A Case Study in Offset Frontal Collision

Vehicle #1: 1998 Chevy Lumina 4-door

Vehicle #2: 1999 Honda Civic 2-door

Vehicle #1: Driver, Male
Safety Systems: AB only

Injuries:
- C6 lamina fracture
- Left elbow laceration
- Right eyebrow laceration
- Left forehead abrasion

Vehicle #2: Driver, Male
Safety Systems: AB only

Injuries:
- Left ulna fracture w/ radial head dislocation
- Left patella fracture with PCL disruption
- Left hip dislocation
- Left thigh laceration
- Left forearm laceration
- Left cheek, hand, abdomen, & lower leg abrasions
- Left shoulder contusion
- Right knee joint laceration w/PCL rupture
Vehicle #1: (Lumina)
- Weight: 3,330 lbs.
- PDOF: 345
- ? V: 23.3
- CDC: 11FYEW2
- Max Crush: 46cm @ C6

Vehicle #2: (Civic)
- Weight: 2513 lbs.
- PDOF: 25
- ? V: 30.9
- CDC: 01FYEW4
- Max Crush: 119cm @ C1

SCENE

Vehicle Dynamics

Ford Ford Inova Fairfax Hospital CIREN Center
**Vehicle 1 Occupant**

Age: 50  
Gender: Male  
Position: Driver  
Restraint: Unbelted  

Airbag front: Driver Side/Deployed  
Clothing: Jeans/shirt/light jacket/heavy boots  
Eyewear: Eyeglasses

**Vehicle 2 Occupant**

Age: 48  
Gender: Male  
Position: Driver  
Restraint: Unbelted  

Airbag front: Driver Side/Deployed  
Clothing: Jeans/sweatshirt/light jacket/baseball hat  
    - low top sneakers  
Eyewear: Contacts

**Vehicle 1 Occupant**

<table>
<thead>
<tr>
<th>Injuries (ICD)</th>
<th>AIS -90 Severity</th>
<th>Info Source</th>
<th>Aspect</th>
<th>Contact Area</th>
<th>Mechanism</th>
<th>Cond. Level</th>
<th>Rank</th>
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<tbody>
<tr>
<td>LOC in head (35.1)</td>
<td>10/20/22</td>
<td>Report</td>
<td>Trauma</td>
<td>Unknown</td>
<td>Direct</td>
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<td>30/20/23</td>
<td>CT</td>
<td>Posterior</td>
<td>Skull fracture</td>
<td>Indirect</td>
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<td>29/20/21</td>
<td>Exam</td>
<td>Left</td>
<td>Right</td>
<td>Direct</td>
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<td>70/60/21</td>
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<td>Left</td>
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**Vehicle 2 Occupant**

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