



Distance between laser head and skin does not influence skin blood flow values recorded by laser speckle imaging

Submitted by Emmanuel Lemoine on Thu, 01/30/2014 - 14:36

Titre	Distance between laser head and skin does not influence skin blood flow values recorded by laser speckle imaging
Type de publication	Article de revue
Auteur	Mahé, Guillaume [1], Haj-Yassin, Firas [2], Rousseau, Pascal [3], Humeau-Heurtier, Anne [4], Durand, Sylvain [5], Lefthériotis, Georges [6], Abraham, Pierre [7]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2011
Langue	Anglais
Date	2011/11
Numéro	3
Pagination	439 - 442
Volume	82
Titre de la revue	Microvascular Research
ISSN	0026-2862
Résumé en anglais	<p>Background Laser Speckle contrast imaging (LSCI) allows non-contact, real-time recording of cutaneous blood flow (CBF). Different distances from laser-head to skin (distancesL-S) can be chosen by the operator to perform these recordings. We aimed to evaluate the impact of different DistancesL-S on the analysis of rest blood flow and post-occlusive reactive hyperemia (PORH). Methods Four distancesL-S (10, 15, 20, and 30 cm) were evaluated in a random order in 11 healthy subjects. We analyzed the concordance between each recording at each distanceL-S. We compared CBF results (absolute values and cutaneous vascular conductance (CBF divided by mean arterial pressure)) obtained for each distanceL-S. The intra-subject coefficients of variation due to distancesL-S (intra-CV, in%) were also studied. Results The mean "r" (standard deviation) cross-correlation coefficient was 0.99 (0.00) between each CBF trace issued from different distanceL-S. Both kinds of CBF results, at rest and for PORH peak, show non-significant differences when the distanceL-S is modified. The intra-CV varies from 5.9% to 8.6% at rest and from 5.6% to 9.1% for the PORH peak. Conclusion DistanceL-S neither influences SBFR at rest, nor at peak post-occlusive hyperemia in the 10-30 cm interval using LSCI.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua1495 [8]
DOI	10.1016/j.mvr.2011.06.014 [9]
Lien vers le document	http://dx.doi.org/10.1016/j.mvr.2011.06.014 [9]

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- [9] <http://dx.doi.org/10.1016/j.mvr.2011.06.014>

Publié sur *Okina* (<http://okina.univ-angers.fr>)