

## 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.

### The Half Sit-Up Test\*



Starting position for half sit-up. Photo courtesy of the President's Council on Physical Fitness and Sports.



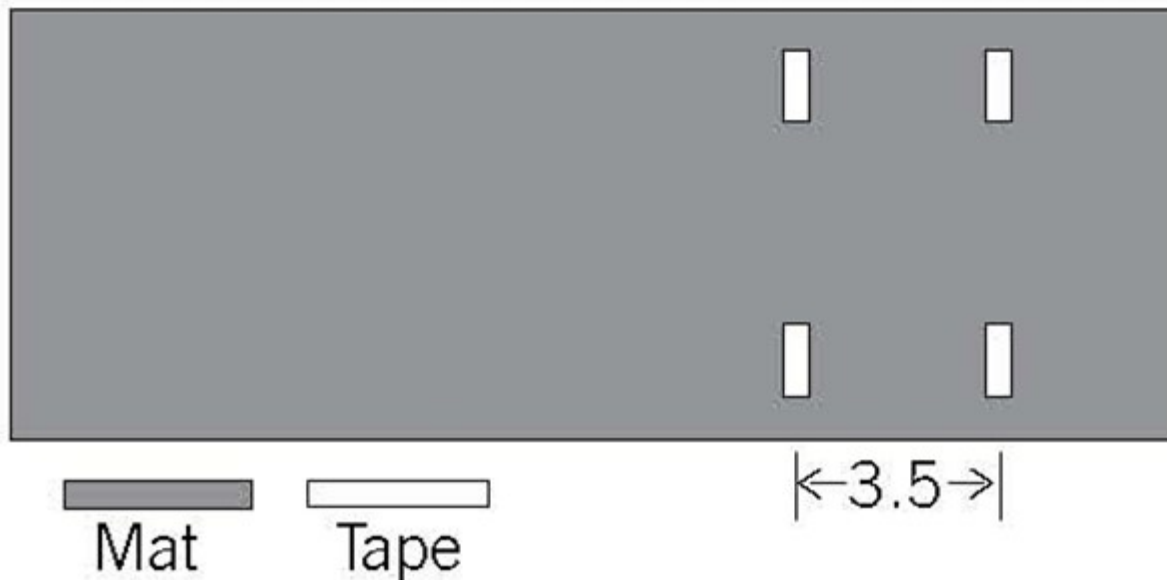
Up position for half sit-up. Note the forward movement of the fingers relative to the tape. Photo courtesy of the President's Council on Physical Fitness and Sports.

One of the most frequently measured muscle groups is the abdominal (stomach) muscles. Several tests (for example, sit-up and curl-up tests) have been developed to measure mainly abdominal muscular strength and endurance. We are going to use an abdominal muscular strength and endurance test called the "YMCA Half Sit-Up" test, which is a curl-up test since you lift your trunk only partially off the floor.

#### Equipment/Test Setting:

- Mat or rug,
- Stopwatch or watch with a second hand,
- Four strips of tape to place 3.5 inches apart on mat or rug to provide start and end position for the curl-up.

## Placement of Tape Makers for YMCA Half Situp



Prepare the mat or rug with the tape strips as shown in the picture. You need to be able to feel the tape as your fingers move across the mat or rug from the starting and ending positions. We recommend that you do the test with a partner.

Directions:

1. Lie face-up on mat or rug with knees at a right angle (that is,  $90^\circ$ ) and feet flat on the ground. The feet are not held down.
2. Place hands with palms facing down on the mat or rug with the fingers touching the first piece of tape.
3. Flatten your lower back to the mat or rug, and half sit-up so that your fingers move from the first piece of tape to the second. Then return your shoulders to the mat or rug and repeat the movement as described. Your head does not have to touch the surface. Keep your lower back flat on the mat or rug during the movements - if you arch your back, it can cause injury.
4. Your partner will count the number of half sit-ups performed in one minute. Pace yourself so you can do half sit-ups for one minute.
5. Record your results.

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**Standard and Modified Push-Up\***



Down position for standard and modified push-up. Note the 2 inch space between the chest and floor. Photo courtesy of the President's Council on Physical Fitness and Sports.



Up position for standard and modified push-up. Photo courtesy of the President's Council on Physical Fitness and Sports.

Alert! If you have shoulder, elbow, or wrist pain, doing this test may aggravate your condition.

The muscles of the upper body and shoulders are another frequently measured muscle group. Several tests (for example, pull-up and push-up) are used to measure the strength and endurance of these muscle groups. Less muscular strength and endurance of the upper body and shoulder group may increase the chances that a person may have shoulder pain in middle or older adulthood.

In the standard push-up test, you push your body up and down using muscles in your arms, shoulders and chest, while keeping your body straight with your feet serving as the pivot point. Your body weight is your workload. Females can reduce the load by having their knees touching the floor and acting as the pivot point. In this test, only the upper body is the load. We are going to use standard push-ups and modified push-ups as our tests for upper body and shoulder muscular strength and endurance.

Directions:

1. Males start in the standard push-up position (elevated). Hands should be shoulder width apart, arms extended straight out under the shoulders, back and legs in a straight line, and toes curled under. Females do a modified push-up with knees bent and touching the floor. Starting in the up position, hands should be slightly ahead of the shoulders so hands are in the proper position for the downward motion.
2. Lower until the chest is about 2 inches from the floor and rise up again.
3. Perform the test until you cannot complete any more push-ups while keeping your back straight and, if you are a male, keeping the legs straight as well. The key to completing the test properly is to maintain a rigid position and keep the

back flat. If necessary, you can take a brief rest in the up position (not lying on the floor).

4. Record your results.

\*Normative data for the push-up and modified push-up are based on a population that is 20 years of age and older. These data and the test protocol are used with permission of The Cooper Institute, 12330 Preston Road, Dallas, TX 75230.

### The Sit-and-Reach Test\*

Alert! If you have low-back pain, doing this test may aggravate your condition.

Equipment/Test Setting:

Tape measure or yardstick and tape and a partner to record your score.

Directions:

1. Perform a series of static stretches. These stretches should focus on stretching the trunk and legs. Following the stretches, you may also want to do some brisk walking.
2. Place a yardstick on the floor and put a long piece of masking tape over the 15 inch mark at a right angle to the yardstick.



Starting position for sit and reach. Note placement of feet about 12 inches apart and heels at the 14 inch mark. Photo courtesy of the President's Council on Physical Fitness and Sports.



Sit and reach stretch. Photo courtesy of the President's Council on Physical Fitness and Sports.

Remove your shoes and sit on the floor with the yardstick between the legs (0 mark close to your crotch), with your feet about 12 inches apart. Heels should be at the 14 inch mark at the start of the stretch to account for the fact that the legs tend to move forward when performing the stretch.

4. With the fingertips in contact with the yardstick, slowly stretch forward with both hands as far as possible noting where the fingertips are to the closest inch. Exhaling when you stretch forward and dropping the head may allow you to stretch a bit further. Do not use fast and sudden motions, which can injure your hamstring muscles.
5. Perform the stretch three times with a few seconds of rest between stretches.
6. Record the best of the three measurements.

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If desired, the results from these tests may be entered into an online form at the President's Challenge Adult Fitness Test website. Once entered into the online form, each result will appear as a percentile which is the percentage of adults the same age who would score lower.

Protocol source: <https://www.phenxtoolkit.org/protocols/view/150201>