

This study was conducted to investigate comfort and microbial protection performances of two reusable and two disposable surgical gowns by subjective wear trials conducted on eight healthy Dentistry faculty students under environmental conditions suitable for a surgical operation. Protection performances of the gowns were tested by a modified bacterial resistance test. Physiological and psychological data were obtained during wear trials. All objective and subjective results were evaluated in the light of standard physical, mechanical, permeability, and resistance (thermal and water vapor) characteristics of the fabrics. According to the results, thermal comfort performance of the woven gown produced from microfiber polyester was the best according to subjective wear trial and microbial resistance test results. Disposable nonwoven gowns had lower comfort performances despite their higher permeability and lower resistance values. Moreover, chest skin temperature, arm microclimate temperature, and arm relative humidity are the physiological parameters significantly correlated with subjective comfort evaluation results.

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