

1. Record Nr.	UNINA9910855370203321
Autore	Brogi Etrusca
Titolo	Traumatic Brain Injury // edited by Etrusca Brogi, Federico Coccolini, Eric J. Ley, Alex Valadka
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2024
ISBN	3-031-50117-9
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (506 pages)
Collana	Hot Topics in Acute Care Surgery and Trauma, , 2520-8292
Altri autori (Persone)	CoccoliniFederico LeyEric J ValadkaAlex
Disciplina	617.481044
Soggetti	Surgery Emergency medicine Critical care medicine Nervous system - Surgery Neurology Nervous system - Radiography General Surgery Emergency Medicine Intensive Care Medicine Neurosurgery Neuroradiology Traumatismes cranials Neurologia Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part-1: General Considerations. History of traumatic brain injury and the evolution of neuromonitoring: an overview -- The importance of pathways: Trauma Center and Neurocritical care unit -- The central role of specialized Neurocritical Care Team: Standards of Neurologic Critical Care Units -- The central role of specialized Neurocritical Care Team: nursing perspective in neurocritical care practice -- Part-2: Diagnosis

and neuromonitoring. Clinical evaluation: neurological examination and standardized scales -- Neuroradiological imaging -- Interactions between volumes, flows and pressures in the brain: intracranial pressure, cerebral perfusion pressure, cerebral autoregulation and the concept of compensatory reserve -- Non-invasive neuromonitoring: Near infrared spectroscopy and Pupillometry -- Non-invasive neuromonitoring: Neurosonology - TCD, TCCD and optic nerve ultrasound -- Neurophysiology: EEG and Evoked potentials -- Brain oxygen measurements and cerebral metabolism: Brain tissue oxygenation (PbtO<sub>2</sub>), Jugular bulb oximetry, intracerebral microdialysis, and the role of brain injury biomarkers -- Future direction: Multimodality monitoring and machine learning -- Out of hospital management of trauma brain injury -- Sedation, pain and delirium management -- Intracranial pressure management: The stepwise approach -- Ventilation strategy and the timing of tracheotomy: a different approach in trauma? -- Systemic hemodynamics monitoring & Blood pressure target during acute brain injury -- Temperature control and the role of therapeutic hypothermia -- Coagulation, transfusion, reversal of anticoagulant and antiplatelet agents, and thromboembolism prophylaxis in acute brain injury: point of care test and treatment -- Fluid management and Hyperosmolar therapy in neurotrauma -- Neurosurgical treatment and the role of Decompressive craniotomy -- Multiple trauma management: treatment of abdominal injury in combination with trauma brain injury -- Polycompartment syndrome in severe trauma brain injury -- Seizure: prophylaxis and treatment in acute brain injury -- Endocrine consequence of traumatic brain injury -- Infection management in neurocritical care setting -- Trauma brain injury in pregnant patients -- Trauma brain injury in pediatric patients -- Trauma brain injury in elderly patients -- Part- 4: Final Considerations. Prognostication and treatment-limiting decisions after severe traumatic brain injury -- Clinical and bioethical perspective on brain death, organ donation, and family communication -- Long-term outcome and the role of Neurorehabilitation after severe Traumatic brain injury.

---

## Sommario/riassunto

In spite of great improvements in prehospital, critical care, and surgical management, traumatic brain injury is still a leading cause of death and disability resulting in great socioeconomic burden. This book provides a comprehensive and practical perspective of the management of traumatic brain injury, from prehospital setting to discharge. Even more, the book highlights the importance of pathways (Trauma Center and Neurocritical Care Unit) and the central role of the specialized neurocritical care team and neurological critical care units in the practice of neurocritical care. Encouraging a practical, protocol-driven, multidisciplinary approach for both adult and pediatric patients, the authors provide a methodological description of the diagnostic and therapeutic management of patients with traumatic brain injury throughout the patient journey. Neuromonitoring assumes predominant importance, with an increasing role of noninvasive monitoring (near-infrared spectroscopy, Pupillometry, transcranial color Doppler-TCD, transcranial color duplex-TCCD, and optic nerve ultrasound) and neurophysiology (electroencephalography and evoked potentials) for early recognition of complications and rapid assessment of the effectiveness of medical treatment. However, the increasing amount of data increases the complexity of interpreting the collected information. The basic principles of multimodal monitoring and the computer-assisted method are presented to provide an overview of the future direction regarding the integration and interpretation of different data obtained from various techniques. Paying particular attention to

prognosis and treatment-limiting decisions, the authors reviewed the critical role of neurorehabilitation and the clinical and bioethical perspective on brain death, organ donation, and communication with the family.

---