Ziel. To quantify inter-individual changes in NIKBUT between consecutive measurements and between consecutive days by means of two different kinds of illumination.

Material und Methode. A single-centre, 3-visit, randomised, prospective study that evaluates the NIKBUT measured by means of an objective analysing software of the video-topographer (K5 TF-Scan V6.07r14; Oculus) in 24 multi-ethnicity subjects (56% male, 44% female; aged (31.5+/-10.3)years with a range of (19 to 65)years; 53% Caucasian, 21% Asian, 26% Asian) was conducted. The NIKBUT were measured on both eyes in randomised order with white (W) and infrared (IR) illumination consecutively three times (M1, M2, M3) at each visit (V1, V2, V3) and at the same daytime at standardised conditions.

Ergebnisse. There were no significant differences between the three consecutive measurements, neither by means of the infrared illumination nor by white illumination (IR: p=0.880, W: p=0.271; Friedman test). The 95% confidence intervals of mean of the difference between the repeated measurements are: M1-M2 IR(-1.59; 2.16)sec and W(-1.95;1.46)sec; M1-M3 IR(-1.38;2.31)sec and W(-1.42;2.34)sec; M2-M3 IR(-1.71;2.33)sec and W(-0.91;2.33)sec Independent of illumination, no significant differences were found between the three consecutive visits (IR: p=0.320, W: p=0.242; Friedman test). The 95% confidence intervals of mean of the difference between each visits are: V1-V2 IR(-2.98;0.73)sec and W(-1.00;3.59)sec; V1-V3 IR(-1.67;1.89)sec and W(-0.82;4.54)sec; V2-V3 IR(-0.81;3.28)sec and W(-1.66;2.79)sec. Furthermore there is no significant difference between the NIKBUT values of the two kinds of illumination (p=0.406, Wilcoxon test; r=0.106 p=0.036 Pearson).

Schlussfolgerung. This study suggests that the NIKBUT measurement with the video-topographer K5 (Oculus) is reliable. There are no significant differences between consecutive measurements, independent of illumination. Moreover the comparison of the NIKBUT between three consecutive visits revealed that there is no significant difference in non-invasive tear film break-up time when measured at the same daytime and under standardised conditions. The IR-NIKBUT and the W-NIKBUT are not significantly different.

Schlüsselwörter.

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Purpose. To quantify inter-individual changes in NIKBUT between consecutive measurements and between consecutive days by means of two different kinds of illumination.

Methods. A single-centre, 3-visit, randomised, prospective study that evaluates the NIKBUT measured by means of an objective analysing software of the video-topographer (K5 TF-Scan V6.07r14; Oculus) in 24 multi-ethnicity subjects (56% male, 44% female; aged (31.5+/-10.3)years with a range of (19 to 65)years; 53% Caucasian, 21% Asian, 26% Asian) was conducted. The NIKBUT were measured on both eyes in randomised order with white (W) and infrared (IR) illumination consecutively three times (M1, M2, M3) at each visit (V1, V2, V3) and at the same daytime at standardised conditions.

Results. There were no significant differences between the three consecutive measurements, neither by means of the infrared illumination nor by white illumination (IR: p=0.880, W: p=0.271; Friedman test). The 95% confidence intervals of mean of the difference between the repeated measurements are: M1-M2 IR(-1.59; 2.16)sec and W(-1.95;1.46)sec; M1-M3 IR(-1.38;2.31)sec and W(-1.42;2.34)sec; M2-M3 IR(-1.71;2.33)sec and W(-0.91;2.33)sec Independent of illumination, no significant differences were found between the three consecutive visits (IR: p=0.320, W: p=0.242; Friedman test). The 95% confidence intervals of mean of the difference between each visits are: V1-V2 IR(-2.98;0.73)sec and W(-1.00;3.59)sec; V1-V3 IR(-1.67;1.89)sec and W(-0.82;4.54)sec; V2-V3 IR(-0.81;3.28)sec and W(-1.66;2.79)sec. Furthermore there is no significant difference between the NIKBUT values of the two kinds of illumination (p=0.406, Wilcoxon test; r=0.106 p=0.036 Pearson).

Conclusion. This study suggests that the NIKBUT measurement with the video-topographer K5 (Oculus) is reliable. There are no significant differences between consecutive measurements, independent of illumination. Moreover the comparison of the NIKBUT between three consecutive visits revealed that there is no significant difference in non-invasive tear film break-up time when measured at the same daytime and under standardised conditions. The IR-NIKBUT and the W-NIKBUT are not significantly different.+

Keywords.

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