

## SUMMARY OF REPORTS

According to Dr. Judy Melinek<sup>1</sup>, the “assault scenario was discussed with and supported by the findings of Dr. Robert Bove... and most importantly is the only scenario we could come up with in collaborative consultation that could account for all the planes of injuries and the scene findings in this case.”<sup>1</sup>

### 1. How Accidental Falls Can Occur

A. “Accidental falls over a railing can occur when contact between a person’s body and the railing occurs in such a way that the center of gravity of the person is above and moves over the railing.”<sup>2</sup>

B. In order for a person to fall over a railing, “the center of gravity of the person must therefore not only be above the height of the railing but must also move horizontally...over the thickness of the railing.”<sup>3</sup>

### 2. Scene Geometry

“The geometry of the scene and kinematics of human locomotion place limits on the locations and speeds at which a person of Max’s...size could interact with the railing in such a way as to cause (him to potentially) travel over the railing accidentally.”<sup>4</sup>

### 3. Max’s Center of Gravity Without Scooter

A. “...the railing height along the second floor hallway was approximately six inches above the standing center of gravity for someone of Max’s...height.”<sup>5</sup> “Impact

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<sup>1</sup> Dr. Melinek’s report dated July 16, 2012, is hereinafter referred to as “Melinek”, and Dr. Bove’s report dated July 26, 2012, is hereinafter referred to as “Bove”.

with the railing, even at fast running speeds, would therefore not result in a fall over the railing for someone of Max's...stature."<sup>6</sup>

B. "...testing conducted to determine appropriate guardrail heights has demonstrated that the height of the hip joint relative to the railing height may be more related to whether a fall over the railing may occur. The height off of the floor of the hip joints for a six year old with Max's...reported height...is less than 25 inches, in comparison to the railing height of 32¼ inches."<sup>7</sup>

#### **4. Max's Center of Gravity With Scooter**

A. "Even with the additional height provided by the scooter, the center of gravity of a person of Max's...height while on the scooter would still be two inches below the railing."<sup>8</sup> "Due to the low center of gravity of the scooter, the combined center of gravity for a person of Max's...stature and the scooter as a unit would be even lower."<sup>9</sup>

B. "Impact with the second floor railing, even at fast running speeds, would therefore not result in a fall over the railing for someone of Max's (field's)...stature while on the scooter..."<sup>10</sup>

#### **5. The Scenario Depicted by Gomez Fails to Account for Max's Injuries**

##### **A. The Primary Fall Impact was Against the Top of the Head**

"[T]he skull fracture contusion indicates the primary fall impact was against the top (vertex) of the head and not the right front."<sup>11</sup> "Both the nature and location of the skull fracture and the subgaleal contusion indicate that Max's...head sustained a forceful contact at its vertex."<sup>12</sup> "...the orientation of the body depicted in Dr. Gomez's report

would result in forceful contact between the face and the ground and notably would not result in forceful contact to the skull's vertex.”<sup>13</sup>

B. Back Injuries

i. “The pattern of injury on Max’s back is not consistent with an impact/slide against the descending banister as depicted in Dr. Gomez’s scenario as there is no deep muscle injury...”<sup>14</sup>

ii. “...the abrasions and contusions to Max’s...back are primarily midline and left of midline.”<sup>15</sup> “Areas of transfer” observed inside the shirt Max was wearing “are consistent with the soft tissue injuries to his back.”<sup>16</sup> “...these injuries were minor and did not extend into the subcutaneous tissue.”<sup>17</sup>

iii. According to Dr. Gomez’s report, “contact with the railing descending from the landing to the first floor would have occurred after a fall over a vertical distance of approximately seven feet” and the “contact between the railing and Max’s...back redirected his horizontal motion.”<sup>18</sup> “Such a redirecting impact to Max’s...back in this scenario would have required substantial force to arrest and reverse the horizontal component of his motion.”<sup>19</sup> “The superficial back injuries sustained by Max...are not consistent with the scenario proposed by Dr. Gomez and are consistent with a less forceful contact.”<sup>20</sup>

C. Cervical Spine Injury

i. “An extension injury to the cervical spine(al)...and a frontal bone fracture could not have occurred due to the same contact with the first floor surface...”<sup>21</sup>

ii. “In Dr. Gomez’s scenario...Max’s lower extremities contacted the floor first and then his body rotated forward so the rest of his body fell forward facing onto the first floor surface.”<sup>22</sup> “While a fall from this height could provide sufficient energy to cause a non-displaced skull fracture, the orientation of the body depicted in Dr. Gomez’s report would result in a forceful contact between the face and the ground and notably would not result in forceful contact to the skull’s vertex.”<sup>23</sup> “A fall onto the top of the head could cause the cervical contusion from axial loading, without gross hyper-extension or flexion. The cervical contusion could also occur if the vertex-impact was followed by gross hyper-extension or hyper-flexion of the upper neck, as the rest of the body collapsed downward.”<sup>24</sup>

**6. The Scooter**

A. The Scenario Depicted by Gomez Fails to Account for the Rest Position of the Scooter

“Dr. Gomez failed to account for the rest position of the scooter in his analysis.”<sup>25</sup>  
“According to Officer Erhard the scooter’s rear wheel and rear one-third portion of the foot plate were lying across his lower right shin”.<sup>26</sup>

B. The Scene is Inconsistent with a Fall While Riding a Scooter

“The presence of the scooter on top of (Max) following the fall indicates that any involvement of the scooter in an accidental fall scenario could not be limited to just the fall initiation, but would have to have continued until they both came to rest,” meaning “the scooter would had to have also travelled over the railing.”<sup>27</sup>

i. The rest position of the scooter is inconsistent with this scenario. Neither is it consistent “with a scenario in which the scooter is leaned up against a wall on the first floor and contacted by Max...during the fall, given that it was the foot plate and rear wheel that were on top of his shin and not the handlebars.”<sup>28</sup>

ii. “According to Officer Adkins, there was damage to the railing and “corner spindle” at the top of the stairs along with paint chips.”<sup>29</sup> “The location of this damage is not consistent with an accidental fall scenario in which Max...rode his scooter into the railing” because “impact with the second floor railing, even at fast running speeds, would not result in a fall over the railing due to the location of their center of gravity below the top of the railing.”<sup>30</sup>

iii. “In order for an accidental fall over the railing while riding the scooter to occur and be consistent with the rest position of the scooter, Max’s...body would have had to clear not only the railing but also the handle bars of the scooter.”<sup>31</sup> “...based on the rest position of the scooter, any accidental scenario must not only account for movement of Max...over the railing but...for the scooter traversing the railing.”<sup>32</sup> “No markings were found on the appropriate section of the staircase railing at the scene descending from the second floor to the landing consistent with such a contact. The only mark on the staircase railing at the scene was...too low to coincide with the trajectory needed to result in interaction with the chandelier.”<sup>33</sup>

#### **7. Other Accidental Scenarios Do Not Account for the Scene and Injuries**

Theoretically, “the only” location where Max could have travelled over the railing given his center of gravity would be where the railing “descends from the second floor to

the landing.”<sup>34</sup> However, such an accident would require that Max be “airborne just prior to contact with the railing.”<sup>35</sup> Such a scenario involving Max running in the second floor hallway or riding the scooter in the second floor hallway “would not result in an accidental fall consistent with all aspects of the incident scene, including the location of the scooter”<sup>36</sup>, nor would it account for Max’s multiple planes of injuries and his back injuries.

“Other activities that would sufficiently raise his center of gravity so that it was higher than the railing, such as jumping, sitting on the railing, standing on a soccer ball, or standing or riding on the dog must also be considered as potential scenarios leading to an accidental fall. However, any of these types of activities would have to be consistent with all aspects of the scene including physical evidence on the railing and the rest positions of Max...the chandelier, the scooter, or any other object involved in the proposed accidental fall scenario.”<sup>37</sup> [A]ny of these types of activities would have to also be associated with a sufficient horizontal speed and the proper trajectory to result in interaction with the chandelier....In other words, while a scenario such as standing on [a] soccer ball is within the realm of possibility, one would have to be standing on a soccer ball while traveling down the hallway with a forward horizontal velocity while also holding the scooter.”... “It is also noteworthy that there were no significant lacerations reported, despite the presence of the broken chandelier at the scene.”<sup>38</sup>

## 8. Assault Scenario

**“The kinematics associated with the [assault] scenario put forth by Dr. Melinek ... provide biomechanically accurate mechanisms for all of Max’s...injuries and are consistent with the physical evidence and geometry of the incident scene.”<sup>39</sup>**

### A. The Soft Tissue Injuries to Max’s Face and Forehead Are Consistent with Forces of an Assault

“The fall alone...would not account for the abrasions and contusions along the right forehead, inner eye and lids, the left ala, or the right shoulder and neck, which are each in additional planes of injury. The more planes of injury..., the more likely that an incident is the result of an assault rather than a simple or even complex fall. A fall would not explain injury to a recessed or protected area.”<sup>40</sup> “...the soft tissue injuries to his face and forehead are consistent with the forces that could be produced during an assault.”<sup>41</sup>

### B. Max’s Back Injuries Are Consistent with Railing Contact

Such a scenario of assault, in which Max’s “back contacted the railing along the second floor hallway or along the stairs leading from the second floor to the landing which caused the soft tissue injuries to his back”,<sup>42</sup> are “consistent with the kinematics and biomechanical mechanisms required to cause the injuries sustained by Max...”<sup>43</sup> “Contact by and sliding of Max’s back along a protruding edge could have produced these back injuries.”<sup>44</sup> “The bruising injuries do not require gross medial movement of his skin, nor do they require the bruised tissues to override the spinous processes.”<sup>45</sup> “The soft tissue injuries to Max’s...back are consistent with the forces that could be

produced by contact with the railing occurring during an assault or evasive maneuver such as backing into the railing.”<sup>46</sup>

C. Max’s Height and Pattern of Back Injuries Are Consistent With the Height and Shape of the Banister on the Second Floor.

Notably, with Max “in a standing position, the vertical location of the uppermost injury in his back is consistent with the height at the protruding edge of the railing along the second floor hallway.”<sup>47</sup> “There are additional geometric relationships between the back injuries and the shape of the railing and spindles.”<sup>48</sup> “These geometric relationships are consistent with the injuries occurring as Max’s...back contacted the railing and as his back moved up and over the railing as a result of the assault” scenario.<sup>49</sup>

D. Max’s Skull Fracture, Subgaleal Contusion, and Spinal Cord Contusion Are Consistent with Max Moving or Being Moved Over the Railing Following an Assault

“The nature and location of Max’s skull fracture and subgaleal contusion are indicative of a head first contact with the first floor surface”<sup>50</sup> and thus are consistent with Max moving or being moved over the railing following the assault causing him to fall to the first floor. “Such contact also provides a mechanism for his cervical spinal cord contusion.”<sup>51</sup> “The rotation of his body required to result in this head first orientation is biomechanically consistent with rotation imparted onto his body due to movement over the railing and/or interaction with the chandelier.”<sup>52</sup> “[T]here is a large subgaleal contusion at the top of the head, associated with the largest gap in the sagittally oriented skull fracture. The front edge of the skull fracture is at midline and does not reach the right lower frontal forehead area, where the abrasions and contusions begin on

the face.”<sup>53</sup> “Additionally, continued motion of a still moving body after his head had been stopped due to contact with the floor would have provided a mechanism to load his cervical spine.”<sup>54</sup> “Additional rotation of his body following head impact resulting in a rest position as described by Officer Erhard is also consistent with the expected kinematics following such a head contact.”<sup>55</sup>

E. Rest Position of Scooter

“...any scenario must also account for the rest position of the scooter.”<sup>56</sup> In the assault scenario, “Max may have been holding or otherwise in contact with the scooter during the assault.”<sup>57</sup> “In such a scenario, the scooter may have moved over the railing with him and...come to rest on top of his...leg...” However, “had the scooter fallen to the first floor after Maxfield Shacknai came to rest on the first floor it likely did not land on him directly because there are no injuries consistent with such contact.”<sup>58</sup> Or, “following his fall...the scooter may have been moved over the railing and fallen to the first floor, or may have been moved by some other means to the first floor.”<sup>59</sup>

9. Homicide Conclusion

**It would be more accurate to certify Max’s manner of death as a homicide, where homicide is defined as death at the hands of another.**

A. Injuries/Lack of Injuries Not Explained by Fall

“The hands have no ‘dicing abrasions’ from grasping at the chandelier....The fall alone...would not account for the abrasions and contusions along the right forehead, inner eye and lids, the left ala, or the right shoulder and neck, which are each in additional planes of injury. The more planes of injury..., the more likely that an incident

is the result of an assault rather than a simple or even complex fall. A fall would not explain injury to a recessed or protected area(as in the inner right orbit or neck).”<sup>60</sup>

B. An Assault is Consistent with the Injuries and the Scene

i. A scenario that is “both consistent with the injuries and the scene measurements is that Max (field) was assaulted...at the hallway near the banister on the second floor.”<sup>61</sup>

ii. “The perpetrator injured (Max’s) face and shoulder and Max (field) then was pushed against or backed into the second story railing, causing the pattern(ed) injuries along his back.”<sup>62</sup>

iii. “He was then either lifted over the banister or escaped over the banister, falling down to the front entry way...” causing further injury to his back.<sup>63</sup>

iv. “He landed on the top of his head and collapsed with his legs following, rather than with his legs first and his face second, as in Dr. Gomez’s scenario. A fall onto the top of the head could cause the cervical contusion...”<sup>64</sup>

v. This “is the only scenario” that Dr. Bove and Dr. Melinek could reach in collaborative consultation that “accounts for all the planes of injuries and the scene findings...”<sup>65</sup>

C. The Manner of Death Should be Certified a Homicide

i. Dr. Melinek’s review of all materials informs her “within reasonable medical probability that while the Medical Examiner’s cause of death determination is accurate, the manner of death is not.”<sup>66</sup>

ii. According to Dr. Melinek, “it would be more accurate...to certify this manner” of death “as a homicide, where homicide is defined as death at the hands of another. Homicide is a forensic term used by medical examiners and coroners to indicate another person’s involvement in the death and does not distinguish between legal gradations in intent such as involuntary manslaughter, criminally negligent homicide or murder.”<sup>67</sup>

**10. Evidence and Indications Support Rebecca Zahau’s Direct Involvement**

**A. Dr. Melinek Concludes Rebecca Zahau Had Direct Involvement in the Assault and Death of Max**

Dr. Melinek concludes Rebecca Zahau had direct involvement in the assault and death of Max given:

- i. Her “apparent suicidal death...two days after the incident;”
- ii. Her “inconsistencies in her verbal reports about the incident;”
- iii. “Her comment to her sister that “Dina’s going to kill me;”
- iv. “Her knowledge of where Max fell when she spoke to Dina’s sister Nina”; and
- v. “The multiple planes of injury on the child’s body”.<sup>68</sup>

B. It is Incredibly Unlikely Max Would Have Been able to Articulate the Word “Ocean”

“...the location of the injury to the top of the cervical cord makes it incredibly unlikely that Max (field) would have been able to clearly articulate the word “Ocean” after the fall, a process which requires intact upper cervical cord neurons.”<sup>69</sup>

C. Dr. Melinek Notes that Absent from the File was Information on Rebecca Zahau’s Temperament

“A thorough psychological assessment of (Rebecca’s) mental state or inquiries into previous aggressive acts or a pre-existing violent temperament are all notably absent from the material (Dr. Melinek) reviewed in Max’s case file or in the material supplied to (her) about Rebecca Zahau’s death.”<sup>70</sup>

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<sup>1</sup> (Melinek, P.4)

<sup>2</sup> (Bove, P.12)

<sup>3</sup> (Bove, P.12)

<sup>4</sup> (Bove, P.12)

<sup>5</sup> (Bove, P.12)

<sup>6</sup> (Bove, P.12)

<sup>7</sup> (Bove, P. 12-13)

<sup>8</sup> (Bove, P.12)

<sup>9</sup> (Bove, P.12)

<sup>10</sup> (Bove, P.17)

<sup>11</sup> (Melinek, P.3)

<sup>12</sup> (Bove, P.21)

<sup>13</sup> (Bove, P. 21-22)

<sup>14</sup> (Melinek, P.3)

<sup>15</sup> (Bove, P.20)

<sup>16</sup> (Bove, P. 21)

<sup>17</sup> (Bove, P.21)

<sup>18</sup> (Bove, P. 21)

<sup>19</sup> (Bove, P. 21)

<sup>20</sup> (Bove, P. 21)

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- <sup>21</sup> (Bove, P. 22)  
<sup>22</sup> (Bove, P. 21-22)  
<sup>23</sup> (Bove, P. 21-22)  
<sup>24</sup> (Melinek, P. 4)  
<sup>25</sup> (Bove, P. 3)  
<sup>26</sup> (Bove, P.3)  
<sup>27</sup> (Bove, P. 17)  
<sup>28</sup> (Bove, P. 17)  
<sup>29</sup> (Bove, P.4)  
<sup>30</sup> (Bove, P.17)  
<sup>31</sup> (Bove, P. 18)  
<sup>32</sup> (Bove, P.19)  
<sup>33</sup> (Bove, P. 18)  
<sup>34</sup> (Bove, P.14)  
<sup>35</sup> (Bove, P. 14)  
<sup>36</sup> (Bove, P.2)  
<sup>37</sup> (Bove, P.2)  
<sup>38</sup> (See Bove, P. 16 and 20)  
<sup>39</sup> (Bove, P. 25)  
<sup>40</sup> (Melinek, P. 3)  
<sup>41</sup> (Bove, P. 24)  
<sup>42</sup> (Bove, P.23)  
<sup>43</sup> (Bove, P. 24)  
<sup>44</sup> (Bove, P.21)  
<sup>45</sup> (Bove, P.21)  
<sup>46</sup> (Bove, P. 24)  
<sup>47</sup> (Bove, P. 24)  
<sup>48</sup> (Bove, P. 24)  
<sup>49</sup> (Bove, P. 24)  
<sup>50</sup> (Bove, P. 24)  
<sup>51</sup> (Bove, P. 24)  
<sup>52</sup> (Bove, P. 24)  
<sup>53</sup> (Melinek, P. 5)  
<sup>54</sup> (Bove, P. 22)  
<sup>55</sup> (Bove, P. 24)  
<sup>56</sup> (Bove, P. 24)  
<sup>57</sup> (Bove, P. 24)  
<sup>58</sup> (Bove, P. 24)  
<sup>59</sup> (Bove, P. 24)  
<sup>60</sup> (Melinek, P. 3)  
<sup>61</sup> (Melinek, P. 3-4)  
<sup>62</sup> (Melinek, P.4)

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<sup>63</sup> (Melinek, P.4)

<sup>64</sup> (Melinek, P.4)

<sup>65</sup> (Melinek, P.4)

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<sup>67</sup> (Melinek, P.4)

<sup>68</sup> (Melinek, P.4)

<sup>69</sup> (Melinek, P.4)

<sup>70</sup> (Melinek, P.4)