**Abstract**

Motor vehicle collisions are one of the leading circumstances of death worldwide and are contributory to the second most common circumstance of death in South Africa, “transport-related deaths”. A total of 3248 transport-related deaths were recorded in Gauteng alone in 2009 and for that reason motor vehicle collisions pose a substantial threat to the South African population. This study was undertaken to determine if specific patterns of injuries in victims of fatal motor vehicle collisions existed. For the purposes of this study, “patterns of injury” can be defined as similar injuries of similar severities repeatedly and predictably occurring in similar body regions. The study consisted of all individuals involved in fatal collisions who fit the inclusion criteria during the period between 13 May 2011 and 1 June 2012. The external, visceral, and skeletal injuries sustained by the individuals involved in fatal motor vehicle collisions were observed via x-ray and photographic procedures performed by the investigator, as well as documentation from the Forensic Medical Practitioner/scribe notes. The South African Police Force attending officer’s affidavit and the Johannesburg Metropolitan Police Force Accident Reports were used to determine the make and model of the vehicle, the occupant’s position, type of collision and object with which the vehicle collided. The study’s results indicated that distinct patterns of injuries existed for those individuals involved in fatal motor vehicle collisions. The most frequently observed patterns of injuries included either severe head injuries in isolation, severe thoracic and/or abdominal injuries in isolation, or a combination of the two. Distinct patterns of injuries were noted for individuals occupying different types of vehicles but not for individuals occupying different positions within a single vehicle which is contrary to other international findings.