ACMT Comment on Recent Guidance on PFAS Laboratory Testing

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The position of the American College of Medical Toxicology (ACMT), is as follows:

The chemicals called per- and polyfluoroalkyl Substances (PFAS) are a collective group of at least several thousand different compounds extensively used in commercial and industrial products around the world for their resistance to water, oil, fire, and other properties [1]. Products containing PFAS include firefighting foams, to stain-resistant carpets and fabrics, to fast food packaging, and many others. Our understanding of health effects related to exposure to these compounds is evolving quickly. The International Agency for Research on Cancer recently declared an older, but environmentally persistent PFAS, perfluorooctanoic acid (PFOA), a Group 1 human carcinogen [2]. Unfortunately, communities and patients have been exposed to PFAS compounds through environmental contamination of water sources and/or through the ubiquitous presence of PFAS in consumer products. The American College of Medical Toxicology (ACMT) is aware of recommendations from the National Academies of Sciences, Engineering, and Medicine [3] and more recently from the Agency for Toxic Substances and Disease Registry (ATSDR) [1] regarding testing for serum or plasma PFAS concentrations in members of the public.

In general, population exposures to legacy PFAS compounds such as PFOA and perfluorooctanesulfonic acid (PFOS) have decreased over the last two decades [1]. However, some communities may still be dealing with potential exposures secondary to historical contamination events that resulted in contaminated water supplies [4], and some occupations have had unique historical and current exposures to these compounds [5]. Significant exposure to these compounds may have occurred in communities with PFAS drinking water contamination, those engaged in occupations or avocational activities such as fluorochemical production, firefighting, and even some less acknowledged workers such as ski/snowboard waxers and farmers working with biosolids [5]. Understanding this, ACMT acknowledges that some individuals may want to confirm their individual degree of exposure to PFAS compounds through serum/plasma PFAS concentration.

ACMT concurs with ATSDR that serum/plasma PFAS testing should be an individualized, patient-centered decision following an informed discussion between the patient and their

physician regarding possible routes of exposure, their individual exposure and health history, and the limitations and benefits of serum/plasma PFAS testing [1]. ACMT does not recommend broad, population based PFAS testing of patients in communities except as part of public health investigations or research.

ACMT acknowledges the potential benefits of serum/plasma PFAS testing for some individuals who may utilize this information as an impetus for reducing their ongoing exposure to PFAS, or for the potential psychological relief of having a marker of exposure that can be compared to population values [1]. However, ACMT also acknowledges the limitations of serum/plasma PFAS testing such as the inability to discern specific source(s) of exposure, the inability to predict any specific health outcome, the variations between laboratories in testing techniques/modalities, the cost of testing due to lack of insurance coverage for testing, and the absence of good screening modalities for most potential PFAS-related health effects [1,3]. Additionally, there are potential harms associated with screening, to include not only the financial cost of follow-up testing, but also the emotional impact of uncertainty during follow-on evaluations, and the potential for medical complications related to follow-up testing. Further, there is currently no validated therapy for enhancing elimination of PFAS [1].

ACMT highlights the recommendations of the Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatrics (AAP) that given the well documented benefits of breastfeeding, most nursing mothers should continue breastfeeding even if their drinking water may have been contaminated with PFAS [6-7]. In addition, ACMT recommends against utilization of unvalidated and potentially dangerous methods to enhance elimination of PFAS. ACMT recommends that individuals who are considering potential interventions intended to remove PFAS from the body discuss these interventions with a medical toxicologist prior to initiation.

For expert advice, we recommend consultation with Pediatric Environmental Health Specialty Units (PEHSUs) or directly consulting a medical toxicologist [8]. The PEHSU network has experts in the prevention and management of environmental disease in children. PEHSUs also provide a wealth of resources for patients, parents, and clinicians regarding PFAS and other environmental contaminants at: https://www.pehsu.net/. Medical toxicologists are physicians trained in, and dedicated to, the evaluation and treatment of poisoned patients, including occupational and environmental exposures. Medical toxicologists are uniquely suited to counsel patients on the benefits, limitations, and potential harms of serum/plasma PFAS testing. We encourage clinicians who are evaluating patients with potential PFAS exposure to refer patients to an American Board of Medical Specialties (ABMS) certified specialist in Medical Toxicology for individualized exposure assessment and counseling prior to serum/plasma PFAS testing, or for interpretation and counseling following serum/plasma PFAS testing. Assistance with locating a consulting medical toxicologist can be found at: https://www.acmt.net/find-a-toxicologist/.

ACMT shares the concern of those who are worried about PFAS exposure. Although some of these chemicals have been identified as carcinogens, there is genuine uncertainty about the

extent of risk to the community. As experts in chemical exposure and poisoning, we wish to prevent harms to communities both from environmental chemicals and from unproven “therapies” for these exposures that could cause even more harm. We are committed to learning more as we work to help patients and communities to understand the role of PFAS testing.

Disclaimer

While individual practices may differ, this is the position of the American College of Medical Toxicology at the time written, after a review of the issue and pertinent literature.

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