AB 617 Biomonitoring Update: Selected Background References
Biomonitoring California Scientific Guidance Panel Meeting
November 12, 2020

Adetona AM, Martin WK, Warren SH, Hanley NM, Adetona O, Zhang JJ, Simpson C, Paulsen M, Rathbun S, Wang J-S, DeMarini DM, Naeher LP (2019). Urinary mutagenicity and other biomarkers of occupational smoke exposure of wildland firefighters and oxidative stress. Inhal Toxicol 31(2):73-87. Available at: http://www.ncbi.nlm.nih.gov/pubmed/30985217.

Alghamdi MA, Alam MS, Stark C, Mohammed N, Harrison RM, Shamy M, Khoder MI, Shabbaj, II, Goen T (2015). Urinary metabolites of polycyclic aromatic hydrocarbons in Saudi Arabian schoolchildren in relation to sources of exposure. Environ Res 140:495-501. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/25996626 (full article available upon request).

Bennett DH, Kenyon N, Tancredi D, Schenker M, Moran R, Roudneva K, Wu X, Krakowiak P, Fisk WJ. (2018). Final Report: Benefits of High Efficiency Filtration to Children with Asthma. Sacramento, California: California Environmental Protection Agency, California Air Resources Board, Research Division. Available at: https://ww2.arb.ca.gov/sites/default/files/classic//research/apr/past/11-324.pdf.

Cao L, Wang D, Wen Y, He H, Chen A, Hu D, Tan A, Shi T, Zhu K, Ma J, Zhou Y, Chen W (2020). Effects of environmental and lifestyle exposures on urinary levels of polycyclic aromatic hydrocarbon metabolites: A cross-sectional study of urban adults in China. Chemosphere 240:124898. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/31557644 (full article available upon request).

Ciarrocca M, Rosati MV, Tomei F, Capozzella A, Andreozzi G, Tomei G, Bacaloni A, Casale T, Andrè JC, Fioravanti M, Cuartas MF, Caciari T (2014). Is urinary 1-hydroxypyrene a valid biomarker for exposure to air pollution in outdoor workers? A meta-analysis. J of Expo Sci Environ Epidemiol 24(1):17-26. Available at: http://www.ncbi.nlm.nih.gov/pubmed/23299300.

Ferguson KK, McElrath TF, Pace GG, Weller D, Zeng L, Pennathur S, Cantonwine DE, Meeker JD (2017). Urinary polycyclic aromatic hydrocarbon metabolite associations with biomarkers of inflammation, angiogenesis, and oxidative stress in pregnant women. Environ Sci Technol 51(8):4652-60. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5771235/.

Gong J, Zhu T, Kipen H, Rich DQ, Huang W, Lin W-T, Hu M, Zhang J (2015). Urinary polycyclic aromatic hydrocarbon metabolites as biomarkers of exposure to traffic-emitted pollutants. Environ Int 85:104-10. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4765327/.

Grady ST, Koutrakis P, Hart JE, Coull BA, Schwartz J, Laden F, Zhang JJ, Gong J, Moy ML, Garshick E (2018). Indoor black carbon of outdoor origin and oxidative stress biomarkers in patients with chronic obstructive pulmonary disease. Environ Int 115:188-95. Available at: https://www.ncbi.nlm.nih.gov/pubmed/29574339.

Hoseini M, Nabizadeh R, Delgado-Saborit JM, Rafiee A, Yaghmaeian K, Parmy S, Faridi S, Hassanvand MS, Yunesian M, Naddafi K (2018). Environmental and lifestyle factors affecting exposure to polycyclic aromatic hydrocarbons in the general population in a Middle Eastern area. Environ Pollut 240:781-92. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/29778814 (full article available upon request).

Huang X, Zhou Y, Cui X, Wu X, Yuan J, Xie J, Chen W (2018). Urinary polycyclic aromatic hydrocarbon metabolites and adult asthma: A case-control study. Sci Rep 8:7658. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5956083/.

Ledda C, Loreto C, Bracci M, Lombardo C, Romano G, Cinà D, Mucci N, Castorina S, Rapisarda V (2018). Mutagenic and DNA repair activity in traffic policemen: A case-crossover study. J Occup Med Toxicol 13(1):24. Available at: https://doi.org/10.1186/s12995-018-0206-9.

Li Z, Mulholland JA, Romanoff LC, Pittman EN, Trinidad DA, Lewin MD, Sjodin A (2010). Assessment of non-occupational exposure to polycyclic aromatic hydrocarbons through personal air sampling and urinary biomonitoring. J Environ Monit 12(5):1110-18. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/21491629 (full article available upon request).

Lin Y, Ramanathan G, Zhu Y, Yin F, Rea ND, Lu X, Tseng CH, Faull KF, Yoon AJ, Jerrett M, Zhu T, Qiu X, Araujo JA (2019). Pro-oxidative and proinflammatory effects after traveling from Los Angeles to Beijing: A biomarker-based natural experiment. Circulation 140(24):1995-2004. Available at: https://www.ncbi.nlm.nih.gov/pubmed/31744317.

Navarro KM, Mann JK, Hammond SK, McKone TE, Balmes JR (2019). Predictors of urinary polycyclic aromatic hydrocarbon concentrations: NHANES 2001–2006. Expos Health 11(3):237-47. Abstract available at: https://doi.org/10.1007/s12403-018-00292-7 (full article available upon request).

Oliveira M, Costa S, Vaz J, Fernandes A, Slezakova K, Delerue-Matos C, Teixeira JP, Carmo Pereira M, Morais S (2020). Firefighters exposure to fire emissions: Impact on levels of biomarkers of exposure to polycyclic aromatic hydrocarbons and genotoxic/oxidative-effects. J Hazard Mater 383:121179. Abstract available at: http://www.ncbi.nlm.nih.gov/pubmed/31522064 (full article available upon request).

Oliveira M, Slezakova K, Delerue-Matos C, Pereira MC, Morais S (2019). Children environmental exposure to particulate matter and polycyclic aromatic hydrocarbons and biomonitoring in school environments: A review on indoor and outdoor exposure levels, major sources and health impacts. Environ Int 124:180-204. Available at: http://www.ncbi.nlm.nih.gov/pubmed/30654326.

Oliveira M, Slezakova K, Delerue-Matos C, do Carmo Pereira M, Morais S (2017). Assessment of exposure to polycyclic aromatic hydrocarbons in preschool children: Levels and impact of preschool indoor air on excretion of main urinary monohydroxyl metabolites. J Hazard Mater 322(Pt B):357-69. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/27776859 (full article available upon request).

Polidori A, Fine PM, White V, Kwon PS (2013). Pilot study of high-performance air filtration for classroom applications. Indoor Air.23(3):185-95. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/23137181 (full article available upon request).

Ranzi A, Fustinoni S, Erspamer L, Campo L, Gatti MG, Bechtold P, Bonassi S, Trenti T, Goldoni CA, Bertazzi PA, Lauriola P (2013). Biomonitoring of the general population living near a modern solid waste incinerator: A pilot study in Modena, Italy. Environ Int 61:88-97. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/24103350 (full article available upon request).

Ravindra K, Sokhi R, Van Grieken R (2008). Atmospheric polycyclic aromatic hydrocarbons: Source attribution, emission factors and regulation. Atmospheric Environ.42(13):2895-921. Abstract available at: http://www.sciencedirect.com/science/article/pii/S1352231007011351(full article available upon request).

San Francisco Department of Public Health, Bay Area Air Quality Management District, and Lawrence Berkeley National Laboratory (2018). Measurement Study to Evaluate Controls for Reducing In-Home Pollutant Exposures at Homes Near High Trafficked Roadways. Available at: https://www.sfdph.org/dph/files/EHSdocs/ehsPublsdocs/Mirant_Indoor_Air.pdf.

San Joaquin Valley Air Pollution Control District (2019). Community Air Monitoring Plan: South Central Fresno AB 617 Community. Available at: http://community.valleyair.org/media/1308/fresno_camp_v1_2019_july-1.pdf.

Slezakova K, Oliveira M, Madureira J, Fernandes EO, Delerue-Matos C, Morais S, Pereira MDC (2017). Polycyclic aromatic hydrocarbons (PAH) in Portuguese educational settings: A comparison between preschools and elementary schools. J Toxicol Environ Health Part A 80(13-15):630-40. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/28679081(full article available upon request).

Wagner J and Leith D (2001). Passive aerosol sampler. Part I: Principle of operation. Aerosol Sci Technol.34(2):186-92. Available at: https://doi.org/10.1080/027868201300034808.

Weinstein JR, Asteria-Peñaloza R, Diaz-Artiga A, Davila G, Hammond SK, Ryde IT, Meyer JN, Benowitz N, Thompson LM (2017). Exposure to polycyclic aromatic hydrocarbons and volatile organic compounds among recently pregnant rural Guatemalan women cooking and heating with solid fuels. Int J Hyg Environ Health 220(4):726-35. Available at: http://www.ncbi.nlm.nih.gov/pubmed/28320639.

Weinstein JR, Diaz-Artiga A, Benowitz N, Thompson LM (2020). Reductions in urinary metabolites of exposure to household air pollution in pregnant, rural Guatemalan women provided liquefied petroleum gas stoves. J Exp Sci & Environ Epidemiol 30(2):362-73. Available at: http://www.ncbi.nlm.nih.gov/pubmed/31477781.

Wu X, Lintelmann J, Klingbeil S, Li J, Wang H, Kuhn E, Ritter S, Zimmermann R (2017). Determination of air pollution-related biomarkers of exposure in urine of travellers between Germany and China using liquid chromatographic and liquid chromatographic-mass spectrometric methods: A pilot study. Biomarkers 22(6):525-36. Abstract available at: https://www.ncbi.nlm.nih.gov/pubmed/28330376 (full article available upon request).