Algorithm B Objective tests for asthma in children and young people aged 5 to 16

Order of tests

Interpretation of test results for children and young people aged 5 to 16 with symptoms suggestive of asthma

 Perform spirometry in children and young people with symptoms of asthma

 Consider BDR test if spirometry shows an obstruction

If a child is unable to perform objective tests:

- treat based on observation and clinical judgement and
- try doing the tests again every 6 to 12 months

If diagnostic uncertainty remains after spirometry and BDR, consider FeNO

If diagnostic uncertainty remains after FeNO, monitor peak flow variability for 2 to 4 weeks

Abbreviations:

FeNO, fractional exhaled nitric oxide BDR, bronchodilator reversibility

Does spirometry show an obstruction? Is there reversible airflow Yes -> obstruction? Are FeNO levels 35 ppb Are FeNO levels 35 ppb or more? or more? No Yes No Yes Is there variability in peak Is there variability in peak Is there variability in peak Yesflow readings? flow readings? flow readings? Yes No Yes No No Consider Suspect Suspect alternative asthma and asthma and diagnoses review review and referral diagnosis Refer for diagnosis Diagnose Diagnose for specialist specialist after after with asthma with asthma assessment treatment assessment treatment

This algorithm is based on recommendations from NICE's guideline on asthma: diagnosis, monitoring and chronic asthma management (2017)

Positive test thresholds

Obstructive spirometry: FEV1/FVC ratio less than 70% (or below the lower limit of normal if available)

FeNO: 35 ppb or more

BDR: improvement in FEV1 of 12% or more Peak flow variability: variability over 20%

