# EFFECTS OF COMPLEMENTARY INTERMITTENT HYPOXIA-HYPEROXIA THERAPY IN PATIENTS WITH LONG COVID

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**Background:**

Large numbers of people suffer from long-term sequelae that continue after COVID-19 infection. It has been shown that intermittent hypoxia-hyperoxia therapy (IHHT) may promote improvements in physical and cognitive performance. The aim of the study was to investigate the effects of complementary IHHT to a multidisciplinary post-COVID rehabilitation.

**Methods:**

In a prospective, controlled trial 150 consecutive patients with post-COVID-19 condition were assigned to two groups: intervention group (IG, n=68) and control group (CG, n=82). Both groups completed multimodal rehabilitation. Only the IG additionally received a regular IHHT).

**Results:**

Patients receiving IHHT were younger than patients of the control group (51.1±11.5 vs. 59.5±10.4 years, $p<0.001$). Furthermore, systolic blood pressure was lower in the IG (129.0±15.1) compared to the CG (138.5±16.8 mmHg), $p<0.001$ at baseline. Heart rate and parameters of lung function at baseline were comparable.

In both groups the 6MWD increased significantly during rehabilitation: In the IG from 357.4m to 441m ($p<0.001$) and in the CG from 355.2m to 399.8m ($p<0.001$). The change in 6MWD was significantly higher in the IG group (83.6±45.8m) than in the CG (44.6±75.2m), $p<0.001$. IHHT was well-tolerated by all subjects.

**Conclusion:**

A complementary IHHT seems to additionally improve exercise performance in patients with post-COVID-19 condition.