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5.2 Redox System and Free Radicals in Biological Systems5.3 Pathophysiology of Ischemia/Reperfusion Injury; 5.3.1 Cell Death; 5.3.2 The Inflammatory Response; 5.4 Protection Against I/R Injury; 5.4.1 Ischemic Pre- and Post-conditioning; 5.4.2 Pharmacological Conditioning; 5.4.2.1 The Protective Role of ROS and Antioxidants; 5.4.2.2 The Protective Role of NO; 5.4.2.3 NO-based Therapies for I/R Injury; 5.5 Conclusion; Acknowledgments; References; Part II. Medical Needs for Oxygen Supply; 6. Acute Traumatic Hemorrhage and Anemia; 6.1 Introduction; 6.2 Blood Transfusion in Trauma
6.2.1 Massive Transfusion

Sommario/riassunto

Human blood performs many important functions including defence against disease and transport of biomolecules, but perhaps the most important is to carry oxygen - the fundamental biochemical fuel - and other blood gases around the cardiovascular system. Traditional therapies for the impairment of this function, or the rapid replacement of lost blood, have centred around blood transfusions. However scientists are developing chemicals (oxygen therapeutics, or "blood substitutes") which have the same oxygen-carrying capability as blood and can be used as replacements for blood transfusion or to t