lung health™ foundation

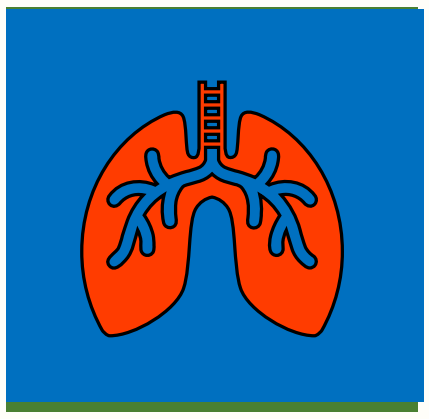
BREATHE

OntarioTech Health Sciences

FENO4 THOUGHT

WHAT CHILDREN WITH ASTHMA CAN TELL US

What is Fractional Exhaled Nitric Oxide (FeNO)?



1 IN 4

CHILDREN HAVE ASTHMA IN ONTARIO.[1]

FeNO: concentration of nitric oxide (NO) a gas produced in the lungs. [1,2]

What FeNO measures:

Exhaled breath, expressed in parts per billion **(ppb)**, & used as a non-invasive biomarker in airway inflammation.[1,2]

LUNGS -> BREATH -> MEASURE -> UNDERSTAND

ONE BREATH. BIOMARKER. RESULT. CARE.

Asthma is:

#1 CHRONIC CONDITION IN CHILDREN[1]

~10 *seconds*

EXHALE TIME[2]

~50 *mL/s*

FLOW RATE [3]

LOW FeNO LEVEL	INTERMEDIATE/INCREASING FeNO LEVEL*	HIGH FeNO LEVEL
<25 ppb in ≥12 years of age <20 ppb in <12 years of age	25-50 ppb in ≥12 years of age 20-35 ppb in <12 years of age	>50 ppb in ≥12 years of age >35 ppb in <12 years of age

FENO IMPLICATIONS IN CHILDREN

PERSONALIZED ASTHMA CARE PLAN. [1,2]

EARLY DETECTION BEFORE SYMPTOMS EXACERBATIONS [3]

DID YOU KNOW?

Intake of Nitrate-rich food can increase FeNO readings.[1 - 3]

References:

1. Mihai A, Ioniuc IK, Murgu AM, Lupu A, Frăsinariu OE, Spoială EL, et al. Breathing out the truth: What fractional exhaled nitric oxide really tells us about pediatric asthma. Diagnostics (Basel) [Internet]. 2026 May 25;16(11):1612.
2. Murugesan N, Saxena D, Dileep A, Adrish M, Hanania NA. Update on the role of FeNO in asthma management. Diagnostics (Basel) [Internet]. 2023 Apr 15;13(8):1428.
3. NIH. What is fractional exhaled nitric oxide (FeNO) testing? [Internet]. 2025

Done By: Samaan S.