

News About Us Home Journals Books Conferences Jobs Home > Journal > Biomedical & Life Sciences | Medicine & Healthcare > OJMIP **OJMIP Subscription** Indexing View Papers Aims & Scope Editorial Board Guideline Article Processing Charges Most popular papers in OJMIP OJMIP> Vol.2 No.4, November 2012 About OJMIP News OPEN ACCESS Frequently Asked Questions Analysis of human skin tissue by a skin-meter: A preliminary study PDF (Size: 506KB) PP. 107-111 DOI: 10.4236/ojmip.2012.24015 Recommend to Peers Author(s) Recommend to Library Sergio Mazzulla, Annarita Carino, Antonino Miano, Fiorenzo Mignini, Giovanni Bartolomei, Guglielmo Martino **ABSTRACT** Contact Us The aim of this study is to evaluate the skin elasticity in individuals who practise spinning. Mechanical evaluations were conducted, under environmental and physical established conditions, during a physical training period. A total of 12 volunteers aged 35 ± 5 years were enrolled in this study, (60 min) before Downloads: 10,385 (control) and (60 min) after practicing spinning. Skin elasticity and area were measured by a Skin Meter and analysed with the Skin Meter software 1.3. In subjects who practiced spinning, the data shown a sig-Visits: 61,723 nificant effect: on elasticity, evaluated as the ratio of final retraction (UA) and final distension (UF), on viscoelasticity express as the ratio delayed distension (UV) and immediate distension (UE); and on Sponsors >> measurements of skin area vs control subjects. Skin Meter can be useful for a non-invasive screening of skin condition with also a potential extension in subjects with skin pathologies or to monitor skin oxidative stress in sportive subjects.

KEYWORDS

Skin Meter; Elasticity; Skin Parameters; Spinning

Cite this paper

Mazzulla, S., Carino, A., Miano, A., Mignini, F., Bartolomei, G. and Martino, G. (2012) Analysis of human skin tissue by a skin-meter: A preliminary study. *Open Journal of Molecular and Integrative Physiology*, 2, 107-111. doi: 10.4236/ojmip.2012.24015.

References

- [1] Urso, M.L. and Clarkson, P.M. (2003) Oxidative stress, exercise, and antioxidant supplementation. Toxicology, 189, 41-54. http://www.sciencedirect.com/science/article/pii/S0300483X03001513 doi:10.1016/S0300-483X(03)00151-3
- [2] Hwang, E.S. and Kim, G.H. (2007) Biomarkers for oxidative stress status of DNA, lipids, and proteins in vitro and in vivo cancer research. Toxicology, 229, 1-10. doi:10.1016/j.tox.2006.10.013
- [3] Lumpkin, E.A. and Caterina, M.J. (2007) Mechanism of sensory transduction in the skin. Nature, 445, 858-865. doi:10.1038/nature05662
- [4] Dobrev, H. (2000) Use of Cutometer to assess epidermal hydratation. Skin Research and Tecnology, 6, 239-244. doi:10.1034/j.1600-0846.2000.006004239.x
- [5] Alessio, H.M., Hagerman, A.E., Fulkerson, B.K., Ambrose, J., Rice, R.E. and Wiley, R.L. (2000) Generation of ROS after exhaustive aerobic and isometric exercise. Medicine and Science in Sports and Exercise, 32, 1576-1581. doi:10.1097/00005768-200009000-00008
- [6] Bloomer, R.J., Galdfarb, A.H., Wideman, L., McKenzie, M.J. and Consitt, L.A. (2005) Effect of acute aerobic and anaerobic exercise on blood makers of oxidative stress. Journal of Strength and Conditioning Research, 19, 276285.
- [7] Fisher-Wellman, K. and Bloomer, R.J. (2009). Acute exercise and oxidative stress: A-30-year review. Dynamic Medicine, 8, 1. doi:10.1186/1476-5918-8-1
- [8] Garaulet, M. and Pérez de Heredia, F. (2010) Behavioural therapy in the treatment of obesity (II): Role of the Mediterranean diet. Nutrición Hospitalaria, 25, 9-17. http://scielo.isciii.es/scielo.php?

- $script = sci_arttext\&pid = S021216112010000100002\&Ing = en\&nrm = iso\&tIng = en\&nrm = en\&nr$
- [9] Dobrev, H. (2005) Application of Cutometer area parameters for the study of human skin fatigue. Skin Research and Technology, 11, 120-122. doi:10.1111/j.1600-0846.2005.00090.x
- [10] Gautieri, A., Pate, M.I., Vesentini, S., Redarelli, A. and Buehler, M.J. (2012) Hydratation and distance dependence of intermolecular shearing between collagen molecules in a model microfibril. Journal of Biomechanics, 45. doi:10.1016/j.jbiomech.2012.05.047
- [11] Flynn, C., Taberner, A. and Nielsen, P. (2011) Modeling: The mechanical response of in vivo human skin under a rich set of deformation. Annals of Biomedical Engineering, 39, 1935-1946. doi:10.1007/s10439-011-0292-7
- [12] Dobrev, H. (2007) In vivo study of skin mechanical properties in Raynoud's phenomen. Skin Research and Technologies, 13, 191-194.
- [13] Hermanns-Lê, T., Uhoda, I., Smitz, S., et al. (2004) Skin tensile properties revisited during ageing. Where now, where next. Journal of Cosmetic Dermatology, 3, 35-40. doi:10.1111/j.1473-2130.2004.00057.x
- [14] Dobrev, H. (1999) In vivo study of skin mechanical properties in patients with systemic sclerosis. Journal of the American Academy of Dermatology, 40, 436-442. http://www.sciencedirect.com/science/article/pii/S0190962299704949 doi:10.1016/S0190-9622(99) 70494-9
- [15] Dobrev, H. (2002) A study of human skin mechanical properties by means of Cutometer. Folia Medica, 44, 510.
- [16] Ono, I. (2011) A Study on the Alterations in Skin Viscoelasticity before and after an intradermal administration of growth factor. Journal of Cutaneous and Aesthetic Surgery, 4, 98-104. http://dx.crossref.org/10.4103%2F0974-2077.85022. doi:10.4103/0974-2077.85022

Home | About SCIRP | Sitemap | Contact Us

Copyright © 2006-2013 Scientific Research Publishing Inc. All rights reserved.