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Birk NPC AS is a Scandinavian pharmaceutical company with long experience in allergology and respiratory diseases. In addition to pharmaceuticals we deliver medical equipment. For more information please see

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Diagnosis of  
**asthma**  
in adults

1. European Respiratory Society Guidelines for the Diagnosis of Asthma in Adults. Louis R, Satia I, Ojanguren I, et al. Eur Respir J 2022; in press (<https://doi.org/10.1183/13993003.01585-2021>).

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# Diagnosis of asthma in adults presenting with respiratory symptoms

PARAMETERS	FEATURES	PROBABILITY OF ASTHMA		
		Not excluded	Increased	Low
Clinical history	<b>Respiratory symptoms</b> Onset in all decades of life. Episodic/chronic/acute attacks of: <ul style="list-style-type: none"> <li>Breathlessness</li> <li>Shortness of breath</li> <li>Wheeze</li> <li>Chest tightness</li> <li>Cough</li> </ul>	No single symptom or combination of symptoms is specific for asthma	Symptoms are triggered <ul style="list-style-type: none"> <li>by viral respiratory tract infection</li> <li>after exercise in cold or dry air</li> <li>during or shortly after exposure to allergens and air pollutants</li> <li>after ingestion of NSAIDs</li> </ul>	
	<b>Allergy symptoms</b> on exposure to seasonal and/or perennial allergens: <ul style="list-style-type: none"> <li>Nose: Rhinorrhoea/obstruction/itch/sneezing</li> <li>Eyes: Redness/lacrimation/itch/eyelid oedema</li> </ul>	Negative history of allergy symptoms	Respiratory symptoms triggered during or shortly after exposure to allergen(s) in individual with positive SPT or s-IgE to allergen(s)	
Clinical examination of thorax	• No current symptoms	Normal findings	Bilateral prolongation of expiration/wheeze on forced expiration	
	• Current symptoms		Bilateral wheeze/prolongation of expiration on normal- or forced expiration	No wheeze or prolongation of expiration on forced expiration
	• Acute attack		Bilateral wheeze with respiratory distress, "silent chest"	
F <sub>E</sub> NO <sub>50</sub>		25-50 ppb	> 50 ppb (ICS-responsive asthma)	< 25 ppb (ICS-responsive asthma)
Spirometry – confirm that expiratory time is ≥ 6 s in Volume-time curve	Shape of <b>expiratory</b> flow-volume loop	Normal	Concave upward	Flow limitation and flattening
	Shape of <b>inspiratory</b> flow-volume loop	Normal		Flow limitation and flattening
	FEV <sub>1</sub> /FVC ratio	> 0.7 or LLN	< 0.7 or LLN	
	FVC	> 80% predicted or LLN	< 80% predicted or LLN	
Reversibility test	FEV <sub>1</sub> /FVC ratio	< 0.7 or LLN	≥ 12% and ≥ 200 ml	
	Δ FEV <sub>1</sub> increase	≤ 12% + ≤ 200 ml	> 0.7 or LLN	
BPT (ICS naïve)	Mannitol	PD <sub>15</sub> > 635 mg	PD <sub>15</sub> ≤ 635 mg	
	Methacholine	PD <sub>20</sub> FEV <sub>1</sub> 25-400 µg	PD <sub>20</sub> FEV <sub>1</sub> < 25 µg	PD <sub>20</sub> FEV <sub>1</sub> > 400 µg
	Exercise/EVH		Δ FEV <sub>1</sub> ≥ 10% fall over 2 consecutive timepoints	Δ FEV <sub>1</sub> < 10% fall (EIA /EIB)*
SPT/s-IgE	Inhalation panel		Positive allergen SPT or s-IgE with allergy- and respiratory symptoms in allergen season	

BPT: Bronchial provocation test; SPT: skin prick test; s-IgE: specific IgE; ICS: inhaled corticosteroid; EIA/EIB: exercise-induced asthma/exercise-induced bronchoconstriction; LLN: lower limit of normal (Z-score lower than -1.64)

\* ≥ 12% increase after salbutamol from lowest FEV<sub>1</sub> or lability index ≥ 20% (Δ FEV<sub>1</sub> (%) after Salbutamol + Δ FEV<sub>1</sub> (%) post exercise/EVH) may support an EIA/EIB diagnosis