

# 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](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](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 O<sub>2</sub>, CO<sub>2</sub> and N<sub>2</sub>

## 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<sub>L</sub>) - *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>>.