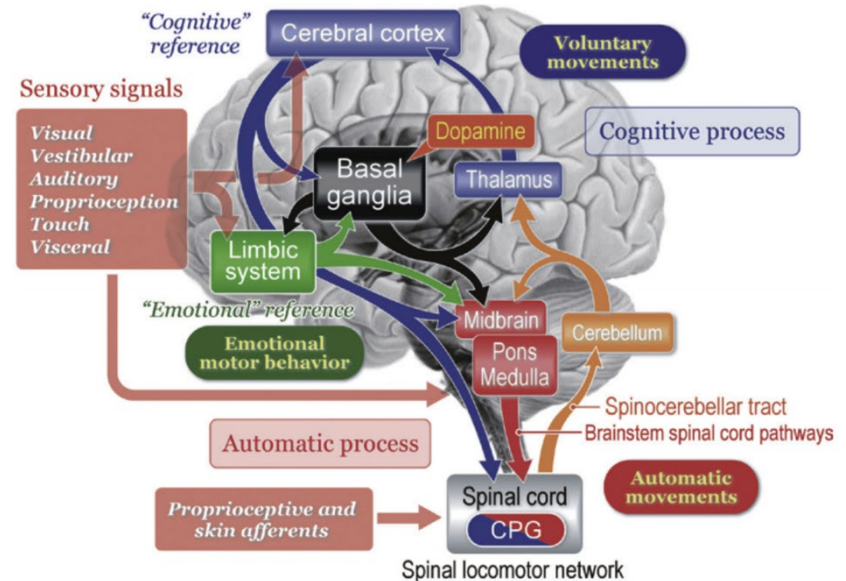


Section G: Oculomotor Assessment

Vestibular Ocular Motor Screening (VOMS) Introduction

VOM System

- Is a complex network that connects sensory organs of the inner ear to the brain stem, cerebellum, cerebral cortex, ocular system and postural muscles
- Comprised of Vestibulospinal and Vestibulo-ocular tracts
 - Together, they are responsible for integrating balance, gaze stabilization, and visual and spatial orientation



Menon, Clinical Overview: Abnormal Balance or Gait, Elsevier, 2022

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Section G: Oculomotor Assessment

VOMS Overview

- The VOM system is frequently impaired as a result of concussion and speculated to also be impaired by AHI
 - Often times impairment is not apparent until system is provoked
 - Oculomotor problems are often misattributed to a cognitive deficit, leading to ineffective treatment and prolonged morbidity
- Goal of VOMS is symptom provocation
 - Specific symptoms assessed by the test are headache, dizziness, nausea and foginess (HDNF)
 - Any increase above the baseline ratings (pretest at-rest ratings) is considered abnormal

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Section G: Oculomotor Assessment

VOMS Overview cont.

Domains assessed

- Smooth Pursuits
 - Tests ability to follow a slowly moving target
- Horizontal and Vertical Saccades
 - Tests ability of eyes to move quickly between targets
- Convergence
 - Tests where double vision occurs or if there is observable eye deviation
- Horizontal and Vertical Vestibular/Ocular-Reflex (VOR)
 - Tests ability of eyes to focus on a stationary target as head moves to a predetermined pace
- Visual Motion Sensitivity (VMS)
 - Tests ability of eyes to track a moving target as upper body quickly rotates

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Section G: Oculomotor Assessment

VOMS Instructions

- Contraindicated in presence of an unstable cervical spine
- Consider deferring
 - If patient is overtly symptomatic
 - Trained provider is not available
- Ensure patient is wearing any corrective lenses they usually wear
- Use comment section for any observed difficulty with specific VOMS tasks
- Throughout exam, observe if patient has any of the following:
 - Nystagmus on sustained lateral gaze
 - Eye deviation
 - Other (e.g., appears physically ill or vomits, becomes dizzy and falls off the chair)

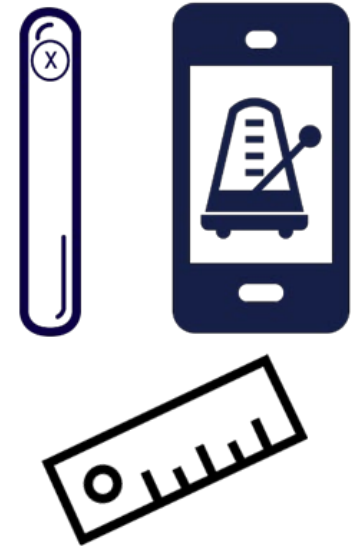
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Section G: Oculomotor Assessment

VOMS Equipment

- Target with a 14-point font in size (for Convergence and VOR tests)
 - Available on pg.1 of tool
- Tape measure with centimeter increment (for Convergence test)
 - Available on pg.15 of tool
- Metronome (for VOR and VMS tests)



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Section G: Oculomotor Assessment

VOMS: Baseline Symptoms (Line Items 106–110)

- Ask patient to rate their headache, dizziness, nausea, and foggiess (HDNF) at rest on a scale of 0 to 10 to establish a baseline before testing begins
- Note any other abnormal findings

VOMS: Baseline Symptoms				
Instructions: Just prior to starting the VOMS, record headache, dizziness, nausea and foggiess (<i>HDNF</i>) symptoms present on zero to 10 scale, and note any other abnormal findings.				
TEST:	106 HEADACHE:	107. DIZZINESS:	108. NAUSEA:	109. FOGGINESS:
Baseline Symptoms	3/10	2/10	2/10	1/10
110. Check all that apply:				
<input type="checkbox"/> Nystagmus	<input type="checkbox"/> Eye Deviation	<input type="checkbox"/> Other:	<input type="text"/>	

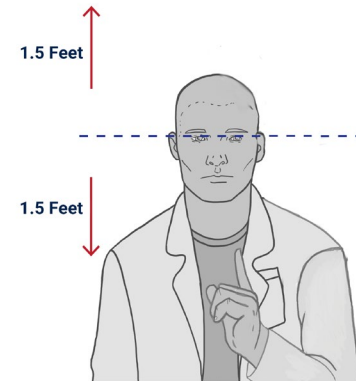
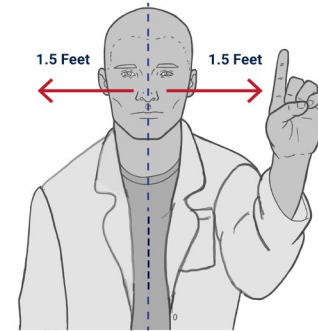
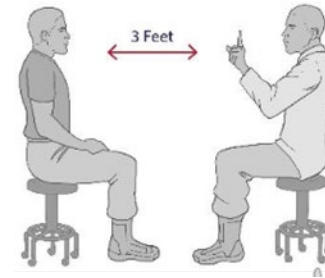
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Section G: Oculomotor Assessment

VOMS: Smooth Pursuits (Line Items 111-115)

- Sit down across from patient
- Hold fingertip 3ft from patient
- Have patient focus on target as you move target smoothly horizontally 1.5ft to the right and left of midline
 - Movement should be at a rate requiring two seconds to go from left to right and another two seconds to go from right to left
 - Perform a total of 2 full cycles
- Repeat in the vertical direction 1.5ft above and below midline
 - Perform a total of 2 full cycles
- Record any abnormal findings and HDNF on a 0-10 scale

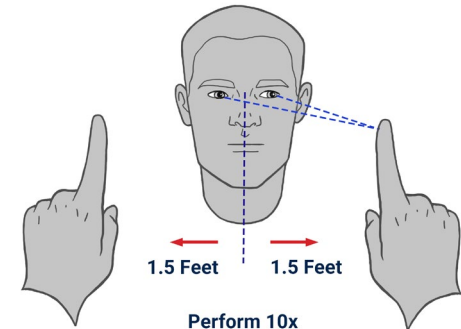
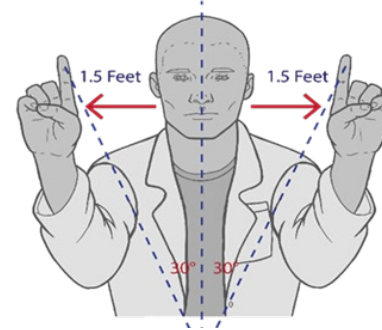


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Section G: Oculomotor Assessment

VOMS: Horizontal Saccades (Line Items 116-120)

- Continue to sit down across from patient
- Hold 2 single points (fingertips) horizontally at a distance of 3ft from patient
- Hold fingertips 1.5ft to the right and 1.5ft to the left of midline
 - So that patient should be able to gaze approximately 30° to both their left and right
- Instruct patient to stabilize head and move eyes as quickly as possible from point-to-point
- Complete 10 full back-and-forth cycles
- Record any abnormal findings and HDNF on a 0-10 scale

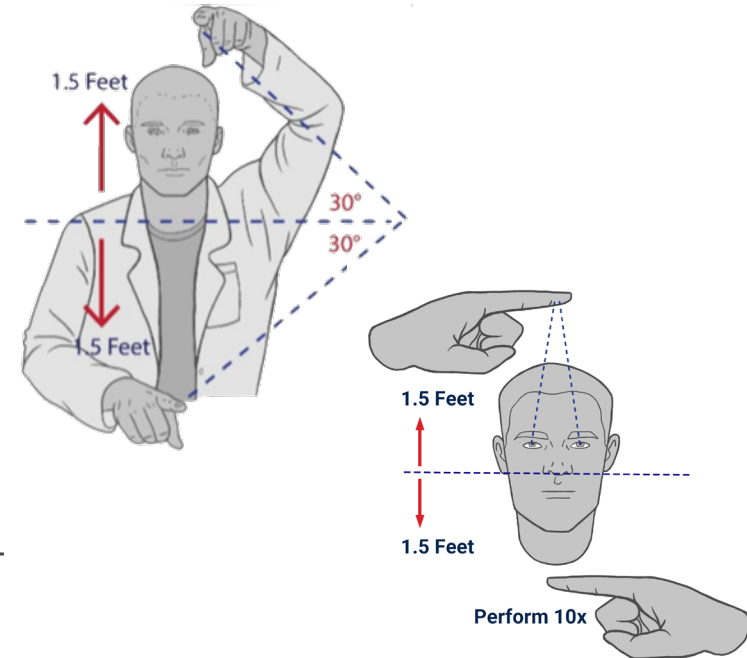


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Section G: Oculomotor Assessment

VOMS: Vertical Saccades (Line Items 121-125)

- Continue to sit down across from patient
- Hold 2 single points (fingertips) vertically at a distance of 3ft from patient
- Hold fingertips 1.5ft above and 1.5ft below midline
 - So that patient should be able to gaze approximately 30° upwards and downwards
- Instruct patient to stabilize head and move eyes as quickly as possible from point-to-point
- Complete 10 full back-and-forth cycles
- Record any abnormal findings and HDNF on a 0-10 scale



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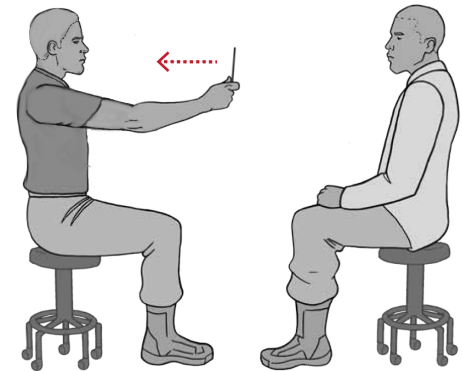
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Section G: Oculomotor Assessment

VOMS: Convergence (Near-Point) (Line Items 126-133)

- Continue to sit down across from patient
- Instruct patient to bring a 14- point font size target from arm's length slowly toward the tip of their nose
- Tell them to stop when they see two distinct images
 - Remind them that blurring of the image is normal
 - Tell them to stop if you observe outward eye deviation
- Record the distance between target and tip of nose in centimeters
 - >5cm from the tip of the nose is considered abnormal
- Repeat for 3 trials
- Record any abnormal findings and HDNF on a 0-10 scale



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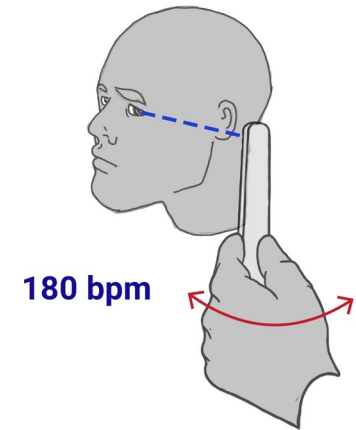
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Section G: Oculomotor Assessment

VOMS: Vestibular-Ocular Reflex (VOR) – Horizontal (Line Items 134-138)

- Continue to sit down across from patient
- Hold a 14- point font size target 3ft away from patient at midline
- Instruct patient to rotate their head horizontally while maintaining focus on the target using a rotation speed of 180 beats per minute
 - Head should move at an amplitude of 20 degrees to each side with each beat of the metronome
- Perform 10 repetitions
 - One repetition is complete when head moves back and forth to the starting position
- **Wait 10 seconds** and then record any abnormal findings and HDNF on a 0-10 scale

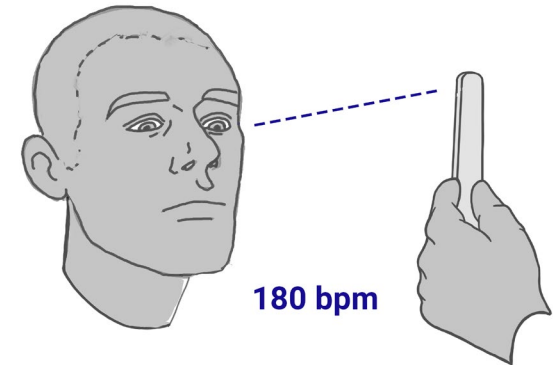


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Section G: Oculomotor Assessment

VOMS: Vestibular-Ocular Reflex (VOR) – Vertical (Line Items 139-143)

- Continue to sit down across from patient
- Hold a 14- point font size target 3ft away from patient at midline
- Instruct patient to rotate their head vertically while maintaining focus on the target using a rotation speed of 180 beats per minute
 - Head should move at an amplitude of 20 degrees up and down with each beat of the metronome
- Perform 10 repetitions
 - One repetition is complete when head moves up and down to the starting position
- **Wait 10 seconds** and then record any abnormal findings and HDNF on a 0-10 scale



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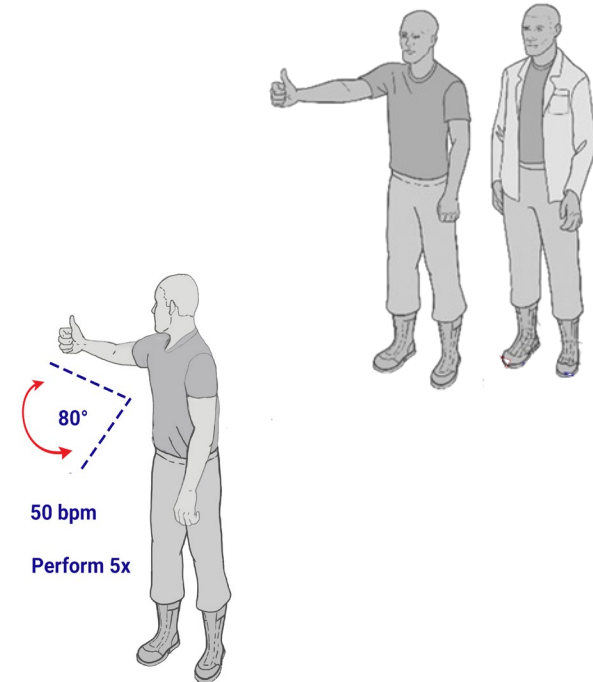


Section G: Oculomotor Assessment

VOMS: Visual Motion Sensitivity (VMS) (Line Items 144-148)

- Have patient stand with feet shoulder width apart, facing a busy area
- Stand next to and slightly behind patient
- Instruct patient to outstretch their arm and focus on their thumb
- Then tell them to turn their head, eyes, and trunk as a unit 80° right and left using a rotation speed of 50 beats per minute (using the metronome)
- Perform 5 repetitions
 - One repetition is complete when head, eyes, and trunk move back and forth to the starting position
- Record any abnormal findings and HDNF on a 0-10 scale

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Section G: Oculomotor Assessment

VOMS: Scoring and Interpretation (Line Items 170 and 175)

- Scoring
 - Compare VOMS HDNF sub-test scores to baseline HDNF scores
- Interpretation
 - Any sub-test score >1 (i.e., above baseline) is abnormal
 - ✓ Vestibular and oculomotor impairment may be associated with worse outcomes, including protracted recovery
 - ✓ Use findings as a guide for specialized referrals for additional assessment and targeted rehabilitation (i.e., vestibular rehabilitation and visual-oculomotor therapies)
 - Convergence distance greater than 5cm is abnormal

SECTION J: RESULTS				
Minimum Testing				
TEST	NUMERIC VALUE	TIME	DATE	RESULT
170. Vestibular Ocular Motor Screening (VOMS)	n/a	14:10:00	8/25/2022	Positive

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Section H: Cognitive Exam:

SAC: Delayed Recall (Line Items 149-154)

- Use the same five-word-list as in the earlier immediate memory test (Section F)
- Do NOT repeat the word list this time or indicate how many words are on the list
- Read the script exactly as written
- Ask the patient to recall as many words as they can in any order
- Allow only one trial
- Score 1 point for each word remembered correctly for a maximum score of 5

List A	Incorrect	Correct
149. Jacket	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>
150. Arrow	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
151. Pepper	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>
152. Cotton	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>
153. Movie	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>
154. Cognitive Exam - Delayed Recall Total Score	2	/5

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Cognitive Exam

SAC: Scoring and Interpretation (Line Items 171 and 176)

- Scoring
 - Add all 4 SAC subtests together for a max total of 30
 - Abnormal score is < 26
- Interpretation
 - The SAC has demonstrated validity, reliability, and sensitivity to assess cognitive function after acute exposure (in concussion)

SECTION J: RESULTS				
Minimum Testing				
TEST	NUMERIC VALUE	TIME	DATE	RESULT
171. Standardized Assessment of Concussion (SAC) Cognitive Exam	24	14:30:00	8/25/2022	Abnormal

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Section I: Vestibular Assessment

Modified Balance Error Scoring System (mBESS)

- Measures static balance and postural stability (i.e., vestibulospinal impairment) by assessing specific stances on a **hard** surface
 - Double-leg stance
 - Single-leg stance
 - Tandem stance
- Instability is subjectively measured by the examiner counting amount of patient errors in the maintenance of the stances (with eyes closed)
 - Types of errors
 - ✓ Hands lifted off iliac crest
 - ✓ Opening eyes
 - ✓ Step, stumble, or fall
 - ✓ Moving hip into > 30 degrees abduction
 - ✓ Lifting forefoot or heel
 - ✓ Remaining out of test position > 5 sec
- Optimally should be conducted with patient's shoes removed
- A timing device is required

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Section I: Vestibular Assessment

mBESS: Standardization Information (Line Items 155-158)

- Before starting test note:
 - Footwear
 - ✓ Shoes
 - ✓ Socks
 - ✓ Other
 - Non-Dominant Foot
 - ✓ This identifies patient's non-dominant foot
 - Test Foot
 - ✓ Preference is to utilize non-dominant foot
 - ✓ Note which foot is utilized (i.e., non-dominant foot is not able to be used)
 - Testing Surface
 - ✓ Hard Floor
 - ✓ Carpet
 - ✓ Other

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Section I: Vestibular Assessment

mBESS: Double-Leg Stance (Line Item 159)

- Instruct patient to stand with feet together, hands on hips and eyes closed and to try to maintain the position for 20 seconds
- Inform them that you will start timing once they have closed their eyes and assumed the proper test position
- Count the number of times they move out of position (max of 10) and check boxes as appropriate



159. Double-Leg Stance Errors (check one, max 10)										
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 10

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Section I: Vestibular Assessment

mBESS: Single-Leg Stance (Line Item 160)

- Instruct patient to stand on their non-dominant foot with their hands on hips and eyes closed
- Instruct them to move their dominant leg 30 degrees in hip flexion and 45 degrees in knee flexion and maintain the position for 20 seconds
 - If patient stumbles, they should quickly open their eyes and return to the testing position
 - Counting should resume once patient is set and closes eyes again
- Inform them that you will start timing the test once they have closed their eyes
- Count the number of times they move out of position (max of 10) and check boxes as appropriate



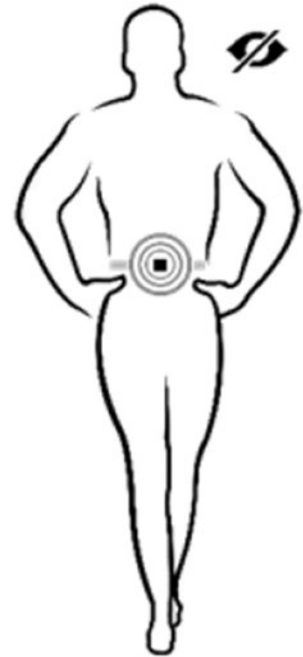
160. Single-Leg Stance Errors (check one, max 10)										
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 10

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Section I: Vestibular Assessment

mBESS: Tandem Stance (Line Item 161)

- Instruct patient to stand heel-to-toe with their non-dominant foot in back and their hands on hips and eyes closed
- Tell them to maintain the position for 20 seconds with their weight evenly distributed across both feet
 - If patient stumbles, they should quickly open their eyes and return to the testing position
 - Counting should resume once patient is set and closes eyes again
- Inform them that you will start timing the test once they have closed their eyes
- Count the number of times they move out of position (max of 10) and check boxes as appropriate



161. Tandem Stance Errors (check one, max 10)										
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 10

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Section I: Vestibular Assessment

mBESS: Scoring and Interpretation (Line Item 172)

- Scoring
 - Add all errors observed during the 3 mBESS sub-tests
 - Max amount of errors is 30
- Interpretation
 - Abnormal score ≥ 4 errors if age < 49
 - Abnormal score ≥ 5 errors if age > 50

SECTION J: RESULTS				
Minimum Testing				
TEST	NUMERIC VALUE	TIME	DATE	RESULT
172. Other test: Modified Balance Error Scoring System (mBESS)	7	14:40:00	8/25/2022	Abnormal

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Section J: Results (Line Items 162-173)

- Record results of all individual tests
- Include time and date they were administered

SECTION J: RESULTS					
Minimum Testing					
TEST	NUMERIC VALUE	TIME	DATE	RESULT	
162. History & Physical	n/a	13:30:00	8/25/2022	See Above	
Symptoms: Write in the total number of symptoms from the corresponding domain from Section C (Items 13 to 34), for which the patient indicated a symptom severity greater than 0		13:35:00	8/25/2022		
163. Neurocognitive	3 /6	13:35:00	8/25/2022	Positive	
164. Auditory	4 /4	13:35:00	8/25/2022	Positive	
165. Visual	2 /4	13:35:00	8/25/2022	Positive	
166. Balance	1 /4	13:35:00	8/25/2022	Positive	
167. Mood	2 /4	13:35:00	8/25/2022	Positive	
168. Patient Health Questionnaire-4 (PHQ-4)—add the total score for items 35 to 38	3	1:35:00 PM	8/25/2022	Mild	
169. Activities-specific Balance Confidence (ABC) Scale	90	13:39:00	8/25/2022	Normal	
170. Vestibular Ocular Motor Screening (VOMS)	n/a	14:10:00	8/25/2022	Positive	
171. Standardized Assessment of Concussion (SAC) Cognitive Exam	24	14:30:00	8/25/2022	Abnormal	
172. Other test: Modified Balance Error Scoring System (mBESS)	7	14:40:00	8/25/2022	Abnormal	
173. Other test:					

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Section J: Results

Interpretation of Testing (Line Items 174-178)

Interpretation of Testing	
Test	Interpretation
174. ABC Scale	Abnormal percentage < 80%. To score the ABC, determine the average percentage of the 16 items (<i>i.e.</i> , total the responses and divide by 16).
175. VOMS	VOMS: Baseline Symptoms of headache, dizziness, nausea and fogginess (HDNF) scores (Items 106 to 109) VOMS: Convergence (<i>Near Point</i>) greater than 5 centimeters in Items 131, 132 and 133 Any increase (>1) above reported baseline HDNF symptoms is abnormal
176. Standardized Assessment of Concussion Cognitive Exam - (Orientation, Immediate Memory, Concentration: Reverse Digits, Concentration: Months in Reverse Order, Cognitive Assessment - Delayed Recall).	Abnormal score < 26
177. mBESS	Abnormal score > or = 4 errors if age < 49 Abnormal score > or = 5 errors if age > 50
178. PHQ-4	Total score is determined by adding together the scores of each of the 4 items. Scores are rated as normal (0-2), mild (3-5), moderate (6-8), and severe (9-12). Total score ≥ 3 for questions 35 and 36 suggests significant anxiety symptoms. Total score ≥ 3 for questions 37 and 38 suggests significant depressive symptoms.

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Section J: Results

Additional Testing (Line Items 179-180)

- Document date/time if any blood was banked
- Document any additional Point of Care (POC) Testing

Additional Testing (if any)			
TEST	TIME	DATE	RESULT
179.			
180.			

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Section K: Disposition (Line Items 181-182)

- Note the following:
 - When the patient should follow-up
 - ✓ Specify date and time and whether patient should see you or their primary care provider
 - If the patient needs to be referred for an additional evaluation
 - ✓ Specify which specialty and rationale for referral

SECTION K: DISPOSITION
181. Follow-up in this clinic at <i>(date/time)</i> or with your primary care provider.
F/u with this clinic in 4 days.
182. Refer for additional evaluation:
Patient endorsed history of potential AHI exposure and elicited deficits on several tool domains. Will contact AHI Care

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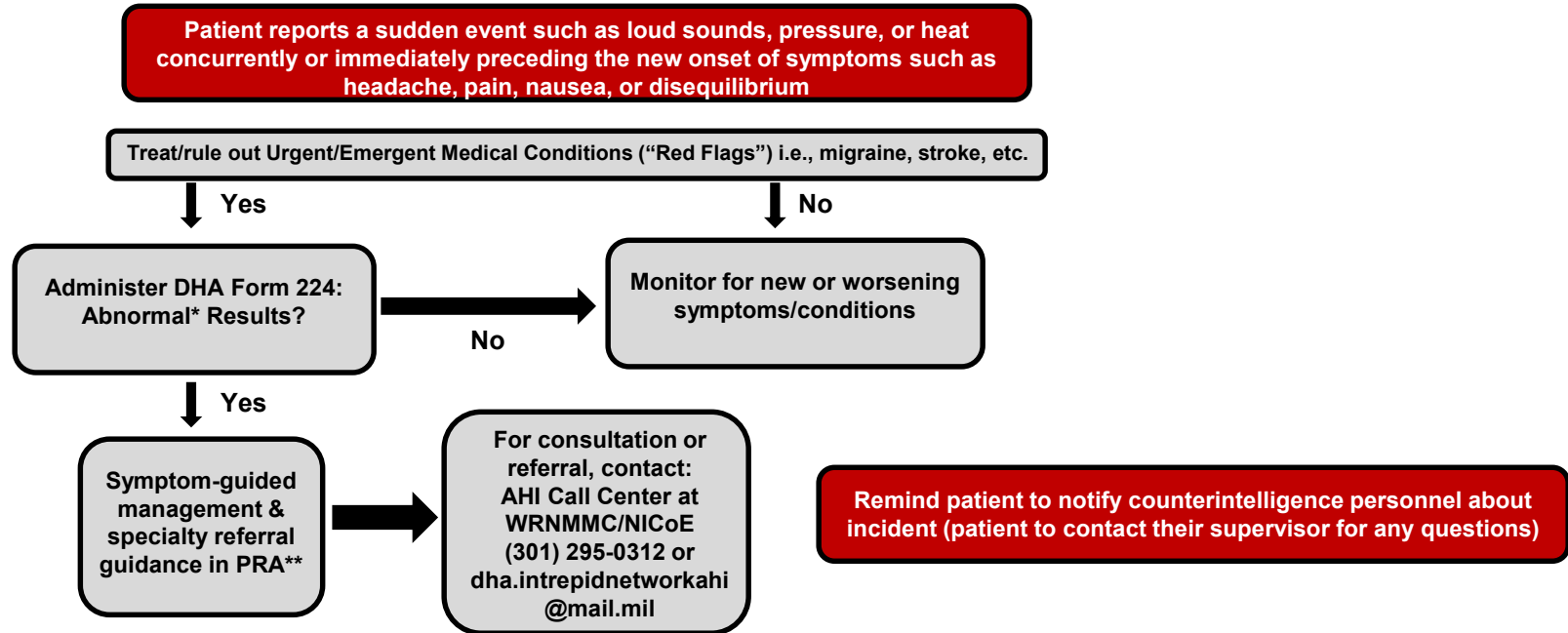
Post-assessment Management

- If assessment determines another medical condition can readily be identified as a likely cause of symptoms
 - Follow standard treatment for identified diagnosis
- If patient is suspected of having symptoms related to an AHI exposure
 - Treat using primary care symptom-guided management strategies outlined in the Traumatic Brain Injury Center of Excellence (TBI CoE) [Progressive Return to Activity Clinical Recommendation](#) (PRA)
- If etiology is unclear
 - Symptomatic treatment should be initiated

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Provider Algorithm for Suspected AHI



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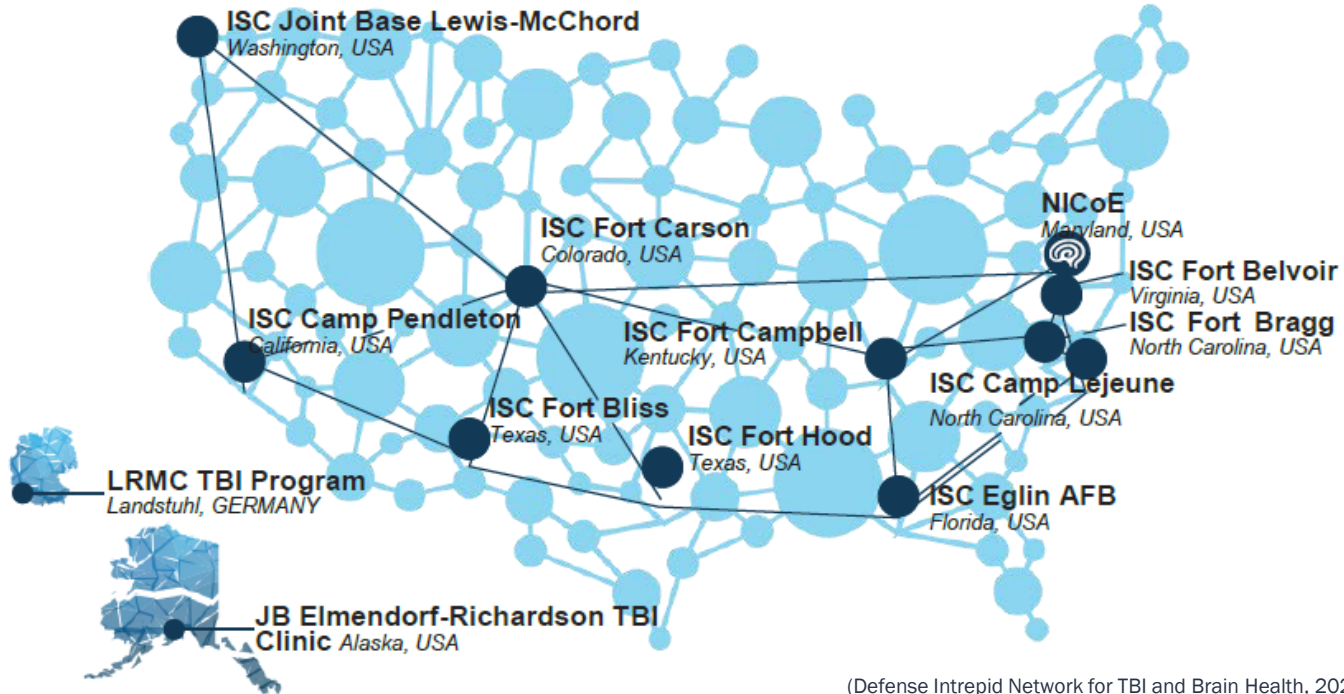
Provider Resources

- NDAA Fiscal Year 2022 Sec. 732,
 - “Access by United States Government Employees and their family members to certain facilities of Department of Defense for Assessment and Treatment of Anomalous Health Conditions.”
- Patients not responding to initial medical management should be referred to closest TBI clinic, Intrepid Spirit Center, or the National Intrepid Center of Excellence (NICOE).
 - AHI Call Center at Walter Reed National Military Medical Center
 - ✓ For consultation, more in-depth evaluation, referral assistance, etc.
 - ✓ Phone number: 301-295-0312
 - **Only to be used by medical providers**
 - Staffed Monday-Friday from 8 a.m.-4 p.m. ET
 - ✓ Email address: dha.intrepidnetworkahi@mail.mil

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Defense Intrepid Network for TBI and Brain Health



(Defense Intrepid Network for TBI and Brain Health, 2022)

Improving Health and Building Readiness. Anytime, Anywhere — Always



AHI Coding Guidance

- Primary codes
 - R44.9, unspecified symptoms and signs involving general sensations and perceptions; or
 - R29.90, unspecified symptoms and signs involving the nervous system
 - ✓ given that not all patients treated for AHI present an actual “brain injury” or “brain disorder”
- Secondary codes for symptoms associated with the AHI event (use all that apply)
 - Headache, R51.9
 - Dizziness, R42
 - Palpitations, R00.2
 - Etc.
- Add exposure codes, if applicable
 - W90.0 A/D/S, exposure to radiofrequency
 - W90.8 A/D/S, exposure to other nonionizing radiation
 - W99 A/D/S, exposure to other man-made environmental factors

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Key Takeaways

- The AHI Acute Assessment (*DHA Form 244*), is a clinical screening tool that includes a comprehensive clinical exam, interview, and medical history with an assessment of neurocognition, symptoms, balance, and vestibular and oculomotor systems.
- This multimodal tool can provide a comprehensive overview of potential impairments from AHI and is best utilized within 7 days of exposure.
- Using the PRA for guidance, providers should initiate appropriate interventions and referrals for identified deficits.

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Illustrations by Kori Zick, Animations by Kat Michaels-Doyle (TBICoE)

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Questions?

www.health.mil/TBICoE

Email: dha.tbicoeinfo@health.mil

That concludes this training.

Thank you for your attention!

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