BASE Jumping Injuries

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B - BUILDINGS
A - ANTENA
S - SPAN
E - EARTH
BASE Jump

No airflow to stabilize body position
Less aerodynamic control
A single canopy sport

Highly versatile parachuting system
Inflated pilot chute starts the deployment process, pulling the canopy out of the container.
BASE JUMP

ANTENA

Avoid objects collision...
BASE JUMP

span

How low can you go....
BASE JUMP EARTH

Climb - Jump
“Sub Optimal” landing areas...
BASE JUMP - Sub Disciplines
Aerobatics
Cave Jumping
Wing Suit Flying
Turn around time...
Non BASE “BASE”
How Dangerous is BASE Jumping?
An Analysis of Adverse Events in 20,850 Jumps From the Kjerag Massif, Norway
Soreide K, Ellingsen CL, Knutson V.
Journal of Trauma. May 2007

Contrary to the wide perception, it is NOT only about a chute that doesn’t open, this is actually extremely rare occurrence in BJ!
How Dangerous is BASE Jumping?

An Analysis of Adverse Events in 20,850 Jumps From the Kjerag Massif, Norway

Soreide K, Ellingsen CL, Knutson V.
Journal of Trauma. May 2007

- During an 11-year period, a total of 20,850 jumps resulted in 9 fatal and 82 nonfatal accidents
- Helicopter activation occurred in one-third of accidents
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- Postmortem examination of fatalities revealed multiple, severe injuries sustained in several body regions

- Most nonfatal accidents were related to ankle sprains/fractures, minor head concussion, or a bruised knee

But that was in a “safe” and “sterile” environment, a high Norwegian’s fjord cliff.
We evaluated a group of 102 BASE jumpers between 2006 and 2010.

BASE jumping participants were included if they had been involved in the sport for at least 3 months and had made at least 10 jumps.

Jumpers who jumped rarely and from only 1 “safe” object were excluded.
68 active jumpers = 5 % of the total world BJ population (back then..) with a balanced coverage of age, gender, experience, and countries of origin

**FIGURE 4.** Jumpers’ experience in the sports according to number of jumps.
Median time respondents had participated in BJ was 5.8 years (range, 6 months to 17 years).

Median number of jumps was 286 (males, 316; females, 96) (range, 15–2300; Figure 4)

Forty-four jumpers (65%) were involved in other adventure sports. These were mainly rock climbing and snowboarding.
The subjects conducted 19,497 jumps with an average 0.2% severe injury rate (2 severe injuries per 1,000 jumps).

Jumpers spend a total of 15,000 jumping days leading to an injury per 384 jumping days or 2.6 significant injuries per 1,000 jumping days.
There were 39 reported injuries sustained by 29 different jumpers, indicating that 43% of jumpers have sustained at least 1 severe injury during their time in the sport.

5 jumpers were involved in 2 separate accidents
1 had 3 separate accidents
1 had 4 separate accidents
Mean Abbreviated Injury Score (AIS) was **3.2**

The AIS is categorized as:
1 - minor
2 - moderate
3 - severe, not life threatening
4 - serious, life threatening
5 - critical, survival uncertain
6 - maximum, currently untreatable

**TABLE 3. Type of Injury and Injury Score**

<table>
<thead>
<tr>
<th>Type of Injury</th>
<th>No. Incidents</th>
<th>AIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU-related multitrauma (pneumothorax, ACLS required, head injury, and cervical spine)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Head injury\concussion</td>
<td>2</td>
<td>4/3</td>
</tr>
<tr>
<td>Fx thoraco–lumbar–sacral spine</td>
<td>6</td>
<td>4/3</td>
</tr>
<tr>
<td>Fx ribs</td>
<td>5</td>
<td>4/3</td>
</tr>
<tr>
<td>Fx\Dx upper limb (arm, forearm, and scapula)</td>
<td>4</td>
<td>4/3</td>
</tr>
<tr>
<td>Fx upper limbs (hand\wrist)</td>
<td>4</td>
<td>3/2</td>
</tr>
<tr>
<td>Fx femur</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fx Dx\open Fx of ankle\tibia fibula</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Fx ankle (simple)</td>
<td>9</td>
<td>3/2</td>
</tr>
<tr>
<td>Fx talus</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fx calcaneus</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fx foot (mid\forefoot)</td>
<td>7</td>
<td>3/2</td>
</tr>
<tr>
<td>Tear Achilles</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Head major laceration</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

ACLS, advanced trauma life support; Fx, fracture; Dx, dislocation.
61% of BASE jumping accidents involved the lower limbs, 20% involved the back/spine, 18% were chest wall injuries, 13% were head injuries. 52% required acute surgical intervention.
72% of the jumpers had witnessed death or serious injury of other participants in the sport.

43% jumpers had suffered significant injury.

76% had at least one “near miss” incident.

Only 6% of the jumpers in this series have never sustained an injury, never had a near miss, and never witnessed a fatality or critical injury.
Average time in the sport:
“Untouched” jumpers 2 years
Rest of the jumpers 5.8 years

Average number of jumps made:
“untouched” - 23
Rest of the jumpers - 286

>> If you have not injured or almost killed yourself while jumping or have not seen a jumper die yet, you are probably new to the sport of BJ
The role of experience in respect to injury occurrence:

- 30% of injuries occurred when jumpers had performed < 50 jumps
- 25% of injuries occurred around the 100 jumps mark
- 31% between 200 and 500 jumps
BASE Jumping has **12** times the fracture rate and **16** times the hospitalization rate of skydiving.

Injury rate is **30** times higher than Skydiving.
So, if you feel that BASE jumping is too dangerous.....
You can always switch back to skydiving......