oval track and one 9 - MRT on a 50M corridor, both indoors. **Materials/Methods:** Lap times for each test were recorded. Heart rate (HR) was recorded each minute using a Polar™ monitor. Total distance covered (D200; D50) and mean HR (HR200; HR50) for the 200M oval track and the 50M corridor respectively were analyzed by paired t - tests. Linear correlation was calculated for D200 and D50. The coefficient of variation for lap times was calculated to describe variability in performance during each 9 - MRT. D200 and D50 were compared to percentile scores from previously published data. Data from this pilot study were used to calculate statistical power for a subsequent study. **Results:** No significant differences between D200 and D50 (1280 ± 164M and 1244 ± 193M, p = 0.68) or HR200 and HR50 (193 ± 11 and 192 ± 13 bpm, p = 0.68) were found. D200 was significantly correlated with D50 (r = 0.73, p = 0.017). The mean coefficients of variation for the 200M and 50M tests were 14% and 60% respectively. Compared to normative data, 9 of 10 subjects scored within or below the 50th percentile. Statistical power was 25% (α = 0.05). **Conclusions:** Although there were no differences in total distance or heart rate between track configurations, a larger study is needed to confirm the findings of this pilot study. Due to greater variability within the 50M 9 - MRT, further investigation of test - retest reliability is recommended. As a group, children in the present study scored in the lower percentiles of norms established more than two decades ago. Future research is needed to identify a potential decline in fitness. **Clinical Relevance:** The 9 - MRT is a valid and reliable test measuring cardiovascular performance. Due to space restrictions, many facilities are not equipped with an oval track and clinicians often modify walk run protocols by performing them in corridors. This pilot shows there is no difference in the distance traveled in either track configuration, however we recommend a larger study to confirm these findings.

COMPARING AIRWAY CLEARANCE EFFECTIVENESS USING A SUCTION MACHINE AND THE COUGH-ASSIST MACHINE FOR PATIENTS IN ACUTE REHABILI-TATION.

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Purpose/Hypothesis: To compare tracheal suctioning (invasive) to the Cough-Assist machine (non-invasive), to determine if the Cough-Assist: 1) was at least as effective as traditional suctioning at clearing secretions for patients who require mechanical assistance, 2) produced less caustic effects to the patients' airways and lungs, and 3) was preferred by the patients over suctioning. **Number of Subjects:** 19 patients (mean age 37 years) with primarily neurologic diagnoses, undergoing acute inpatient rehabilitation, using suctioning as their primary means of airway clearance, participated in this study. **Materials/Methods:** Treatments alternated between tracheal suctioning and the Cough-Assist (mean 8.3 treatments). Vital signs and pulmonary function tests were measured with each treatment. Interviews were conducted at the entry and exit from the study. **Results:** 153 total treatment sessions (109 Cough-Assist, 44 tracheal suctioning). Paired T-tests for pre/post treatment vital signs and PFTs. Cough Assist: statistical

improvement in oxygen saturation (O2 sats) (p=.002) 96% to 97%; forced expiratory volume in 1 second (FEV_1) from .84 to .91 L/1 sec (p =.009); and peak expiratory flow rate (PEFR) from 80.5 to 89.2 L/min (p=.02). Tracheal suctioning: similar statistical improvement in PEFR from 82.4 to 93.0 L/min (p=.02), but not FEV_1 or PEFR, no improvement in O_2 sats, slight rise in diastolic blood pressure 77 to 80 mmHg (p=.02). In the entry interview, 64% reported suctioning effectively cleared secretions, but 73% felt that it was uncomfortable. In the exit interview, only 36% felt that suctioning cleared their secretions, while 91% reported that the Cough-Assist did clear them. Overall, 84% preferred the Cough-Assist, 8% preferred suctioning, 8% liked both. Subjects stated the Cough-Assist was more comfortable, more productive, and less painful to their airway. **Conclusions:** In this study, the Cough-Assist was shown to be at least as effective as tracheal suctioning for airway clearance, showed less caustic effects, and was preferred by the patients 10:1 over tracheal suctioning. No clinically significant adverse effects were noted. **Clinical Relevance:** The Cough-Assist should be considered a viable alternative to tracheal suctioning in the rehabilitation setting. Further research should explore long term outcomes, different diagnostic categories, and different medical environments.

FACTORS THAT PREDICT DISTANCE WALKED IN THE SIX MINUTE WALK TEST.

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Purpose/Hypothesis: The purpose of this study was to determine if selected patient characteristics during Phase I cardiac rehabilitation (CR) would predict distance walked in the 6-minute walk test (6MWT). **Number of Subjects:** Medical charts of fifty patients with recent coronary artery bypass graft (CABG) surgery enrolled in an inpatient phase I CR program were retrospectively evaluated. **Materials/Methods:** Data pertaining to the patient's age, total number of concomitant comorbidities, level of mobility prior to the CABG surgery, level of mobility upon evaluation in the inpatient CR program, and length of stay (LOS) in the inpatient phase I CR program was collected. Since all subjects had the same level of mobility prior to the CABG surgery, this variable was not used in the analysis. **Analysis:** Analysis was performed with SPSS 11.0. Multiple linear and full-entry logistic regression were used to determine the predictability of the models. **Results:** Multiple linear regression results indicate that the overall model did not predict distance walked in the 6MWT ($R2$ = .15; F (4,21) = .929; p=. 466). Pearson's correlation test indicated a positive correlation between the total number of concomitant comorbidities and age (R = .376, p = .029) and a negative correlation between level of mobility upon evaluation and LOS in inpatient CR (R = -.593, p = .001). Full entry logistic regression results indicated that the overall model was not statistically reliable in predicting whether the patient performed or did not perform the 6MWT (-2 log likelihood = 37.737; df = 21, X^2 = 14.059, p =.080). **Conclusions:** The outcome of this study shows that the model incorporating age, LOS in inpatient CR, total number concomitant comorbidities, and level of mobility upon evaluation in inpatient CR does not predict the distance walked in the 6MWT for this sample population. **Clinical Relevance:** Distance walked on the 6MWT has been used as an objective measure of functional mobility. There