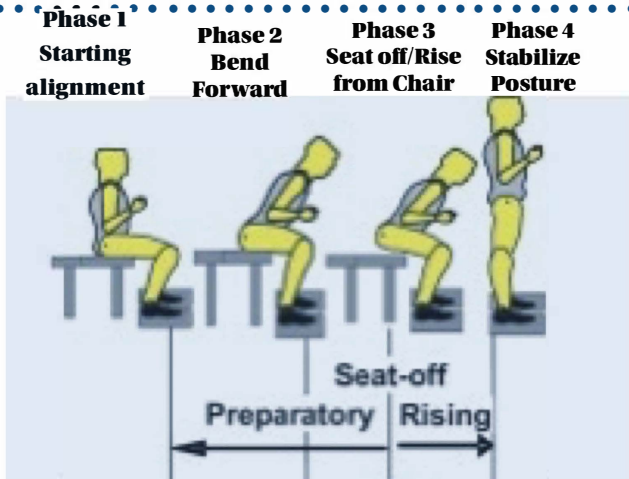


SIT TO STAND



WHAT DOES THE RESEARCH SAY?

Determinants of the Sit-to-Stand Movement

- Seat height
- Use of armrests
- Foot position

Predictors of Sit to Stand Performance

- Visual contrast sensitivity
- Lower limb proprioception
- Tactile sensitivity
- Simple foot reaction time
- Postural sway
- Body weight
- Reported pain, anxiety, and vitality
- Knee extension, knee flexion, and ankle dorsiflexion strength (Lord et al 2002)



- "Older adults with a better sit-to-stand performance compared to age-matched controls showed shorter sitting periods, longer standing periods, and a higher number of locomotion periods in daily life, which indicates a more active lifestyle" (Van Lummel, 2015)
- In community-dwelling older adults, sedentary behavior caused in part by difficulty to stand up was associated with increased risk of sarcopenia (Gianoudis, 2015) and mortality (Pulsford, 2015).
- Difficulty in rising from a seated position may directly increase the risk of injury since STS transfers were found to be responsible for 41% of all falls in nursing homes. (Büchtele, 2014)
- Older adults with lower muscle strength stand up by more trunk flexion and a more dynamic use of the trunk. (Van Lummel, 2018)
- Using 34 cm as the optimal performance, the Minimal Chair Height Standing Ability Test correctly identified 75% of participants with history of falls and 62% of participants without history of falls. (Reider, 2015)
- Of the older adults observed by Weiner et al, twice as many could successfully stand from a 22-in-high chair as from a 17-in-high chair.
- Placing the swing limb backward ½ foot length from the normal stance had significant positive impacts on gait initiation (Dalton, 2013).

30 Second Sit to Stand Test		
(A below average score indicates a risk for falls)		
Age	Men	Women
60-64	<14	<12
65-69	<12	<11
70-74	<12	<10
75-79	<11	<10
80-84	<10	<9
85-89	<8	<8
90-94	<7	<4

5 x Sit to Stand Test

15 sec predictive of falls in older adults. (Buatois, 2008)

Norms For 5 x Sit-to-Stand Test (Time in Seconds)						
AGE	NORM	Poor	Below Average	Average	Above Average	Excellent
14-19	6.5 seconds	0 to 7.6	7.5 to 6.7	6.8 to 6.2	6.1 to 5.5	≤ 5.4
20-29	6.0 seconds	0 to 7.2	7.1 to 6.4	6.3 to 5.7	5.6 to 4.9	≤ 4.8
30-39	6.1 seconds	0 to 7.3	7.2 to 6.5	6.4 to 5.8	5.7 to 5.0	≤ 4.9
40-49	7.6 seconds	0 to 9.2	9.1 to 8.1	8.0 to 7.2	7.1 to 6.1	≤ 6
50-59	7.7 seconds	0 to 9.9	9.8 to 8.8	7.1 to 8.3	5.6 to 7	≤ 5.5
60-69	7.8 seconds	0 to 9.9	8.4 to 9.8	7.2 to 8.4	5.8 to 7.2	≤ 5.7
70-79	9.3 seconds	0 to 11.1	9.9 to 11	8.8 to 9.8	7.6 to 8.7	≤ 7.5
80+	10.8 seconds	0 to 13.0	11.5 to 12.9	10.2 to 11.4	8.7 to 10.1	≤ 8.6

Norms For 30 Second: Sit-to-Stand Test (# of Repetitions)					
MALE (age)	Poor	Below Average	Average	Above Average	Excellent
3-9	0-17	18-21	22-24	25-28	29+
10-19	0-20	21-24	25-26	27-30	31+
20-29	0-20	21-24	25-28	29-31	32+
30-39	0-18	19-22	23-25	26-29	30+
40-49	0-19	20-22	23-25	26-28	29+
50-59	0-16	17-20	21-23	24-26	27+
60-64	0-12	13-14	15-17	18-19	20+
65-69	0-11	12-13	14-16	17-18	19+
70-74	0-10	11-12	13-15	16-17	18+
75-79	0-10	11-12	13-15	16-17	18+
80-84	0-8	9-10	11-13	14-15	16+
85-89	0-6	7-9	10-12	13-14	15+
90+	0-6	7-8	9-10	11-12	13+
FEMALE (age)	Poor	Below Average	Average	Above Average	Excellent
3-9	0-18	19-21	22-24	25-28	29+
10-19	0-19	20-22	23-25	26-29	30+
20-29	0-18	19-22	23-25	26-29	30+
30-39	0-18	19-21	22-24	25-27	28+
40-49	0-17	18-20	21-23	24-27	28+
50-59	0-15	16-19	20-22	23-25	26+
60-64	0-10	11-13	14-15	16-17	18+
65-69	0-10	11-12	13-14	15-16	17+
70-74	0-9	10-11	12-13	14-15	16+
75-79	0-9	10-11	12-13	14-15	16+
80-84	0-7	8-9	10-12	13-14	15+
85-89	0-6	7-8	9-11	12-13	14+
90+	0-3	4-6	7-9	10-11	12+