

CTAC-2019-04: Lightweight Climbing Harnesses

Climbing Technical Advisory Committee

Abstract— This report discusses the use of lightweight climbing harnesses within the context of Mountaineers Basic Climbing classes and experience climbs. Lightweight equipment is popular for good reason, however CTAC recommends that lightweight harnesses are not appropriate in beginning courses where a variety of techniques are introduced. In addition, CTAC recommends that lightweight harnesses not be used on experience climbs. On glacier climbs, lightweight harnesses may be used if specifically allowed by the climb leader.

1 INTRODUCTION

In June, 2019, the Mountaineers Safety Committee requested a CTAC investigation of the use of lightweight harnesses in Basic Climbing classes and experience climbs. This request was prompted by an incident report (5/29/2019). In this incident, a student was practicing rappelling on rock using a ski-mountaineering harness (Black Diamond Couloir). Approximately halfway through the rappel, the student reported that the leg loop on the harness had “snapped”. This was not a catastrophic harness failure, and the student was on a backup belay, so there was no accident or injury resulting from the failure. However, it was alarming for both the student and instructors.

2 DISCUSSION

We reviewed the incident report and discussed our experiences of teaching harness use in Basic Climbing classes. Primary concerns were student safety during activities that place high strain on harnesses, such as rappelling, prusiking, and falling. It was also noted that hanging in a lightweight harness may cause circulatory damage. We discussed whether lightweight harnesses would be appropriate during snow field trips and glacier climbs.

3 CONCLUSIONS

The Mountaineers Basic Climbing course is designed to introduce new climbers to a wide variety of rock, glacier and snow climbing techniques. These skills include belaying, rappelling, and prusiking. Most Basic Climbing students will purchase a single harness to be used on all climbs.

There are a wide variety of harnesses on the market, designed for many types of climbing. Publicly available information on harnesses, (e.g., company marketing, web reviews and bulletin board comments) often emphasize the benefits of weight reduction rather than general-purpose use. Without climbing experience, it is difficult for Basic Climbing students to sift this information and make an appropriate buying decision. CTAC recommends that a rock harness be the standard for Basic Climbing students, as rock harnesses are robust, comfortable, and durable. We feel that Basic Climbing instructors and mentors should be clear when making recommendations on this critical component of the safety system.

A harness used in Basic Climbing should have the following features:

- Belay loop
- Comfortable padded belt
- Visually verifiable safety buckle

4 RESOURCES AND FURTHER READING

- Union Internationale des Associations d’Alpinisme (UIAA) “UIAA STANDARD 105/ HARNESSES Recommendations for Inspection and Retirement” www.theuiaa.org/safety-standards/research-information
- British Mountaineering Council (BMC) “Harnesses - a guide for climbers and mountaineers” www.thebmc.co.uk/bmc-technical-advice-booklets
- American Society for Testing and Materials (ASTM) “ASTM F1772-17 Standard Specification for Harnesses for Rescue and Sport Activities” www.astm.org/Standards/F1772.htm
- European Standards (EN) “CSN EN 12277+A1 Mountaineering equipment - Harnesses - Safety requirements and test methods” www.en-standard.eu/csn-en-12277-a1-mountaineering-equipment-harnesses-safety-requirements-and-test-methods/
- MEC “How To Choose a Climbing Harness” www.mec.ca/en/explore/how-to-choose-a-climbing-harness
- REI “How To Choose Climbing Harnesses” www.rei.com/learn/expert-advice/climbing-harness.html
- Rock & Ice “The Climber’s Magazine” “How To Choose a Harness” www.rockandice.com/gear/buying-tips/how-to-choose-a-harness