



# Risk Of Fall

## Risk of Fall Gait

January 9, 2023

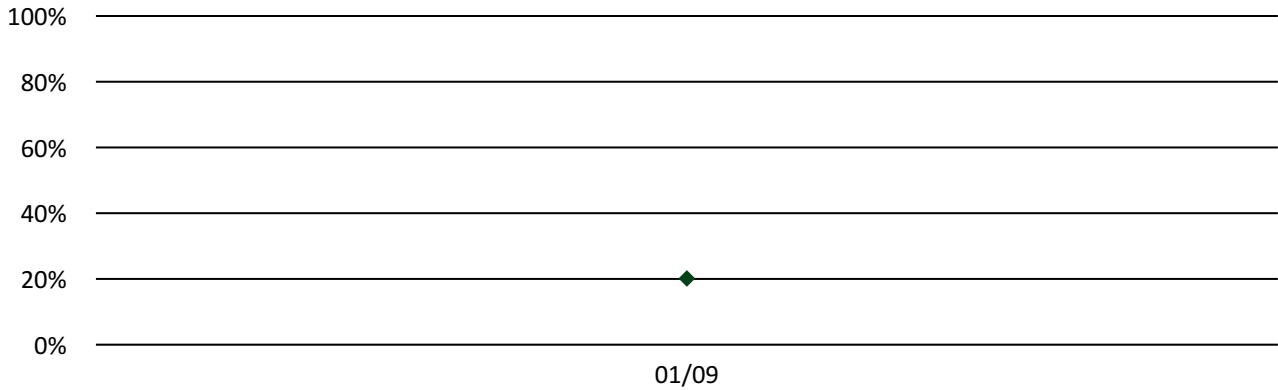
Risk of Fall Percentage - Moderate - 20%



Mobility Index - Medium

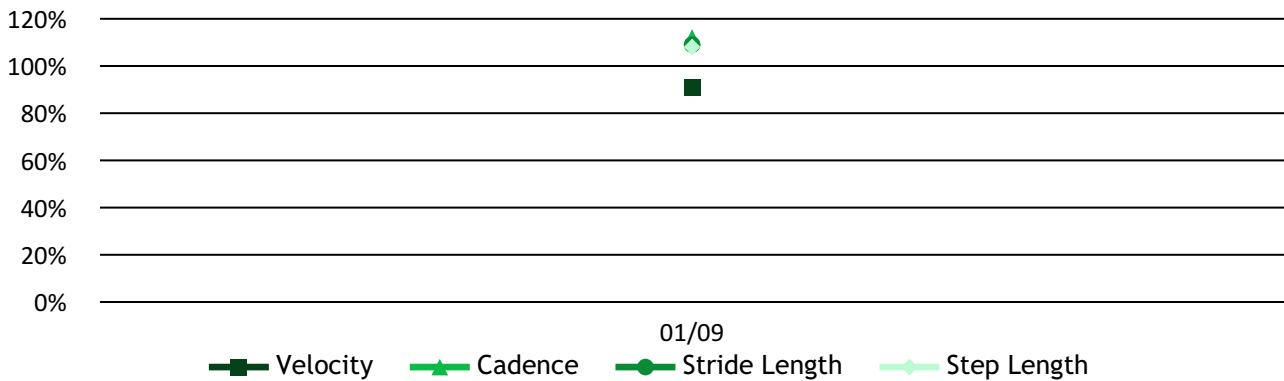


## Risk of Fall Percentage



Date	Risk of Fall Percentage	Cadence (s/min)	Sway (cm)	Gait Velocity (m/s)	Step Length (m)	
					Left	Right
01/09/23	20%	120.45	6.60	0.89	0.28	0.31

## Percentage of Normative



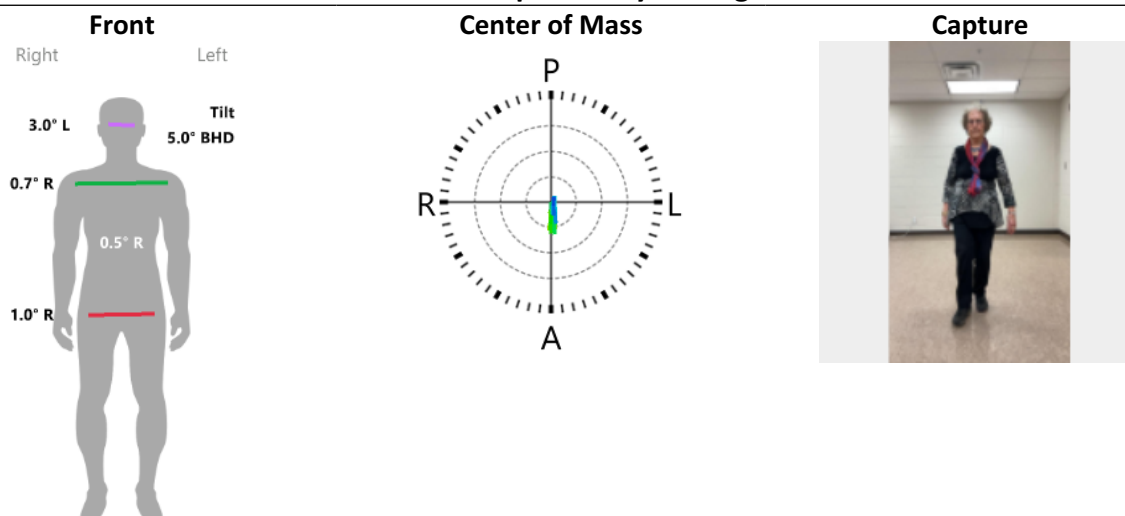
Date	Gait Velocity (m/s)		Cadence (s/min)		Stride Length (m)		Step Length (m)	
	Patient Data	% of Normative	Patient Data	% of Normative	Patient Data	% of Normative	Patient Data	% of Normative
01/09/23	0.89	~90	120.45	~100	0.28	~100	0.31	~100



Date	Gait Velocity (m/s)		Cadence (s/min)		Stride Length (m)		Step Length (m)	
01/09/23	0.89	91%	120.45	112%	0.59	109%	0.30	108%

**\*Normative Data: Gait Velocity = 0.98 m/s, Cadence = 108 s/min, Stride Length = 1.09 m, Step Length = 0.55 m**

### Overall Compensatory Averages



#### Compiled Notes:

##### Assessment:

1:42 PM - Analysis: Total Score: 80% Risk of Fall Percentage: 20% Gait Velocity: 0.89 m/s Stride Length Left : 56 cm Stride Length Right: 63 cm Shoulder Rotation: 0.7°R Shoulder Tilt: 0.7°L Hip Rotation: 2.3°L Hip Tilt: 1.0°R Spine Tilt: 0.5°L Head Distance [Z]: 1 cm Shoulder Distance [Z]: 2 cm Spine Distance [Z]: 0 cm Hip Distance [Z]: 5 cm 1:42 PM - Analysis: Total Score: 80% Risk of Fall Percentage: 20% Gait Velocity: 0.89 m/s Stride Length Left : 56 cm Stride Length Right: 63 cm Shoulder Rotation: 0.7°R Shoulder Tilt: 0.7°L Hip Rotation: 2.3°L Hip Tilt: 1.0°R Spine Tilt: 0.5°L Head Distance [Z]: 1 cm Shoulder Distance [Z]: 2 cm Spine Distance [Z]: 0 cm Hip Distance [Z]: 5 cm 1:42 PM - Analysis: Total Score: 80% Risk of Fall Percentage: 20% Gait Velocity: 0.89 m/s Stride Length Left : 56 cm Stride Length Right: 63 cm Shoulder Rotation: 0.7°R Shoulder Tilt: 0.7°L Hip Rotation: 2.3°L Hip Tilt: 1.0°R Spine Tilt: 0.5°L Head Distance [Z]: 1 cm Shoulder Distance [Z]: 2 cm Spine Distance [Z]: 0 cm Hip Distance [Z]: 5 cm

- Phillips, L. J., DeRoche, C. B., Rantz, M., Alexander, G. L., Skubic, M., Despins, L., Abbott, C., Harris, B. H., Galambos, C., & Koopman, R. J. (2016). Using embedded sensors in independent living to predict gait changes and falls. *Western Journal of Nursing Research*, 39(1), 78–94. <https://doi.org/10.1177/0193945916662027>
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- Hardy, S. E., Perera, S., Roumani, Y. F., Chandler, J. M., & Studenski, S. A. (2007). Improvement in usual gait speed predicts better survival in older adults. *Journal of the American Geriatrics Society*, 55(11), 1727–1734. <https://doi.org/10.1111/j.1532-5415.2007.01413.x>
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- Verghese, J., Holtzer, R., Lipton, R. B., & Wang, C. (2009). Quantitative gait markers and incident fall risk in older adults. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, 64A(8), 896–901. <https://doi.org/10.1093/gerona/glp033>



**Mobility Index - Composite - High**



**Mobility Index - Visual - High**



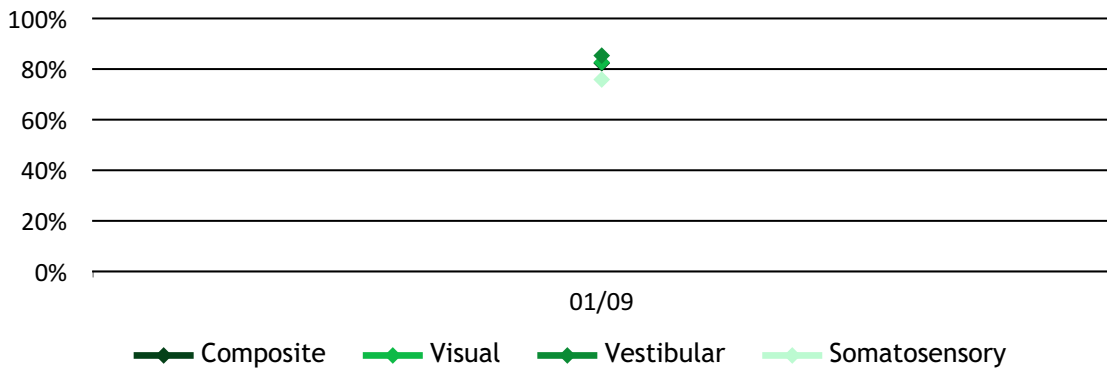
**Mobility Index - Vestibular - High**



**Mobility Index - Somatosensory - High**

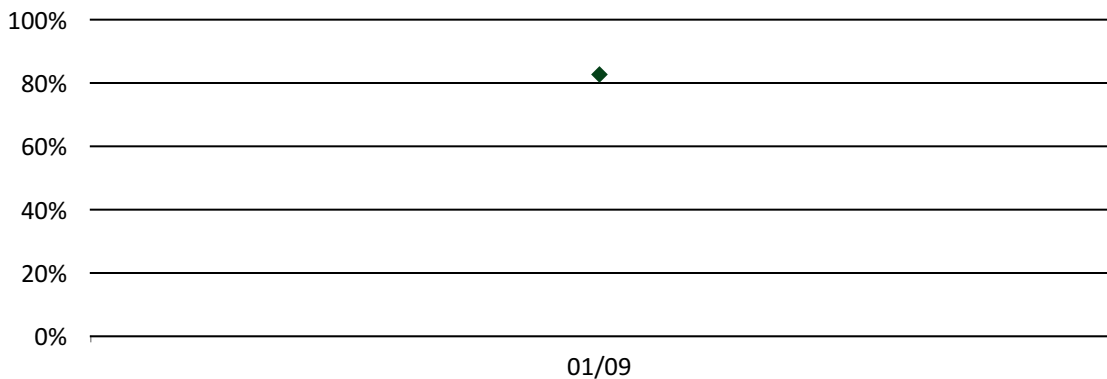


**Mobility Score Percentage**



Date	Composite	Visual	Vestibular	Somatosensory
01/09/23	82.29%	82.64%	85.33%	75.86%

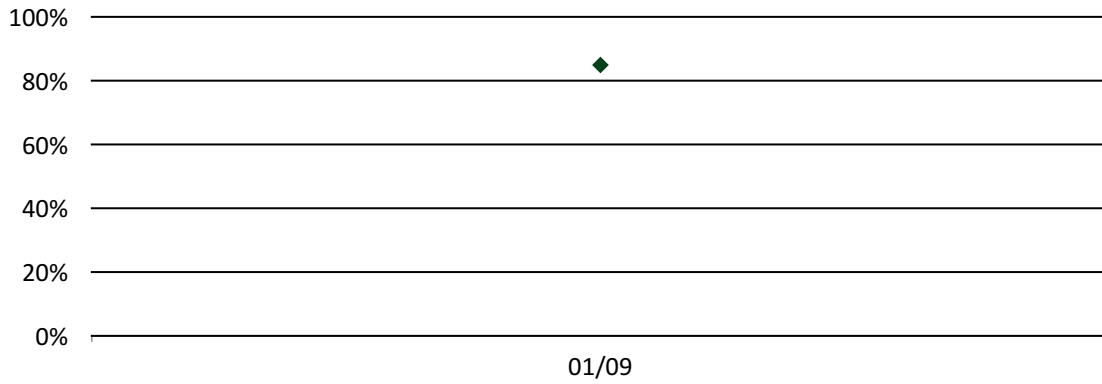
**Balance Both Feet Down Eyes Open No Foam**



Date	Head	Shoulders	Hips	Knee Left	Knee Right	Overall
01/09/23	74.39%	76.90%	78.50%	91.73%	91.66%	82.64%

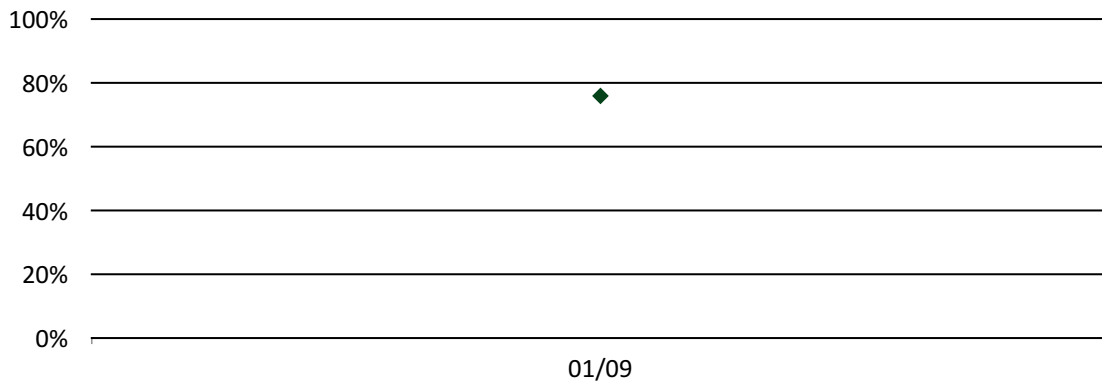
**Balance Both Feet Down Eyes Closed No Foam**





Date	Head	Shoulders	Hips	Knee Left	Knee Right	Overall
01/09/23	71.47%	82.17%	84.21%	92.53%	93.94%	84.87%

### Balance Both Feet Down Eyes Open With Foam



Date	Head	Shoulders	Hips	Knee Left	Knee Right	Overall
01/09/23	49.80%	74.81%	75.43%	87.17%	92.08%	75.86%

### Balance Both Feet Down Eyes Closed With Foam



Date	Head	Shoulders	Hips	Knee Left	Knee Right	Overall
01/09/23	73.22%	82.40%	83.88%	94.29%	95.18%	85.79%

Compiled Notes:  
Subjective:



1:46 PM - Test #1 - Start 1:46 PM - Test #1 - End 1:46 PM - Test #2 - Start 1:46 PM - Test #2 - End 1:46 PM - Test #3 - Start 1:46 PM - Test #3 - End 1:46 PM - Test #4 - Start 1:46 PM - Test #4 - End

1. Sturnieks, D. L., St George, R., & Lord, S. R. (2008). Balance disorders in the elderly. *Neurophysiologie Clinique/Clinical Neurophysiology*, 38(6), 467–478. <https://doi.org/10.1016/j.neucli.2008.09.001>.
2. Boonsinsukh, R., Khumnonchai, B., Saengsirisuwan, V., & Chaikereee, N. (2020). The effect of the type of foam pad used in the modified clinical test of sensory interaction and balance (mctsib) on the accuracy in identifying older adults with fall history. *Hong Kong Physiotherapy Journal*, 40(02), 133–143. <https://doi.org/10.1142/s1013702520500134>
3. Goble, D. J., Brar, H., Brown, E. C., Marks, C. R. C., & Baweja, H. S. (2019). Normative data for the balance tracking system modified clinical test of sensory integration and balance protocol. *Medical Devices: Evidence and Research*, 12, 183–191. <https://doi.org/10.2147/mder.s206530>

## Timed Up And Go

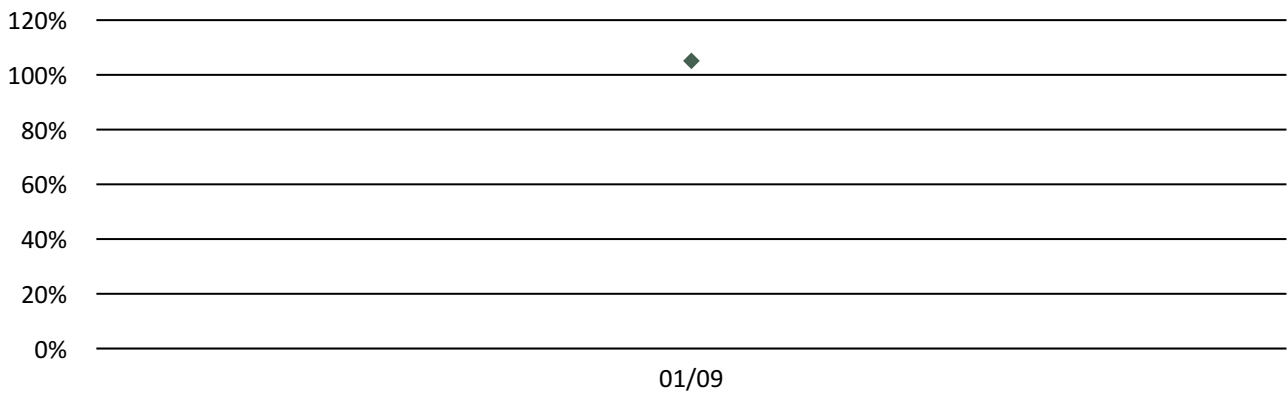
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Overall Score: **105.00%**

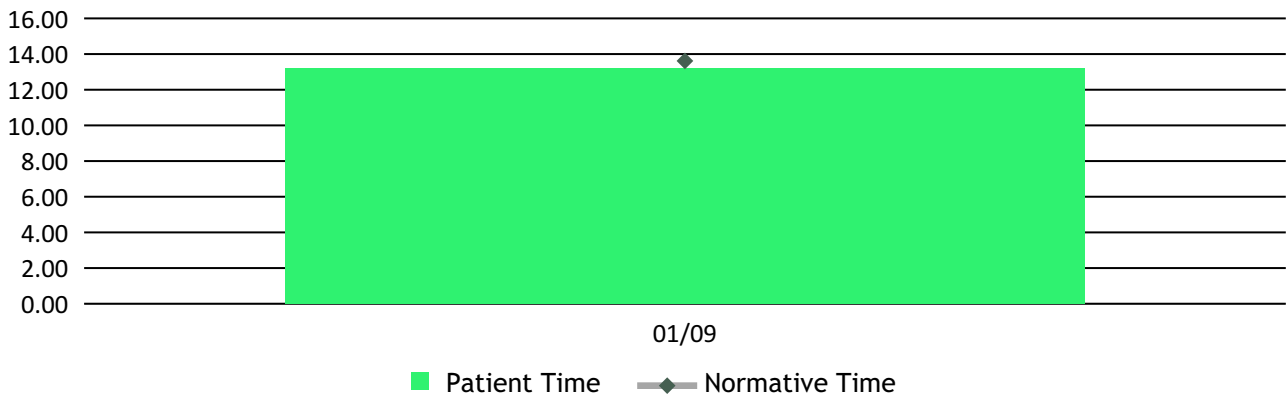
Mobility Index - Medium



### Percentage of Normative



### Patient vs Normative Time



Date	% of Normative	Time (s)	Sits	Stands
01/09/23	105%	13.21	2	2

\*Normative Data: Time = 13.6 s



Compiled Notes:

Assessment:

1:47 PM - Score- 100 Time- 13.21 Normative Data- 13.6 Percentage of Normative- 105

1. Podsiadlo, D., & Richardson, S. (1991). The timed "Up & Go": A test of basic functional mobility for frail elderly persons. *Journal of the American Geriatrics Society*, 39(2), 142–148. <https://doi.org/10.1111/j.1532-5415.1991.tb01616.x>
2. Steffen, T. M., Hacker, T. A., & Mollinger, L. (2002). Age- and gender-related test performance in community-dwelling elderly people: Six-minute walk test, Berg balance scale, timed up & go test, and gait speeds. *Physical Therapy*, 82(2), 128–137. <https://doi.org/10.1093/ptj/82.2.128>
3. Ibrahim, A., Singh, D. K., & Shahar, S. (2017). 'Timed Up and Go' test: Age, gender and cognitive impairment stratified normative values of older adults. *PLOS ONE*, 12(10), e0185641. <https://doi.org/10.1371/journal.pone.0185641>

5x Sit To Stand

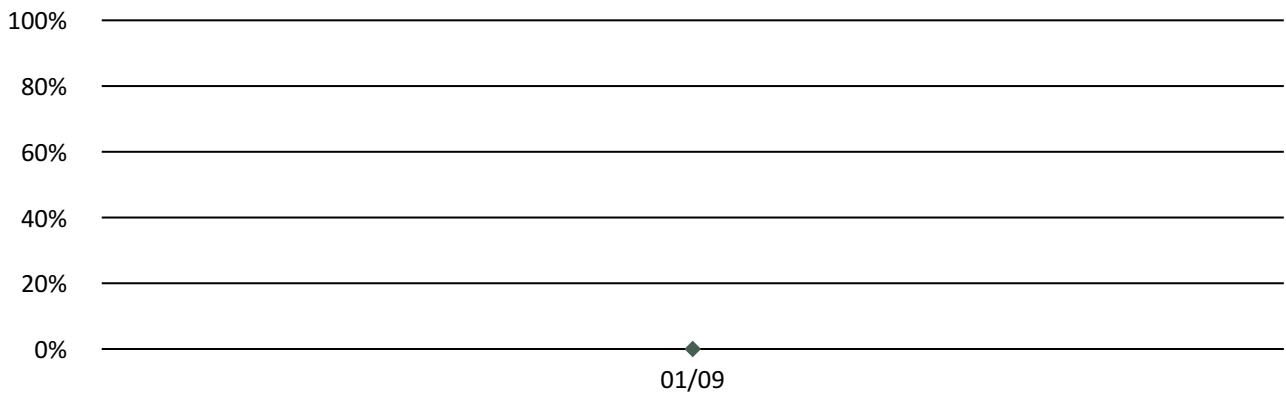
January 9, 2023

Overall Score: **0.00%**

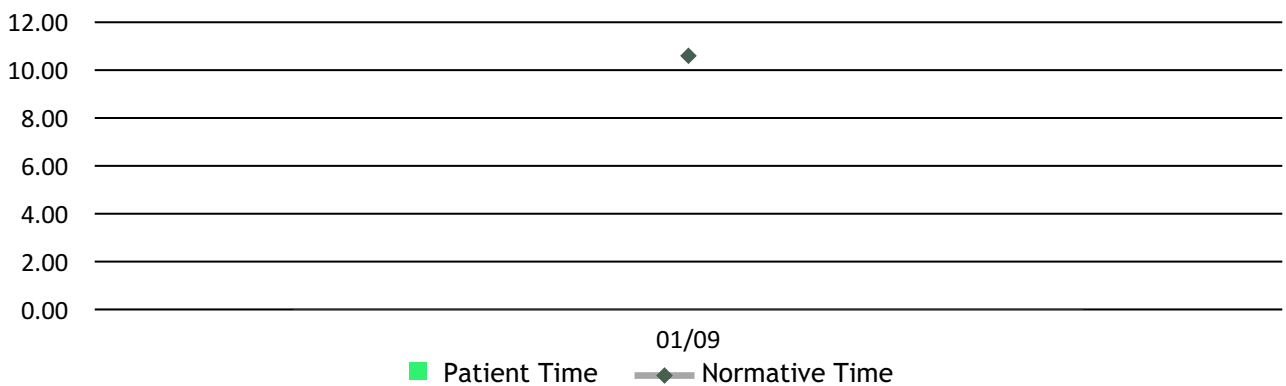
Mobility Index - Medium



Percentage of Normative



Patient vs Normative Time



Date	Completion	% of Normative	Time (s)	Sits	Stands
01/09/23	No	0%	23.33	4	4



**\*Normative Data: Time = 10.6 s**

Compiled Notes:

Assessment:

1:48 PM - Score- 0 Sits- 4 Stands- 4 Time- 23.33 Normative Data- 10.6 Percentage of Normative- 0 Used Arm Rest

1. Bohannon, R. W. (2006). Reference values for the five-repetition sit-to-stand test: A descriptive meta-analysis of data from elders. *Perceptual and Motor Skills*, 103(1), 215–222. <https://doi.org/10.2466/pms.103.5.215-222>
2. Bohannon, R. W., Shove, M. E., Barreca, S. R., Masters, L. M., & Sigouin, C. S. (2007). Five-repetition sit-to-stand test performance by community-dwelling adults: A preliminary investigation of times, determinants, and relationship with self-reported physical performance. *Isokinetics and Exercise Science*, 15(2), 77–81. <https://doi.org/10.3233/ies-2007-0253>
3. Wallmann, H. W., Evans, N. S., Day, C., & Neelly, K. R. (2012). Interrater reliability of the five-times-sit-to-stand test. *Home Health Care Management & Practice*, 25(1), 13–17. <https://doi.org/10.1177/1084822312453047>

