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Research Project

Exhaled Breath Analysis in pediatric patients exposed to environmental Tobacco Smoke (EBATS): a pilot study

Third-party funded project

Project title Exhaled Breath Analysis in pediatric patients exposed to environmental Tobacco Smoke (EBATS): a pilot study

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Organisation / Research unit

Bereich Kinder- und Jugendheilkunde (Klinik)

Swiss Tropical and Public Health Institute (Swiss TPH)

Department

Project start 01.12.2018

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Status Completed

Exposure of children to environmental tobacco smoke (ETS) can lead to serious health consequences, impairing lung development, and increasing the risk for respiratory disease in adulthood. While there is strong evidence confirming detrimental effects of ETS from clinical observational studies, much remains unknown at the molecular level which could improve our understanding of the mechanisms by which ETS affects respiratory health. ETS has been associated with alterations in cell signaling, ultimately causing impaired cellular growth in lung tissue. The objective of this project is to identify exhaled markers altered as a result of ETS exposure, thus gaining insights on the detrimental effects of ETS. We will measure cotinine levels using standard analytical methods to objectively assess the level of exposure on an individual basis. We will seek associations between systemic cotinine concentrations and exhaled metabolite levels. Obtaining evidence of the detrimental effect of ETS exposure in the respiratory system as assessed by exhaled metabolites will provide a valuable input to public health policymakers.

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