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Diffusion capacity test

The test reveals the gas exchange capacity of the lungs, i.e. how well oxygen from the inhaled air reaches the bloodstream and carbon dioxide from the body returns to the exhaled air.

The approximate duration of the test is 30 minutes.

The necessity of the test is decided in advance by the attending physician and is carried out by a trained pulmonology nurse.

The patient inhales a mixture of gases (a small amount of helium with carbon monoxide), holds their breath for 10 seconds, and then exhales rapidly. Exhaled air is analysed by a machine to determine how much gas was absorbed by diffusion. The breathing test is repeated at least twice. The interval between two breathing tests is about 4 minutes.

Diffusion capacity usually decreases when the diffusion surface of the lungs decreases, for example in emphysema associated with chronic obstructive pulmonary disease (COPD).

On the same day as the examination, you should avoid:

- smoking (4–6 hours before the examination);
- strong physical training;
- administration of supplemental oxygen for at least 10 minutes before the examination.

Contraindications to the test are:

- acute cardiovascular disease;
- acute respiratory disease;
- chest pain;
- recent chest surgery.