

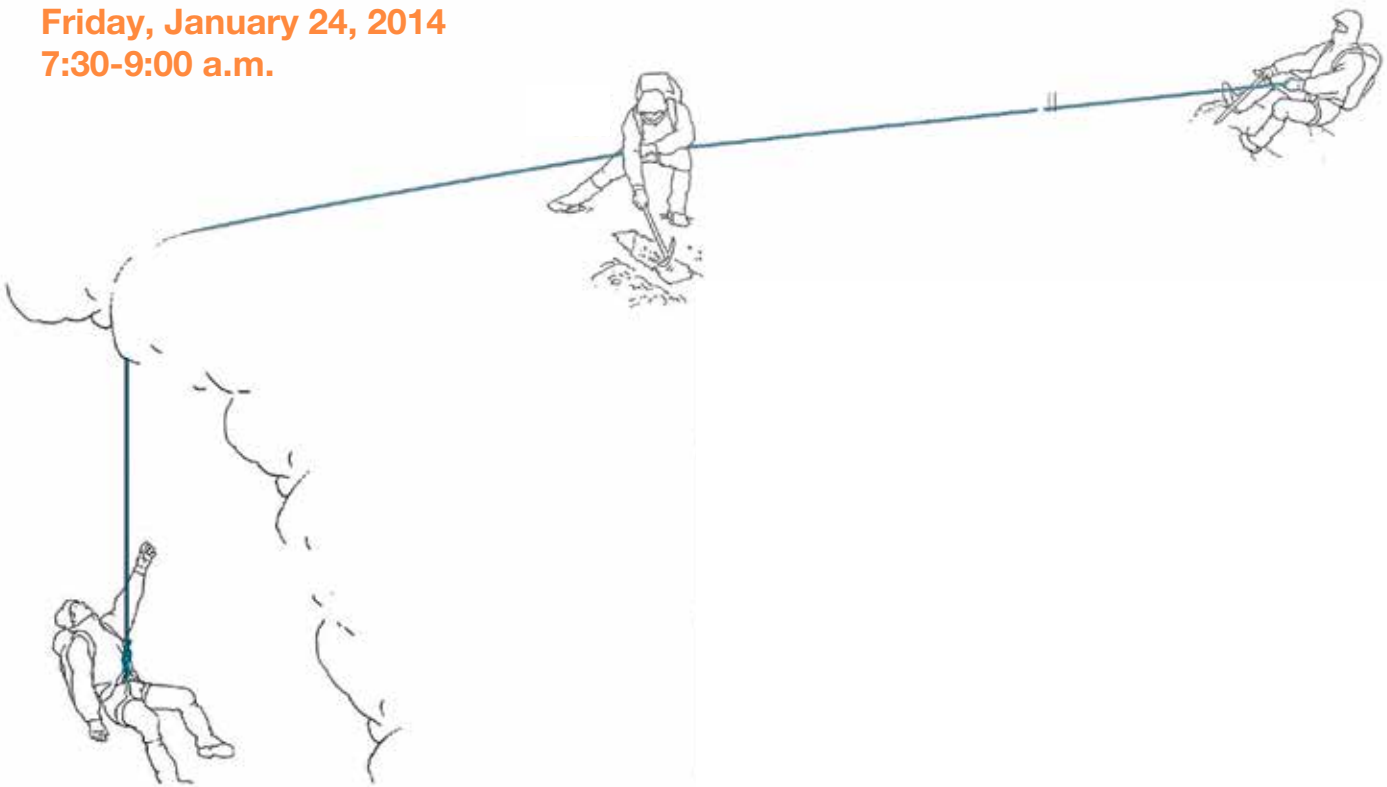
You're invited to a breakfast round table discussion on

ROPING UP FOR GLACIER TRAVEL WITH A HYPERSTATIC ROPE

**The Copper Canyon Grill
Radisson Hotel**

215 West South Temple
Salt Lake City, UT 84101
(one block northeast of the Salt Palace)

**Friday, January 24, 2014
7:30-9:00 a.m.**



Petzl has conducted a comparative study involving real falls into crevasses using either a 7.7 mm diameter dynamic rope or a 5.5 mm diameter hyperstatic Dyneema® rope. Various scenarios common to crevasses falls were tested to determine the respective benefits of short comings of these two rope applications.

Preliminary data shows that hyperstatic ropes allowed users to arrest falls at a rate 20% higher than systems incorporating dynamic ropes. This results leads us to preliminary conclude that a hyperstatic rope provides at least as much safety as a small diameter dynamic rope during simultaneous glacier travel.

Condensed information on this study:

The GOAL of mountaineers is to minimize the weight and volume of their equipment, including ropes.

In the FIELD, while progressing on glaciers, most mountaineers choose to use a small diameter dynamic rope to reduce the total weight of their equipment. In extreme cases, some use very thin hyperstatic ropes such as Dyneema ® rope.

The BENEFIT of a hyperstatic 5.5 mm Dyneema ® rope is a 50% weight reduction and 30 % reduction in volume as compared to a 7.7 mm dynamic rope.

THE QUESTION: WHAT IS THE EFFECT of a hyperstatic rope on the ability to hold a fall into a crevasse while traveling in a rope team?

A COMPARATIVE STUDY was conducted by Petzl involving real falls into crevasses. Two types of rope were tested:

- 7.7 mm dynamic half rope.
- 5.5 mm hyperstatic rope (Dyneema ®)

Two scenarios were observed: 1: TENSIONING THE SYSTEM and 2: STOPPING the fall

TENSIONING THE SYSTEM

Dynamic rope

- Gradual loading at the beginning
- then irregular loading (yoyo effect) , making holding the load difficult

Hyperstatic rope

- more brief tensioning
- Constant tension once established, making the arrest more manageable

STOPPING THE FALL

Two scenarios:

- The “belayer” is able to completely resist the shock load and remain stationary. (only possible if he is heavier, is in the right position, and has very good reflexes)
- The “belayer” is set in motion (most common situation)

Dynamic rope

- If the “belayer” resists : soft, easy catch
- If the “belayer” is set in motion : arrest is more difficult because of irregular loading.

Hyperstatic rope

- If the “belayer” resists : hard catch
- If the “belayer” is set in motion : easy arrest due to constant loading.

Preliminary observation and conclusion:

Dynamic rope

60 % of falls were arrested

Hyperstatic rope

80 % of falls were arrested

For simultaneous progress on glacier, a hyper static rope provides at least as much safety as a small diameter dynamic rope.

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