

Dyspnea

Shortness of breath (dyspnoea) is a very common *subjective* symptom of many diseases. The patient describes it either as a feeling of lack of air or difficult and labored breathing.

Shortness of breath is a subjective feeling of lack of air.

Causes

We divide the causes of shortness of breath based on the primary organ involvement into:

- **pulmonary** – COPD , asthma , inflammatory lung diseases (pneumonia), interstitial lung processes (pneumonitis, pulmonary fibrosis due to pneumoconioses or other diseases)
- **pulmonary circulation disease** with the development of pulmonary arterial hypertension (primary pulmonary hypertension or a consequence of pulmonary embolism),
- **heart** - heart failure with congestion in the pulmonary circulation and the development of pulmonary edema - left-sided heart failure , or mitral stenosis (processes associated with an increase in pressure in the left atrium),
- **psychogenic** – hysteria , hyperventilation tetany ,
- **neuromuscular** – neurodegenerative muscle diseases, myasthenia , trauma,
- **hematological** – anemia
- **metabolic** longer-lasting respiratory compensation (Kussmaul breathing in decompensation of diabetic ketoacidosis)



Pulmonary edema



Lobar pneumonia

Types

To assess shortness of breath, it is very important to distinguish whether it is **exertional** or **rest** . Dyspnea at rest usually indicates a greater degree of impairment. We also distinguish between **inspiratory** (difficult inhalation, e.g. in pneumonia) and **expiratory** (difficult, usually slow exhalation, e.g. in asthma) shortness of breath. Depending on the nature and development of the problem, we can distinguish several different types of shortness of breath.

Sudden shortness of breath	Shortness of breath developed over hours, days
pneumothorax	exacerbation of COPD , asthma bronchiale , fibrosis (IPF)
foreign body aspiration	left heart failure
pulmonary embolism	pneumonia , pleural effusion

Rapidly progressive shortness of breath (acute shortness of breath)

This form of shortness of breath can arise **suddenly** , e.g. after aspiration (of a foreign body, stomach contents) or after trauma (formation of a pneumothorax). In the same way, acute shortness of breath includes problems that develop **over a period of days** . These can be a symptom of severe pulmonary embolism , massive pulmonary edema (e.g. acute mountain sickness) and, last but not least, acute coronary syndrome (acute myocardial infarction , unstable angina pectoris), exacerbation of asthma .

Differential diagnosis of acute dyspnea ^[1]	
symptoms	likely cause of shortness of breath
shortness of breath and chest pain	ACS, PE , aortic dissection , pneumothorax , pleurisy
prolonged expiration, cough	left-sided heart failure, bronchial asthma , exacerbation of COPD
stridor	HCD obstruction, foreign body aspiration
cough and fever	pneumonia , acute bronchitis
cough without fever	pneumothorax , aspiration of a foreign body
silent lungs, rare spastic phenomena	status asthmaticus
general condition without alteration, paresthesia of limbs	hyperventilation
shortness of breath without pathological on the lungs	anemia , PE , pulmonary hypertension , intoxication, psychogenic dyspnea, ascites , metabolic acidosis , diabetic coma , uremia , musculoskeletal etiol. eg: Guillain-Barré syndrome , Myasthenia gravis

Long-lasting slowly progressive shortness of breath (chronic shortness of breath)

It is typical for COPD, chronic pulmonary fibrotic processes and heart failure . The patient describes long-term problems, which gradually worsen, especially in relation to strenuous activities.

Orthopnoic dyspnea

In case of orthopneic dyspnea, the so-called **orthopneic position** will help the patient . Sitting with a slight forward bend will **reduce venous return** and allow more efficient use of the accessory respiratory muscles, thereby improving the overall mechanics of ventilation.

Paroxysmal nocturnal dyspnea

It typically appears in cardiac patients, the so-called cardiac asthma, and can accompany the initial phase of left ventricular failure. The patient wakes up at night with an urge to sit up, reports "impossibility to inhale", shortness of breath and a feeling of "exhaled air in the room".

NYHA classification of dyspnea

The NYHA (**New York Heart Association**) dyspnea classification is currently the most widely used . It is primarily intended for the classification of dyspnea in heart failure , but is also commonly used to assess dyspnea of other etiologies.

NYHA dyspnoea classification ^[2]		
	Class definition	Limitation of activity
NYHA I	It can't handle only higher effort, faster running.	It does not limit in everyday life.
NYHA II	He can walk as fast as possible, but not run.	Fewer restrictions in everyday life.
NYHA III	Only basic household activities, walking 4 km/h. Normal activity is already exhausting.	Significant limitation of activity at home.
NYHA IV	Shortness of breath with minimal exertion and at rest. Necessary help from another person.	Fundamental limitations in life.

Links

Related articles

- Choking
- Cough
- Hemoptysis

Reference

1. VACHEK, Jan – MOTÁŇ, Vít – ZAKIYANOV, Oskar. *Akutní stavy ve vnitřním lékařství*. - edition. Maxdorf, 2018. ISBN 9788073455507.
2. ČEŠKA, Richard. *Interna*. 1. edition. Triton, 2010. 855 pp. ISBN 978-80-7387-423-0.

References

- ČEŠKA, Richard. *Interna*. 1. edition. Triton, 2010. 855 pp. ISBN 978-80-7387-423-0.
- KLENER, Pavel. *Propedeutika ve vnitřním lékařství*. 3. přepracované edition edition. Galén, 2009. 324 pp. ISBN 978-80-7262-643-4.
- CHROBÁK, Ladislav. *Propedeutika vnitřního lékařství*. 2. edition. GRADA Publishing, 2007. 243 pp. ISBN 978-80-247-1309-0.

■