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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Short history of stem cell transplantation with emphasis on hematological disorders -- Stem cell concept: entity or function? -- Embrionic stem cells: problems and possible solutions -- Adult Stem cells (the concept of VSEL-Cell) -- Cord blood stem cells -- Haematopoietic stem cells -- Ethical aspects of stem cell research -- Stem cell renewal and differentiation -- Stem cell sources, harvesting and clinical use -- The HLA and ABO system in the view of stem cell transplant -- Peritransplant blood component therapy -- Engraftment: evaluation criteria -- Principles and practice of stem cell cryopreservation -- Cord blood cell cryopreservation -- Current status and perspectives in stem cell research -- Stem cells in neurodegenerative diseases -- Pluripotency of Stem Cells and Sources for the stem cell therapy in Neurological diseases -- Tissue engineering and stem cells.
Sommario/riassunto	Stem cells are the building blocks for all other cells in an organism. The human body has about 200 different types of cells and any of those cells can be produced by a stem cell. This fact emphasizes the significance of stem cells in transplantational medicine, regenerative therapy and bioengineering. Whether embryonic or adult, these cells can be used for the successful treatment of a wide range of diseases

that were not treatable before, such as osteogenesis imperfecta in children, different forms of leukemias, acute myocardial infarction, some neural damages and diseases, etc. Bioengineering, e.g. successful manipulation of these cells with multipotential capacity of differentiation toward appropriate patterns and precise quantity, are the prerequisites for successful outcome and treatment. By combining in vivo and in vitro techniques, it is now possible to manage the wide spectrum of tissue damages and organ diseases. Although the stem-cell therapy is not a response to all the questions, it provides more and more answers every day. Stem Cells and Tissue Engineering is a concise review on the functional, phenotypic, regenerative, transplantational and curative aspects of a stem cell’s entity. It is critical and encouraging at the same time, providing truthful and appropriate samples from the practice and research that can lead toward optimal use of this immense source of adjuvant and curative therapy in human pathology. Written by a clinician and a researcher, who are currently teaching what they are doing, it is recommended as a teaching tool along with an original textbook.