

Findings of the Surfer Health Study

¹Kenneth Schiff, ¹John Griffith, ¹Joshua Steele, ²Benjamin Arnold, ²Ayse Ercumen, ²Jade Benjamin-Chung, ²John M. Colford, Jr., ³Jeff Soller, ⁴Rick Wilson, ⁵Charles McGee

¹Southern California Coastal Water Research Project Authority, Costa Mesa, CA

²University of California, Berkeley

³Soller Environmental

⁴Surfrider Foundation

⁵Orange County Sanitation District, retired

EXECUTIVE SUMMARY

Southern California's beaches generally meet state and federal water quality standards for swimming and surfing during the dry, non-rainy times of the year, but microbial contamination levels tend to spike when rain washes pollutants off the land into the coastal zone. In fact, public health departments routinely issue advisories to stay out of the ocean for three days following storms, even though this is when some of the year's best surf occurs. The Surfer Health Study, conducted at popular San Diego surfing spots during the winters of 2013-14 and 2014-15, was a first-of-its-kind effort to quantify the health risks associated with entering coastal waters following storms typified by the county health departments' wet weather advisory period. The study surveyed 654 surfers about their ocean exposure and illness symptoms through internet and smartphone apps; 10,081 surfing sessions were logged, making it one of the largest beach epidemiology studies of the past three decades. Results indicated an increased rate of gastrointestinal (GI) illness following ocean exposure, and this illness rate increased even further following wet weather. The increase in rate – or excess risk – averaged 12 GI illnesses per 1,000 surfers when entering the ocean during or in the three days following storm events, compared to surfers who did not enter the ocean. There was a relationship between health risk and current water quality monitoring measurements during wet weather, but that relationship predicted less risk than U.S. Environmental Protection Agency (USEPA) guidelines. An extra 12 cases of GI illness per 1,000 surfers after wet weather ocean exposure was less than the most recent USEPA's water quality guidelines for recreational beaches from 2012, which recommends no more than an average 32 to 36 cases of GI illness per 1,000 swimmers.

Full text:

http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/943_SurferHealthStudy.pdf