

Portable Warrior Test of Tactical Agility - Dual-task Protocol

Did SM complete the task? Yes No (examiner stopped) No (subject stopped)

POWAR-TOTAL Task Scoring Form

Use die to randomly select grid coordinate and circle corresponding number for each trial.

1. VISION TEST: _____ **LINE:** _____ **VISION CLARITY:** _____ (Likert Scale)

2. SINGLE TASK COGNITIVE

“The Recon Operation is in the vicinity of _____”

Assigned Grid Coordinate Reported Grid Coordinate (write exactly as spoken)

- 1) Uniform Charlie 6-1-9-4-7-3
- 2) Bravo Gulf 3-9-2-4-8-7
- 3) Zulu Mike 5-9-1-7-4-2
- 4) Echo Quebec 6-5-9-3-7-2
- 5) Delta Tango 4-9-7-3-9-2
- 6) Sierra Oscar 4-1-7-9-3-8

2A. Number of characters recalled in correct order with 15s delay: _____ (Max Score 8)

3. SINGLE TASK MOTOR Start with a quick walk through.

3A. PRACTICE: Time to complete course: _____ (sec. XX.xx)

3B. TRIAL 1: Time to complete course: _____ (sec. XX.xx)

3C. TRIAL 2: Time to complete course: _____ (sec. XX.xx)

3D. VISION TEST: _____ **LINE:** _____ **VISION CLARITY:** _____ (Likert Scale)

4. DUAL TASK MOTOR-COGNITIVE

4A. TRIAL 1 “New grid coordinates are _____”

Assigned Grid Coordinate Reported Grid Coordinate (write exactly as spoken)

- 1) Romeo X-Ray 3-8-2-9-5-1
- 2) Whiskey Alpha 3-7-6-2-1-9
- 3) Foxtrot Kilo 5-8-1-9-2-6
- 4) Yankee Papa 2-7-5-8-6-2
- 5) November India 3-5-4-8-5-1
- 6) Delta Juliet 3-6-1-9-5-2

4A.1. Number of characters recalled in correct order: _____ (Max Score 8)

4A.2. Time to complete course: _____ (sec:XX.xx).

4A.3 VISION TEST: _____ **LINE:** _____ **VISION CLARITY:** _____

4B. TRIAL 2 "New grid coordinates are _____"

Assigned Grid Coordinate Reported Grid Coordinate (write exactly as spoken)

1) Mike Sierra 4-1-7-9-2-5.

2) Lima Victor 2-4-7-5-9-1

3) Oscar Hotel 7-1-3-9-4-2

4) Alpha November 2-5-3-9-4-1 _____

5) Yankee Quebec 8-1-4-9-6-3

6) Papa Bravo 4-1-3-7-5-2

4B.1. Number of characters recalled in correct order: _____ (Max Score 8)

4B.2. Time to complete course: _____ (sec:XX.xx).

4B.3 VISION TEST: _____ **LINE:** _____ **VISION CLARITY:** _____

4C. TRIAL 3 "New grid coordinates are _____"

Assigned Grid Coordinate Reported Grid Coordinate (write exactly as spoken)

1) Lima India 2-6-9-3-5-1

2) Hotel Echo 1-5-3-0-4-6

3) Juliet Uniform 2-5-1-9-3-7

4) Kilo Victor 8-3-5-9-2-4 _____

5) Gulf Whisky 9-2-5-8-3-7

6) Charlie Tango 5-3-8-9-1-4

4C.1. Number of characters recalled in correct order: _____ (Max Score 8)

4C.2. Time to complete course: _____ (sec:XX.xx).

5. VISION TEST: _____ **LINE:** _____ **VISION CLARITY:** _____ (Likert Scale)

POWAR-TOTAL Task Instructions

Examiner scoring supplies/materials:

1. A die or other means of randomly choosing grid list order
2. Stopwatch
3. Clipboard
4. Pencil
5. Scoresheet
6. Snellen Eyechart
7. Task Instructions

Introduction:

This test will look at your vision, memory and balance all together.

This task requires the SM to demonstrate high-level balance and mobility skills not unlike those required in a battlefield situation, alternating between quick position changes as well as working memory under sub- maximal exertion conditions. The ability to learn and retain operationally relevant information such as that provided in this task while moving to an assigned mission location has relevance to functional duty demands.

Before testing roll a die to randomly pick one of the six grid coordinate combinations. Circle the number condition on the scoring sheet. This number will be standardized across all remaining test conditions.

Instructions:

The task requires you to run forward and backward and roll on an agility course, has a memory task, a vision task, and then trials of putting everything together.

Vision test standing at tape at 20'. Read the lowest line possible aloud (forwards)

Ask participant about vision clarity test using Likert scale from 0-10 and record in the appropriate box on the score sheet.

Single Task: Cognitive only (Grid Coordinates Recall and Backbrief): Next we are going to do a memory task. In this scenario, your Commander has instructed you to perform a recon operation in the vicinity of grid coordinates that will be provided. I will read 2 letters and 6 numbers to you ONLY one time.

During this task there are several rules:

- 1) You may not repeat the coordinate out loud or write it down.
- 2) Listen carefully, as you need to remember the coordinate in the order that it was given.

After ~15 seconds I will say “now”. At that time tell me the letters and numbers in the order I gave them to you as best as you remember. Do you have any questions? Are you ready? Let’s begin...

- Refer to score sheet for the script and list of grid coordinates. Use selected coordinates based on die roll.
- Read 1 digit per second. Drop vocal inflection on final digit to communicate list completion.
- Start timing on the stopwatch approximately 1/2 second after you say the final grid digit and at ~15 seconds say “NOW”.

During memory recall ~15 seconds later, the examiner will write down the letters and numbers vocalized by the participant on the scoring sheet in the order they are provided. A maximum of 8/8 points may be achieved for this condition. If the participant remembers less than 4 characters correctly, do a repeat trial (different coordinate) to ensure they understand the instructions.

B. Single Task Motor Condition – Walk Through Agility Task Show schematic of the course (on page 4 of this script). This test has one practice trial and several assessment trials.

- You will begin here lying prone with your hands at the level of this piece of tape on the right side of the cone
- When I say go, stand up and run as quickly as you can to the left side of the mat. Trace path on schematic. Do a combat roll to your right.
- Standup and backpedal as quickly as possible to the right side of cone. Trace path on schematic.
- Side shuffle to the left side of the cone and run diagonally to the right side of the mat, trace path on schematic. Do a combat roll to your left.
- Standup and backpedal as quickly as possible to the left side of cone and then come to a complete stop, be as still as you can.

If you get the sequence mixed up, we can repeat the trial. Go as quickly as you can, but avoid touching the cone. If space is limited, then add: Take care that you don’t go so fast that it is hard to stop at the end of the course, since space is limited in this room. Do you have any questions? Hand participant weapon.

Single Task Condition – Practice and Timed Agility Task

- Now let's have you jog through the course once to make sure you have the sequence right.
- Now let's try a timed trial.
- Do you have any questions? Record performance time. If there are errors, the subject must repeat the timed trial a second time. **Immediately after, record the vision scores (acuity, line, and likert score for clarity).**

C. Dual-Task Condition – WITHOUT priority instructions. The subject can remain seated through task instructions.

- Now we are going to combine the agility task with remembering grid coordinates and checking your vision. The start position will be the same, in prone with your hands at the level of this piece of tape.
- Each time we repeat the task it will be with a different list of grid coordinates, 2 letters and 6 numbers. You can forget the coordinates that you have heard previously. Just focus on remembering the coordinates you have heard last. We will do this task at least 3 times.
- Once you have heard the last coordinate, there will be a short delay so you can get the last number in your head. Then I will say "Ready, go".
- Remember the coordinates as you run the course. When you finish, tell me the coordinates you remember and then look at the eye chart and read the lowest line you can clearly see.
- Complete the agility course as quickly as you can
- Do you have any questions? With the subject in the starting position, read the grid coordinates from the score sheet that corresponds to the number on the second die that you rolled before testing. Read words at a rate of one per second, dropping voice inflection slightly on the last word in the sequence. **After EACH trial, record the time it takes the subject to complete the course, record the words exactly as recalled and record score, and record the vision scores (acuity, line and likert score for clarity).** Use a repeat trial if the subject does not follow instructions or stops before completing the trial. If the participant recognizes and corrects the error, then record the time and make a notation that an error was made in the course path.

Offer a drink of water or brief rest after each trial. If, after completing the agility course, the subject's respiratory rate is increased, or if the subject reports exertional symptoms of headache or dizziness, then allow him or her to normalize before a new trial. **Note any symptoms in the margin and in the comment section on the checklist sheet.**

Grid coordinate scoring:

1) Digits correct if:

- * first or last digit is correct if stated correctly in first or last place
- * any digits adjacent to first or last digit is correct
- * a correct sequence of three or more anywhere in span

2) Letters correct –must be in the correct position (said first or second) and order to be counted as correct.

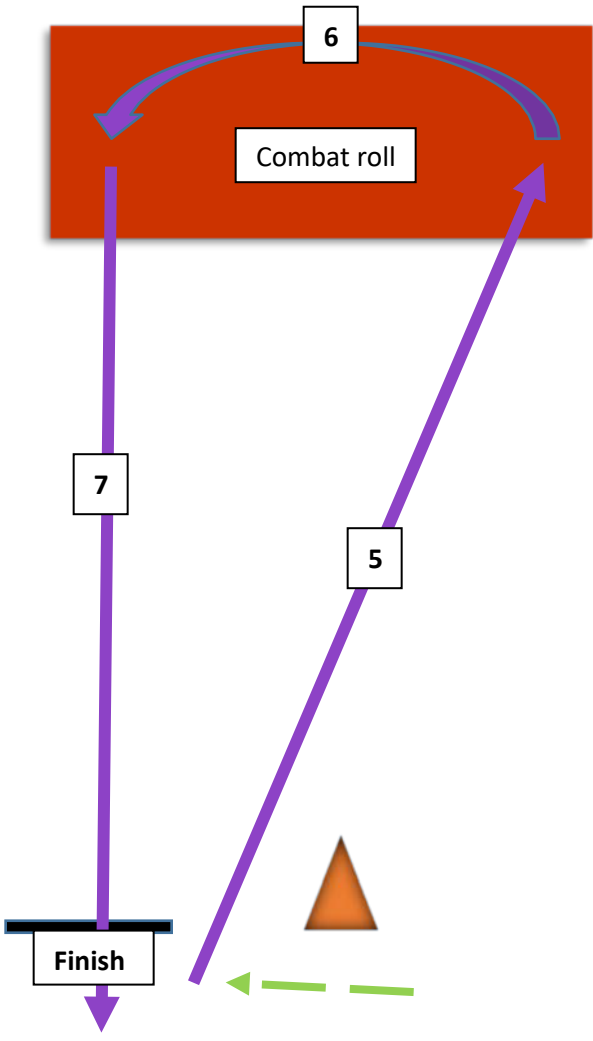
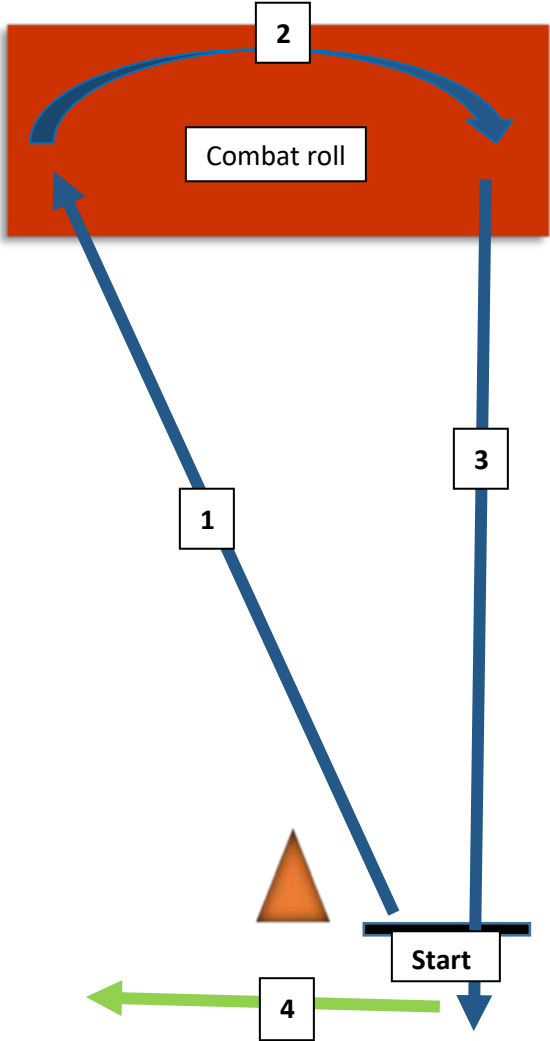
3) If subject says grid coordinates incorrectly and then rapidly corrects him/herself (before next trial/task), the corrected version is written down and scored

Vision

Vision

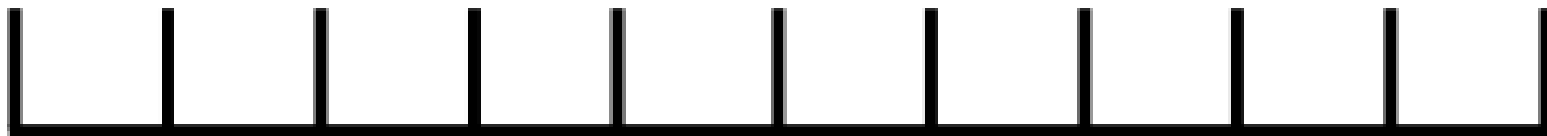
20' from start to eye chart (if using standard Snellen)

10' from start to front edge of mat



VISION

0 1 2 3 4 5 6 7 8 9 10



**Normal,
Clear, &
Stable
Vision**

**Extremely
Blurry or
Jumpy
Vision
"The
Worst It
could be"**