

Crampons, Ice Axes & Self-Arrest

Yale Winter School 2009

Oya Bermek

(modified from previous WS)

Overview

- I. Crampons
- II. Ice Axes
- III. Self-Arrest Techniques
- IV. Some Good Advices



CRAMPONS

- ▶ What are crampons?
 - Metal spike that attach to your feet
- ▶ Why Use Them?
 - Give traction on-ice or steep snow
 - Kicking Steps Sucks
 - No more step-cutting
- ▶ When Use Them?

Crampon Types

Number of Points

- ▶ Instep crampons (about six points on instep)
 - Good for Emergencies
 - Back-up/light treks
- ▶ 8 point crampons
 - Snow walking
- ▶ 10/12 point crampons
 - Standard Mountaineering Use



Crampon Types

Frontpoints

Horizontal

- ▶ Better in snow and soft ice
- ▶ Less balling (Horizontal Rails)
- ▶ For general mountaineering

Vertical

- ▶ Better in hard ice
- ▶ Dangerous balling (Vertical Rails)
- ▶ For steep waterfall and mixed climbs

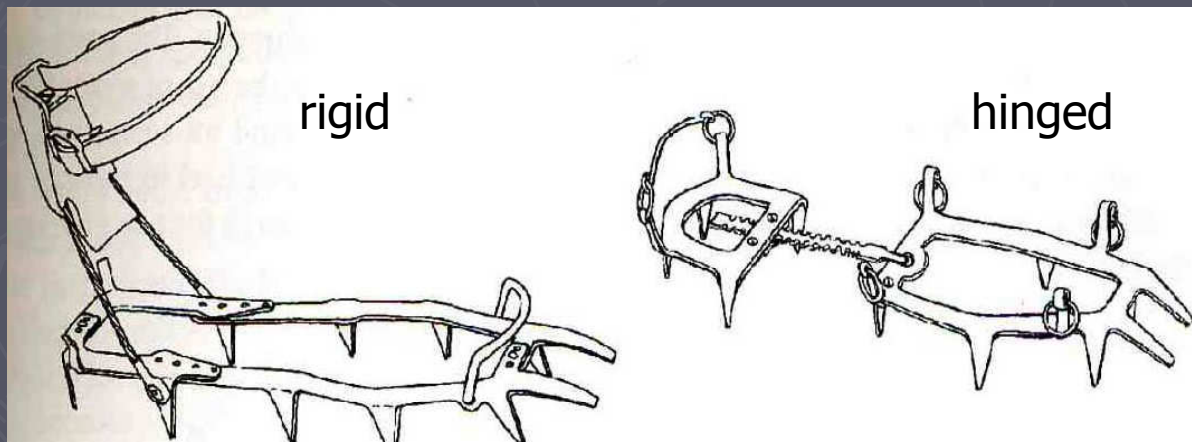
Crampon Types: Flexibility

Hinged

- ▶ More comfortable
- ▶ Tiring to front point
- ▶ Use with any boot
- ▶ Any type of mountaineering

Rigid

- ▶ Less comfortable
- ▶ Less tiring to front point
- ▶ Can only be used with rigid boots
- ▶ Steep technical climb

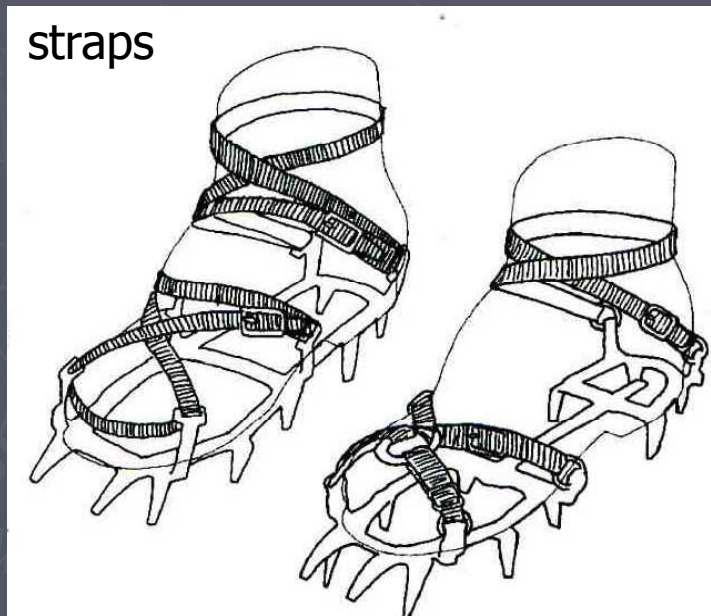


Semi-rigid

Crampon Types: Attachment

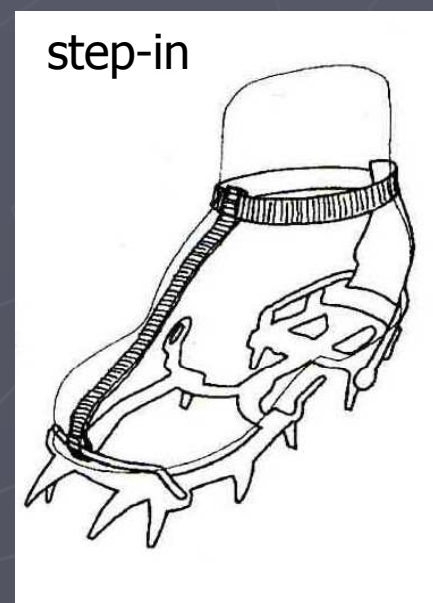
Straps

- ▶ Work with any boot
- ▶ Harder to put on in cold



Step-in

- ▶ Only work with welted boots
- ▶ Easy to put on with gloves



Boots

- ▶ Essential characteristics

- Insulated
- Waterproof
 - ▶ Nikwax, Sno Seal

- ▶ Variables

- Traction
- Rigidity
 - ▶ Crampon compatibility
- Cost



Crampon Types: Summary

- ▶ Go for good quality 12 point, semi-rigid horizontal point, strap-on crampons
- ▶ Get anti-balling plates

Fitting Crampons

- ▶ **Fit is the extremely important.** Crampons that fall off cause accidents, slow down the group.
- ▶ Adjust length and instep width so that crampon holds boot without straps
- ▶ Some require the use of screwdriver

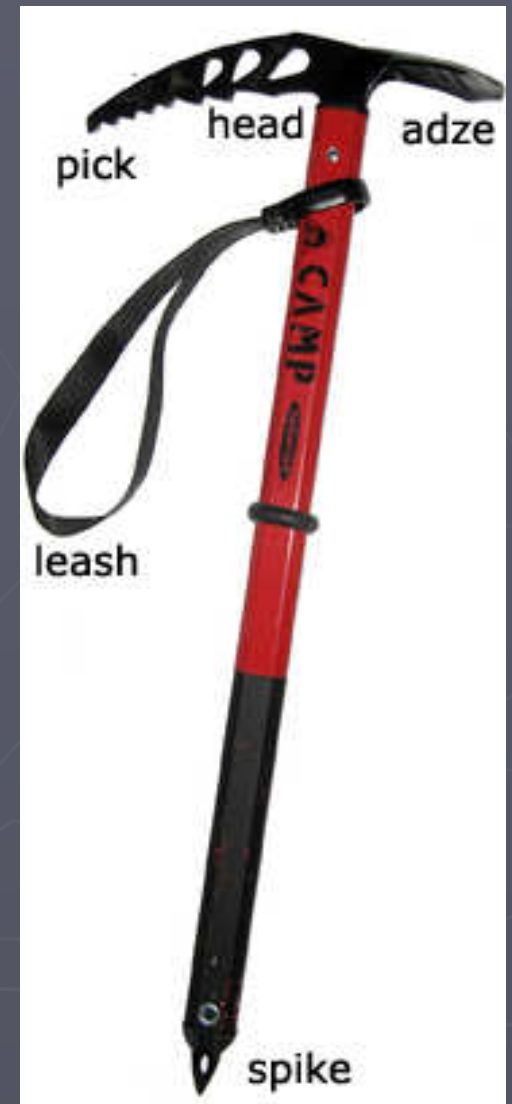
ADJUST CRAMPONS AT HOME!

Crampon Techniques

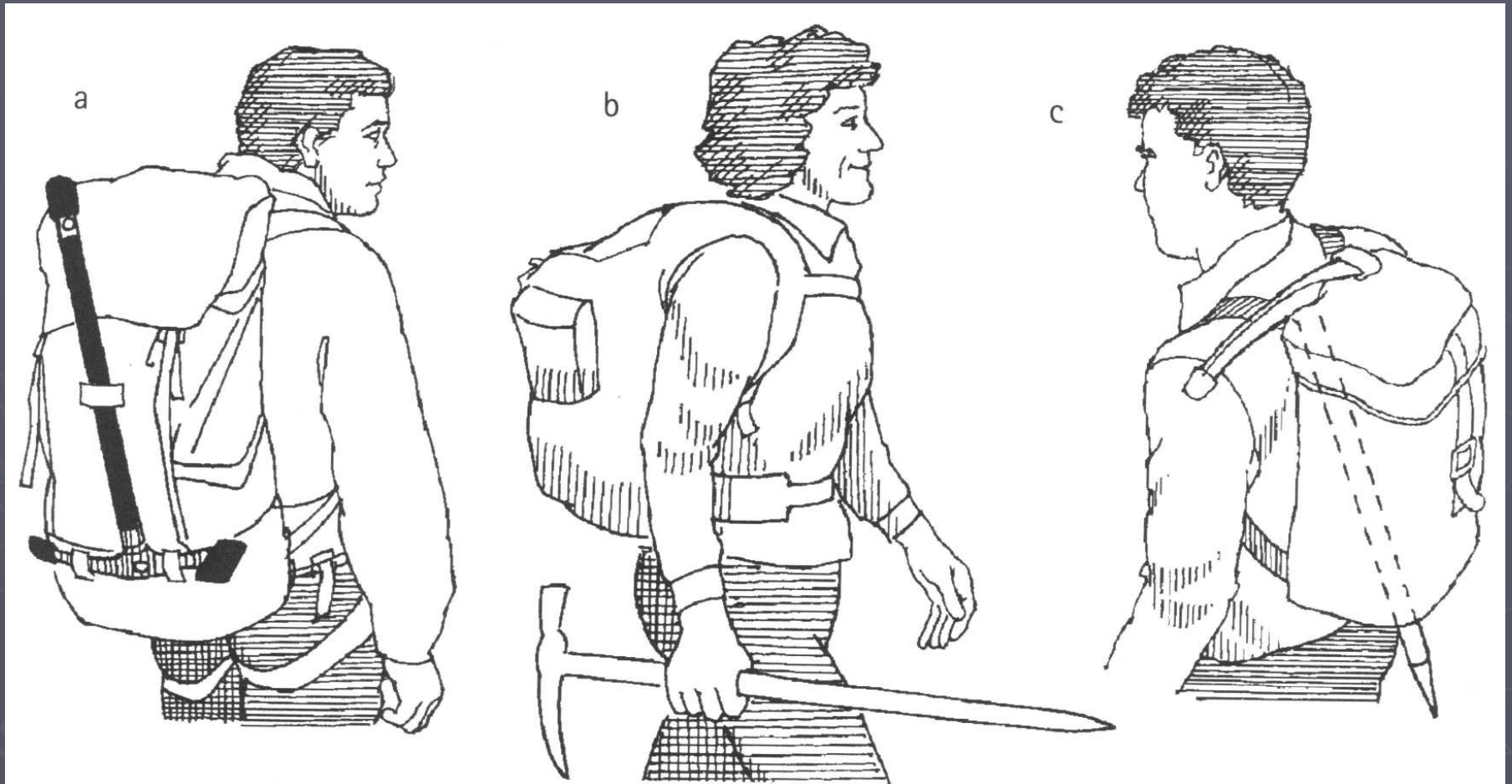
- ▶ Flat-Footing: to use on easy terrain
Get as many points as possible into ground
- ▶ Front-Pointing: to ascend a steep slope
where flat-pointing impossible

ICE AXES

- ▶ Length: choose the right one
 - Long for general mountaineering
 - Short for technical ice climbing
- ▶ Leash: prevents dropping your axe!

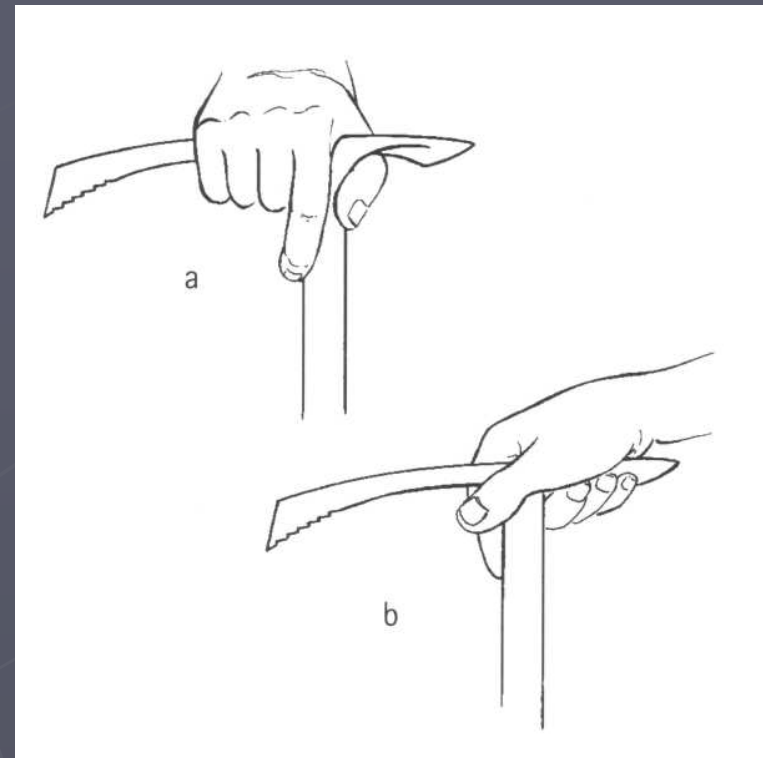


How to Carry an Ice Axe



How to Grasp an Ice Axe

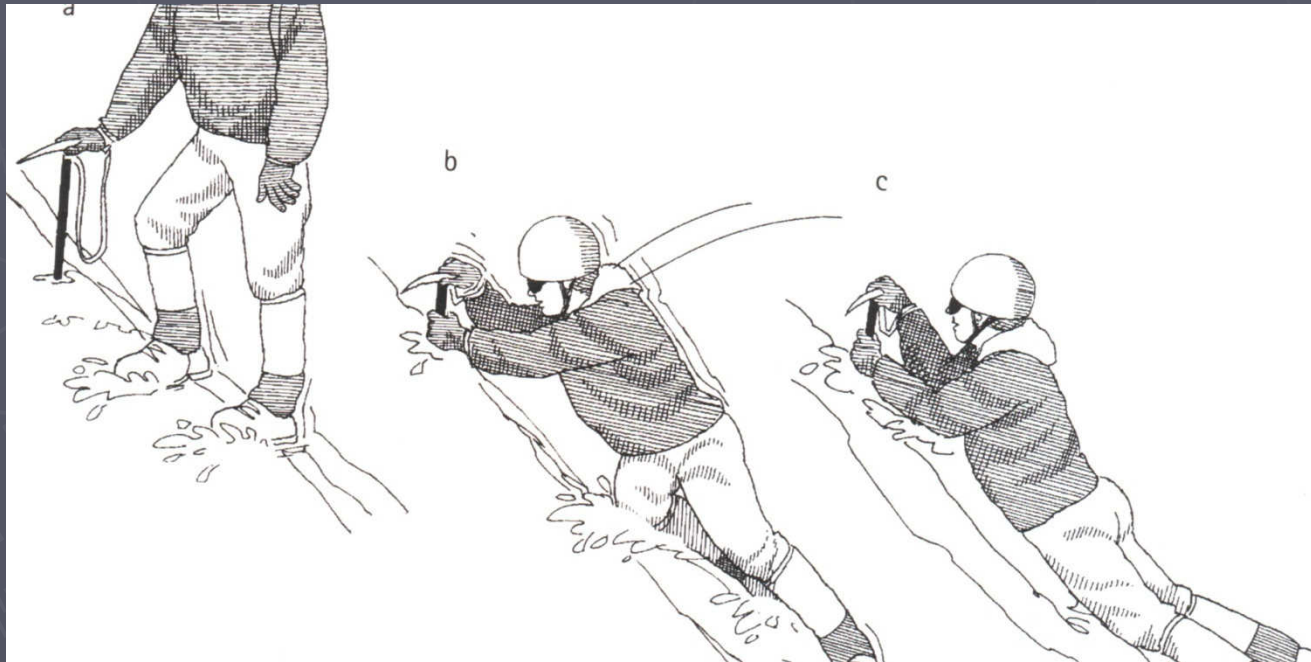
- a. Self-arrest grip
 - ready for self-arrest
- b. Self-belay grip
 - more comfortable



It's your decision!

How to Self-Belay

- ▶ An extra point of contact with the snow
- ▶ Used to PREVENT a long slide



SELF-ARREST

First Rule: DON'T FALL!

- ▶ Technique to STOP yourself while sliding downhill
- ▶ Change the axe from self-belay to self-arrest position
- ▶ Will NOT stop all falls: use good judgement

Self-Arrest Technique

- ▶ Plant pick in snow, just above the shoulder
- ▶ Head uphill, face down, legs apart, weight on axe
- ▶ Feet up to avoid summersault
- ▶ If you loose your axe, use your hands, elbows, knees
- ▶ Act quickly and be aggressive!!!!

Self-Arrest Techniques



- ▶ Self-arrest position:
head uphill and face down

You may also slide in these positions...

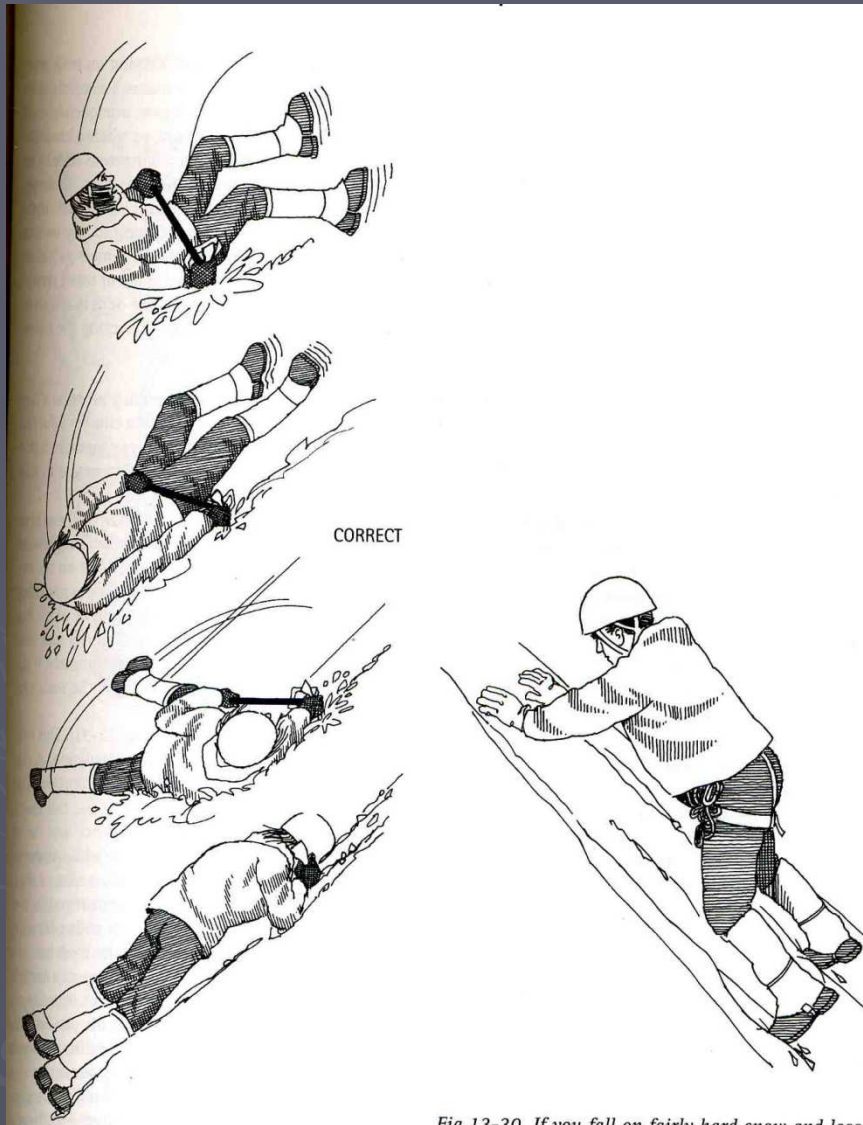
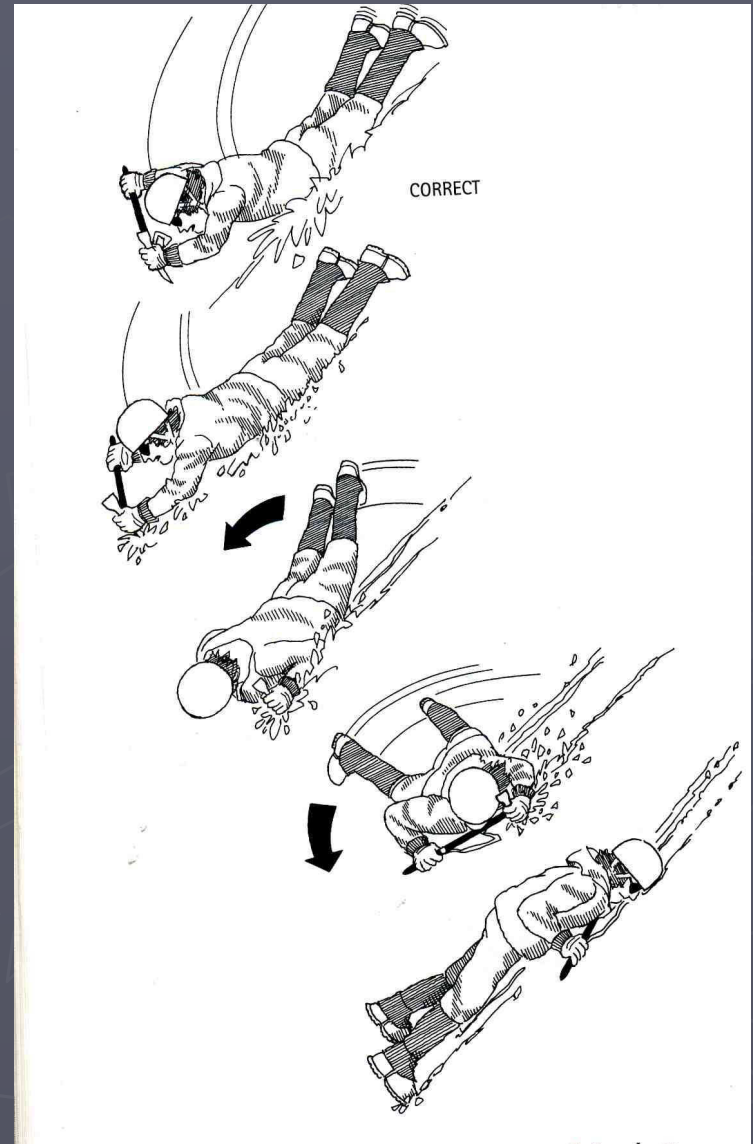


Fig. 13-30. If you fall on fairly hard snow and lose



Get yourself into self-arrest position

Some good advices...

- ▶ Learn how to use your crampons and ice axes in a safe environment
- ▶ Balance is the key
- ▶ Slips are always possible, so learn how to arrest your fall
- ▶ Preparation and practice
- ▶ Enjoy your climb!