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Validity of Remote Testing to In-Person Testing of 2-Minute Walk Test and Stepping in Place Test

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COVID-19 pandemic severely reduced in-person health-related testing in homeless shelters. This has created significant monitoring challenges for persons living in shelters considered at-risk for chronic health problems for which basic functional tests such as walking or stepping provide important health information. Recent studies have examined the feasibility of remote testing for a variety of functional tests. Holland et al. (2020), validated remote testing for functional mobility tests including stepping. Pessoa et al. (2013), compared walking with stepping. By combining the two approaches we proposed to compare: 1) In-person vs remote observation of the 2-minute walk (2MWT) test and two-minute step in-place test (STEP). **Purpose:** The purpose of this experiment was to validate comparisons between 1) in-person and remote testing; 2) stepping-in-place and walk test. **Methods:** 32 people performed stepping in place test (STEP) and two-minute walking test (2MWT) in person and remotely. Each test was performed twice on each subject for a total of 4 tests. Before each test heart rate was collected and had to be within a range of 10 bpm of its initial heart rate before the next data collection could begin. **Results:** Relative intensity of the 2MWT-IPO ranged from 47% to 101% (67.4 +/- 12.83%). Relative intensity of the 2MWT-RO ranged from 48% to 101% (67.53 +/- 12.59%). STEP -IPO relative Intensity ranged from 38% to 89% (63.09 +/- 14.08%). STEP-RO relative intensity ranged from 43% to 91% (63.28 +/- 13.89%). The difference between relative intensity of each 2MWT was not significant [t(31)= -0.171,p= 0.865]. The difference between relative intensity of each STEP was not significant [t(31)= -0.236,p=0.815]. **Conclusions:** A greater relative intensity was required to complete the 2MWT vs the STEP, indicating the STEP test would be better suited for populations with greater health issues or limited mobility. It was found that having a standard step height for the STEP could provide greater validity if the testing was to be redone. Remote and in-person testing was found to be comparable, proving that remote observation is a viable option. There was no effect if the observer was in-person or remote. 2MWT produced a higher relative intensity than stepping in place.