Investigate the fluorescence lifetime parameters of human skin during vascular occlusion at different temperature conditions.

Aim of this work

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Reliable changes in fluorescence lifetime parameters during occlusion may act as an indicator of ischemic damage. However, when studying fluorescence lifetime parameters, the effect of blood perfusion level on cell-tissue exchange processes must also be taken into account.

Protocol

Parameter

2 min
3/1 min
5 min
4 min

Basic Level
Cooling/heating
Peltier element
Arterial occlusion
Hypermia measurement

Result and discussion

Fluorescence lifetime and LDF parameters: a) the proportion of the first α1 component in total fluorescence; b) the blood perfusion; c) the fluorescence lifetime t1 of the first component; d) the fluorescence lifetime t2 of the second component.

Based on the results obtained in almost all parameters of the fluorescence lifetime during local heating, differences between the stages of occlusion and hyperemia are reliable, however, which is less pronounced during local cooling.

Aknowlegment

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