

CAT SIGAM mobility grades of amputee mobility

Clinical Bottom Line(s):

1. The SIGAM mobility grades is a valid, reliable way to measure mobility in lower extremity amputees, and it is sensitive to change over time.
2. The SIGAM mobility grades range from A (limb wearing abandoned or use of cosmetic limb only) to F (normal or near normal gait).

Citations(s): Ryall NH, Eyres SB, Neumann VC, Bhakta BB, Tennant A. The SIGAM mobility grades: a new population-specific measure for lower limb amputees. *Disability and Rehabilitation*. 2003; 25(15): 833-844.

Three part clinical question: In lower extremity amputees, is there a valid and reliable way to assess mobility over time?

The study: Two studies: 1) assess the reproducibility and validity and 2) assess the sensitivity to change. In study 1, the authors developed the self-reported questionnaire and then the algorithm for clinicians to use to score the questionnaire. The authors assessed the reproducibility of the SIGAM among 7 health care professionals who were blinded to the identity of the patients, to each other's scoring, and that there were 4 questionnaires representing each mobility grade among the 24 questionnaires they were given to score. The authors assessed the construct validity of the SIGAM with the Rivermead Mobility Index (RMI). In study 2, patients completed a SIGAM questionnaire and a Timed Walking Test (TWT) at recruitment, 3 weeks, 6 weeks, after delivery of prosthesis, 3 months, 6 months, and at 12 months.

The study patients: Convenience sample of 200 patients (144 males, 56 females), 13-90 years old (mean age, 57.2 ± 17.7 years). Diagnoses leading to amputation included: trauma, PVD, infection, cancer, DM, and congenital deficiency. Level(s) of amputation, right versus left, and unilateral versus bilateral characteristics varied among the amputees.

The evidence:

For the reproducibility, there was 100% agreement between the 7 raters after approximately 4 months. The Kappa values for each question ranged from 0.70-1.0, except question 2 was 0.38. The ICC was 0.79, which is good. TWT improved as SIGAM grade increased, and the SIGAM fitted within the RMI. The SIGAM scale has an effect size of 10.66.

Comments:

1. The Special Interest Group of Amputee Medicine (SIGAM) was formerly the Amputee Medical Rehabilitation Society in Britain.
2. Because the TWT could not be measured in those who could not walk, it was not possible to calculate the effect size in those patients who change from being unable to walk to being mobile. Therefore, the true effect size of the SIGAM mobility grades may be underestimated.

Appraised by: 1LT Hoppes

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