



Hanna Maria Knihtila

- Affiliate, Department Funds
- Fellow in Pediatrics - Allergy and Clinical Immunology

Bio

BIO

Hanna Knihtilä is an Allergy and Immunology Fellow at Stanford. She gained her MD in 2017 and PhD in 2018 from the University of Helsinki, Finland. She then completed her 2-year postdoctoral research fellowship at the Channing Division of Network Medicine, Brigham and Women's Hospital and Harvard Medical School, before joining Stanford for her residency and fellowship training.

CLINICAL FOCUS

- Fellow

HONORS AND AWARDS

- Clinical Trainee Award, Stanford Maternal & Child Health Research Institute (MCHRI) (2025-2026)
- First place, Clemens von Pirquet Award, American College of Allergy, Asthma & Immunology (ACAAI) (2025)
- Best Scientific Abstract, Pediatric Pulmonary Training Directors Association (PEPTDA) (2022)
- Pediatric Resident Development Scholarship (PRDS), American Thoracic Society (ATS) (2022)
- Pediatrics Resident Research Grant, Stanford Pediatrics Residency Program (2022)
- Postdoctoral research grant award, The Pediatric Research Foundation (2020-2022)
- Postdoctoral research grant award, The Jane and Aatos Erkko Foundation (2019-2022)
- Postdoctoral research grant award, The Paulo Foundation (2019-2021)
- Postdoctoral research grant award, The Finnish Society of Allergology and Immunology (2019)
- International Trainee Scholarship, American Thoracic Society (ATS) (2018)
- Research grant award, The Pediatric Research Foundation (2017)
- Research grant award, Emil Aaltonen Foundation (2016)
- Top 3 Licentiate of Medicine Thesis Award, University of Helsinki (2016)
- Research grant award, The Finnish Medical Foundation (2015, 2017)
- Research grant award, The Finnish Allergy Research Foundation (2015, 2017)
- Best Poster, European Academy of Allergy and Clinical Immunology (EAACI) (2015)
- Research grant award, Finnish Allergy and Asthma Federation (2015)
- Travel Grant Award, European Academy of Allergy and Clinical Immunology (EAACI) (2015)
- Research grant award, Ida Montin's Foundation (2014, 2016, 2017, 2018)
- Research grant award, Väinö and Laina Kivi's Foundation (2014, 2016)

- Research grant award, The Research Foundation of Pulmonary Diseases (2014, 2015, 2016, 2017, 2018)
- Research grant award, University of Helsinki (2014)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Thoracic Society (2026 - present)
- Member, American Academy of Allergy, Asthma, and Immunology (AAAAI) (2023 - present)
- Member, American College of Allergy, Asthma, and Immunology (ACAAI) (2023 - present)
- Member, American Academy of Pediatrics (AAP) (2021 - present)

PROFESSIONAL EDUCATION

- Fellowship, Stanford University School of Medicine , Allergy and Immunology
- Residency, Stanford University School of Medicine , Pediatrics (2024)
- Postdoctoral Research Fellowship, Brigham and Women's Hospital and Harvard Medical School (2021)
- PhD, University of Helsinki, Faculty of Medicine (2018)
- MD, University of Helsinki, Faculty of Medicine (2017)

Publications

PUBLICATIONS

- **Preschool Impulse Oscillometry Predicts Active Asthma and Impaired Lung Function at School Age.** *The Journal of allergy and clinical immunology*
Knihtilä, H. M., Stubbs, B. J., Carey, V. J., Laranjo, N., Zeiger, R. S., Bacharier, L. B., O'Connor, G. T., Weiss, S. T., Litonjua, A. A.
2024
- **Maternal vitamin D status modifies the effects of early life tobacco exposure on child lung function.** *The Journal of allergy and clinical immunology*
Knihtilä, H. M., Huang, M., Prince, N., Stubbs, B. J., Carey, V. J., Laranjo, N., Mirzakhani, H., Zeiger, R. S., Bacharier, L. B., O'Connor, G. T., Litonjua, A. A., Weiss, S. T., Lasky-Su, et al
2022
- **Author Correction: Metabolomic profiling reveals extensive adrenal suppression due to inhaled corticosteroid therapy in asthma.** *Nature medicine*
Kachroo, P., Stewart, I. D., Kelly, R. S., Stav, M., Mendez, K., Dahlin, A., Soeteman, D. I., Chu, S. H., Huang, M., Cote, M., Knihtilä, H. M., Lee-Sarwar, K., McGeachie, et al
2022
- **Low gestational vitamin D level and childhood asthma are related to impaired lung function in high-risk children.** *The Journal of allergy and clinical immunology*
Knihtilä, H. M., Stubbs, B. J., Carey, V. J., Laranjo, N., Chu, S. H., Kelly, R. S., Zeiger, R. S., Bacharier, L. B., O'Connor, G. T., Lasky-Su, J., Weiss, S. T., Litonjua, A. A.
2021; 148 (1): 110-119.e9
- **Maternal 17q21 genotype influences prenatal vitamin D effects on offspring asthma/recurrent wheeze.** *The European respiratory journal*
Knihtilä, H. M., Kelly, R. S., Brustad, N., Huang, M., Kachroo, P., Chawes, B. L., Stokholm, J., Bønnelykke, K., Pedersen, C. T., Bisgaard, H., Litonjua, A. A., Lasky-Su, J. A., Weiss, et al
2021; 58 (3)
- **Demographic Factors Influencing Pediatric Food Allergy Treatment Decisions**
Knihtila, H., Shaw, B., Hernandez, J., Arroyo, A., Tirumalasetty, J.
MOSBY-ELSEVIER.2026
- **Pets, furry animal allergen components, and asthma in childhood** *CLINICAL AND TRANSLATIONAL ALLERGY*
Lajunen, K., Maatta, A. M., Malmstrom, K., Kalliola, S., Knihtila, H., Savinko, T., Malmberg, L., Pelkonen, A. S., Makela, M. J.
2024; 14 (2)

- **Cord blood DNA methylation signatures associated with preeclampsia are enriched for cardiovascular pathways: insights from the VDAART trial.** *EBioMedicine*
Knihtilä, H. M., Kachroo, P., Shadid, I., Raissadati, A., Peng, C., McElrath, T. F., Litonjua, A. A., Demeo, D. L., Loscalzo, J., Weiss, S. T., Mirzakhani, H.
2023; 98: 104890
- **The association of prenatal C-reactive protein and interleukin-8 levels with maternal characteristics and preterm birth.** *American journal of perinatology*
Chen, Y. S., Mirzakhani, H., Knihtila, H., Fichorova, R., Luu, N., Laranjo, N., Kelly, R., Weiss, S. T., Litonjua, A. A., Lee-Sarwar, K.
2022
- **The association of prenatal C-reactive protein levels with childhood asthma and atopy.** *The journal of allergy and clinical immunology. In practice*
Chen, Y. S., Lee-Sarwar, K. A., Mirzakhani, H., O'Connor, G. T., Bacharier, L. B., Zeiger, R. S., Knihtila, H. M., Jha, A., Kelly, R. S., Laranjo, N., Fichorova, R. N., Luu, N., Weiss, et al
2022
- **Characteristics and Mechanisms of a Sphingolipid-associated Childhood Asthma Endotype.** *American journal of respiratory and critical care medicine*
Rago, D., Pedersen, C. T., Huang, M., Kelly, R. S., Gürdeniz, G., Brustad, N., Knihtilä, H., Lee-Sarwar, K. A., Morin, A., Rasmussen, M. A., Stokholm, J., Bønnelykke, K., Litonjua, et al
2021; 203 (7): 853-863
- **Metabolomic differences in lung function metrics: evidence from two cohorts.** *Thorax*
Kelly, R. S., Stewart, I. D., Bayne, H., Kachroo, P., Spiro Iii, A., Vokonas, P., Sparrow, D., Weiss, S. T., Knihtilä, H. M., Litonjua, A. A., Wareham, N. J., Langenberg, C., Lasky-Su, et al
2021
- **Long-term Social Outcomes After Congenital Heart Surgery.** *Pediatrics*
Raissadati, A., Knihtilä, H., Pätilä, T., Nieminen, H., Jokinen, E.
2020; 146 (1)
- **Maternal 17q21 Genotype Influences the Protective Effect of Prenatal Vitamin D Supplementation Against Asthma in Offspring**
Knihtila, H., Kelly, R. S., Brustad, N., Huang, M., Kachroo, P., Chawes, B. L., Stokholm, J., Bonnelykke, K., Pedersen, C. T., Bisgaard, H., Litonjua, A. A., Lasky-Su, J. A., Weiss, et al
AMER THORACIC SOC.2020
- **Vitamin D and Epigenome-Wide Cord Blood DNA Methylation in the Vitamin D Antenatal Asthma Reduction Trial**
Knihtila, H., Kachroo, P., Litonjua, A. A., Peng, C., Weiss, S. T., Demeo, D. L.
AMER THORACIC SOC.2020
- **Serum chitinase-like protein YKL-40 is linked to small airway function in children with asthmatic symptoms.** *Pediatric allergy and immunology : official publication of the European Society of Pediatric Allergy and Immunology*
Knihtilä, H., Kotaniemi-Syrjänen, A., Pelkonen, A. S., Savinko, T., Malmberg, L. P., Mäkelä, M. J.
2019; 30 (8): 803-809
- **The effect of sildenafil on pleural and peritoneal effusions after the TCPC operation.** *Acta anaesthesiologica Scandinavica*
Koski, T. K., Suominen, P. K., Raissadati, A., Knihtilä, H. M., Ojala, T. H., Salminen, J. T.
2019; 63 (10): 1384-1389
- **Small airway function in children with mild to moderate asthmatic symptoms.** *Annals of allergy, asthma & immunology : official publication of the American College of Allergy, Asthma, & Immunology*
Knihtilä, H., Kotaniemi-Syrjänen, A., Pelkonen, A. S., Mäkelä, M. J., Malmberg, L. P.
2018; 121 (4): 451-457
- **Assessment of Small Airway Function – Application of Impulse Oscillometry in Young Children with Asthmatic Symptoms**
Knihtilä, H.
University of Helsinki, Faculty of Medicine. Helsinki.
2018 ; Dissertationes Scholae Doctoralis Ad Sanitatem Investigandam Universitatis Helsinkiensis (URN:ISSN:2342-317X): 1-93

- **Assessing Lung Function in Healthy and Asthmatic Children Using Impulse Oscillometry, Spirometry, Multiple Breath Washout, and Extended Exhaled Nitric Oxide**
Knihtila, H., Kotaniemi-Syrjänen, A., Pelkonen, A. S., Makela, M. J., Malmberg, P.
AMER THORACIC SOC.2018
- **Small airway oscillometry indices: Repeatability and bronchodilator responsiveness in young children.** *Pediatric pulmonology*
Knihtilä, H., Kotaniemi-Syrjänen, A., Pelkonen, A. S., Kalliola, S., Mäkelä, M. J., Malmberg, L. P.
2017; 52 (10): 1260-1267
- **Sensitivity of newly defined impulse oscillometry indices in preschool children.** *Pediatric pulmonology*
Knihtilä, H., Kotaniemi-Syrjänen, A., Pelkonen, A. S., Kalliola, S., Mäkelä, M. J., Malmberg, L. P.
2017; 52 (5): 598-605
- **Within-Measurement Variability Of Respiratory Impedance And Bronchial Hyperresponsiveness Using Impulse Oscillometry In Young Asthmatic Children**
Knihtila, H., Kotaniemi-Syrjänen, A., Pelkonen, A. S., Kalliola, S., Makela, M. J., Malmberg, L. P.
AMER THORACIC SOC.2017
- **Within- and between-visit repeatability of impulse oscillometry in healthy and symptomatic young children**
Knihtila, H., Kotaniemi-Syrjänen, A., Pelkonen, A., Kalliola, S., Makela, M., Malmberg, P.
EUROPEAN RESPIRATORY SOC JOURNALS LTD.2016
- **Preschool oscillometry and lung function at adolescence in asthmatic children.** *Pediatric pulmonology*
Knihtilä, H., Kotaniemi-Syrjänen, A., Mäkelä, M. J., Bondestam, J., Pelkonen, A. S., Malmberg, L. P.
2015; 50 (12): 1205-13
- **Reference values of oscillometric indices assessing small airway function in Finnish preschool children**
Knihtila, H., Kotaniemi-Syrjänen, A., Makela, M. J., Kalliola, S., Pelkonen, A. S., Malmberg, L. P.
WILEY-BLACKWELL.2015: 190-191

PRESENTATIONS

- Cord Blood DNA Methylation Signatures Associated with Preeclampsia Are Enriched for Cardiovascular Pathways - Keystone Symposia, Heart Development and Disease: From Genes to Cures (February 13, 2023)
- Preschool Impulse Oscillometry, Respiratory Symptoms, and School-Age Asthma and Lung Function - American Thoracic Society International Conference 2022 (5/2022)
- Driving Metabolomic Signatures for Clinical Asthma Subtypes: Important Distinctions Leading to Personalized Treatment in the TOPMed Initiative - American Thoracic Society International Conference 2022 (5/2022)
- Cumulative tobacco smoke exposure during pregnancy and early childhood is associated with lung function deficits at age 6 years - American Thoracic Society International Conference 2021 (5/2021)
- Maternal 17q21 genotype influences the protective effect of prenatal vitamin D supplementation against asthma in offspring - American Thoracic Society International Conference 2020 (5/2020)
- Vitamin D and epigenome-wide cord blood DNA methylation in the Vitamin D Antenatal Asthma Reduction Trial - American Thoracic Society International Conference 2020 (5/2020)
- Assessing lung function in healthy and asthmatic children using impulse oscillometry, spirometry, multiple breath washout, and extended exhaled nitric oxide - American Thoracic Society International Conference 2018 (5/2018)
- Within-measurement variability of respiratory impedance and bronchial hyperresponsiveness using impulse oscillometry in young asthmatic children - American Thoracic Society International Conference 2017 (5/2017)
- Within- and between-visit repeatability of impulse oscillometry in healthy and symptomatic young children - European Respiratory Society International Congress 2016 (9/2016)
- Reference values of oscillometric indices assessing small airway function in Finnish preschool children - European Academy of Allergy and Clinical Immunology Congress 2015 (6/2015)
- Small airway obstruction assessed by impulse oscillometry in healthy and symptomatic preschool children - European Academy of Allergy and Clinical Immunology, Allergy School on Early Diagnosis and Treatment of Allergic Diseases in Childhood (3/2015)
- Impaired lung function in asthmatic schoolchildren – Evaluation of risk factors - European Academy of Allergy and Clinical Immunology, Pediatric Allergy and Asthma Meeting (10/2013)