



This may seem like fun,  
but you could easily end up...

in the dark, chest feels crushed,  
can't breathe, glove sticking up  
out of the snow kinda

DEAD

# PREVENT

Like so many things in life, the best way to get out of trouble,  
is to avoid trouble in the first place

REMEMBER — the mountains will be there tomorrow!  
DO THESE THINGS — to help you stay alive!



The view from inside an  
avalanche is pretty bleak—  
blue-gray verging on black.  
Do everything you can to  
avoid this.

- 1** UNDERSTAND the dangers

  1. **Read** the daily avalanche forecast and warnings and understand them (see chart, lower left)
  2. **Know** the history of the snowpack; if you're visiting, ask a local expert
  3. **Know** the weather forecast for when you will be in the mountains
  4. **Make** your plans, including where, when, how, and under what circumstances you will consider retreat
  5. **Determine** to change plans as conditions change—there is no shame in backing down!
- 2** PREPARE for the worst

  1. **Pick the best destination, the best route, and the best alternate route**
  2. **Tell someone your plans, update as necessary**
  3. **Bring the appropriate safety equipment\*** for conditions: transceiver, shovel, probe, personal locator beacons, cell phone, radios, etc.
  4. **Do frequent snowpack evaluations**
  5. **Avoid dangerous terrain**
  5. **Be conservative: always overestimate the dangers and always underestimate your abilities**
- 3** INCREASE your knowledge\*\*

  1. **Take** an avalanche course if you spend a lot of time in potential avalanche terrain
  2. **Learn** about mountain terrain and snow; acquire good assessment and judgment skills
  3. **Understand** your limitations, be honest about what you don't know—arrogance in the mountains can kill you
  4. **Don't assume** that what you've always done (and gotten away with) means you're safe—there is no such thing as "safe" in the mountains
  5. **Get first aid training** (see bottom right)

3 annual deaths in the US

120 annual deaths in Europe

RISK increases with depth and duration of burial decreases with air pockets

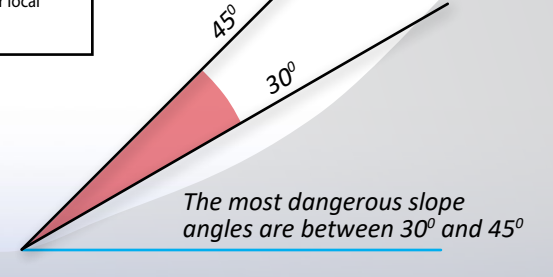
death asphyxia 50% trauma 50% (numbers are approximate, head and cervical trauma most common)

"Most avalanche accidents happen because of poor or unclear communications and failures in group dynamics"

Notice that these are human errors—don't blame the mountains  
Quote: American Avalanche Institute

# If you do get caught, then REACT to what if?

North American Public Avalanche Danger Scale			
Avalanche danger is determined by the likelihood, size, and distribution of avalanches.			
Danger level	Travel advice	Likelihood of Avalanches	Avalanche Size and Distribution
5 Extreme	Avoid all avalanche terrain.	Natural and human-triggered avalanches certain.	Large to very large avalanches in many areas.
4 High	Very dangerous avalanche conditions. Travel in avalanche terrain is not recommended.	Natural avalanches likely; human-triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable	Dangerous avalanche conditions. Careful snow-pack evaluation, cautious route-finding, and conservative decision-making essential.	Natural avalanches possible; human-triggered avalanches likely.	Small avalanches in many areas; or very large avalanches in isolated areas.
2 Moderate	Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.	Natural avalanches unlikely; human-triggered avalanches possible.	Small avalanches in specific areas; or large avalanches in isolated areas.
1 Low	Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features.	Natural and human-triggered avalanches unlikely.	Small avalanches in isolated areas or extreme terrain.
No Rating	Safe backcountry travel requires training and experience. You control your own risk by choosing where, when, and how you travel.	Insufficient information to establish avalanche danger ratings. Check snow forecast for local information.	



**JUMP UP THE SLOPE**  
The fracture line of the avalanche may be directly under your feet (especially if you triggered it); quickly stepping uphill may put you on more stable snow and keep you from being swept downhill.

**JUMP SIDeways**  
As the avalanche flows downhill, there is more depth of snow in the center of the avalanche than along the sides. The avalanche also moves faster toward the center. Moving toward the side will bring you into shallower snow that is moving (relatively) more slowly.

**JETTISON STUFF**  
Big backpacks, skis, ski poles, snowshoes, etc. can weigh you down and act like anchors, dragging you deeper into the snow. Shedding these "anchors" will help you stay closer to the top of the snow. Keep small packs (they'll help protect your spine, and you'll have warm stuff) and don't toss your shovel!

**CREATE AIR POCKETS**  
As the flow begins to slow, place your hands in front of your face and push away, creating an air pocket. Take a deep breath to expand your chest and try to move around to create more space. Once the snow stops and sets up, you won't be able to do this, so be aggressive. Remember, many avalanche deaths are caused by asphyxia—give yourself every chance to breathe that you can.

**SWIM AND ROLL**  
An avalanche is a river of flowing snow and it acts very much like water. The difference is that as soon as it stops flowing, it rapidly hardens into "snow-crete." Swimming and rolling will help to keep you on top of the moving mass of snow, minimizing the depth of potential burial. Head toward the flank and uphill—never downhill. Try to stay light and on top of the mass of snow. And don't worry about self-arresting with your ice axe—it won't work now.

**GRAB ONTO THINGS**  
By grabbing onto a stable nearby object, such as a rock or a tree, you may be able to stop and allow the avalanche to flow past. And if you can climb up the object, that's even better—always try to get above the flow. This must be done fast! Once in the flow, it's too late.

**REACH UP**  
Because of the constant pressure in all directions, it's difficult to tell up from down when trapped under the snow. Do your best to determine which way is up, and try to stick an arm or a leg toward the surface. People have been rescued because someone found a glove...with a hand in it!

**DON'T SHOUT**  
Unless you hear rescuers, otherwise you will just be wasting your breath. Snow is exceptionally sound-absorbing, and shouting early will just exhaust you. When you hear others close, then yell, but pace yourself and don't panic!



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\*If you travel frequently in avalanche terrain, consider new technologies such as backpacks with built-in avalanche airbags, and the Avalung™ (a filtration device that allows you to draw air directly from the snowpack if you are buried). And remember, nothing is more valuable than good judgment!  
\*\*Resources: [avalanche.org](http://avalanche.org) | [americanavalancheinstitute.com](http://americanavalancheinstitute.com) | [americanavalancheassociation.org](http://americanavalancheassociation.org) | [fsavalanche.org](http://fsavalanche.org) | [mountwashingtonavalanchecenter.org](http://mountwashingtonavalanchecenter.org)  
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