

## Endothelium and cardiopulmonary resuscitation.

### 內皮及心肺復甦

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The endothelium is a viable target for injury, repair and cellular modulation. Because of its vast extension and active metabolic status of producing mediators for vasomotor tone, coagulation, and inflammation, it is a key target for therapy during ischemia/reperfusion injury. Cardiopulmonary resuscitation is a model of whole-body ischemia/reperfusion injury. It has become apparent that the endothelium participates in a host of responses elicited by ischemia/ reperfusion. This review examines the role of the endothelium during and after ischemia/ reperfusion and the participation by its mediators and evidence for endothelial involvement during and after cardiopulmonary resuscitation. The strategic location of the endothelium makes it an excellent signal transduction mechanism for a host of disease processes. In addition to biochemical stimuli, mechanical stimulation of the endothelium elicits production of several mediators, including endothelium-derived nitric oxide, prostaglandins, and antithrombotics and anticoagulants. Whole-body, periodic acceleration is a novel method of stimulating the endothelium via pulsatile shear stress. Periodic acceleration has been shown to be an effective experimental method of cardiopulmonary resuscitation, with evidence of postresuscitation cardioprotective effects. This review indicates that understanding endothelial modulation during and after ischemia/reperfusion will significantly improve therapeutic choices.

內皮對於受傷、修護及細胞調節是可行的目標。因為它的大量擴張以及為血管緊張、凝結物和發炎有效產出中介物的的新陳代謝狀況，這是在局部缺血/再灌注損傷期間及之後的主要治療目標。心肺復甦是全身局部缺血/再灌注損傷的一個樣本。很明顯的，藉由局部缺血/再灌注，內皮參與誘發一連串的反應。此評論審查內皮在局部缺血/再灌注期間及之後、中介物參與時的角色，並且證明心肺復甦期間及之後的內皮參與。內皮的重要位置為許多疾病過程發出良好的訊號轉導機制。除了生化刺激，內皮的機械刺激誘發許多中介物的產出，包括內皮衍生一氧化氮、前列腺素、抗血酸及抗凝血劑。全身周期性加速度是一項透過抗剪應力刺激內皮的新方法。周期性加速度已被視為一種有效的心肺復甦實驗方法，具有復甦後心肌保護作用的證據。此評論指出了解局部缺血/再灌注期間及之後的內皮調節，將明顯提高治療的選擇機會。