

Assessment of Procedural Proficiency in Blood Pressure Measurement in Exercise Science

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Accurate blood pressure measurement is a key component of the evaluation of health-related physical fitness; however it is also a difficult clinical measure to perform without extensive practice. Exercise Scientists use blood pressure measurement to make informed decisions concerning client testing and evaluation, exercise prescription, and physician referral. Procedural errors in blood pressure testing can lead to a wide variance in measurement, and potentially affect decision-making while facilitating exercise safely. **PURPOSE:** The primary purpose of this investigation was to determine how students' blood pressure measurement procedure changes with intensive training. **METHODS:** Following familiarization with the protocol, participants physically performed the task of measuring blood pressure on a reference subject. A trained practitioner recorded notes on each participant's performance using a standardized rubric comprising nineteen procedural categories. There were seventy-three participants in the present study with varying levels of curricular exposure to blood pressure measurement. The cohort was comprised of thirty-nine students (A) with 0 hours curricular exposure; nineteen students (B) with 12 hours; and fifteen students (C) with 14 hours (+practical examination). **RESULTS:** Four distinct trends were noted in the data. Specifically, a trend was observed wherein a marked increase in procedural proficiency with a plateau occurred (e.g. placed diaphragm on artery, 30.8% to 100% to 93.3%). Secondly, a trend was observed with continual improvement from groups A to C (e.g. cuff placed snugly/smoothly on upper arm, 20.5% to 84.2% to 100%). Other trends included a marked improvement with subsequent decrease, and an improvement without achieving proficiency (e.g. palpation of the brachial pulse, 5.1% to 94.7% to 73.3%; appropriate size cuff used, 15.4% to 36.8% to 40%; respectively). **CONCLUSION:** The current investigation provided a snapshot of the procedural proficiency of blood pressure assessment in a large exercise science program and highlighted considerations for best practices.