ZENO GAIT MAT FORM

ARIC

ID NUMBER: ☐☐☐☐☐☐☐   FORM CODE: Z | G | M   DATE: 1/24/2020
Version 1.0

__Instructions:__ Complete form for each participant who comes into the clinic for the visit. The form is completed by the interviewer, not asked of the participant. See QxQ for PKMAS software instructions.

ADMINISTRATIVE INFORMATION:

0a. Completion Date: ☐☐/☐☐/☐☐☐☐   0b. Staff ID: ☐☐☐
    Month   Day   Year

1. Is the participant able to stand? .... ☐

    Yes .... Y

    No .... N **SAVE & CLOSE**

2. Was the gait mat used today?

    Yes   ☐₁ → **Go to item 3**

    No, participant refused   ☐₂ → **SAVE & CLOSE**

    No, technical/logistical problem with mat   ☐₃ → **SAVE & CLOSE**

    No, other   ☐₄

    2a. Specify other reason gait mat not used in exam:

    _____ **SAVE & CLOSE**

STATIC/QUIET STANCE and LIMITS OF STABILITY (QS and LOS administered as 1 task)

Technician Instructions: QS test moves directly into LOS without moving the feet; walking aids NOT permitted; no clicker; data file=QS and LOS

STATIC/QUIET STANCE (goes directly to the LOS without stopping)

Script:

"The next test will assess how you balance yourself. I will ask you to stand in place without moving for 30 seconds, and then to lean in four directions as far as you can comfortably and safely without lifting any part of your foot off the floor. It is important that you do not move your feet until I say it is time. If you feel unsteady, you should take a step to the side. Let me demonstrate." Feet should be approximately shoulder width apart and facing the end of the mat with the cables. "Please notice how I am not moving my feet as I go from standing quietly to rocking. Do you have any questions?" "To begin, I will ask you to stand facing me and march in place a few times." "Now stop, stand quietly in place for 30 seconds. After 30 seconds, I will tell you which way to lean without moving your feet. I will let you know when you can move your feet."

3. Did the PPT complete the STATIC/QUIET STANCE? .... ☐

Participant Refused	☐₁ →	**Go to item 5**
Not attempted, unable, or unsafe	☐₂ →	**Go to item 5**
Attempted, technical/other logistical difficulties	☐₃ →	**Go to item 5**
Completed	☐₄	

LIMITS OF STABILITY (continues directly from QS)

Script:

"Please don't move your feet. Keep all the parts of your feet on the floor at all times. Rock forward, now back to the middle. Now rock to the right, keeping your entire foot on the ground. Return to the middle. Now lean to the left, back to the middle. Now rock backwards, only to where you feel comfortable, without losing balance, and now come back to the center." The participant should be standing in the same position as was used for the QS and should not pick up their feet when transitioning to the LOS.

4. Did the PPT complete the LIMITS OF STABILITY? .... ☐

Participant Refused	☐₁ →	**Save QS and LOS if QS completed; next**
Not attempted, unable, or unsafe	☐₂	
Attempted, technical/logistical difficulties with mat	☐₃	
Completed, with examiner assistance	☐₄ →	**Save QS and LOS; next**
Completed, without assistance	☐₅ →	**Save QS and LOS; next**

SPPB BALANCE TESTS

5. Was the gait mat used today for SPPB Balance testing?

Yes	☐₁	→	**Go to item 6**
No, participant refused all balance tests	☐₂	→	**Go to item 10**
No, technical/logistical problem	☐₃	→	**Go to item 10**
No, refused mat but did PFX	☐₄	→	**Go to item 10**
No, other	☐₅		

     5a. Specify other reason gait mat not used in balance testing:

_____   **Go to item 10**

Script:

"I'm going to ask you to stand in several different positions that test your balance, facing the short end of the mat closest to the computer. I'll demonstrate each position and then ask you to try to stand in each position for 10 seconds. Do you have any questions?"

Semi-Tandem Balance

Technician Instructions: walking aids NOT permitted; select Start Walk, press clicker when PPT stands on their own, check wall clock; run task; press clicker again when PPT loses balance, needs support, or 10secs has passed (say STOP); select End Walk; data file=SEMI

Script:

"First, I would like you to try to stand with the side of the heel of one foot touching the big toe of the other foot for 10 seconds. Please watch while I demonstrate. You may put either foot in front. You can use your arms, bend your knees or move your body to maintain your balance. Try to hold your feet in position until I say stop. If you lose your balance, take a step like this or touch the wall or both. Hold onto [the wall/my arm] while you get in position."

6.				
	Participant Refused	☐₁		
	Not attempted, unable, or unsafe	☐₂		
	Holds position less than 10 seconds	☐₃	→	**Save SEMI; next**
	Holds position for 10 seconds	☐₄	→	**Save SEMI; go to item 8**

Side-by-side Stand (collect if PPT could not hold Semi-Tandem for 10 seconds)

Technician Instructions: walking aids NOT permitted; select Start Walk, press clicker when PPT stands on their own, check wall clock; run task; press clicker again when PPT loses balance, needs support, or 10secs has passed (say STOP); select End Walk; data file=SIDE

Script:

"Now, I would like you to try to stand with your feet together, side-by-side, for 10 seconds. You can use your arms, bend your knees or move your body to maintain your balance, but try not to move your feet. Try to hold this position until I tell you to stop. Hold on to [the wall/my arm] while you get in position."

7.				
	Participant Refused	☐₁	→	**Go to item 10**
	Not attempted, unable, or unsafe	☐₂	→	**Go to item 10**

| Holds position less than 10 seconds | $\square_3$ → | **Save SIDE; go to item 10** |
| Holds position for 10 seconds | $\square_4$ → | **Save SIDE; go to item 10** |

Tandem Stand

Technician Instructions: walking aids NOT permitted; select Start Walk, press clicker when PPT stands on their own, check wall clock; run task; press clicker again when PPT loses balance, needs support, or 10secs has passed (say STOP); select End Walk; data files=TANDEM1, TANDEM2

Script:

"Now I would like you to try to stand with the heel of one foot in front of and touching the toes of the other foot for 10 seconds. Please watch while I demonstrate. You may put either foot in front. You can use your arms, bend your knees or move your body to maintain your balance. Try to hold your feet in position until I say stop. If you lose your balance, take a step like this. Hold onto [the wall/my arm] while you get in position."

8. Trial 1

Participant Refused	$\square_1$ →	**Go to item 10**
Not attempted, unable, or unsafe	$\square_2$ →	**Go to item 10**
Holds position less than 10 seconds	$\square_3$ →	**Save TANDEM1; next**
Holds position for 10 seconds	$\square_4$ →	**Save TANDEM1; go to item 10**

9. Trial 2 "Let's try that again"

Participant Refused	$\square_1$	
Not attempted, unable, or unsafe	$\square_2$	
Holds position less than 10 seconds	$\square_3$ →	**Save TANDEM2; next**
Holds position for 10 seconds	$\square_4$ →	**Save TANDEM2; next**

USUAL PACE WALK

Technician Instructions: walking aids permitted (exclude crutches and casts); select Start Walk; press clicker on 'Go'; observe arm swing for unaided, completed trials; select End Walk when PPT walks off mat; data files=UP1, UP2, video recordings

Script:

"I'm going to ask you to walk all the way down and off the end of the mat, two times, with a short break in between. You will walk at your normal or usual pace for both trials. I will demonstrate. Please place both feet fully in the active sensor area of the mat marked by the tape line, like this. Walk off the other end of the mat at your usual pace without slowing down. Do you have any questions?" "When I say 'Go', please walk at your normal pace. Remember to walk off of the end of the mat without slowing down."

Trial 1

10.

Participant Refused	$\square_1$ →	**Go to item 13a**
Not attempted, unable, or unsafe	$\square_2$ →	**Go to item 13a**
Attempted, technical/logistical difficulties	$\square_3$ →	**Go to item 13a**
Completed, with walking aid	$\square_4$ →	**Save UP1; next**
Completed, without walking aid	$\square_5$ →	**Save UP1; next**

Trial 2

11.

Participant Refused	$\square_1$	
Not attempted, unable, or unsafe	$\square_2$	
Attempted, technical/logistical difficulties	$\square_3$	
Completed, with walking aid	$\square_4$ →	**Save UP2; next**
Completed, without walking aid	$\square_5$ →	**Save UP2; next**

12. Arm swing.. $\square$

Walking aid used in all completed trials............	$\square_0$
Normal	$\square_1$
Absent left..	$\square_2$
Absent right..	$\square_3$
Absent both...	$\square_4$

SINGLE COGNITIVE TASK

Script:

"Now I'm going to ask you to do a thinking task. When I say "go", please count backwards from 100 by threes. I will tell you when to stop. Do you have any questions? Ready, go."

13a. Subtraction by serial 3s (record the number said until the PPT gives 7 answers or passes 79):

1	2	3	4	5	6	7

    13b. Did the PPT complete the test?

        No, participant refused   ☐₁

        No, attempted, discontinued   ☐₂

        Yes, had <u>fewer</u> than 3 correct   ☐₃

        Yes, had 3 or <u>more</u> correct   ☐₄ → **Go to item 15a**

Script:

"Let's try another task. When I say "go," please count backwards from 100 by twos. I will tell you when to stop. Do you have any questions? Ready, go."

14a. Subtraction by serial 2s (record the number said until the PPT gives 7 answers or passes 86):

1	2	3	4	5	6	7

    14b. Did the PPT complete the test?

        No, participant refused   ☐₁ → **Go to item 17**

        No, attempted, discontinued   ☐₂ → **Go to item 17**

        Yes   ☐₃

DUAL TASK

Technician Instructions: walking aids permitted (exclude crutches and casts); select Start Walk; press clicker on 'Go'; put clicker down and walk with PPT; record subtractions; select End Walk when PPT walks off mat; data files=DUAL1, DUAL2, video recordings

Script:

"I'm going to ask you to walk over this mat while talking. "Please place both feet just in front of the colored tape line on the mat, like this. When I say "Go", please walk at your normal pace while counting backwards by **[**Examiner, say 'THREES' OR 'TWOS,' whichever number was determined in the single cognitive task**]**, starting with 100. Remember to walk off of the end of the mat without slowing down. Do you have any questions?"

Trial 1

15a. Subtraction by serial 3s OR 2s: (record number said if heard):

☐	☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7	8

☐	☐	☐	☐	☐	☐	☐	☐
9	10	11	12	13	14	15	16

15b. Did the PPT complete the test?

No, participant refused	☐₁	→	**Go to item 17**
No, attempted, discontinued	☐₂	→	**Go to item 17**
Attempted, technical/logistical difficulties	☐₃	→	**Go to item 17**
Attempted, responses unclear	☐₄	→	**Save DUAL1; next**
Completed, with walking aid	☐₅	→	**Save DUAL1; next**
Completed, without walking aid	☐₆	→	**Save DUAL1; next**

Trial 2 (No clicker for Trial 2)

16a. Subtraction by serial 3s OR 2s: (record number said if heard):

☐	☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7	8

☐	☐	☐	☐	☐	☐	☐	☐
9	10	11	12	13	14	15	16

16b. Did the PPT complete the test?

No, participant refused	☐₁		
No, attempted, discontinued	☐₂		
Attempted, technical/logistical difficulties	☐₃		
Attempted, responses unclear	☐₄	→	**Save DUAL2; next**
Completed, with walking aid	☐₅	→	**Save DUAL2; next**
Completed, without walking aid	☐₆	→	**Save DUAL2; next**

SHORT FAST PACE WALK

Technician Instructions: walking aids permitted (exclude crutches and casts); select Start Walk; press clicker on 'Go'; select End Walk when PPT walks off mat; data files=FP1, FP2, video recordings

Script:

"I'm going to ask you to do a fast walk down the mat two separate times. You will walk down the mat as fast as you can without running or hurting yourself. Please place your whole foot just in front of the colored tape on the mat, like this. Do you have any questions?" "When I say "Go", please walk at your fast pace. Remember to walk off of the end of the mat without slowing down."

Trial 1

17.				
	Participant Refused	☐₁	→	**Collect TMW; then go to item 19**
	Not attempted, unable or unsafe	☐₂	→	**Collect TMW; then go to item 19**
	Attempted, technical/logistical difficulties	☐₃	→	**Collect TMW; then go to item 19**
	Completed, with walking aid	☐₄	→	**Save FP1; next**
	Completed, without walking aid	☐₅	→	**Save FP1; next**

Trial 2

18.				
	Participant Refused	☐₁	→	**Collect TMW; next**
	Not attempted, unable or unsafe	☐₂	→	**Collect TMW; next**
	Attempted, technical/logistical difficulties	☐₃	→	**Collect TMW; next**
	Completed, with walking aid	☐₄	→	**Save FP2; next**
	Completed, without walking aid	☐₅	→	**Save FP2; next**

TWO MINUTE WALK (see TMW QxQ for running the task; record response after TMW)

Technician Instructions: no clicker; data file=TMW

19. Was the gait mat used today for the Two Minute Walk?

No		☐₁	→	**SAVE & CLOSE**
Attempted, technical/logistical difficulties		☐₂	→	**SAVE & CLOSE**
Yes		☐₃	→	**Save TMW; save and close**

INSTRUCTIONS FOR THE ZENO GAIT MAT (ZGM) FORM

I.   General Instructions

Complete form for each participant who comes into the clinic for the visit. The form is completed by the interviewer, not asked of the participant.

In general, since motivation and level of understanding can have a significant impact on performance, each component of the exam should be administered strictly according to the protocol. Do not provide additional description or encouragement beyond the key points provided by the standard scripts.

Allow the participant to rest between tests if out of breath or fatigued during the assessments.

II.   Detailed Instructions for Each Item

0a.   Enter the date on which the participant was seen in the clinic.

0b.   Enter the staff ID for the person who completed this form.

Question 1: Record participant's ability to stand. If the participant cannot stand, then save and close the form.

Question 2, 2a: Record use of gait mat. If participant used gait mat today, record 'Yes', then go to question 3. If participant refused to use the gait mat, save and close the form. If there was a technical/logistical problem with the mat, then save and close the form. Logistical problems include situations where the participant would use the gait mat if possible, but using it isn't feasible for the site's work flow. For example, a participant might be in the ACHIEVE clinic and cannot be transported to the ARIC clinic. If another reason for not using the gat mat exists besides refusal or technical/logistical problems, record the reason in question 2a, then save and close the form. In these instances, **collect all physical function measures on the PFX**.

ARIC/ACHIEVE only: The PFX is collected in entirety for the ARIC/ACHIEVE shared cohort, so if the PPT refuses the gait mat, save and close the form only; do not recollect the PFX. Complete the ZGM form entirely if the PPT does not refuse.

Note on refusals:
* If the participant refuses to use the gait mat because they don't want to be video recorded, offer the tasks without the use of the camera. If they still refuse, collect all physical function measures on the PFX.

* Generally, if a participant does not do a task because they or an examiner feels the task will be unsafe or participant does not think they will be able to do a task, these are recorded as "Not attempted, unable, or unsafe" rather than as refusals.

* Crutches, casts or other immobilizing devices alter the participant's usual mobility; if present, do not test the participant and note the reason test was not performed.

* Exclusion from any performance test may be based on examiner assessment or participant concerns that the test would be unsafe. In the latter case, the examiner should describe the test and discuss with the participant his/her specific concerns about attempting the test, including physical problems and known disabilities. The reason for not attempting a test, or inability to perform a test are recorded on the data form.

General Instructions for Walking Tasks:

- Walking aids are allowed for the Usual Pace Walk Test, Dual Task, and Short Fast Pace Walk; however, ask participants with walking aids if they are comfortable performing the tasks without the use of walking aid over the short distance of the mat.

- Both feet should be partially on the active sensor area of the mat, in front of the tape line (see diagram).

- If the participant stepped outside the active sensor zone during the length of the walk, do not save trial. Ask the participant to re-do the test.

- In walking tasks, inclusive of the dual task walk, a total of 3 attempts are allowed, including the two saved/usable trials. For example if a participant veers off the mat or the examiner cannot hear serial subtractions during the dual task, stop the test. Do not save the data, and repeat the test. Repeat the instructions as needed and emphasize information to address the issue resulting in the repeat.

- Collect video recordings of the usual pace walk, dual task, and fast pace walk. There should be a recording for each trial. If the PPT refused to be recorded, point the camera down to the floor.

Updated set-up. Tape lines are 4" from the active sensor layer. Feet are partially on the active zone of the mat. The PKmas software correctly marks starting footprints as "other" (yellow).

A. Static/Quiet Stance and Limits of Stability

Static/Quiet Stance

Read the script. Demonstrate the Quiet Stance and the Limits of Stability as these two tasks are administered as a single task.

Question 3: Record completion status of the static/quiet stance. Feet should be approximately shoulder width apart, fully on the sensor area of the mat, and facing the end of the mat with the cables. When the participant is positioned, click on "Start Walk" on the software. When the PKMAS timer starts, say "Ready? Time starts now."

No completion: If the participant refuses, go to the SPPB Balance Tests. If the participant feels it would be unsafe to try, probe for the reason, and reassure the participant that you will help them into the position. If they still feel they should not attempt it, record, "Participant refused" or "Not attempted, unable, or unsafe" (whichever is appropriate) for this and then go to SPPB Balance Tests.

Completion: If the participant completed the task and stood for at least 30 seconds, continue to the next test, limits of stability (LOS). If the participant completes the quiet stance, but refuses the LOS,

you would still select the filename, "QS and LOS", on the PKMAS software and save. Go to question 4 to record the LOS refusal (see next section).

Limits of Stability

The limits of stability test continues after the quiet stance without the participant moving their feet. If they move their feet, repeat the test. Read the script; you should have already demonstrated the task immediately following the Quiet Stance demonstration. The participant should be standing in the same position as was used for the Static/Quiet Stance and should not pick up their feet when transitioning from QS to the LOS.

Question 4: If the participant completed the quiet stance, PKMAS will continue running.

No completion: If the participant attempted the test but there were technical/logistical difficulties with the mat, then save and close the form. If the participant feels it would be unsafe to try, probe for the reason, and reassure the participant that you will help them into the position. If they still feel they should not attempt it, record, "Participant refused" or "Not attempted, unable, or unsafe" (whichever is appropriate) for this and then go to SPPB Balance Tests.

Completion: If the participant completed the task with or without the help of the examiner, select the filename, QS and LOS, on the PKMAS software and save. Go to question 5.

B. SPPB Balance Tests

General Instructions for Balance Tasks:
- Whenever possible, the technician should avoid stepping on the gait mat.

- The standing balance test should be performed with the participant standing a little less than an arm's length from a wall to provide an additional source of support should loss of balance occur.

- The participant must face the short end of the mat where the cables connect, facing the opposite direction of how they faced for the walking tests. Both feet should be fully in the sensor area of the mat. The feet should be far enough into the sensor area so that when one foot is in front of the other foot, both feet remain on the sensors. To ensure sensors are collecting from both feet, allow a few inches between the front foot and the end of the sensor area of the mat.

- For each balance stand, describe the position to the participant and then demonstrate it while facing the participant. After demonstrating, approach the participant from the front and off to the side away from the wall. They should hold onto a rail or touch the wall for support while the examiner returns to the Notebook to operate the PKMAS software.

- If the participant attempts the stand incorrectly, demonstrate it again.

- For each balance stand, allow the participant to hold onto the wall or your arm (if a 2nd examiner is present) to get balanced. Click on "Start Walk" in the PKMAS software. When the timer starts, say "When you are ready, let go." Depress the gait mat clicker when they stand on their own. Check the wall clock if one is available so the examiner will know that 10 seconds has passed. Depress the clicker again if they lose balance, touch the wall, take a step or pass 10 seconds. Select "End Walk" once 10 seconds have passed or they lose balance. Make sure at least 10 seconds have passed before ending the walk. It is better to collect more than 10 seconds if the participant is walking than to stop the test prematurely, before the 10 seconds have passed.

- If the participant feels it would be unsafe to try, probe for the reason, and reassure the participant that you will help them into the position and that they can use the wall for additional support. If they still feel they should not attempt it for balance or safety reasons, record, "Not attempted, unable, or unsafe" (whichever is appropriate) for this and the more difficult stands and go on to

the next test. If the reason is a safety concern of the participant or the examiner, record "Not attempted, unable, or unsafe". If the participant refuses for reasons not related to balance or safety or cannot understand the instructions, score "Participant refused." If the test is not done for safety reasons related to the examiner operating the software, offer to do the test off the mat. When possible, collect mat refusals of balance tasks on the PFX.

Question 5, 5a: Record use of gait mat for SPPB Balance testing. If gait mat was used, go to Semi-Tandem Balance Test. If the participant refuses all balance tasks, on or off the mat, then go to item 10. If the participant either refuses balance tasks on the mat, there was technical/logistical problems with the mat, or they had on 'other' reason for not using the mat, then test balance on PFX form and go to item 10.

Question 5a. Specify other reason gait mat was not used in balance testing if "No, other" was selected in question 5.

To test each balance task, read the script and demonstrate each task. Start the timer on the software by selecting "Start Walk". When the timer starts, say "When you are ready, let go." Depress the gait mat clicker when they let go. Depress the clicker again if they lose balance, touch the wall, take a step or pass 10 seconds. Select "End Walk" once 10 seconds have passed or they lose balance. Say, "STOP" after 10 seconds.

Semi-Tandem Balance:

Question 6: Record completion status of the semi-tandem stance.

No completion: If the participant feels it would be unsafe to try, probe for the reason, and reassure the participant that you will help them into the position. If they still feel they should not attempt it, record, "Participant refused" or "Not attempted, unable, or unsafe" (whichever is appropriate) for this. Refusals not related to concerns about safety or balance should be score "Participant refused". Attempt to collect balance test on the PFX without the mat, then go to item 10.

Completion (even partial): If the participant held the stance at all but less than 10 seconds, record "Holds position less than 10 seconds", select the filename, SEMI, on the PKMAS software and save. Go to question 7. If the position was held for the full 10 seconds, record "Holds position for 10 seconds", skip question 7 and go to question 8 (tandem stand). If the participant held the semi-tandem stand for 10 seconds, select the filename, SEMI, on the PKMAS software and save. Go to question 8.

Side-by-side Stand

Question 7: This question is skipped if the participant held the semi-tandem balance for 10 seconds. Record the completion status of the side-side-by stance..

No completion: If the participant feels it would be unsafe to try, probe for the reason, and reassure the participant that you will help them into the position. If they still feel they should not attempt it, record, "Participant refused" or "Not attempted, unable, or unsafe" (whichever is appropriate) for this. Attempt to collect balance test on the PFX without the mat, then go to item 10.

Completion (even partial): If the participant held the stance at all but less than 10 seconds, record "Holds position less than 10 seconds", select the filename, SIDE, on the PKMAS software and save. Go to question 10. If the position was held for the full 10 seconds, record "Holds position for 10 seconds", select the filename, SIDE, on the PKMAS software and save. Go to question 10.

Tandem Stand:

Question 8: For those who held the semi-tandem stance in question 6 for 10 seconds, continue with question 8. Record the completion status of the tandem stand.

No completion: If the participant feels it would be unsafe to try, probe for the reason, and reassure the participant that you will help them into the position. If they still feel they should not attempt it, record, "Participant refused" or "Not attempted, unable, or unsafe" (whichever is appropriate) for this. Attempt to collect balance test on the PFX without the mat, then go to item 10.

Completion (even partial): If the participant held the stance at all but less than 10 seconds, record "Holds position less than 10 seconds", select the filename, TANDEM1, on the PKMAS software and save. Go to question 9. If the position was held for the full 10 seconds, record "Holds position for 10 seconds", select the filename, TANDEM1, on the PKMAS software and save. Go to question 10.

Question 9: This is a second attempt at the tandem stance if the time holding the tandem stance (trial 1) was less than 10 seconds. Record completion status as instructed in question 8. If completed, even partially, select the filename, TANDEM2, on the PKMAS software and save. Go to question 10.

C. Usual Pace Walk

Read the script and demonstrate the task. Participant's feet should be partially in the active sensor area of the mat. Click on "Start Walk" on the software. When the timer starts, say "Ready? Go." Depress the clicker on the word, 'Go.' Observe arm swing in both trials if completing task **without walking aid** and report after trial 2 in question 12. After the participant completes the walk on the gait mat, stop the trial in PKMAS by clicking "End Walk".

Question 10: Record completion status of the Usual Pace Walk (trial 1).

No completion: If the participant refused the task, ask if the camera is the reason they refused. If yes, offer the usual pace walk without the camera for both trials. If the participant refuses again, offer measuring gait by completing the 4M walk on the PFX. If the participant attempted or would have attempted the test, but there were technical/logistical difficulties with the mat, collect the 4M walk on the PFX form. Otherwise, go to question 13a.

Completion: If the participant completed the task with or without a walking aid, select the filename, UP1, on the PKMAS software and save. Go to question 11.

Question 11: Record completion status of the Usual Pace Walk (trial 2).

No completion: The participant will likely refuse trial 2 for the same reason as trial 1. Follow the same data collection mode as was done in trial 1. If the participant attempted or would have attempted the test, but there were technical/logistical difficulties with the mat, collect the 4M walk on the PFX form. Otherwise, go to question 12 to record arm swing based on trial 1.

Completion: If the participant completed the task with or without a walking aid, select the filename, UP2, on the PKMAS software and save. Go to question 12.

Question 12: Record arm swing after trial 2 if participant completed task without walking aid in at least 1 trial. An arm swing is considered normal when the arms swing forward and back as the participant walks, where the arms go beyond the front and back of the participant's trunk, across an imaginary coronal plane; an example of a coronal plane at the back of a person is shown in the figure.
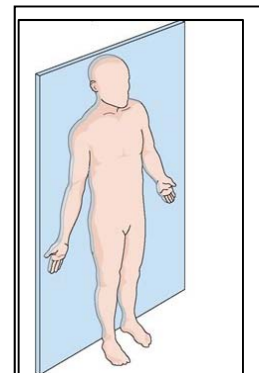
D. Single and Dual Cognitive Tasks

Single Cognitive Task

Figure. Coronal plane behind participant

Read the script. The participant may sit during the Single Cognitive Task. Stop the participant after seven answers or when they pass 79, whichever happens last.

Question 13a: Record the numbers said by participant.

Question 13b: Record completion status of the task. A correct answer is 3 less than the previous answer, regardless of whether the previous answer was correct itself (e.g. "97, 91, 88" is "correct, incorrect, correct"). If the participant completed question 13a but had fewer than 3 correct, continue to question 14a. If the participant completed question 13a and had 3 or more correct, skip to question 15a.

Read the script. The participant may sit during the Single Cognitive Task. Stop the participant after seven answers or when they pass 86, whichever happens last.

Question 14a: Record numbers said by participant.

Question 14b: Record completion status of the task. If the participant did not complete the test, skip to question 17.

Dual Task

Read the script. If the participant was able to complete question 13a with 3 or more correct answers, use "THREES" for serial subtraction from 100. If the participant did not get at least 3 correct responses on 13a but was able to complete question 14a, then use "TWOS" for serial subtraction from 100. Both feet should be partially in the active sensor area of the mat. Select Start Walk on the PKMAS software, depress clicker on GO, then put clicker down and walk with participant for both trials. Note: the clicker is not required for the 2nd walk. Select End Walk at the end of both trials.

If participants veer off the sensor area or the examiner cannot hear responses during the dual task, the examiner should stop the test. As soon as the first cognitive response is not heard, the test should be stopped. End the walk on the software but don't save this file. Ask the participant to repeat the walking task and to speak up. The examiner should try to remain in close proximity to hear responses if possible. Do not repeat the first dual task more than once. A maximum of three walks can be completed: one partial that can be repeated so that there are two full length trials. If answers cannot be heard during the repeat walk, record as "Attempted, responses unclear". Save the data file (DUAL1, DUAL2 as appropriate). Data are saved if the participant continues with calculations even if the responses cannot be recorded.

If participants stop walking or stop attempting subtractions during the dual task, stop the test and review the instructions but do not save the interrupted test in the software. This counts as a partial test that can be repeated once. If the participant cannot complete walking and serial subtractions simultaneously, mark "No, attempted, discontinued" for 15b, 16b.

Question 15a: Record numbers said by participant. Write responses in boxes on paper form (or wherever convenient), then transcribe to form (or CDART when available) to free up examiner during test. If the response was "…responses unclear", go to the 2nd trial. Ask the participant to try to speak up.

Question 15b: If the participant did not complete the task, skip to question 17. If completed, select the filename, DUAL1, on the PKMAS software and save. Go to Trial 2 (16a).

Question 16a: This is a second attempt at the Dual Task. The clicker is not required. Record numbers said by participant. Write responses on margin of paper form (or wherever convenient) then transcribe to form (or CDART when available) to free up examiner during test.

Question 16b: If the participant did not complete the task, skip to question 17. If completed, select the filename, DUAL2, on the PKMAS software and save.

G. Short Fast Pace Walk

Read the script and demonstrate the task. Participant's feet should be partially in the active sensor area of the mat. Click on "Start Walk" on the software. When the timer starts, say "Ready? Go." Depress the clicker on the word, 'Go.' After the participant completes the walk on the gait mat, stop the trial in PKMAS by clicking "End Walk".

Question 17: Record completion status of the Short Fast Pace Walk (trial 1).

No completion: If the participant refused the task, ask if the camera is the reason they refused. If yes, offer the usual pace walk without the camera. If participant continues to refuse, mark as participant refused. If the participant attempted or would have attempted the test, but there were technical/logistical difficulties with the mat, go to question 19 after the participant completes the Two Minute Walk. If the reason for not completing the task is related to mobility problems or safety, mark as "Not attempted, unable or unsafe".

Completion: If the participant completed the task with or without a walking aid, select the filename, FP1, on the PKMAS software and save. Go to question 18.

Question 18: Record completion status of the Short Fast Pace Walk (trial 2).

No completion: If the participant refused the task, ask if the camera is the reason they refused. If yes, offer to do the walk without the camera. If participant continues to refuse, mark as participant refused. If the participant attempted or would have attempted the test, but there were technical/logistical difficulties with the mat, go to question 19 after the participant completes the Two Minute Walk. If the reason for not completing the task is related to mobility problems or safety, mark as "Not attempted, unable or unsafe".

Completion: If the participant completed the task with or without a walking aid, select the filename, FP2, on the PKMAS software and save. Go to question 19 after the participant completes the Two Minute Walk.

Transition to Two Minute Walk: SAVE the ZGM form and collect the Two-Minute Walk if the PPT is eligible, then return to the ZGM to record whether or not the gait mat was used. If the PPT is ineligible for the TMW, stay in the ZGM, respond to Q19 ('No'), then save and close the ZGM form.

H. Two Minute Walk (refer to TMW QxQ for description of task)

Question 19: Following completion of the Two Minute Walk, return to the ZGM to record if the gait mat was used for the walk. If the mat was used during the two minute walk, respond 'Yes', then select the filename, TMW, on the PKMAS software and save. If the mat was not used OR the TMW was not collected, respond 'No.' Save and close the ZGM form.

REPORT GENERATION

(pending)

DATA TRANSFER

(pending)