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STUDIES LIST FRICTIOMETER®

H. Tronnier, M. Wiebusch, U. Heinrich, **Frictiometry on human skin**, Skin Research and Technology, Vol. 9, No. 2, May 2003

The state and function of human skin can be quantified by numerous non-invasive test methods. There are, however, still no valid methods to measure the tactile properties of the skin surface and thus to quantify the state of the skin on the one hand, and to determine the negative and positive effects of tactile influences on the other hand. The measuring device (Frictiometer) consists of a sensor, a steering unit and a monitor. The torque, the circular friction on the skin surface, is measured via the motor load current and is shown as a voltage drop.

Stoffe aus dem Prüfstand, Spiegel 37/2003

Wer den ganzen Tag in strapazierfähiger Berufskleidung steckt, hat darunter oft wunde Stellen: Straßenarbeiter, Feuerwehrleute, Großküchenchefs. „Durch die ständige Bewegung bei der Arbeit entzündet sich empfindliche Haut besonders dort, wo sie sich an Nahtstellen oder rauem Gewebe reibt.“, sagt Hagen Tronnier, dermatologe an der Universität Witten/Herdecke.

Product of the month, **Frictiometer® FR 770**, SÖFW Journal April 2005.

The Frictiometer® FR 770 is integrated into the CK Multiprobe Adapter System MPA and supplies another non-invasive test method for the human skin. Measurement of the smoothness condition of the skin.

H. Tronnier, M. Wiebusch, U. Heinrich, **Frictiometry on human skin**, poster presentation, DermaDays Universität Witten-Herdecke, April 2005.

The state and function of human skin can be quantified by numerous non-invasive test methods. There are, however, still no valid methods to measure the tactile properties of the skin surface and thus to quantify the state of the skin on the one hand, and to determine the negative and positive effects of tactile influences on the other hand. The measuring device (Frictiometer) consists of a sensor, a steering unit and a monitor. The torque, the circular friction on the skin surface, is measured via the motor load current and is shown as a voltage drop.

H. Tronnier, M. Wiebusch, U. Heinrich, **Frictiometrie an der menschlichen Haut**, Poster

Zustand und Funktion der menschlichen Haut können mit zahlreichen nicht-invasiven Testmethoden quantifiziert werden. Zur Messung taktiler Eigenschaften der Hautoberfläche fehlt aber bisher eine valide Methode, mit der einerseits ein Hautzustand zu quantifizieren, andererseits negative oder positive Wirkungen taktiler Einflüsse zu bestimmen ist.

Anne Sirvent, Laurène Roussel, Thi Thu Hang Ngo, Pascale Buche, Stéphane Fontaine, Marc Renner, Frédérique Girard; Skin Softness Evaluation – Description of skin surface state thanks to an innovative tribological device; IFSSC 2010 Buenos Aires, Argentina

We describe a new measurement device that has been designed in order to approach skin softness thanks to the evaluation of skin surface state. This device uses an innovative approach: the analysis of the vibrating effect measured by extensometric gauges fixed on a vibrating slide that rubs on the skin. The energy of two specific peaks (mode 1 at 30Hz and mode 3 at 230Hz) was analyzed afterwards. The aim of this study was to check the repeatability of measurements and to correlate the results obtained on cosmetic products with both sensorial analysis and biometrological measurements (hydration, roughness and friction) to those obtained with this new device. In view of the results obtained, we can conclude that our measuring method seems to quantify: - on one hand, the smoothness and softness of the skin. A smooth surface, as observed on normal hydrated skin or after application of a cream penetrating rapidly, increases mode 1 whereas the presence of a sticky film on skin surface limits or decreases mode 1.