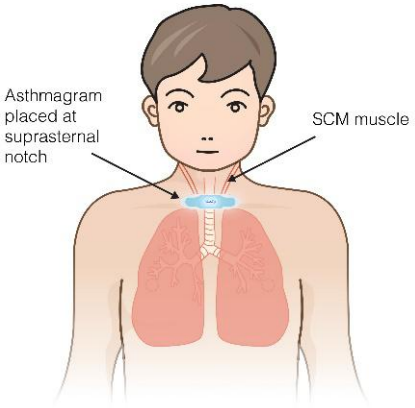
Asthmagram: A Wearable Device for the Diagnosis and Assessment of Asthma [LAB0108]

Background

- Nearly 28 million people in the US have asthma which equal 1 in 12 people. Almost 5 million children suffer from asthma, making it the most prevalent chronic childhood disease. Non-hispanic black children are twice as likely to have asthma compared to white children.
- Asthma exacerbations can lead to emergency room visits, hospitalizations, school absences, and parental work disruption.
- The total cost of pediatric asthma was approximately $6 billion in 2019.
- Effective asthma therapy relies on a detailed, accurate account of symptoms.
- However, it may be difficult for children to reliably recall their asthma episodes or symptoms.
- A device that accurately measures and records asthma symptoms would greatly improve the diagnosis and treatment of asthma in children.

Innovation

- Dr. Ruey-Kang Chang has developed *Asthmagram*, a compact, waterproof device that contains wearable sensors for non-intrusive monitoring of asthma symptoms.
- The device attaches to the child's supra-stenal notch and resembles a common bandage.
- The device provides two weeks of continuous data, including recordings of respiratory sounds and force signals.
- A report is generated and sent to the ordering physician in a HIPPA-compliant manner.



Advantage

- Compact device can monitor asthma symptoms continuously for two weeks
- Accurate and objective assessment of child's condition

Applications

- Provides reliable accounts of asthma symptoms for accurate diagnosis and proper treatment administration
- Identifies children at risk for morbidity
- Monitors response to therapy

Lead Inventor: Ruey-Kang Chang, MD, MPH

IP Status

- U.S. National Stage Application US 10,765,368 / 18/922,122
- Chinese National Stage Application CN 106999096 B

For partnering opportunities and collaborations:
(310) 222-3635 • rubayath.mohsen@lundquist.org

THE LUNDQUIST INSTITUTE