

## **Cellular and Microcirculatory Integrity in the Liver**

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The aim of this review was to discuss and evaluate the impact of oxygen deficiency on the cellular level on organ reperfusion. Tissue anoxia can be divided into three groups: normal-flow, low-flow and no-flow anoxia. The outcome after a normotoxic reperfusion is different for these three groups. The author presents the technologies for local measurements of tissue oxygen partial pressure, local hydrogen clearance, interstitial ion activities and remission spectrophotometry, and cellular alterations induced by the different types of anoxia. A minimal subcritical capillary flow (low-flow anoxia) is much worse than no-flow as it is not accompanied by a rapid decompensatory activity of protective mechanisms. The consequence is the increased membrane permeability, accompanied by other changes deleterious for cell integrity. This could be the starting point of reperfusion injury and the no-reflow phenomenon.

### Keywords:

Cellular integrity, microcirculation, capillary flow, anoxia, protective mechanisms, reperfusion injury

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