

# ILLUSTRATED MEDICINE: SKULL FRACTURE & BRAIN INJURIES

*A column exploring how demonstrative evidence clarifies medical issues in personal injury litigation*

By Stephen Mader

**Plaintiff Counsel:**  
John McLeish of McLeish Orlando LLP

## The client:

Jason Smith was a 21 year-old, university educated, entry-level office worker. Academically, he had not been a strong student. He lived independently.

## The incident:

Mr. Smith was front-seat passenger in a vehicle that rolled over several times at high speed. Paramedics found him unconscious and extricated him from the vehicle. His GCS was 11 in the ambulance.

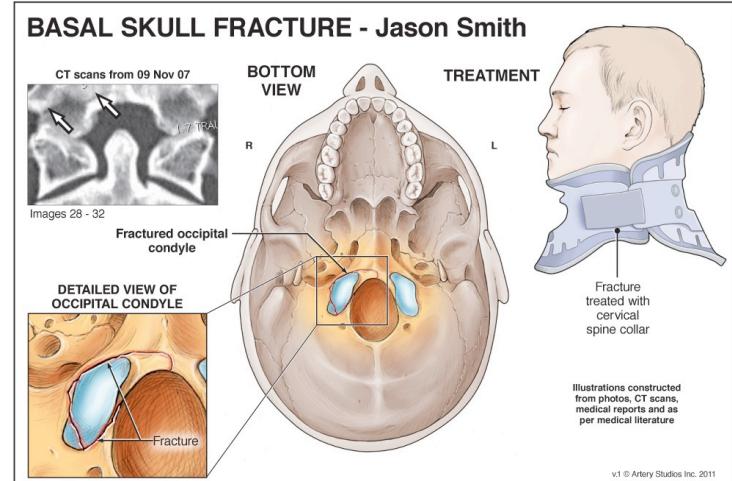
## Injuries sustained:

Mr. Smith sustained trauma to his head as well as his torso. Head injuries included:

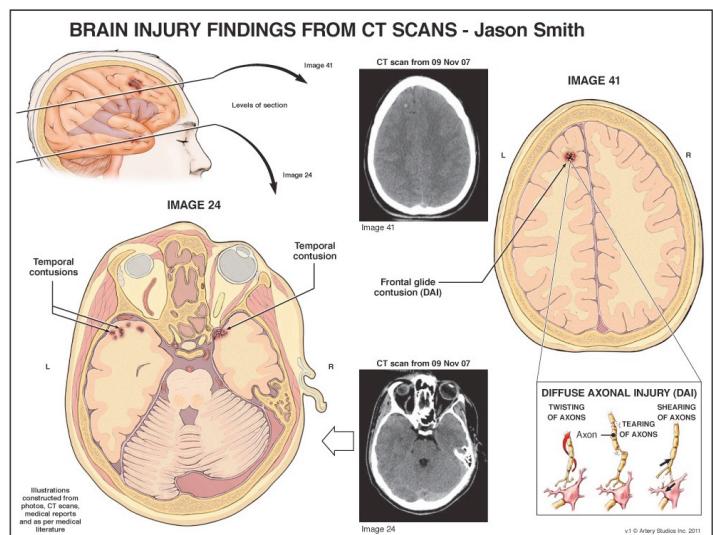
- Skull base fracture (occipital condyle)
- Left frontal lobe brain injury (gliding contusion with diffuse axonal injury)
- Temporal lobe contusions (bilateral)

## Relevance of injuries:

Frontal and temporal lobe damage may cause memory, attention and emotional problems. Indeed, Mr. Smith's ongoing brain injury complications include: cognitive and memory problems; reduced executive function; and emotional changes. Occipital condyle fractures are related to high-speed deceleration insults and are markers of high-energy trauma. He has neck pain, headaches and other ailments.



*A bottom view of the skull focuses on the location of the occipital condyles while an inset illustration (lower left) provides fracture details as per CT scans (arrows point to fracture on scan). Top right inset shows client in cervical collar – worn to allow fracture to heal non-surgically.*



*Top left orientation image provides both an overview of pathology and levels of section for the key CT scans and corresponding labeled explanatory illustrations. Diffuse Axonal Injury (DAI) is depicted in bottom right inset.*

## Litigation challenges:

Four years post MVA, the client viewed himself as relatively high functioning, but lacked insight into his deficits. He continued to be employed in his chosen profession. Connecting the client's poorly recognized functional problems ("invisible brain injury") with his initial trauma pathology was critical to explaining his employment challenges and other limitations. Plaintiff's counsel noted how important it was to be able to demonstrate his client's head injuries, and in particular, the details of damage to the brain.

## Visual communication solution:

Counsel used the demonstrative evidence as part of his full case workup. By translating the information from the hard-to-decipher CT scans into more readily understood illustrations, he felt the significance of the skull fracture and damage to the brain could be communicated, ensuring all parties better appreciated the severity of the injuries. Visual solutions included:

1. Depicting Mr. Smith's frontal and temporal lobe damage to support the decrease in cognitive/executive function as well as personality changes
2. Visualizing the details of his skull base fracture and associated treatment
3. Depicting other injuries to Mr. Smith's body and ongoing sequelae, to convey the severity of the forces involved in the accident

## Case outcome:

Visuals were presented in PowerPoint™. The case settled at mediation. John McLeish noted "the illustrations were a crucial factor in obtaining a favourable settlement".