

Dávkování viskózních očních kapek

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Summary

The objective of this thesis was to study the factors affecting the viscous eye drops dosage. The influence of the effective dropper tip perimeter, surface tension and viscosity of the liquid, and the dispensing angle upon the weight of drop was studied at four commercial ophthalmic preparations containing various viscolyzers, sodium carboxymethylcellulose, polyvinyl alcohol, polyvinylpyrrolidone, and xyloglucan, and benzalkonium chloride as an antimicrobial preservative. The weight of a drop was directly proportional to the diameter of the outer perimeter of the dropper tip and the liquid surface tension. No significant influence of viscosity upon the weight of drops was discovered. The weight of drops decreased when the dispensing angle was reduced from 90° to 45° except of the situation when the drop slid down the external lateral surface of the dropper tip and consequently increased its weight. That was observed for the eye dropper Ursapharm. Minimum failures of drop dispensing with low variability of the weight of drops at both investigated dispensing angles have been found for eye dropper Johnson & Johnson (eye drops Visine - tired eyes). Thus, this eye dropper could be recommended for dispensing of viscous eye drops.