



FeNO Case Study: Arthur



Arthur, 8 years old
Initial FeNO result: 59 ppb
Follow-up FeNO result: 33 ppb

Symptoms on examination:

- Nose blocked
- Inhaler technique moderate with pMDA and Aerochamber

Arthur's Background:

- Has a history of asthma and eczema
- Has relatives with asthma
- Restarted a nasal steroid for allergic rhinitis
- Is NOT exposed to second-hand smoke
- Has suffered poor control over the past few months and has required oral Prednisolone 7 months ago and again 2 months ago
- Is prescribed a low-dose inhaled steroid (1 puff twice daily - missed occasionally)
- Requires Salbutamol 3-4 times daily
- Wakes at night approximately once a month
- Is symptomatic on waking daily
- Identified triggers include cold air, infection, and sometimes exercise

How FeNO Helped:

Arthur's initial FeNO measured at **59 ppb**. This high FeNO measurement identified the need to improve inhaler technique; he was educated about the inflammatory mechanism of asthma and action of medicating has been explained. His inhaler technique was optimised with the following points corrected; fully exhale before using inhaler, shake pMDI, and forming a good seal with his lips.

After all points had been addressed and corrected, in his 4 week follow-up, Arthur's FeNO value had fallen to **33 ppb** (44% decrease from baseline reading), showing significantly reduced airway inflammation, indicating better controlled asthma.

Summary:



At Arthur's first visit, his FeNO value was 59 ppb. Based on his FeNO value and symptom evaluation, Arthur has established asthma with poor control. Arthur was instructed on how to improve his inhaler technique. A follow up appointment was booked for 4 weeks. When Arthur attended his follow-up appointment, his FeNO value had fallen to 33 ppb.



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