The July 1 and September 3rd issues of Pediatrics contain research articles on the differences between inflicted and non - inflicted head trauma. Bechtel, Stoessel, Leventhal, Ogle, Teague, Lavietes, Banyas, Allen, Dziura and Duncan reviewed the cases of 82 children < 2 years of age admitted during a three month period in 2002 to the in - patient ward of New Haven Children's hospital due to head injury. Physicians concluded that the head injuries of 67 of these children were the result of accidental falls. Almost three quarters of these falls occurred from heights greater than 4 feet; the falls were almost always witnessed by adults and were compatible with the child's developmental age.

"In the abusive head injury group, 27% of the patients had occult fractures or solid organ injury in addition to their intracranial injuries, and 88% had no history of trauma to account for their intracranial injuries." Children with inflicted injuries were significantly more likely to have retinal hemorrhages (RH) and seizures. “Children with accidental head trauma may occasionally have RHs, and frequently these RHs will be unilateral, few in number, and involve only the intraretinal layer," i.e., the RHs of children with accidental injuries are likely be less severe and less numerous than the RHs of abused children.

The September 3 issue of Pediatrics has an article by Runyan, Marshall, Nocera and Merten comparing characteristics of children with inflicted and non - inflicted brain injury. These researchers reviewed the medical histories of 80 children with inflicted brain injuries with 72 children whose brain injuries were judged to be accidental admitted to a North Carolina hospital's pediatric care unit. "Children with inflicted traumatic brain injuries (TBI) were more likely to have rib fractures, long bone fractures, and metaphyseal fractures than children with non - inflicted TBI." The abused children appeared to have more retinal hemorrhages, though not all children were screened for RHs. Over a third of children with inflicted TBI "had no external signs of trauma on presentation,” i.e., no bruising, obvious fractures or limb deformities.

"Nearly 45% of caregivers of children... with non-inflicted TBIs sought care for their children after the injury event before any clinical symptoms developed, whereas children with inflicted injuries presented with either symptoms or unexplained injuries." Children with inflicted TBI were far more likely to present in emergency room settings with no history (from parents) of trauma. No children with non - inflicted TBI presented with rib fractures as well as head injuries unless they had been in a car accident. Children with inflicted injuries were more likely to be brought in for medical treatment after significant delays, thus the overall poorer outcomes for children with serious inflicted injuries.

In summary, "Children with inflicted TBI had several features that distinguished them from children with non-inflicted TBI." "They were more likely to present to the clinician with symptoms, a history of trauma was rarely revealed, and retinal hemorrhages and metaphyseal and rib fractures were more common."