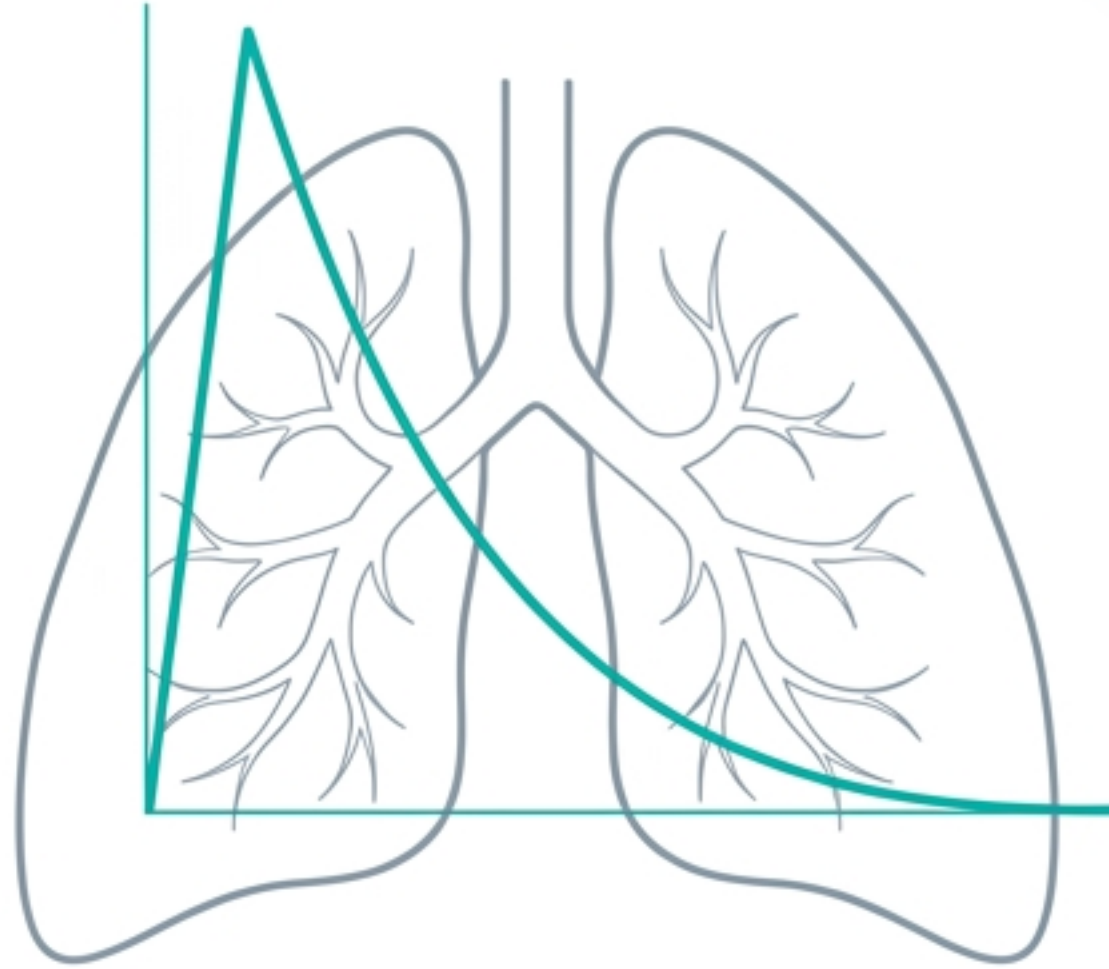




Global Strategy for Asthma Management: 2019 Clinical Blueprint

A visual diagnostic pathway based on the GINA 2019 Guidelines update.

The 2019 Paradigm Shift in Asthma Management



Old Standard (Pre-2019)
SABA-only treatment
(Short-Acting Beta2-Agonists)

No longer recommended for adults and adolescents due to strong evidence of increased risk for severe exacerbations and asthma-related death.



New Standard (GINA 2019)
**ICS-containing
controller treatment**
(Inhaled Corticosteroids)

All adults and adolescents should receive either symptom-driven (in mild asthma) or daily ICS treatment. Preferred Step 1 & 2 option: As-needed low dose ICS-formoterol.

Core Takeaway: This population-level risk reduction strategy aims to eliminate severe exacerbations with very low-dose, targeted intervention.

Redefining Asthma: The Diagnostic Equation

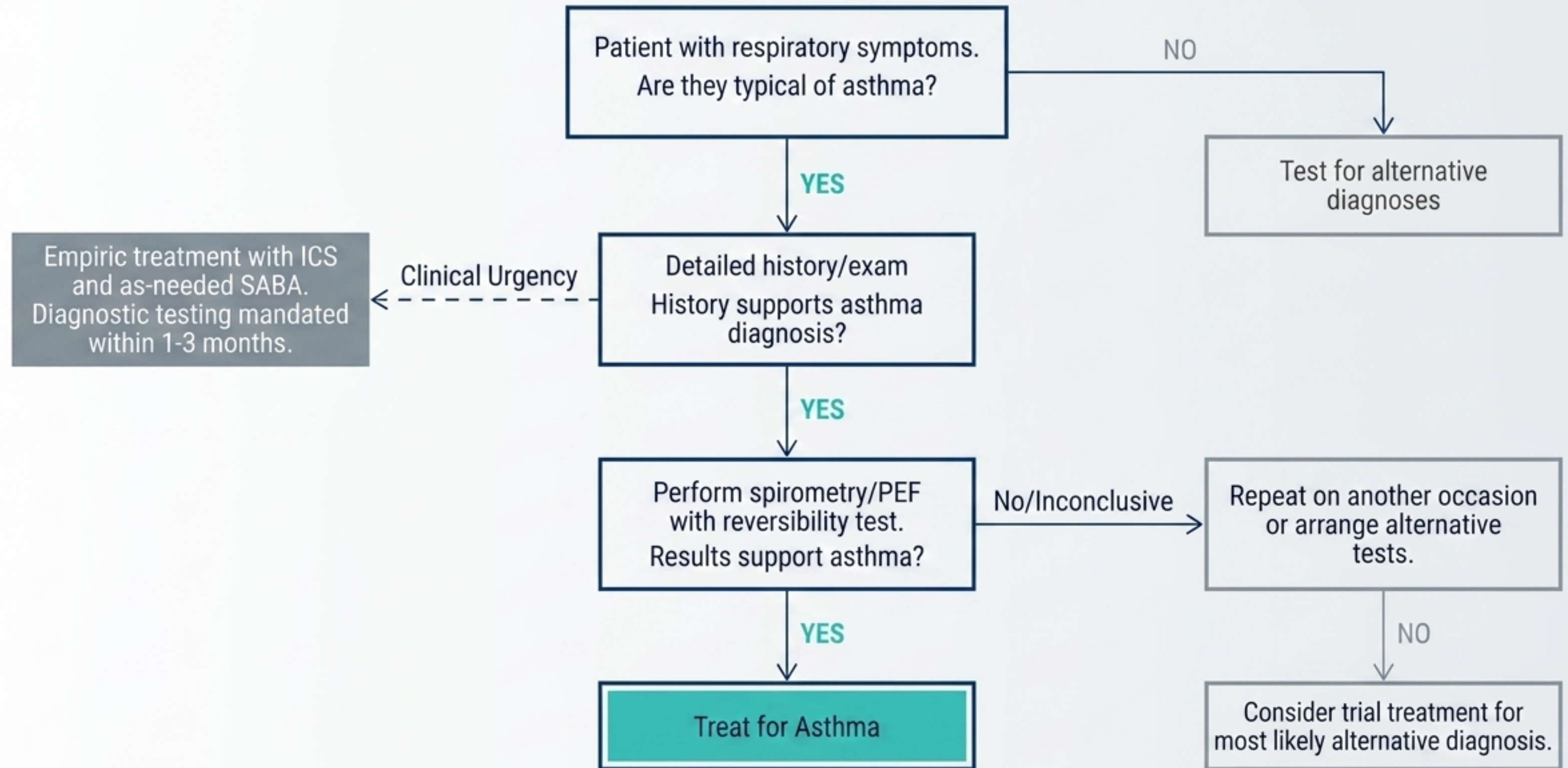


Asthma is a heterogeneous disease, usually characterized by chronic airway inflammation. While airflow limitation is initially variable, it may become persistent later in the disease course.

The Phenotype Matrix

CLINICAL PHENOTYPE	PATIENT PROFILE & CELLULAR MARKER	TYPICAL TREATMENT RESPONSE
Allergic Asthma	Commences in childhood; family history of eczema/rhinitis. Eosinophilic airway inflammation.	Usually responds well to ICS treatment.
Non-Allergic Asthma	Not associated with allergy. Neutrophilic, eosinophilic, or paucigranulocytic profile.	Often demonstrates less short-term response to ICS.
Adult-Onset (Late-Onset)	Presents in adult life (particularly women). Tend to be non-allergic. Must rule out occupational exposures.	Often requires higher ICS doses or is relatively refractory.
Persistent Airflow Limitation	Long-standing asthma leading to incompletely reversible limitation. Driven by airway wall remodeling.	-
Asthma with Obesity	Prominent respiratory symptoms with little eosinophilic airway inflammation.	-

The Diagnostic Pathway (Initial Presentation)



Clinical Assessment: Symptom Patterns

Rule In: Increases Probability



- More than one symptom (wheeze, shortness of breath, cough, chest tightness).
- Symptoms often worse at night or in the early morning.
- Symptoms vary over time and in intensity.
- Triggered by viral infections, exercise, allergens, weather changes, laughter, or irritants.

Rule Out: Decreases Probability



- Isolated cough with no other respiratory symptoms (especially in adults).
- Chronic production of sputum.
- Shortness of breath associated with dizziness, light-headedness, or peripheral tingling.
- Chest pain.
- Exercise-induced dyspnea with noisy inspiration.

The 'Test Before Treating' Imperative



(2% have serious misdiagnosed cardiorespiratory conditions).

The Statistic

25–35% of patients with a diagnosis of asthma in primary care cannot be confirmed as having asthma upon subsequent objective testing.

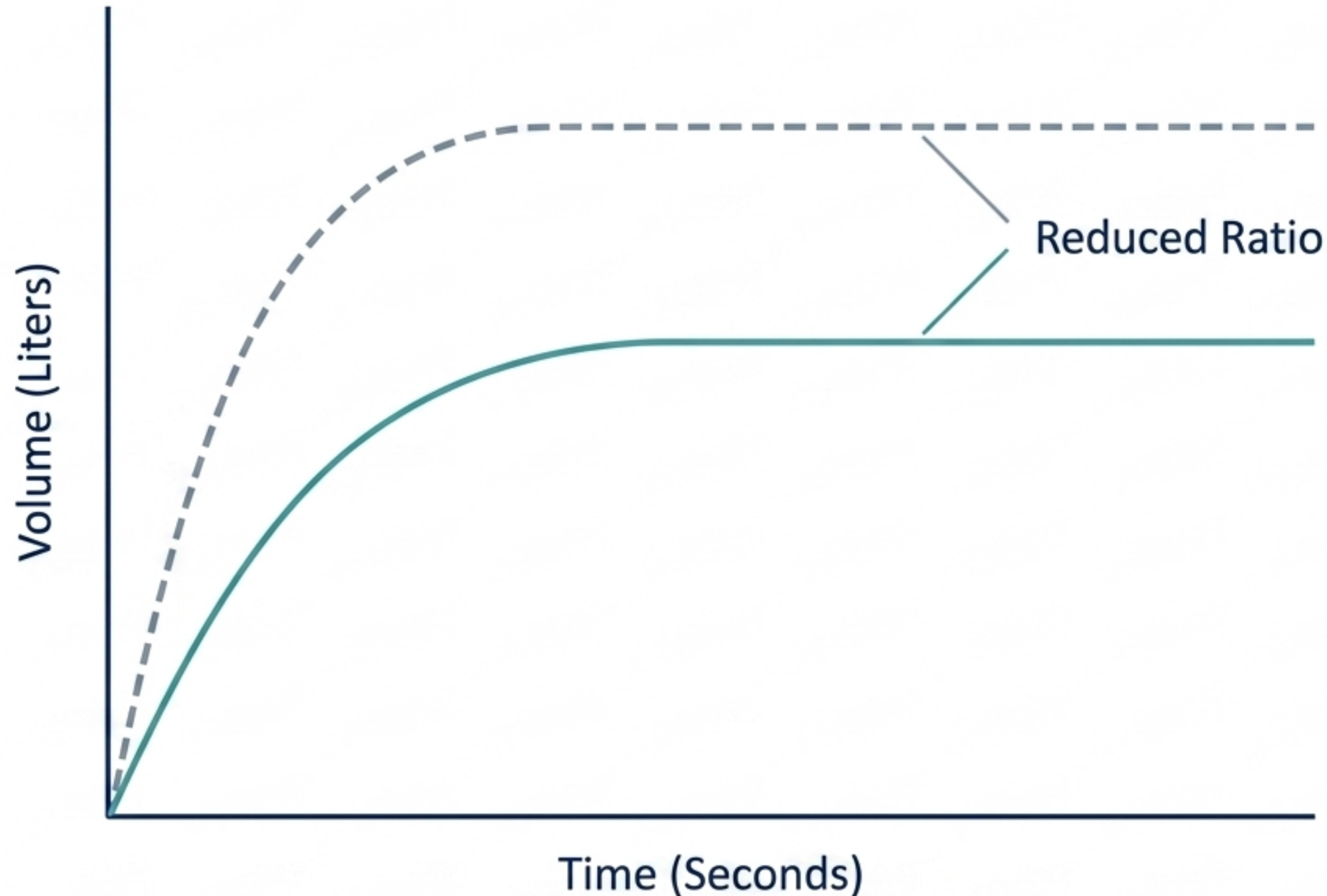
The Clinical Rule

Document the evidence for asthma *before* starting controller treatment whenever possible.

The Rationale

Features characteristic of asthma improve with treatment. Controller medications obscure natural variability, making it significantly more difficult to confirm the diagnosis retrospectively.

Objective Measurement I: Baseline Airflow Limitation



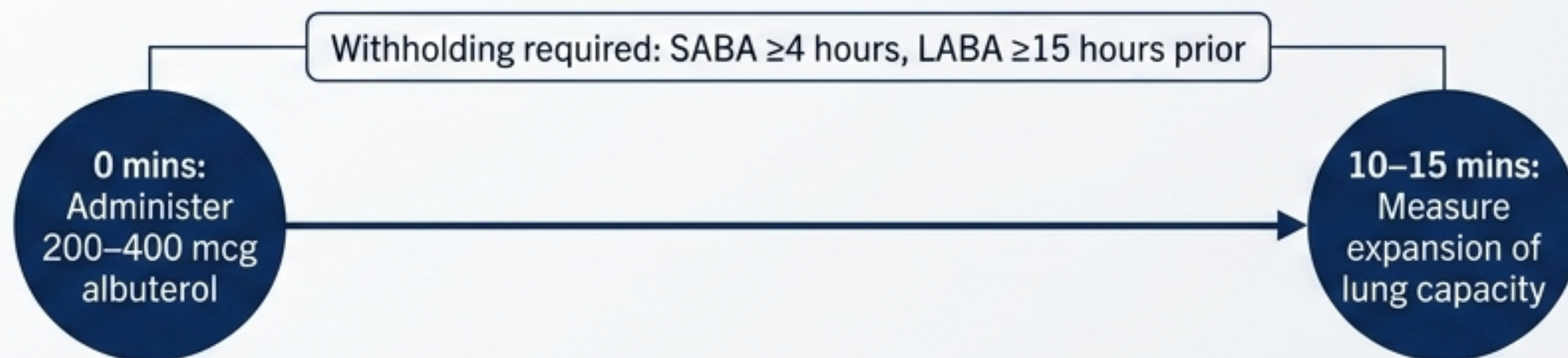
Metric
FEV1 / FVC Ratio

Adult Threshold
Less than 0.75 – 0.80

Child Threshold
Less than 0.90

Clinical Note: A reduced FEV1 can be found in many lung diseases, but a reduced *ratio* of FEV1 to FVC is the key indicator of expiratory airflow limitation.

Objective Measurement II: Bronchodilator Reversibility



Adult Positive Test

>12% AND >200 mL

Increase in FEV1 from baseline.
(Greater confidence if >15% and >400 mL).

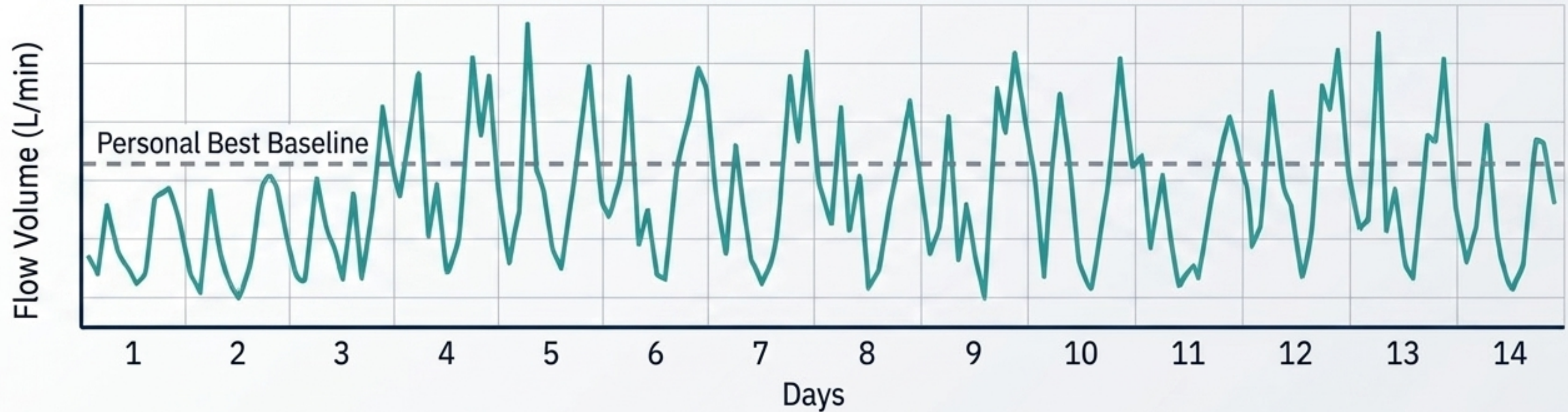
Child Positive Test

>12% predicted

Increase in FEV1 from baseline.

Caveat: Reversibility may be lost during severe exacerbations,
viral infections, or in long-standing asthma.

Objective Measurement III: Diurnal PEF Variability



Home Tracking

Twice-daily PEF tracking over 2 weeks using the **same meter** (meters can vary by up to 20%).

$$\frac{(\text{Day's highest} - \text{Day's lowest})}{\text{Mean of day's highest and lowest}}$$

Adults

>10%

Average daily diurnal variability

Children

>13%

Average daily diurnal variability

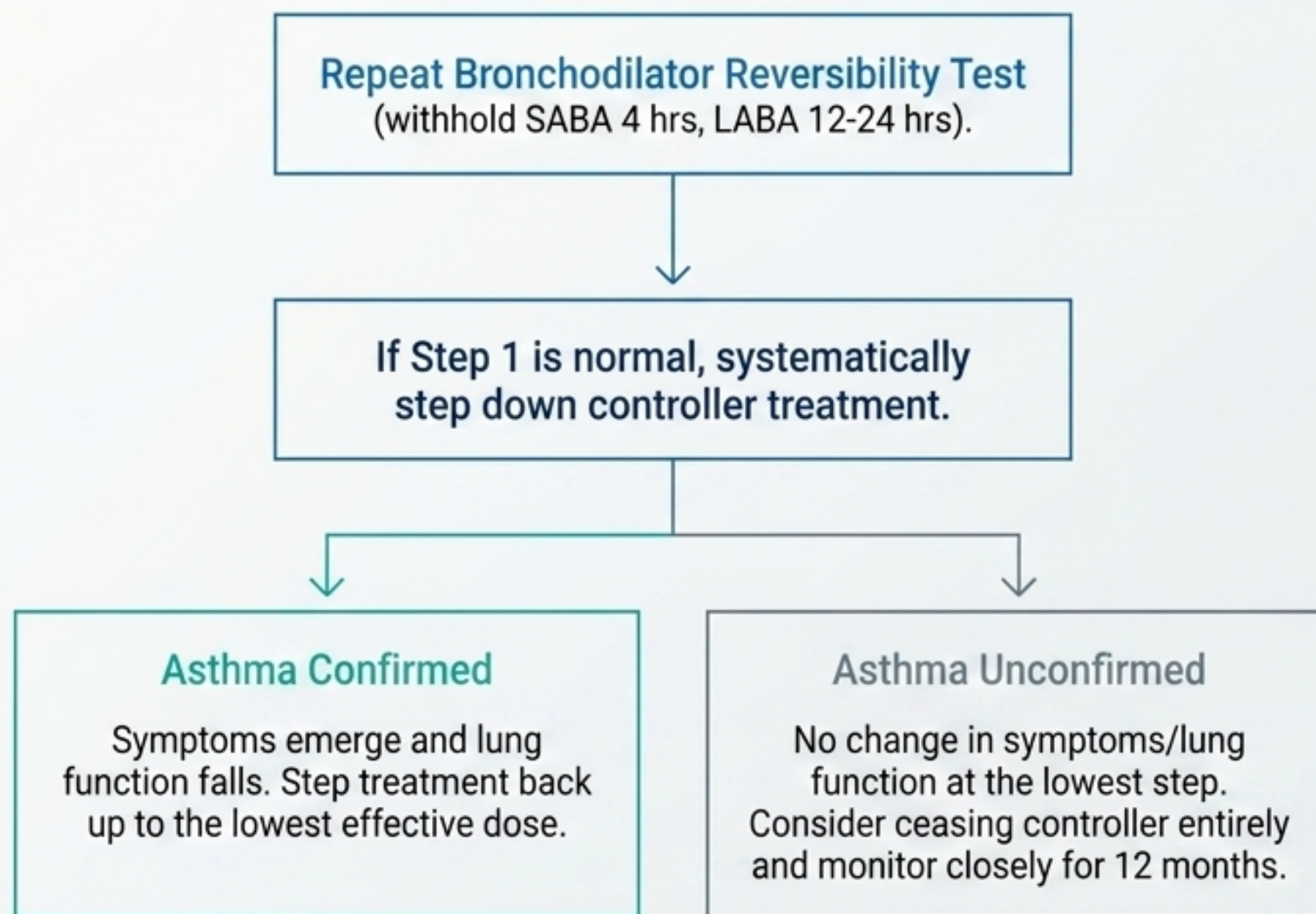
Clinical Note: Predicted normal ranges have limitations; the patient's own best reading ('personal best') should be used as their normal baseline.

Objective Measurement IV: Provocation & Alternative Testing

The 4-Week Anti-Inflammatory Trial	Exercise Challenge	Bronchial Provocation (Adults)
4 weeks of ICS treatment (outside respiratory infections). Positive Test >12% and >200 mL (or PEF by >20%) from baseline.	Positive Test (Adults): Fall in FEV1 >10% and >200 mL from baseline. Positive Test (Children): Fall in FEV1 >12% predicted, or PEF >15%.	Inhaled methacholine or histamine. Positive Test Fall in FEV1 $\geq 20\%$ with standard doses. (Or $\geq 15\%$ with hyperventilation/hypertonic saline/mannitol). Moderately sensitive, but limited specificity (can be positive in allergic rhinitis or COPD).

Complex Scenarios: Patients on Controller Treatment

For patients with few symptoms, normal lung function, and no documented variable airflow limitation, but who are currently taking ICS controllers.



The 2019 Clinical Loop: Diagnosis to Management

