

COMET Abstract

This study examines the accuracy of non-invasive CO-Oximetry measurement (SpCO) using the Masimo Rad-57 device as compared to standard venous or arterial blood testing of carbon monoxide concentration (COHb). Subjects are patients that present to the emergency room with one of three inclusion criteria: elevated level of carboxyhemoglobin; signs and symptoms of CO exposure; or known carbon monoxide exposure. The Rad-57 device we will use measures carboxyhemoglobin levels in the blood. Carboxyhemoglobin is made from when carbon monoxide binds to the red blood cells blocking the ability of oxygen to bind to those cells. Three SpCO readings will be performed using the Masimo RAD-57 device, and then one venous blood sample will be collected and analyzed using conventional CO-Oximetry. The data from both methods will be compared and statistically analyzed. We hypothesize that the non-invasive and continuous carboxyhemoglobin measurement is now possible and accurate with Masimo Pulse CO-Oximetry technology. By using this technology, venous blood draws will no longer be needed in order to accurately test carboxyhemoglobin levels. Using this device will be an easier, faster and more portable way to test for Carbon monoxide poisoning in an emergency type setting.