

Back-Saver Sit and Reach

⇒ *Optional*

The back-saver sit and reach is very similar to the traditional sit and reach except that the measurement is performed on **one side at a time**. By testing one leg at a time a determination can be made of any asymmetry in hamstring flexibility, and hyper-extension of both knees is avoided. The sit and reach measures predominantly the flexibility of the hamstring muscles. Normal hamstring flexibility allows rotation of the pelvis in forward bending movements and posterior tilting of the pelvis for proper sitting.

The back-saver sit and reach has been shown to provide extremely consistent scores when administered under standardized conditions. The back-saver sit and reach has also been shown to be a reasonably accurate measure of hamstring flexibility. When compared with criterion measures of hamstring flexibility, the correlations for both right and left legs have been moderate to high. Conversely, the back-saver sit and reach has been shown to correlate poorly with criterion tests of low back flexibility. Therefore, the back-saver sit and reach cannot be considered a valid measure of low back flexibility and should not be interpreted as such.

Test Objective

To be able to reach the specified distance on the right and left sides of the body. The distance required to achieve Healthy Fitness Zone is adjusted for age and gender and is specified in tables 9.1 and 9.2 on pages 61 and 62.

Equipment and Facilities

This assessment requires a sturdy box approximately 12 inches high. A measuring scale is placed on top of the box with the 9-inch mark parallel to the face of the box against which the student's foot will rest. The "zero" end of the ruler is nearest the student. Instructions for construction of a special measuring apparatus are contained in appendix A on page 84. However, a wooden box and yardstick will suffice. Tape the yardstick to the top of the box with the 9-inch mark at the nearest edge of the box. The "zero" end of the yardstick is nearest the student.

Test Instructions

The student **removes his or her shoes** and sits down at the test apparatus. One leg is fully extended with the foot flat against the face of the box. **The other knee is bent with the sole of the foot flat on the floor.** The instep is placed in line with, and 2 to 3 inches to the side of, the straight knee. The arms are extended forward over the measuring scale with the hands placed one on top of the other (photo 7.15). With palms down, the student reaches directly forward (keeping back straight and the head up) with both hands along the scale four times and holds the position of the fourth reach for at least 1 second (photo 7.16). **After one side has been measured, the student switches the position of the legs and reaches again.** The student may allow the bent knee to move to the side as the body moves forward if necessary, but **the sole of the foot must remain on the floor.**



PHOTO 7.15 Starting position for measuring the right side.

(continued)

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PHOTO 7.16 Back-saver sit and reach stretch for the right side.

Scoring

Record the number of inches on each side to the nearest 1/2 inch reached, to a maximum score of 12 inches. Performance is limited to discourage hypermobility. To be in the Healthy Fitness Zone, the student should meet the standard on both the right and the left sides.

Suggestions for Test Administration

- The bent knee moves to the side, allowing the body to move past it, but the sole of the foot must remain on the floor.
- Keep the back straight and the head up during the forward flexion movement.
- The knee of the extended leg should remain straight. Tester may place one hand above the student's knee to help keep the knee straight.
- Hands should reach forward evenly.
- The trial should be repeated if the hands reach unevenly or the knee bends.
- Hips must remain square to the box. Do not allow the student to turn the hip away from the box while reaching.