SECOND FACULTY OF MEDICINE
CHARLES UNIVERSITY

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Breathing I

Laboratory exercise and seminar in medical physiology

Home preparation, study materials and learning objectives

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Learning objectives - what you will be able to do

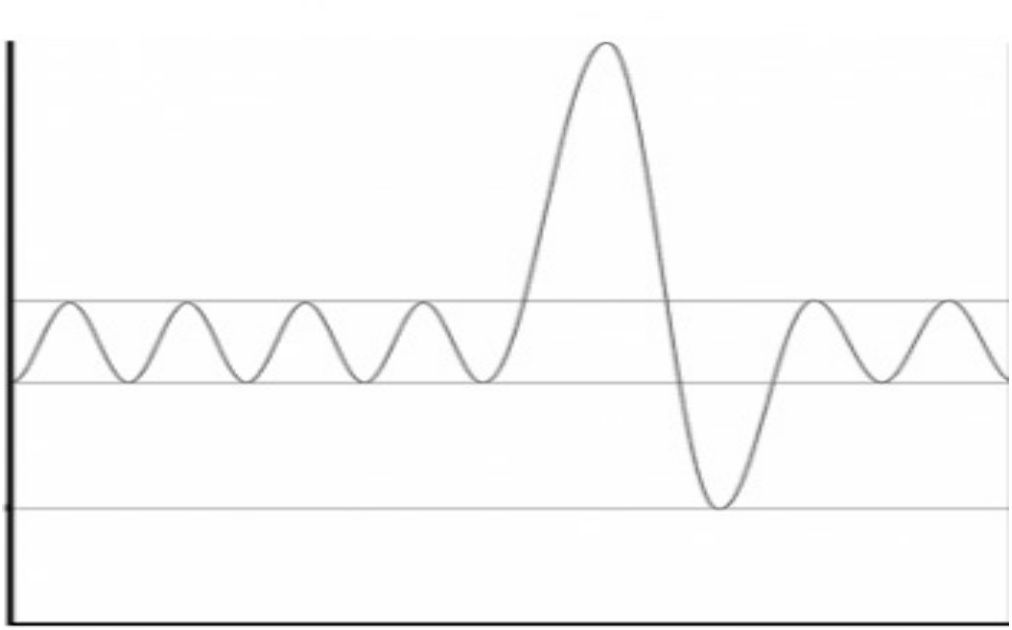
- Perform spirometric examination on a volunteer
- Measure and analyse the values of static and dynamic lung function parameters (e.g. FEV1) from the measured data
- Compare lung function parameters between physiological data and data with "simulated asthma"
- Be able to draw and explain a graph for lung compliance and its changes (without surfactant, filled with fluid, in restrictive disease)
- Be able to draw and explain a graph for work of breathing
- Know how to draw and explain the flow volume curve

Study materials

- Lectures
- Costanzo: Lung volumes and capacities, Mechanics of breathing

Homework – print and bring to the seminar

1. Annotate the spirometry graph (axes, individual volumes).



2. The patient inhales 1000 ml from a spirometer. His intrapleural plessure before the inhalation was -4 cmH2O and -12 cmH2O after the inhalation ended. What is the compliance if his lungs?

3. 45-year old man performed a maximal inhale followed by a maximal exhale. The measured values are shown in the forced expiration flow-volume curve. What is his vital lung capacity (in liters)?