

Gear & Safety Warning

Highline Injury Report

Catch and Leashfall Incidents

Authors: Thomas Buckingham, Philipp Gesing

Contributors: Lisa Bretagne, Marian Harbach, Ian Hoffman, Sonya Iverson

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The rise in highline activities around the globe since 2012 has revealed several systematic accident scenarios. Despite the tremendous amount of highlines which have been rigged and walked throughout the years, only one fatality is known. The accident occurred 2011 due to material misuse (carabiner in the leash, instead of a closed ring). Other known fatalities occurred during the approach to or descent from the highline in an alpine environment and not during the walking of the highline. Further accidents happened near the edges (start and end) of the highlines. Such accidents can be prevented by mounting far out and ending a walk early and will therefore not be discussed here.

In the [reported](#) and known incidents, the affected highliner never lost consciousness. Therefore any rescue necessary could usually be performed with little effort and in a relatively short amount of time. However, it can not be assumed that this will always be the case.

The diversity of possible injuries that one can sustain is difficult to determine. There are, however, some prevalent scenarios in which accidents have occurred. This report investigates documented and observed accidents and near-accidents in the context of walking a highline, focusing especially on catches and leashfalls and not on misuse of gear. Catches and leashfalls can be fun and are a crucial part of the normal highline experience. However, they also introduce a potential for injury. Based on our analysis of these reports, we provide recommendations to minimise risk.

Documented Accidents During Catches

Light injuries:

- Bruises (inside of the legs and around the armpits)
- Grazes (forearms and legs)
- Torn muscle fibres (forearms and calves)
- Contusions in the genital area
- Sprains and distortions (fingers and wrists)
- Cuts (hands and back of the knee)

Severe injuries:

- Severe shoulder injuries (dislocated shoulders, torn rotator cuffs, etc.)
- Severe knee injuries (torn ligaments, tendons, etc.)
- Severe wrist injuries
- Broken bones (fingers)
- Broken nose

Documented Accidents During Leashfalls

Light injuries:

- Bruises (inside of the legs and around the armpits)
- Light burns (calves)
- Hyperextended back

Severe injuries:

- Severed toe
- Broken bones (fingers, feet, arms, legs, collar bones and ribs)
- Ligament rupture (cruciate and intra-articular ligaments)

Reported Causes

Observers report that most accidents happen due to one or more of the following circumstances:

- Highliner is not able to reliably walk a minimum of twice the length of the highline on ground (longline).
- Highliner is not able to reliably mount the highline (chongo, other sit-start, etc.)
- The previous leashfall and turning in the leash while hanging produced a tangle/loop in the leash
- Highliner is not paying attention to the position of the leash prior to and during the mount
- Highliner does not understand leash-handling and did not train it previous to the first highline attempts
- Highliner did not train to catch previous to the first highline attempts.
- Highliner is not prepared for the fall.
- Unfavorable weather conditions (fog, rain, cold, twilight, etc.)

Discussion

Injuries appear to occur especially often during the first dozen times of highlining and when highliners attempt to walk lines that are too difficult for them. Intentional dynamic movements (surfs, jumps, etc.) also increase the chance of injury. **The most severe injuries were sustained by highliners who had not trained how to catch the line and/or handle their leash prior to their first highline experiences.**

Highlining poses an inherent risk to everyone who engages in the sport. It is, however, a relatively safe activity if practised with the necessary knowledge and caution. To further mitigate the risks of injury associated with highlining, the following recommendations have been formulated:

Recommendations

- Acquire strong slackline skills, especially the ability to mount the line in a reliable and stable manner
- Learn how to fall. Train catching on a waterline or over pads before attempting to highline for the first time
- Learn how to handle your leash. Train it on lowlines with a piece of rope (without harness or leashrings)
- Adjust the length of the leash to the height of each highliner
- Avoid unnecessarily long leashes to avoid tangles and loops in the leash
- Push the leash ring(s) away from you before standing up
- Beginners may wish to wear shoes and gloves to prevent toe and finger injuries
- Read [Highlining - The 10 most important points!](#)

Remember! When rigging a highline, always account for the possibility of a mainline failure. Have a plan for how to rescue an injured or unconscious highliner and keep all necessary rescue equipment on hand.

Links:

[Buckingham T., Witz B. \(2014\) Highlinen – The 10 most important Points](#)

[Buckingham T., Gesing P. \(2015\) Midlines - low Highlines](#)

[Gesing P., Bretagne L., Buckingham T.: Webbing slippage in low-tension highlines](#)

[Hairer F. & Geyer D \(2009\) Kraftmessung an einer Slackline](#)

[Höglinger H. \(2015\): Slackline Webbing stretch chart](#)

[Jörren D. \(2013\): Umweltauswirkungen des Slacklinesports.](#)

[Jörren D., Buckingham.T, Högglinger H., Scotland I. \(2015\): Forces in Highlines, Slacklab](#)

[Kattlein Ch. \(2010\) Kraftmessung in Highline](#)

[Kleindl R., Entner R., Griehser R. \(2011\): Sicherheit beim Highlinen, bergundsteigen 2/11](#)

[Miszewski \(2011\), Gear Test - Leashfall Simulations](#)

[Petzl, Bei einem Sturz auftretende Kräfte](#)

[Swiss Slackline, Highline Rescue Videos, Youtube Channel](#)

Please report gear failures, (near-)accidents and other incidents to our form, so we can create further warnings and gather data on risks in all forms of slacklining. Thank you!

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