Introduction to Intracranial Monitoring

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For patients with severe head injury, subarachnoid hemorrhage, or elevated intracranial pressure (ICP) for a variety of reasons, bedside monitoring in the intensive care unit (ICU) has become a sophisticated source of physiological data that has improved patient care and outcomes. Our methods of monitoring continue to evolve and improve. This issue of *Neurosurgical Focus* will examine our current techniques of monitoring, as well as methods that remain at the research stage but may soon be available for clinical use. First, an experimental evaluation of the Spiegelberg ICP and compliance monitor will be presented. In the following paper the authors discuss a bedside microdialysis technique for early detection of cerebral hypoxia in traumatic brain injury. In the subsequent paper, global and regional techniques of monitoring cerebral oxidative metabolism after severe traumatic brain injury will be reviewed. Next, techniques of intraoperative cerebral blood flow measurement will be reviewed. In the final paper, the authors discuss the clinical usefulness of bedside intracranial morphological monitoring in which mobile computerized tomography scanning is used in the neurosurgical ICU.

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