Subtle neurological signs predict the severity of subacute cognitive and functional impairments after traumatic brain injury. Article. We tested the hypothesis that repeated mild traumatic brain injury impairs spatial memory and enhances anxiety-like behaviour. Research design: We used a between groups design using single (smTBI) or repeated (rmTBI) controlled cranial closed skull impacts to mice, compared to a control group. Methods and procedures: We assessed the effects of smTBI and rmTBI using measures of motor performance (Rotarod Test [RT]), anxiety-like behaviour (Elevated Plus Maze [EPM] and Open Field [OF] tests), and spatial memory (Morris Water Maze [MWM]) within 12 days of the final injury. The severity of brain injury is measured by the following: • Glasgow Coma Scale (used soon after injury). • Duration of loss of consciousness. • Duration of posttraumatic amnesia (PTA), ie, the interval between the injury and the return of continuous day-to-day memories. Neuropsychometric assessment can be useful in defining the severity of cognitive impairment and any areas of particular impairment. Such tests as the North American Adult Reading test are available and provide an estimate of the patient's preinjury IQ. Such assessment is necessary for the accurate interpretation of a patient's postinjury performance. Disturbance of social cognition after traumatic orbitofrontal brain injury. Arch Clin Neuropsychol. 1997;12:173-188. It has been estimated that 1-2 million Americans sustain traumatic brain injury (TBI) annually. Early post-traumatic seizures that occur in the first seven days after head trauma can cause further damage to the brain due to increased ICP, hypoxia, hypercarbia, and excess neurotransmitter release.42 Risk factors for post-traumatic seizures include GCS of less than 10, cortical contusion, depressed skull fracture, subdural hemorrhage, epidural hemorrhage, intracerebral hematoma, penetrating head wound, and seizure within 24 hours. Subacute SDHs appear isodense and may be difficult to identify without IV contrast or MRI. (See Figure 2.) Layering of blood and cerebrospinal fluid (CSF) may be seen. Chronic SDH appears isodense or hypodense.