

## The Application of Patterned Injuries in Reconstruction of Motorcycle Accidents

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**Abstract :** Objective: This study analyzed three criminal judicial cases. We applied the patterned injuries of the rider to demonstrate the facts of each accident, reconstruct the scenes, and pursue the truth. Methods: Case analysis, a method that collects evidence and reasons the results in judicial procedures, then the importance of the pattern of injury as evidence will be compared and evaluated. The patterned injuries analysis method is to compare the collision situation between an object and human body injuries to determine whether the characteristics can reproduce the unique pattern of injury. Result: Case 1: Two motorcycles, A and B, head-on collided; rider A dead, and rider B was accused. During the prosecutor's investigation, the defendant learned that rider A had an 80 mm open wound on his neck. During the court trial, the defendant requested copies of the case file and found out that rider A had a large contusion on his chest wall, and the cause of death was traumatic hemothorax and abdominal wall contusion. The defendant compared all the evidence at the scene and determined that the injury was obviously not caused by the collision of the body or the motorcycle of rider B but that rider was out of control and injured himself when he crossed the double yellow line. In this case, the defendant was innocent in the High Court judgment in April 2022. Case 2: Motorcycles C and D head-on crashed, and rider C died of massive abdominal bleeding. The prosecutor decided that rider C was driving under the influence (DUI), but rider D was negligent and sued rider D. The defendant requested the copies' file and found the special phenomenon that the front wheel of motorcycle C was turned left. The defendant's injuries were a left facial bone fracture, a left femur fracture, and other injuries on the left side. The injuries were of human-vehicle separation and human-vehicle collision, which proved that rider C suddenly turned left when the two motorcycles approached, knocked down motorcycle D, and the defendant flew forward. Case 3: Motorcycle E and F's rear end collided, the front rider E was sentenced to 3 months, and the rear rider F sued rider E for more than 7 million N.T. The defendant found in the copies' file that the injury of rider F was the left tibial platform fracture, etc., and then proved that rider F made the collision with his left knee, causing motorcycle E to fall out of control. This evidence was accepted by the court and is still on trial. Conclusion: The application of patterned injuries in the reconstruction of a motorcycle accident could discover the truth and provide the basis for judicial justice. The cases and methods could be the reference for the policy of preventing traffic accident casualties.

**Keywords :** judicial evidence, patterned injuries analysis, accident reconstruction, fatal motorcycle injuries

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