

AVALANCHE AVOIDANCE MADE SIMPLE:

Instant inclinometry and
immediate visual risk check

Allows to relax and
enjoy the safe slopes.

Why?

Backcountry novices, young sidecountry riders and those without snow safety education are over-represented in avalanche mortality statistics.

Taking a course does not make one an expert; the information on avalanche avoidance matures into relevant field behaviour only over some years of active practice.

The novice needs simple means to survive the first years in backcountry.

Those without avalanche education need an easy risk sensor.

Framework

The easiest avalanche avoidance frameworks: the Elementary Reduction Method (ERM) and the Afterski method require only that the user knows the danger grade given in avalanche bulletin, and does inclinometry. ERM recommends staying on slopes $<40^\circ$ for moderate, $<35^\circ$ for considerable, and $<30^\circ$ for high avalanche danger. Afterski recommendations are 5 degrees lower. The methods have shown 80-100% preventive efficiency in various types of snowpack.

Inclinometry is easy but in real life often overlooked: Too cumbersome, too slow, no instrument carried along. Or maybe the meaning of the reading is obscure.

Instant inclinometry

Age-old ski pole inclinometry was improved with bubble level vial and geometric tables to give a highly accurate slope angle in a couple of seconds, even with gloves on.

For line-of-sight inclinometry of an adjacent slope, there exists an equally fast tool: PoleClinometer® which can easily be applied on the same pair of poles, to make a "universal clinopole" tool.

Immediate risk check

For the novice, the slope angle needs interpretation. This is achieved by painting three risk indicator columns, yellow, orange and red, representing moderate, considerable and high avalanche risks, next to the slope angle grades, to mark the highest recommended slope angles of ERM and Afterski.

Thesis

With this tool even the total novice can estimate if the slope is reasonably safe to travel, and find an alternative route if necessary.

Tool

Cheap, low-tech, lightweight, durable, ready for use anytime, suitable for do-it-yourself (DIY) production. Bubble vial clinometer is an "open source concept": anybody may make, develop and even market it!

Use

Easy and quick, so it is used often.

Alerts when approaching risk limits, visualizes how far into the risk area one has come, allows time for hazard mitigation tactics, helps in alternative route planning, supports difficult "turn around, go home" -decisions.

Encourages to take responsibility of own safety and a mindset change: passive follower may grow into a responsible and alert traveler.

Will limit the user's mobility – to keep one reasonably safe until more experience and skills are assimilated.; thus highlights the benefits of further avalanche education.