

Diffusion disorders. Diffusion capacity of the lungs/Repetitorium

This article was checked by pedagogue

This article was checked by pedagogue, but later was changed.



Checked version of the article can be found here (https://www.wikilectures.eu/index.php?title=Diffusion_disorders._Diffusion_capacity_of_the_lungs/Repetitorium&oldid=402186).

See also comparison of actual and checked version (https://www.wikilectures.eu/index.php?title=Diffusion_disorders._Diffusion_capacity_of_the_lungs/Repetitorium&diff=-&oldid=402186).



Concepts assumed

- factors affecting diffusion
- differences in the diffusion of O₂, CO₂ and N₂

Diffusion disorders

1. Reduction of **the diffusion area** (morphological and functional changes of the lungs, pulmonary edema, changes in the ratio of ventilation and perfusion).
2. Changes **in the diffusion path** (pulmonary fibrosis, pulmonary edema - asthma cardiale), "alveolar block".
3. Reduction of the alveolo-capillary **pressure gradient** (changes in the partial pressures of gases, alveolar hypoventilation, uneven ventilation).

Diffusion capacity of the lungs (D_L) - *transfer factor*

- The amount of diffusion per unit time relative to a unit pressure gradient (for oxygen, carbon dioxide or carbon monoxide).

Measurement methods

1. **for oxygen**: $D_{LO_2} = V_{O_2} / P_{aO_2}$ (norm. 25-30 ml/min/mmHg)
2. **for carbon monoxide**: $D_{LCO} = V_{CO} / P_{ACO}$, $D_{LO_2} = D_{LCO} \cdot 1.23$
 - Advantages of determining diffusion capacity using CO.
 - Clinical interpretation of lung diffusion capacity values.
 - Dependence of lung diffusion capacity values on V'/Q' unevenness.

Links

Related articles

- Examination of pulmonary diffusion and perfusion

Source

- VÍZEK, Martin. *Repetitorium* [online]. [cit. 2012-01-11]. <<https://web.archive.org/web/20130512032641/http://pf.lf2.cuni.cz/vyuka/repetitorium.html>>.