Alternative diagnoses in wheezy children:

Clinical clues and investigations for secondary care

adapted from BTS Asthma Guidelines 2016

Clinical clue	Possible diagnosis	Action
Symptoms present from birth or perinatal lung problem	• Cystic fibrosis • Chronic lung disease of prematurity • Ciliary dyskinesia • Developmental lung anomaly	CXR Sweat test Overnight saturations NO if available Consider tertiary referral
Family history of unusual chest disease	• Cystic fibrosis • Neuromuscular disorder	Sweat test Creatinine kinase (CK); Neuromuscular examination
Severe upper respiratory tract disease	• Immunodeficiency • Ciliary dyskinesia	CXR FBC, Igs and specific abs Consider tertiaty referral
Persistent moist cough	• Cystic fibrosis • Bronchiectasis • Protracted bacterial bronchitis • Recurrent aspiration • Host defence disorder • Ciliary dyskinesia	CXR FBC, immunoglobulins NO if available Spirometry and reversibility Consider tertiaty referral
Excessive vomiting	Gastro-oesophageal reflux (with or without aspiration)	CXR Trial of reflux medication Consider pH probe Consider Barium studies
Paroxysmal coughing bouts leading to vomiting	Pertussis	FBC, pertussis serology Pernasal swab
Dysphagia	Swallowing problems (with or without aspiration)	CXR Barium swallow Consider ENT referral
Breathlessness with light headedness or peripheral tingling	• Dysfunctional breathing, panic attacks	Reassure
Inspiratory stridor	Tracheal or laryngeal disorder	Consider tertiaty referral
Abnormal voice or cry	Laryngeal problem	Consider tertiaty referral
Focal signs in chest	• Developmental anomaly • Post-infective syndrome • Bronchiectasis • Tuberculosis	CXR FBC, Igs, specific Abs Consider tertiaty referral
Finger clubbing	• Cystic fibrosis • Bronchiectasis	CXR FBC, Igs, specific Abs Consider tertiaty referral
Failure to thrive	• Cystic fibrosis • Immunodeficiency • Gastro-oesophageal reflux	CXR FBC, Igs, specific Abs NO if available Spirometry Consider GORD investigations Consider tertiaty referral
Snoring, restless sleeper, day time insomnolence	Sleep Disordered Breathing	CXR Overnight oximetry

Alternative diagnoses to consider: "All is not what it wheezes to be"

Diagnosis is difficult

We cannot agree on what wheeze is.

- ✓ There are different phenotypes, broadly allergic and infective.
- ✓ There is no single test for asthma.

Categorise a child as having a low, intermediate or high probability of asthma.

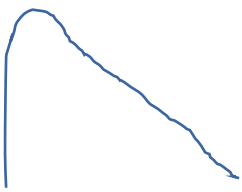
- ✓ Keep an open mind
- ✓ The younger the child, the less likely it is to be asthma, especially under 2 years old.
- ✓ A child with interval symptoms, i.e. symptoms between colds, is more likely to have asthma

What Investigations Help?

- ✓ Any that assists an objective diagnosis
- ✓ A therapeutic trial of treatment can be a useful tool to help confirm or exclude the diagnosis of asthma as follows:
  - Bronchodilator (salbutamol) 500 micrograms
  - 8 weeks clenil modulite® via spacer THEN REVIEW.
  - Montelukast® in child who does not tolerate inhaler THEN REVIEW.
  - Prednisolone 20 mg OD in the under 5's, 40 mg OD in the over 5 for 2 weeks
  - Where infection is a possibility, amoxicillin for 2 weeks
- ✓ It is essential to review the child at the end of the trial and objectively record any improvements. The following supports a diagnosis of asthma:
  - FEV_1 or PE
  - FR (change > 15%) 25 minutes after administration of bronchdilator
  - FEV_1, or PEFR (change > 15%), resolution of wheeze or cough after 8 weeks clenil

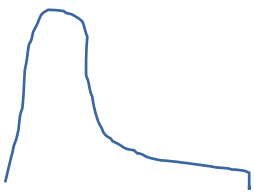
Flow Volume Loop Appearances.

Normal



Small Airway Obstruction

eg asthma



Large Airway Obstruction

eg Tracehomalacia