A River Runs Through It: Bridge Jumpers in Spokane County, WA

Spokane County Medical Examiner | Sally S. Aiken, MD

- 2017
- "She was dead before she hit the water"
- "Military take-down injuries"
- "Naked, ligature mark, and grab marks"
- Bringing dead bodies to river and dumping them

The Spokane River
From Lake Coeur d'Alene to the Columbia
Monroe Street Bridge, Spokane’s Suicide Bridge

**SUICIDE BRIDGE:** A bridge used frequently to die by suicide, most typically by jumping off (Wikipedia)

<table>
<thead>
<tr>
<th>Washington Suicide Bridges</th>
<th>USA Suicide Bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>George Washington Memorial Bridge, Seattle (Aurora Bridge)</td>
<td>Golden Gate Bridge, San Francisco</td>
</tr>
<tr>
<td>3.9 Jumpers/year</td>
<td>20 Jumpers/year</td>
</tr>
</tbody>
</table>
Spokane Bridges 2.4 jumpers/year
Charleston Harbor Bridges, South Carolina, 6 jumpers/year

Bridge Jumpers/year  Spokane County
Average = 2.4/year

International Suicide Bridges
- Canada: Bloor Viaduct Toronto, rivaled Golden Gate 500 until 2003 (barrier completed)
- Australia: Westgate Bridge, barrier completed, reduced 85%
- South Africa: Van Stadens Bridge, now has barrier
- South Korea: Mapo Bridge, nicknamed “suicide bridge”
Why do jumpers choose a “Suicide Bridge”

- “I was attracted to the bridge—an affinity between me, the Golden Gate Bridge and death—there is a kind of form to it, a certain grace and beauty.”
- 4/6 said they would not have used any other method or bridge
- One associated the Golden Gate Bridge with entering “golden doors” into a new spiritual realm
- Easy and a sure thing. Notorious fame of the bridge, easy access

Observed Falls from the Golden Gate Bridge: Body Orientation lateral or transverse (Aerospace Medicine V 38, No. 8, 1967)

- 85.2% of 169 jumpers had crush injuries to the thoracic cage
- A minority drowned (8), but drowning may have contributed in 25%
- 25% had skull fractures

Fire truck ladder: 77 degrees, 74 feet

- 3/3 dropped feet first, landed horizontally
- 3/3 dropped horizontally, landed horizontally
- 3/3 dropped head first, landed horizontally

Impact Velocities

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Height to Water</th>
<th>Impact Velocity</th>
<th>Velocity corrected for drag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golden Gate Bridge</td>
<td>200-261 feet</td>
<td>87 mph</td>
<td>74-75 mph</td>
</tr>
<tr>
<td>Aurora Bridge</td>
<td>164 feet</td>
<td>70 mph</td>
<td></td>
</tr>
<tr>
<td>Charleston Harbor Bridges</td>
<td>155-186 feet</td>
<td>68-74 mph</td>
<td></td>
</tr>
<tr>
<td>Brooklyn Bridge</td>
<td>154-160 feet</td>
<td>62-69 mph</td>
<td></td>
</tr>
<tr>
<td>Monroe Street Bridge</td>
<td>135 feet</td>
<td>63 mph</td>
<td>56 mph</td>
</tr>
</tbody>
</table>

Critical survival velocity striking water

- 100-116 feet/second (smaller surface area, longer deceleration)

- 88 feet/second

- Acapulco divers: 63 miles/hour
Rib fractures are a common hallmark of bridge jumpers with velocities over 63 mph

Abel SM, Ramsey J. Patterns of skeletal trauma in suicidal bridge jumpers: A retrospective study from the southeastern United States. For Sci Int 2013;231:399.e1-399.e5

Spokane Bridge Jumpers: 2007-2018 (11 years) Manner: Suicide

- Total deaths: 29
- Struck shore or water: 12
- Struck water: 17
- Witnessed or videotaped: 13
- Monroe Street Bridge: 9
Time to Discovery of 13 Witnessed/video-recorded Jumpers

- Time to discovery of the bodies ranged from immediate to 10 days. Most found within hours.
- 2 jumped after dark, both found the next day.
- 2 found close to the bridge. 11 were 40-6,000 yards from bridge.
- Poor correlation between river flow volume (cubic feet/sec) and both time to discovery, and distance of travel.
- River has currents, eddies, debris, obstacles.

INJURIES IN BRIDGE JUMPERS LANDING IN WATER

Golden Gate Bridge (J of Trauma;21:612)
- 87% Chest organ injuries
- 84% Abdominal injuries
- 14% Extremity fractures
- 77% Multiple trauma
- No skull fractures, 24% SAH
- 12% Drowning as cause of death

Charleston Harbor Bridges (For Sci Int 2013; 231)
- 87% Trauma to chest or abdomen
- 15-18% Extremity fractures
- 56% Multiple trauma
- 30% Head or face trauma
- 67% Drowned

13 witnessed/videotaped jumpers Spokane

- 13/13 jumpers had injuries
- 8/13 or 62% had rib fractures
- 7/9 (78%) who jumped from Monroe street bridge had rib fractures, lung contusions common
- One extremity fracture, two with spine fractures
- Skin contusions frequent
- Drowning caused or contributed in 100%
- Hypothermia
Loss of Clothing in witnessed/videotaped Spokane bridge jumpers landing in water

- 6/13 had loss of clothing
- 2 others had extensively torn pants
- One who lost clothing from the upper body, had pants down around ankles
- One lost all clothing
- In some witnessed jumps, clothing re-surfaced before jumper
Bridge jumpers into Water, Spokane County

- Humans in free fall land horizontally
- Impact velocity is 63 miles per hour, injury is expected
- Most injuries are to the torso (horizontal impact)
- Drowning is common, partly due to incapacitation from injuries
- Clothing loss is not alarming

Answer: NO