

## **Pulse Carboxyhemoglobin-Oximetry and Cigarette Smoking.**

Sokolova-Djokić L., Milosević S., Skrbić R., Salabat R., Voronov G., Igić R.  
*J BUON* 2011 Jan-Mar; 16(1):170-3.

### **Purpose**

We used a pulse carbon monoxide (CO)-Oximeter to measure the levels of carboxyhemoglobin (COHb) in smokers and non-smokers. Our goal was to determine if this device could not only define smoking status, but also to increase accuracy of self-reported data at various surveys on smoking.

### **Methods**

Thirty-four healthy volunteers participated in this study. Twenty-two of them were current daily smokers; 12 participants were non-smokers who lived alone or with a nonsmoker, and who worked in non-smoking environment. Nicotine dependency level was determined by the modified Fagerstrom questionnaire. Blood COHb levels were measured with a pulse CO-oximeter (Masimo, Radical-7).

### **Results**

The COHb levels in both moderate/heavy smokers and light smokers increased significantly after they smoked a single cigarette. This increase persisted for more than 6 h in the moderate/heavy smokers, while in the light smokers COHb levels returned to the baseline level after one hour. The pulse rate of all smokers increased significantly 20 min after smoking.

### **Conclusion**

We conclude that the CO-Oximeter can detect smoking by moderate/heavy smokers and light smokers if they smoked 6 h or 20 min earlier, respectively. We concluded that it could be used as a validation test for smoking at the time of admission to the surgical facility and to increase smoking abstinence during preoperative and postoperative periods. This noninvasive, simple and inexpensive test may also be used at various surveys to increase accuracy of self-reports on smoking.