

Name of Instrument: **Modified Gait Abnormality Rating Scale (GARS-M)**

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**Privacy Use Cost:** \$

**Public Use Cost:** \$

**Year Developed:** 1995

**Where to obtain Instrument:**

- Referenced article

**Description of the Instrument**

- The GARS-M is a seven item rating scale with a score range of 0 to 3 for each item.
- The GARS-M consists the 7 items in the following order: (1) variability, (2) guardedness, (3) staggering, (4) foot contact, (5) hip ROM, (6) shoulder extension, and (7) arm-heel-strike synchrony.
- The total GARS-M score is a sum of the seven individual items, and the total score represents a rank ordering of risk for falling based on the number of gait abnormalities recognized and the severity of any abnormality identified.

**Form of instrument:**

- Hazard/Risk Assessment Tools
- Other-in person videotaping of walk test

**Method of delivery:**

- In-person interview/assessment

**Relevance to injury/ Percentage of the instrument specific to injury**

- To predict risk of falling among community-dwelling, frail older persons.

**Time to administer or complete the instrument**

**Methods of data analyses:**

- Quantitative

**Setting/sample instrument used in:**

- 52 community-dwelling older male veterans who experienced difficulty managing daily activities and responsibilities needed for community dwelling.

**Was it pilot tested?** No

**Pilot test sample:****Reliability Measures**

- The ratings for the GARS-M by 3 raters were compared using the Kappa statistic in 3 ways: intrarater reliability, interrater reliability, and analysis of individual item scores.
- Intrarater reliability (comparison of individual scores for the seven items of the GARS-M by the same rater for two trials) for 3 raters are 0.493, 0.583, and 0.676.
- Interrater reliability (comparison of the three raters' individual scores for all seven GARS-M items) is 0.577 for the first trial and 0.603 for the second trial.

**Validity Measures**

- The mean GARS-M score for participants with a history of falling is 9.0, higher than the mean GARS-M score of participants without a history of falling (3.8) ( $t=4.583$ ;  $df=2,50$ ,  $p<.000$ ).
- Participants with a history of falls took shorter strides (mean average is 72.12 cm) than participants without history of falls (97.24 cm)
- Participants with a history of falls also walked slower (47.19 cm/s) than did the participants without a history of falls.
- Stride length and GARS-M have a negative correlation ( $r=-0.754$ ); the shorter the stride, the more characteristics of risk for recurrent falls ( $t=-3.905$ ;  $df=2,50$ ;  $p<.000$ ).
- Walking speed and GARS-M scores have a negative correlation ( $r=-0.679$ ); the slower the speed, the more increased characteristics of the risk of falling ( $t=-3.359$ ;  $df=2,50$ ;  $p<.002$ )

**Reference**

VanSwearingen, J.M., Paschal, K.A., Bonino, P., & Yang, J.F. (1996). The modified gait abnormality rating scale for recognizing the risk of recurrent falls in Community-dwelling elderly adults. Physical Therapy, 76(9), 944-1002.

**Other References**

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**Keywords:** elderly, seniors, falls, risk, walk speed, stride length.