ICP Monitoring

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Recognition and treatment of elevated intracranial pressure (ICP) is central to neurosurgery. Although ICP monitoring is considered routine practice, the type of monitor and how it is used varies widely. There remains strong debate as to which type of device is optimal. Recent advances in multiple types of brain physiology measurement now complement ICP monitoring, helping to minimize secondary brain injury and optimize outcome.

This issue of **Neurosurgical Focus** addresses several aspects of this dynamic topic. The first paper reviews the history, indications, and technical attributes of the various types of ICP monitoring devices. The second paper presents the cutting-edge philosophy used at Baylor College of Medicine, aimed at optimizing cerebral blood flow af-

ter severe traumatic brain injury by combining ICP monitoring with global indicators such as jugular oximetry supplemented by local measurement of brain tissue oxygen tension. The third paper reviews the extensive Columbia University experience with ICP monitoring associated with subarachnoid hemorrhage. The final paper presents exciting evolving technologies for noninvasive ICP monitoring.

Ultimately, ICP, as well as the broad spectrum of relevant cerebral physiology, will be monitored continuously and noninvasively, with high-precision and without untoward effects. Achieving this goal will require imagination and ingenuity on the part of neurosurgeons working in multidisciplinary concert with our colleagues in critical care.