PFAS - The question with regard to health effects.

Abstract

***Introduction:*** The Australian Environmental Health Standing Committee (enHealth) advises that ‘there is currently no consistent evidence that

exposure to perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) causes adverse human health effects’ (enHealth, 2016). A firefighting foam spill containing PFOA/PFOS occurred before Easter weekend near a popular Brisbane beach and levels tested nearby were above the recreational limit. Concerns about the adequacy of the health advice in the media were made. An Expert Health Panel has been established to advise the Australian Government on the potential health impacts associated with Per- and Poly-fluoroalkyl Substances (PFAS) exposure. (PFAS includes PFOS and PFOA.)

***Methods:*** A literature review of health effects associated with these substances and a comparison of the enHealth advice to international health advice was undertaken

***Results:*** The literature review found documentation of health effects associated with PFOS and PFOA exposure. The international health advice with regard to PFAS differed significantly to the Australian enHealth health advice. The USA Environmental Protection Authority’s health advice states “that exposure to PFOA and PFOS over certain levels may result in adverse health effects” The German Human Biomonitoring (HBM) Commission states health effects are “well proven, relevant, and significantly associated with exposure to PFOA and/or PFOS.” The British health advice states PFOA and PFOS is “toxic by ingestion”; “repeated exposure by ingestion can cause stomach upset, liver toxicity and effects on thyroid hormones”; “skin or eye contact can cause irritation” and “prolonged exposure may cause cancer.”

***Conclusions:*** There is a significant difference between the enHealth advice on PFOA and PFOS and international advice. EnHealth has released “interim national guidance on human health reference values for per- and polyfluoroalkyl substances for use in site investigations in Australia.” The interim national guidance on human health reference values for PFAS are not reflected in the health advice. The health advice “that there is currently no consistent evidence of health effects” could be interpreted to mean there are no unsafe doses and no health effects even for exposures above the interim values. The findings of the Expert Health Panel will be discussed