

Data Collection Worksheet

Please Note: The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

30-Second Chair Stand

Purpose. To assess lower-body strength.



Equipment. Stopwatch, straight-back or folding chair (without arms), height approximately 17 in. For safety purposes, the chair should be placed against a wall or in some other way stabilized to prevent it from moving during the test.

Protocol. The test begins with the participant seated in the middle of the chair, back straight and feet flat on the floor. Arms are crossed at the wrists and held against the chest. On the signal "go" the participant rises to a full stand and then returns to a fully seated position. The participant is encouraged to complete as many full stands as possible within 30 s. After a demonstration by the tester, a practice trial of one to three repetitions should be done to check for proper form, followed by one 30 s test trial.

Scoring. The score is the total number of stands executed correctly within 30 s. If the participant is more than half-way up at the end of 30 s, it counts as a full stand.

Arm Curl

Purpose. To assess upper body strength.

Equipment. Wristwatch with second hand; straight-back or folding chair (without arms), hand weights (dumbbells-5 lb for women, 8 lb for men).



Protocol. The participant is seated on a chair, back straight and feet flat on the floor, with the dominant side of the body close to the side edge of the chair. The weight is held at the side in the dominant hand (handshake grip). The test begins with the arm down beside the chair, perpendicular to the floor. At the signal "go" the participant turns the palm up while curling the arm through a full range of motion and then returns to the fully extended position. At the down position the weight should have returned to the handshake grip position.

The examiner kneels (or sits in a chair) next to the participant on the dominant-arm side, placing his or her fingers on the person's mid-biceps to prevent the upper arm from moving and to ensure that a full curl is made (participant's forearm should squeeze examiner's fingers). It is important that the participant's upper arm remain stabilized (still) throughout the test.

The examiner may also need to position his or her other hand behind the participant's elbow so that the participant will know when full extension has been reached, as well as to prevent a back-swinging motion of the arm.

The participant is encouraged to execute as many curls as possible within the 30 s time limit. After a demonstration by the examiner, a practice trial of one or two repetitions should be given to check for proper form, followed by one 30 s trial.

Scoring. The score is the total number of curls made correctly within 30 s. If the arm is more than halfway up at the end of the 30 s, it counts as a curl.

6-Minute Walk

Purpose. To assess aerobic endurance.

Equipment. Stopwatch, long measuring tape, cones, popsicle sticks, chalk, masking tape (or some other type of marker). For safety purposes, chairs should be positioned at several points alongside the walkway.

Set-Up. The test involves assessing the maximum distance that can be walked in 6 min along a 50 yd course marked into 5 yd segments (see Figure A1).

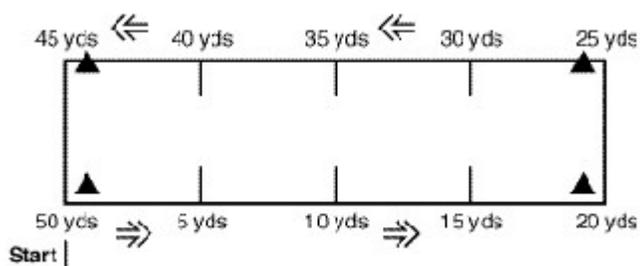


Figure A1. 50 yd measured into 5 yd segments.

The inside perimeter of the measured distance should be marked with cones, and the 5 yd segments with masking tape or chalk. The walking area, which can be indoors or outdoors, should be well lit, with a nonslippery, level surface.

Protocol. To keep track of distance walked, a popsicle stick (or similar object) can be given to the participant each time he or she rounds a cone, or a partner can mark a score card each time a lap is completed. Two or more participants should be tested at a time, with starting times staggered (10 s apart) so that participants do not walk in clusters or pairs. When testing several people at once, numbers should be placed on the participants to indicate the order of starting and stopping. On the signal "go," participants are instructed to walk as fast as possible (not run) around the course as many times as they can in 6 min. If necessary, participants may stop and rest (on provided chairs), then resume walking. The timer should move to the inside of the marked area after everyone has started. To assist with pacing, elapsed time should be called out when participants are approximately half done, when 2 min are left, and when 1 min is left. Encouragement phrases such as "you are doing well" and "keep up the good work" should be called out at approximately 30-s. intervals. At the end of 6 min, participants (staggered every 10 s) are instructed to stop and move to the right, where an assistant will record their score. To assist with proper pacing and to improve scoring accuracy, a practice test should be given prior to the actual test day.

Safety. The test should be discontinued if at any time a participant shows signs of dizziness, pain, nausea, or undue fatigue. At the end of the test each participant should *slowly* walk around for about a minute to cool down.

Scoring. The score is the total number of yards walked in 6 min, to the nearest 5

yd. The test administrator or aide records the nearest 5 yd mark.

2-Minute Step-in-Place (An Alternative to the 6-Min Walk Test)



Purpose. To assess aerobic endurance.

Equipment. Stopwatch, tape measure or 30-in. piece of cord, masking tape mechanical counter (if possible) to ensure accurate counting of steps.

Set-Up. The proper (minimum) knee-stepping height for each participant at a level even with the midway point between the patella (middle of the kneecap and the iliac crest (top hip bone)). This point can be determined using a tape measure or by simply stretching a piece of cord from the patella to the iliac crest, then folding it in half to determine the midway point. To monitor correct knee height when stepping, books can be stacked on an adjacent table or a ruler can be attached to a chair or wall with masking tape to mark the proper knee height.

Protocol. On the signal "go" the participant begins stepping (not running) in place, starting with the right leg, and completes as many steps as possible within the time period. Although both knees must be raised to the correct height to be counted, the tester only counts the number of times the right knee reaches it. The counter also serves as a spotter in case of loss of balance and ensures that the participant maintains proper knee height. As soon as proper knee height can no longer be maintained, the participant is asked to stop- or to stop and rest until proper form can be regained. Stepping may be resumed if the 2-min time period has not elapsed. If necessary, the participant can place one hand on the table or chair to assist in maintaining balance.

To assist with proper pacing and to improve scoring accuracy, a practice test should be given prior to the test day. On test day, the examiner should demonstrate the procedure and allow the participants to practice briefly to

recheck their understanding of the protocol.

Safety. At the end of the test the participant should slowly walk around for about a minute to cool down.

Scoring. The score is the total number of times the right knee reaches the minimum height. To assist with pacing, participants should be told when 1 min has passed and when there are 30 s to go.

Chair Sit-and-Reach



Purpose. To assess lower body (primarily hamstring) flexibility.

Equipment. Straight-back or folding chair (approximately 17-in. seat height), 18-in. ruler. For safety purposes, the chair should be placed against a wall and checked to see that it remains stable (doesn't tip forward) when the participant sits on the front edge.

Protocol. Starting in a sitting position on a chair, the participant moves forward until she or he is sitting on the front edge. The crease between the top of the leg and the buttocks should be even with the edge of the chair seat. Keeping one leg bent *and foot flat on the floor*, the other leg (the preferred leg*) is extended straight in front of the hip, with heel on floor and foot flexed (at approximately 90°; see the picture).

With the extended leg as straight as possible (but not hyperextended), the participant slowly bends forward *at the hip joint* (spine should remain as straight as possible, with head in line with spine, not tucked) sliding the hands (one on top of the other with the tips of the middle fingers even) down the extended leg in an attempt to touch the toes. The reach must be held for 2 s. If the extended knee starts to bend, ask the participant to slowly sit back until the knee is straight before scoring. Participants should be reminded to exhale as they bend forward; to avoid bouncing or rapid, forceful movements; and to never stretch to the point of pain.

After a demonstration by the tester, the participant is asked to determine the

preferred leg. The participant is then given two practice (stretching) trials on that leg, followed by two test trials.

Scoring. Using an 18-in. ruler, the scorer records the number of inches person is short of reaching the toe (minus score) or reaches beyond the toe (plus score). The middle of the toe at the end of the shoe represents a zero score. Record both test scores to the nearest 1/2 in., and circle the best score. The best score is used to evaluate performance. Be sure to indicate "minus" or "plus" on the score card.

*The preferred leg is defined as the one that results in the better score. Obviously, it is important to work on flexibility on both sides of the body, but for the sake of time, only the "better" side has been used in developing norms.

Back Scratch



Purpose. To assess upper body (shoulder) flexibility.

Equipment 18-in. ruler (half a yardstick).

Protocol. In a standing position, the participant places the preferred hand behind the same-side shoulder, palm toward back and fingers extended, reaching down the middle of the back as far as possible (elbow pointed up). The participant places the other hand behind the back, palm out, reaching up as far as possible in an attempt to touch or overlap the extended middle fingers of both hands.

Without moving the participant's hands, the tester helps to see that the middle fingers of each hand are directed toward each other. The participant is not allowed to grab his or her fingers together and pull. After a demonstration by the tester, the participant is asked to determine the preferred hand, and is then given two practice (stretching) trials, followed by two test trials.

Scoring. The distance of overlap or distance between the tips of the middle fingers is measured to the nearest 1/2 in. A minus score (-) is given to represent a distance short of touching; a plus score (+) represents the amount of an overlap. Record both test scores and circle the best one. The best score is used to evaluate performance. Be sure to indicate "minus" or "plus" on the score card.

*The preferred hand is defined as the one that results in the better score. Although it is important to work on flexibility on both sides of the body, only the "better" side has been used in developing norms.

8-Foot Up-and-Go



Purpose. To assess agility/dynamic balance.

Equipment. Stopwatch, tape measure, cone (or similar marker), straight-back or folding chair (seat height approximately 17 in.).

Set-Up. The chair should be positioned against a wall or in some other way secured so that it does not move during testing. It should also be in a clear, unobstructed area, facing a cone marker exactly 8 ft away (measured from a point on the floor even with the front edge of the chair to the back of the marker). There should be at least 4 ft of clearance beyond the cone to allow ample turning room for the participant.

Protocol. The test begins with the participant fully seated in the chair (erect posture), hands on thighs and feet flat on the floor (one foot slightly in front of the other). On the signal "go" the participant gets up from the chair (pushing off thighs or chair is allowed), walks as quickly as possible around the cone (on either side), and returns to the chair. The participant should be told that this is a timed test and that the object is to walk as quickly as possible (without running) around the cone and back to the chair. The tester should serve as a spotter, standing midway between the chair and the cone, ready to assist the participant in case of loss of balance. For reliable scoring, the tester must start the timer on "go," whether or not the participant has started to move, and stop the timer at the exact instant the participant sits in the chair. After a demonstration, the participant walks through the test one time as a practice and then is given two test trials. Participants should be reminded that the timing does not stop until they are fully seated in the chair.

Scoring. The score is the time elapsed from the signal "go" until the participant returns to a seated position in the chair. Record both test scores to the nearest 1/10th s and circle the best score (lowest time). The best score is used to evaluate

performance.

National norms of these tests are available from results of over 7,000 older adults in the Senior Fitness Test Manual.

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Protocol source: <https://www.phenxtoolkit.org/protocols/view/150202>