

INFLUENCE OF DIFFERENT FACE MASKS ON PHYSIOLOGICAL PARAMETERS DURING 4 HOURS OF LIGHT AND MODERATE WORK UNDER REAL WORKPLACE CONDITIONS

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Introduction: As a result of the SARS-CoV-2 pandemic, surgical masks (SM), community masks (CM) or FFP2 masks have been worn at workplaces. People often complain of increased strain and fatigue when wearing masks. The aim of our study was to obtain information on cardiopulmonary parameters during mask wearing in real workplace situations.

Methods: 40 subjects (20 men, 20 women) between 19 and 65 years were each examined for four hours without and with SM, CM and FFP2 under workplace conditions (laboratory or office) while cardiopulmonary, capnometric and blood gas-related parameters were recorded.

Results: Heart rate varied between light and moderate work over the measurement period. The concentration of carbon dioxide (CO₂) under the mask increased with increasing wearing time. Blood CO₂ did not increase when wearing the mask under the selected conditions and the oxygen (O₂) concentration did not change from baseline. Depending on the mask type, increased temperature and humidity were measured under the mask, which did not increase further with time.

Conclusion: Under the selected conditions, the partial rebreathing of CO₂ under the mask did not change the partial pressure of O₂ and CO₂ or the O₂ saturation of the blood.