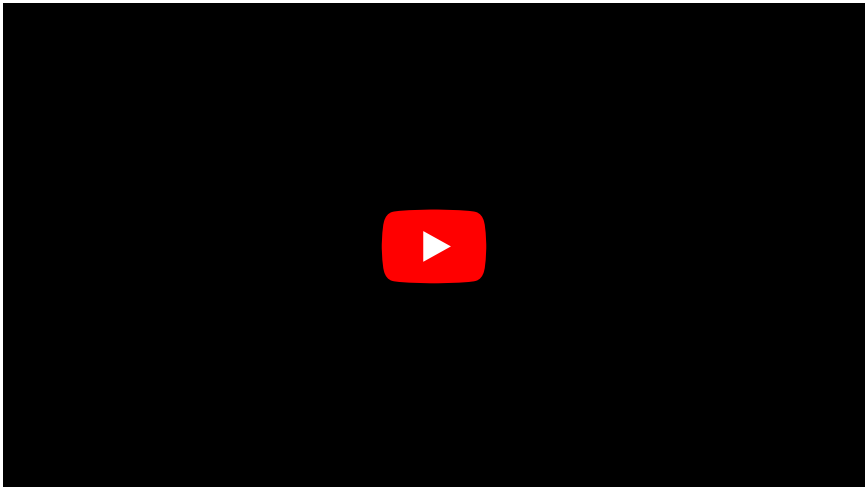


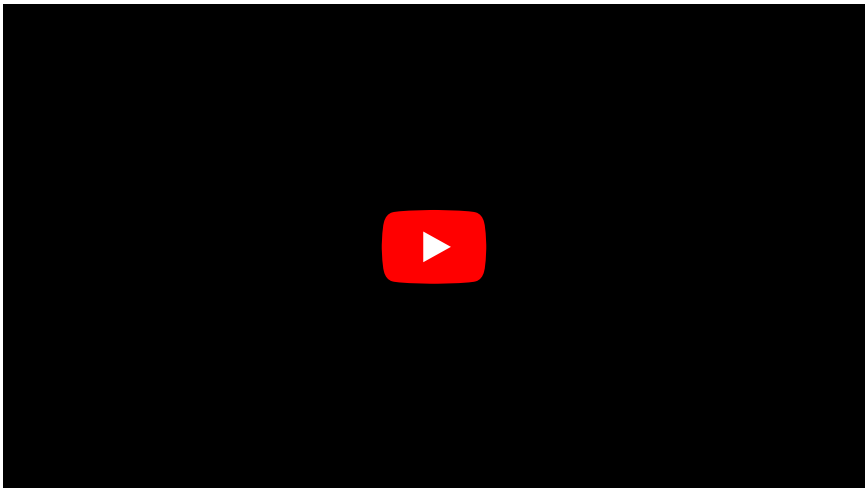
Spirometry

We use spirometry to **measure ventilation**. It is an examination of lung volumes, capacities and flow rates. The resulting parameters are divided into:

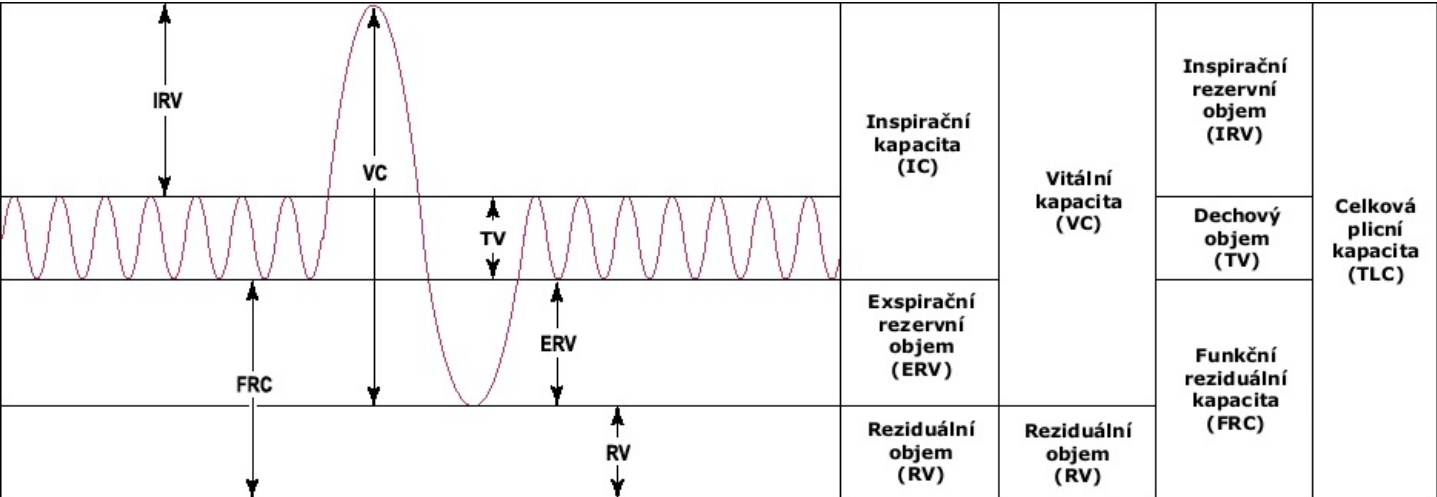
Spirometry:



Spirometry 2:



- **static** - or volumes and capacities of the respiratory system (tidal volume, vital capacity...)
- **dynamic** - or flows or volumes at maximum effort (minute ventilation, maximum minute ventilation...)



 For more information see Lung volumes.

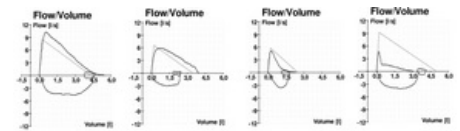
Spirometers

An instrument that measures ventilation parameters is called a *spirometer*. The patient breathes into it. A **turbine** is inserted in it to spin the air. A mesh may also be present on which the air creates **pressure**. This is proportional to the volume of air. It also measures time, and so we can determine the **air velocity** or **flow rate**. The recording is usually nowadays evaluated digitally.

Lung disease

can typically be divided into:

- **Restrictive** in which lung volumes are reduced. This may be due to a compressed lung (tumor), bronchial closure, limited compliance, and others. We measure **static parameters**.
- **Obstructive** or narrowing of the airway. Flow and consequently ventilation are impaired. This includes asthma, chronic bronchitis and obstructive lung disease.



Schematic of a modern spirometry examination

Links

Related articles

- Lung volumes
- Functional examination of the cardiorespiratory system
- Chronic lung disease

External links

[http://mefanet.lfp.cuni.cz/clanky.php?aid=65%7CSpiroergometrie u zdravých a nemocných osob](http://mefanet.lfp.cuni.cz/clanky.php?aid=65%7CSpiroergometrie%u00a0u%20zdrav%C3%BDch%20a%20nemocn%C3%BDch%20osob)

Literature used

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