

Comparison of the effect of outdoor eccentric versus indoor concentric exercise training on physical capacity and quality of life in patients with advanced COPD (DOWNHILL-study)

Maximilian Bösch, Florent Baty, Martin Brutsche, Gabriel Benz

Patients with chronic obstructive pulmonary disease (COPD) often suffer from cardio-pulmonary limitations, which makes them avoid exercise training. However, exercise training is explicitly recommended for COPD patients as physical activity (PA) is known to positively modulate disease progression and increase the quality of life. Therefore, cleverly devised training modalities that account for cardio-pulmonary limitations are warranted to enable efficient training and increase the PA of patients with COPD. Eccentric exercise training (EET) is a training modality that puts relatively high strain on the muscles while sparing cardio-pulmonary output requirements. Thus, EET allows that patients with moderate-to-severe COPD can perform exercise training and strengthen their muscles without experiencing exercise-limiting dyspnea. It is therefore reasonable to assume that EET may have high compliance in COPD and that the training effects of EET are at least non-inferior to those of classical concentric exercise training (CET).

In this study, we address this question in a two-arm randomized controlled trial (RCT) of EET vs. CET training interventions. The study is embedded into the existing outpatient pulmonary rehabilitation program ("ambulante pulmonale Rehabilitation") of the Lung Center, Cantonal Hospital St.Gallen.

type of project	fundamental research
status	ongoing - recruiting phase
start of project	2021
end of project	2023
project manager	Maximilian Bösch