OHSU-PSU School of Public Health Annual
Conference

2019 Program Schedule

Apr 3rd, 4:00 PM - 5:00 PM

A New Method for Assessing Smoking Behavior in Orthopaedic Patients

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https://pdxscholar.library.pdx.edu/publichealthpdx/2019/Posters/24

"A New Method for Assessing Smoking Behavior in Orthopaedic Patients"

Background: Tobacco use is associated with post-operative complications and self-reporting often introduces a bias that underestimates the true exposure. Traditional tobacco testing methods, including serum cotinine are associated with issues of specificity, as they do not differentiate active smokers from those on nicotine replacement therapies (NRTs). This study intends to evaluate the effectiveness of point-of-care carbon monoxide (CO) breathalyzer test to assess patient smoking status and to differentiate active smokers from those using NRTs.

Methods: Eligible patients will be >18 years old and indicated for joint or fracture surgery at the Portland VA Orthopaedic clinic. Initially, patients will complete a self-reported smoking questionnaire, followed by CO testing with Smokerlyzer® Micro EC50 device and provision of serum cotinine labs. The primary outcome will be the sensitivity and specificity of the exhaled CO test relative to the current gold-standard test, serum cotinine levels. We will also perform a specific analysis using a subgroup of self-reported smokers and NRT-users (excluding non-smokers) to evaluate the sensitivity and specificity of the CO test against self-reported smoking status. This will evaluate the test's ability to differentiate between smokers and those on NRTs.

Discussion: This study seeks to reduce the error of determining smoking status that is inherent in the current methods by assessing an alternative way to test smoking status in the clinic. This would provide necessary preliminary results to allow directly testing whether NRT use, separate from tobacco use, is associated with adverse outcomes following orthopaedic surgery.