Penetrating brain injury

- Association between cranial surgery and mortality among patients with firearm-related traumatic brain injury resulting in subdural hematoma
- Association between traumatic brain injury and risk of developing infections in the central nervous system and periphery
- Bolt gun injury to central forehead, sagittal sinus and frontal lobes: A case report
- How Volume of Neurosurgical Interventions Impacts Patient Outcomes: An Analysis of 30,000 Craniectomies and Craniotomies
- Injury Severity Scoring in the Resuscitation Room-Is Preliminary Injury Severity Score Accurate?
- Childhood penetrating intracranial injury by non-metallic objects: a case report of three pediatric cases
- Management outcome of a patient with a self-inflicted multiple intracranial nail impalement in a tertiary hospital in Uyo: illustrative case
- Caffeine: A Neuroprotectant and Neurotoxin in Traumatic Brain Injury (TBI)

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see Low-velocity penetrating brain injury

see also Penetrating intracranial injury.

Penetrating brain injury (PBI), though less prevalent than closed head trauma, carries a worse prognosis. The publication of Guidelines for the Management of Penetrating Brain Injury in 2001, attempted to standardize the management of PBI. This paper provides a precise and updated account of the medical and surgical management of these unique injuries which still present a significant challenge to practicing neurosurgeons worldwide. The management algorithms presented in this document are based on Guidelines for the Management of Penetrating Brain Injury and the recommendations are from literature published after 2001. Optimum management of PBI requires adequate comprehension of mechanism and pathophysiology of injury. Based on current evidence, we recommend computed tomography scanning as the neuroradiologic modality of choice for PBI patients. Cerebral angiography is recommended in patients with PBI, where there is a high suspicion of vascular injury. It is still debatable whether craniectomy or craniotomy is the best approach in PBI patients. The recent trend is toward a less aggressive debridement of deep-seated bone and missile fragments and a more aggressive antibiotic prophylaxis in an effort to improve outcomes. Cerebrospinal fluid (CSF) leaks are common in PBI patients and surgical correction is recommended for those which do not close spontaneously or are refractory to CSF diversion through a ventricular or lumbar drain. The risk of post-traumatic epilepsy after PBI is high, and therefore, the use of prophylactic anticonvulsants is recommended. Advanced age, suicide attempts, associated coagulopathy, Glasgow coma scale score of 3 with bilaterally fixed and dilated pupils, and high initial intracranial pressure have been correlated with worse outcomes in PBI patients [1)]

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Kazim SF, Shamim MS, Tahir MZ, Enam SA, Waheed S. Management of penetrating brain injury. J Emerg Trauma Shock. 2011 Jul;4(3):395-402. doi: 10.4103/0974-2700.83871. PMID: 21887033; PMCID: PMC3162712.