# SOP #2016

30 Second Chair Stand Test (30s-CST)

- Always review the SOP before beginning administration of the measurement tool.
- Always read the SOP instructions verbatim to the participant.
- Never modify the procedure or instructions (a modified test is invalid/incomplete).
- Always notify the coordinator if you have any doubt or questions about the SOP.

## Description

The 30 Second Chair Stand Test (30s CST) assesses the ability to stand up from a chair and sit down again. The number of correct sit to-stand repetitions in 30 seconds is recorded.

## Equipment

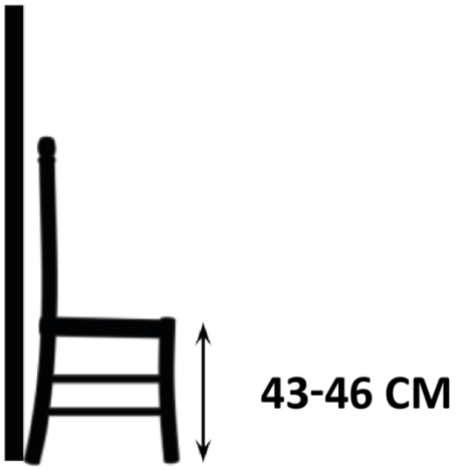
- ☐ Stopwatch
- ☐ Chair without armrests, 43-46 cm in height
- ☐ Non-slip mat for the front legs of the chair

**Absolute contraindications:**

Unstable angina or myocardial infarction within the previous month (the examiner must verify in the medical record or ask the participant before the test)

## Equipment preparation

- ☐ The chair height is recorded on the scoring sheet. The same chair is used for all visits for the same data collection
- ☐ The chair is positioned against a wall to prevent movement or slipping during test administration.
- ☐ A non-slip mat is placed under the front legs of the chair




## Participant preparation

- ☐ The participant must wear comfortable clothing and suitable shoes.
- ☐ If the participant is wearing unsuitable shoes that could affect the test result, the test can be done barefoot; however, the examiner must note this on the scoring sheet.
- ☐ Orthotics may be worn and must be noted on the scoring sheet. The same orthotics or walking aids must be used during subsequent visits for the same data collection.

## Examiner instructions

- ☐ The examiner must stand close to the participant for safety reasons and to verify that the full standing position is achieved.
- ☐ The examiner must make sure the participant's calves do not touch the chair seat throughout the test.
- ☐ No verbal encouragement is provided, and no information regarding the remaining test time is given. However, if the participant does not reach a full standing position, the following standardized instruction is repeated: *"Remember to stand with your hips and knees fully extended."*
- ☐ During the test, the number of correct repetitions is counted silently. A correct repetition is defined as a full extension of the hips and knees during standing. Incomplete movements are not counted
- ☐ At the end of the test, if the participant is fully standing, the repetition is counted.

## Test administration

**Demonstration**
The examiner demonstrates the task, first at a slow pace and then at a faster pace.

**Practice**
The participant is instructed to try one or two repetitions before the test to make sure they understand and can perform the movement correctly.

### Procedure

- ☐ At the beginning of the test, the participant sits in the middle of the chair (without their back against the chair backrest), with their back straight and their arms crossed on their chest. The arms must remain in this position throughout the test. The feet are placed on the floor, about shoulder width apart and slightly behind the knees. One foot may be positioned slightly in front of the other to help maintain balance when standing.
- ☐ Standardized instructions are provided to the participant: *"When I say 'Go', stand up until you are standing fully with your knees and hips fully extended. Then sit down on the chair, making sure your buttocks make contact with the chair at each repetition. Repeat this movement as many times as possible until I say 'Stop!'. You cannot use your arms to help you sit or stand; your arms must remain crossed and close to your chest. I am going to time you. The test will last 30 seconds, and we will do it twice. Do you have any questions?"*
- ☐ The examiner demonstrates the task, first slowly and then quickly. Then the participant is instructed to try one or two repetitions.
- ☐ When the participant indicates readiness, the start signal is given: *"Are you ready? Go!"*
- ☐ The stopwatch is started on the word *"Go".*
- ☐ If the participant fails to keep their arms crossed on their chest or does not complete the maximum extension movement when standing up, the test is stopped and the trial is record as invalid on the scoring sheet. Instructions regarding the movement execution or the arms position are then repeated and a second trial is performed.

### Trial(s)

Two trials are done; however, a third trial must be done if either trial is considered invalid (e.g., inability to keep the arms crossed on the chest or to fully extend the hips and knees). Allow the participant to rest (approximately one minute) before the second trial.

### Result

The total number of correct sit to-stand repetitions completed within 30 seconds is recorded. If the participant is unable to perform the test or is unable to perform it correctly, "0 repetitions" must be recorded for each trial on the scoring sheet. The validity of the result of each trial must be recorded on the scoring sheet (valid or invalid).

References
1. A Jones CJ, Rikli RE, Beam WC. A 30-s chair-stand test as a measure of lower body strength in community-residing older adults. Res Q Exerc Sport 1999;70:113-9.
2. Gill S, McBurney H. Reliability of performance-based measures in people awaiting joint replacement surgery of the hip or knee. Physiotherapy research international : the journal for researchers and clinicians in physical therapy 2008;13:141-52.
3. McCarthy EK, Horvat MA, Holtsberg PA, Wisenbaker JM. Repeated chair stands as a measure of lower limb strength in sexagenarian women. J Gerontol A Biol Sci Med Sci 2004;59:1207-12.
4. Dobson F, Hinman RS, Roos EM, et al. OARSI recommended performance-based tests to assess physical function in people diagnosed with hip or knee osteoarthritis. Osteoarthritis and cartilage / OARS, Osteoarthritis Research Society 2013;21:1042-52.