# VITAL SIGNS IN PATIENTS WITH BRONCHIAL ASTHMA

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**Annotation**: The assessment of vital signs in patients with bronchial asthma is crucial for evaluating the severity of the condition, guiding treatment decisions, and ensuring optimal management to prevent complications.
**Key words:** obstruction, airway inflammation, bronchial hyperresponsiveness, tissue oxygenation, respiratory illnesses or bacterial pneumonia.

Bronchial asthma is a chronic respiratory condition characterized by reversible airway obstruction, airway inflammation, and bronchial hyperresponsiveness. Patients with asthma often experience recurrent episodes of wheezing, coughing, chest tightness, and shortness of breath, which can range from mild to severe. Monitoring vital signs plays a pivotal role in assessing the severity of asthma exacerbations, guiding treatment decisions, and evaluating the response to therapy. Respiratory rate is a fundamental vital sign that reflects the frequency of breaths per minute. During an asthma exacerbation, the respiratory rate typically increases as patients struggle to breathe due to airway constriction and inflammation. Tachypnea, or rapid breathing, is a common manifestation of severe asthma attacks and can signify significant respiratory distress.

Heart rate, another essential vital sign, often increases during asthma exacerbations. Tachycardia occurs as a compensatory mechanism to maintain adequate tissue oxygenation in response to decreased oxygen levels and increased respiratory effort. Monitoring heart rate provides valuable insight into the patient's cardiovascular response to asthma exacerbations and helps gauge the severity of the respiratory distress. Blood pressure measurements may show slight elevations during asthma exacerbations, reflecting the body's physiological response to stress. While hypertension is not a typical feature of asthma, increased sympathetic activity and catecholamine release during acute exacerbations can lead to transient elevations in blood pressure. Monitoring blood pressure helps identify patients at risk of cardiovascular complications during severe asthma attacks and informs the management approach.

Temperature monitoring is important during asthma exacerbations to rule out concurrent infections, such as viral respiratory illnesses or bacterial pneumonia, which can trigger or exacerbate asthma symptoms. While asthma itself does not cause fever, the presence of elevated body temperature may indicate an underlying infectious process requiring appropriate treatment.

Oxygen saturation levels, measured using pulse oximetry, offer valuable insights into the adequacy of oxygenation during asthma exacerbations. Decreased oxygen saturation, or hypoxemia, is a common finding in severe asthma attacks due to impaired gas exchange secondary to airway obstruction and ventilation-perfusion mismatch. Continuous monitoring of oxygen saturation helps assess the effectiveness of bronchodilator therapy, guides the initiation of supplemental oxygen, and identifies patients at risk of respiratory failure.

Assessment of respiratory effort, including the use of accessory muscles and the presence of paradoxical breathing patterns, provides additional clinical clues about the severity of asthma exacerbations. Increased work of breathing and respiratory distress indicate significant airway obstruction and may necessitate aggressive interventions, such as mechanical ventilation, in severe cases. Peak Expiratory Flow Rate (PEFR) measurement is a valuable tool for monitoring asthma severity and response to treatment. Decreased PEFR values indicate airflow limitation and help stratify the severity of asthma exacerbations. Serial PEFR measurements enable healthcare providers to track the progression of asthma attacks and adjust treatment plans accordingly.

In addition to vital signs, clinicians should also assess the patient's level of consciousness, skin color, and overall clinical status during asthma exacerbations. Changes in mental status, cyanosis,

and diaphoresis may signify inadequate oxygenation and impending respiratory failure, warranting urgent intervention. Response to treatment is assessed through continuous monitoring of vital signs before and after administering bronchodilators, corticosteroids, and other asthma medications. Improvement in vital signs, including respiratory rate, heart rate, oxygen saturation, and PEFR, indicates a favorable response to therapy and guides the decision to escalate or de-escalate treatment interventions.

In conclusion, monitoring vital signs is integral to the management of patients with bronchial asthma, particularly during acute exacerbations. By assessing respiratory rate, heart rate, blood pressure, temperature, oxygen saturation, and other clinical parameters, healthcare providers can accurately evaluate the severity of asthma attacks, optimize treatment strategies, and mitigate the risk of complications. A comprehensive approach to vital signs monitoring enhances patient safety, improves outcomes, and ensures timely interventions in the management of bronchial asthma.

**References**:

3. Karpov VY, Medvedev IN, Romanova A V, Usov SS, Kozyakov R V. Functional disorders in the respiratory system in adolescents with bronchial asthma. Indian J Public Health Res Dev 2019;
14. Sol IS, Kim YH, Kim SY, Choi SH, Kim HR, Kim KW, et al. Exhaled breath temperature as a tool for monitoring asthma control after an attack in children. Pediatric Pulmonol 2019;
15. Vertigan A E, Kapela SL, Gibson PG. Laryngeal Dysfunc-t i on in S evere A sthm a : A C r o ss -Se c ti ona l Observational Study. J Allergy Clin Immunol Pract 2021;
16. Holguin F, Cardet JC, Chung KF, Diver S, Ferreira DS, Fitzpatrick A, et al. Management of severe asthma: A European Respiratory Society/American Thoracic Society guideline. Eur Respir
17.Romanchuck O, Bazhora Y. Regulatory peculiar featu- res of uncontrolled bronchial asthma. J Edu Health Sport
18. Crooks JL, Davies JM, Khan AF, Hu W, Tong S. The association between ambient temperature and ch ildho od a sthma : a sys temat ic r eview . In t J Biometeorol
19. Lam HC, Hajat S, Chan EY, Goggins WB. Different sensitivities to ambient temperature between first- and re-admission childhood asthma cases in Hong Kong – A time series study. Environ Res 2019; 170:487–92.
20. Svendsen CD, Kuiper K, Ostridge K, Larsen TH, Nielsen R, Hodneland V, et al. Factors associated with coronary heart disease in COPD patients and controls. PLoS One 2022;
21. Lorensia A, Yulia R, Wahyuningtyas IS. Hubungan Persepsi Penyakit (Illness Perception) dengan Kontrol Gejala Asma pada Pasien Rawat Jalan. Media Pharm Indones 2017; 1:92.
22. Sari Ni PW. Asma: Hubungan Antara Faktor Risiko, Perilaku Pencegahan Dan Tingkat Pengendalian Penyakit. J Ners LENTERA 2013; 1:30–41.
23. Losappio L, Heffler E, Carpentiere R, Fornero M, Cann-ito CD, Guerrera F, et al. Characteristics of patients admitted to emergency department for asthma attack: A real-LIFE study. BMC Pulm Med 2019; 19