

This study tests the accuracy of Masimo's non-invasive radical-7 finger probe to measure CO levels in the blood in comparison to the current gold standard of a blood draw. By comparing the CO levels found from a blood draw to the CO levels recorded by the radical-7, I test if the accuracy of the radical-7 is within 3% of the CO level found by the blood draw and can therefore become a new standard to measure CO. There will be a total of 200 patients enrolled in the study, 160 adults and 40 children. The patients were chosen from patients visiting Fletcher Allen's Emergency Department that are presenting with CO symptoms, such as headache and nausea, or high CO levels. A carboxyhemoglobin level will be determined via a blood draw and a series of readings will be taken with the radical 7. The CO levels found from the blood draw will be compared to the CO values found via the radical-7 and compared for accuracy. Having enrolled 25% of the total patients, it has been demonstrated, thus far, that the CO levels found by the radical-7 are within 3% of the blood draw CO value more than half of the time.