Exciting Research Opportunity – Please Participate

Welcome to the 13/14 and Open Short Course State Championship Meet. While you are here, you may notice that there are a few people on the pool deck and around the facility who are involved in a study. These scientists are participating in an investigation of air and water quality in indoor swimming pool facilities. Their project involves conducting measurements that will allow improvements in indoor swimming venues, specifically as related to air and water quality.

Background

The benefits of swimming to general health, as well as to overall fitness and cardiovascular health are well-known. Less well-known is the fact that some chemicals that are produced as byproducts of chlorination can cause irritation of the human respiratory system. These byproducts are common to virtually every pool, but the concentrations of these compounds vary considerably among pools, as do the quality of air and water in indoor pool facilities. The factors that control water and air quality in indoor pools are known in general terms, but there is a lack of information to define the specific measures that can be used to improve water and air quality.

Approach

A project involving collaboration between research teams from Michigan State University and Purdue University is being launched to address these issues. Researchers from these two universities will, for the first time, be conducting concurrent measurements of air quality, water quality, design and operational characteristics of pools, and will assess the respiratory health of athletes, coaches, and officials using a combination of surveys and simple breathing tests. In the initial phase of this study, these measurements will be conducted at competition pools before, during, and after competitive swimming events where large numbers of swimmers will be in the pools. The large numbers of swimmers in the pools during these events are likely to represent some of the most challenging conditions that a pool will encounter in terms of maintaining healthy water and air quality conditions, and are likely to represent the heaviest load that is placed on the pool's water and air management systems. As such, we expect that if we can identify and optimize design and operating conditions that effectively control air and water quality under heavy conditions such as at a swim meet, that the same systems will also perform well when the pool is not subjected to the same swimmer numbers.

Athletes ages 13 and over, coaches, and officials are invited to participate. Participation in these tests is completely voluntary, but will be greatly appreciated. The simple breathing tests and brief survey(s) will represent no risk to participants or others. To prevent disruption at the meet, all interaction with study participants will occur prior to entering the pool deck and then again as the participants leave for the day. If interested in participating, additional information may be provided and pre-registration possible (and preferred) by contacting Dr. Millerick-May prior to and throughout the meet. During the meet (Friday Prelims/Finals, Saturday Prelims, Sunday Prelims), we will be at a table located in the hallway directly across from the entrance that leads to the locker rooms. This research is being conducted in collaboration with the management of the pools and swimming clubs that host these competitions.

Expected Outcomes

This research is being supported by Michigan Swimming, Michigan State University, and the Council for the Model Aquatic Health Code (CMAHC), which promotes health and safety at the nation's public swimming pools through use of the science-based guidance (see https://www.cmahc.org/). The findings of this work will be used to update the Centers for Disease Control and Prevention's (CDC's) *Model Aquatic Health Code* (MAHC) (see) https://www.cdc.gov/mahc/index.html), the only all-inclusive national model pool code. Specifically, we anticipate that the findings of this research will allow the *MAHC* to be updated to provide the best information as to how to optimize indoor air quality at indoor pools in the United States.

Questions?

If you have questions about this study, call or email using the contact info below. We welcome your input! To facilitate registration, you may review the consent forms (attached) and complete the online questionnaire here (https://msu.co1.qualtrics.com/jfe/form/SV_eCH191UhRmBG3jv).

Sincerely,

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