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## JOURNAL articles

**Chan, Eric Y., et al. Synchronized abdominal compression as a novel treatment of life-threatening preschool asthma. *Journal of Asthma*. April 2019. doi: [10.1080/02770903.2019.160623](https://doi.org/10.1080/02770903.2019.160623)**

**INTRODUCTION:** In severe asthma, management of life-threatening air trapping that persists despite initiation of standard asthma treatment is difficult in the absence of extracorporeal membranous oxygenation. **CASE STUDY:** Three children with life-threatening asthma could not be adequately ventilated despite maximum conventional treatment because of severe air trapping. A novel method of active expiration by abdominal compression with a standard ventilator was adopted with immediate effect with significant improvement in ventilation. **CONCLUSION:** Synchronized abdominal compression is a novel and simple method that allows an effective treatment of severe air trapping in an intubated paralyzed asthma child.

**Kercsmar, C.M. and C. Shipp. Management/Comorbidities of School-Aged Children with Asthma. *Immunology and Allergy Clinics of North America*. May 2019; 39(2): 191-204. doi: [10.1016/j.iac.2018.12.004](https://doi.org/10.1016/j.iac.2018.12.004)**

Asthma is a complex heterogeneous disease characterized by reversible airflow obstruction. After appropriate diagnosis, the management in school-aged children centers on 3 broad domains: pharmacologic treatment, treatment of underlying comorbidities, and education of the patient and caregivers. It is important to understand that the phenotypic differences that exist in the school-aged child with asthma may impact underlying comorbid conditions as well as pharmacologic treatment choices. Following initiation of therapy, asthma control must be continually evaluated in order to optimize management.

**Gernes, R., et al. Using high-resolution residential greenspace measures in an urban environment to assess risks of allergy outcomes in children. *Science of the Total Environment*. June 2019; 668-767. doi: [10.1016/j.scitotenv.2019.03.009](https://doi.org/10.1016/j.scitotenv.2019.03.009)**

Despite reported health benefits of urban greenspace (gs), the epidemiological evidence is less clear for allergic disease. To address a limitation of previous research, we examined the associations of medium- and high-resolution residential gs measures and tree and/or grass canopies with allergic outcomes for children enrolled in the longitudinal Cincinnati childhood allergy and air pollution study (ccaaps). We estimated residential gs based on 400 m radial buffers around participant addresses (n = 478) using the normalized differential vegetation index (ndvi) and land cover-derived urban greenspace (ugs) (tree and grass coverage, combined and separate) at 30 m and 1.5-2.5 m resolution, respectively. Associations between outdoor aeroallergen sensitization and allergic rhinitis at age 7 and residential gs measures at different exposure windows were examined using multivariable logistic regression models. A 10% increase in ugs-derived grass coverage was associated with an increased risk of sensitization to grass pollens (adjusted odds ratio [aor]: 1.27; 95% confidence interval = 1.02-1.58). For each 10% increase in ugs-derived tree canopy coverage, nonstatistically significant decreased odds were found for grass pollen sensitization, tree pollen sensitization, and sensitization to either (aor range = 0.87-0.94). Results similar in magnitude to ugs-tree canopy coverage were detected for ndvi and allergic sensitizations. High-resolution (down to 1.5 m) gs measures of grass- and tree-covered areas showed associations in opposite directions for different allergy outcomes. These data suggest that measures strongly correlated with tree canopy (e.g., ndvi) may be insufficient to detect health effects associated with proximity to different types of vegetation or help elucidate mechanisms related to specific gs exposure pathways.

**Feng, J.Y., et al. Childhood poly-victimization and children's health: A nationally representative study. *Child Abuse and Neglect*. May 2019; 91: 88-94. doi: [10.1016/j.chiabu.2019.02.013](https://doi.org/10.1016/j.chiabu.2019.02.013)**

**BACKGROUND:** Although research on the negative effects of childhood poly-victimization is substantial, few studies have examined the relationship between poly-victimization and younger children's physical health and diseases. **OBJECTIVE:** This study examines the associations between poly-victimization and children's health problems requiring medical attention.

**METHODS:** A national stratified cluster random sampling was used to select and approach 25% of the total primary schools in Taiwan, and 49% of the approached schools agreed to participate in this study. We collected data with a self-report questionnaire from 6233 (4th-grade) students aged 10-11, covering every city and county in Taiwan. **RESULTS:** Logistic regression analyses

demonstrate a significant dose-response relationship between children's poly-victimization exposure and their health problems including hospitalization, serious injury, surgery, daily-medication requirements, heart murmurs, asthma, dizziness or fainting, allergies, kidney disease, therapies for special needs, smoking, and alcohol use. The results indicate that children's risk of having a health problem grew significantly with each increase in the number of victimization types that children experienced. CONCLUSIONS: These research findings underscore the effect of poly-victimization on children's health problems requiring medical attention, and stress the need for both proper screening methods for children's exposure to poly-victimization and stronger awareness of poly-victimization's effects on health conditions in healthcare clinics.

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## In the NEWS

[Anti Asthma Drugs Market Shares Analysis, Key Development Strategies and Forecasts Till 2023](#). *Market Research Future Reports*. April 26, 2019.

Eakin, Michelle. [Pediatric Asthma Medication Readiness in the Home](#). *Physician's Weekly*. April 26, 2019.

Cimons, Marlene. [Your car's exhaust is giving kids asthma](#). *Popular Science*. April 25, 2019.

Haelle, Tara. [Inhaler Errors Common Among Kids Hospitalized for Asthma](#). *Medscape*. April 25, 2019.

Barcelona Institute for Global Health. [Particulate matter takes away 125,000 years of healthy life from Europe's child population](#). *Medical Xpress*.

Bodkin, Henry. [Asthma-causing bugs found in e-cigarettes for the first time](#). *The Telegraph*. April 24, 2019.

[City releases second Pittsburgh Equity Indicators Report](#). *South Pittsburgh Reporter*. April 23, 2019.

Trice Edney, Hazel. [Environmental racism grows as environmental groups turn increasingly white](#). *The Louisiana Weekly*. April 23, 2019.

University of Wisconsin, Madison. [Study identifies why some colds cause asthma attacks in children](#). *Medical Xpress*. April 23, 2019.

Gardiner, Beth. [How Scientists Discovered What Dirty Air Does to Kids' Health](#). *CityLab*. April 22, 2019.