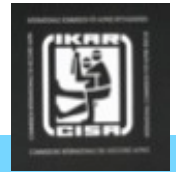


Do statistics and protocols influence rescuers ?



2

5.01.2014
5 avalanches
5 deaths



La quatrième victime de Mase est décédée

AVALANCHE EN VALAIS — Les quatre victimes emportées dimanche par une avalanche en Valais sont décédées en milieu hospitalier, annonce la police cantonale.



LE TEMPS SUISSE & RÉGIONS

ACTUALITÉ ÉCONOMIE & FINANCE CULTURE LIFESTYLE OPINIONS
Monde Genève Internationale Suisse Sciences & Environnement Multimédia

VALAIS Mardi 07 janvier 2014

La quatrième victime de l'avalanche de Mase est décédée

> LT

Durant le seul week-end passé, cinq personnes ont perdu la vie dans des avalanches en Valais

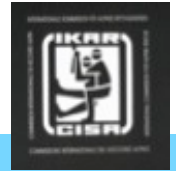
LES LIENS

» «Les freeriders doivent changer de mentalité» (07.01.2014)

La quatrième personne ensevelie ce week-end par une avalanche sous la Pointe de Masserey/Mase, en Valais, est décédée à l'hôpital. La police valaisanne indique de l'identité des quatre victimes, des randonneurs, est désormais connue: outre le guide de 29 ans originaire de Neuchâtel, il s'agissait d'un Valaisan de 26 ans, d'un Vaudois de 28 ans et d'un Belge de 35 ans établi en Valais.

Depuis le début de la saison, huit personnes ont perdu la vie en Valais, 11 au niveau national. La police valaisanne ajoute que «sept victimes ont été emportées par des avalanches alors qu'elles pratiquaient de la pure randonnée, dans des espaces libres et sans aucun lien avec les remontées mécaniques. Une victime est décédée après s'être éloignée des pistes sécurisées du domaine skiable de Haute-Nendaz.»





triage by rescuers : emotionally difficult ?

3

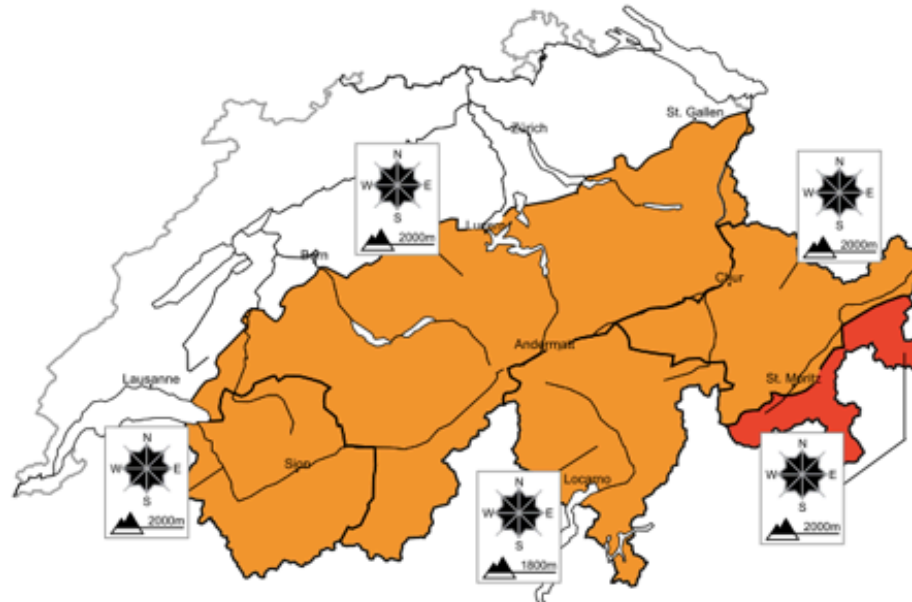
snow conditions and forecast on january 4th evening

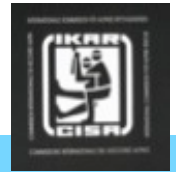
Situation avalancheuse critique en général

Édition: 4.1.2014, 17:00 / Prochaine mise à jour: 5.1.2014, 08:00

Danger d'avalanche

actualisé le 4.1.2014, 17:00





triage by rescuers : manage your emotions ?

5

daily briefing

MEETING JOURNALIER GUIDES

HEURE: 09:00

DATE: 05.01.2014

Fait par

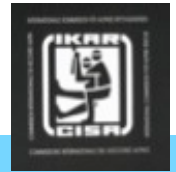
Cyrille

Intervention hélico	Météo actuelle		Tendance météo	Sécurité relative aux dangers objectifs 1)	Composition équipage et remarques générales 2)												
Intervention hélico très probable	Excellente visibilité sans problème Pas ou très peu de vent	+ / +	6 heures • éclaircies	Vent: Nord Ouest <table border="1"> <tr> <td></td> <td>Vwmax</td> <td>Direction</td> </tr> <tr> <td>Portalet 3344m</td> <td>: 25.2 km/h</td> <td>W</td> </tr> <tr> <td>Arolla Cassorte 3301m</td> <td>: 10.1 km/h</td> <td>W</td> </tr> <tr> <td>Diablerets 2966m</td> <td>: 34.9 km/h</td> <td>W</td> </tr> </table>		Vwmax	Direction	Portalet 3344m	: 25.2 km/h	W	Arolla Cassorte 3301m	: 10.1 km/h	W	Diablerets 2966m	: 34.9 km/h	W	IAS
	Vwmax	Direction															
Portalet 3344m	: 25.2 km/h	W															
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Diablerets 2966m	: 34.9 km/h	W															
Intervention hélico probable	Plutôt positive	+ / -	12 heures • nuit claire	<table border="1"> <tr> <td></td> <td>Faible</td> </tr> <tr> <td>X</td> <td>Modéré</td> </tr> <tr> <td>X</td> <td>Fort</td> </tr> <tr> <td></td> <td>Rafales</td> </tr> </table>		Faible	X	Modéré	X	Fort		Rafales	Médecin • De Riedmatten M. Médecin de montagne • Guides disponibles } • Berthod 7-16 • Richard 10-19				
	Faible																
X	Modéré																
X	Fort																
	Rafales																
Intervention hélico peu probable Intervention mixte probable	Plutôt négative: pas ou peu de visibilité Vent peu conciliable avec intervention hélico	- *	24 heures • bien ensoleillé	T°C à 2000m: -7° <table border="1"> <tr> <td></td> <td>Orages</td> </tr> <tr> <td></td> <td>Chutes de pierres</td> </tr> <tr> <td>3</td> <td>Avalanches</td> </tr> <tr> <td></td> <td>Qualité neige</td> </tr> </table>		Orages		Chutes de pierres	3	Avalanches		Qualité neige	Nuit • 17h29 Remarques générales et matériel:				
	Orages																
	Chutes de pierres																
3	Avalanches																
	Qualité neige																
Intervention hélico improbable Intervention terrestre probable	Négative: probable départ en terrestre depuis la base	- / - *		Neige: HN24h - HN72h Sionne 2390m: • 22 cm - • 40 cm Ecreuleuse 2240m: • 33 cm - • 45 cm Fontanesses 2850m: • 27 cm - • 20 cm Glacier Saleina 2972m: • 55 cm - • 35 cm													

1) Marquer si nécessaire / Hiver: inscrire en plus le degré de danger avalanche 2) Qualif. Pilotes, guides IAS, médecin montagne de permanence, disponibilités autres guides selon région
Notion de paliers, niveaux: haute montagne - moyenne montagne / • à remplir si info / * préparation matériel médical et technique terrestre

0'

10h53 : 1st avalanche



6

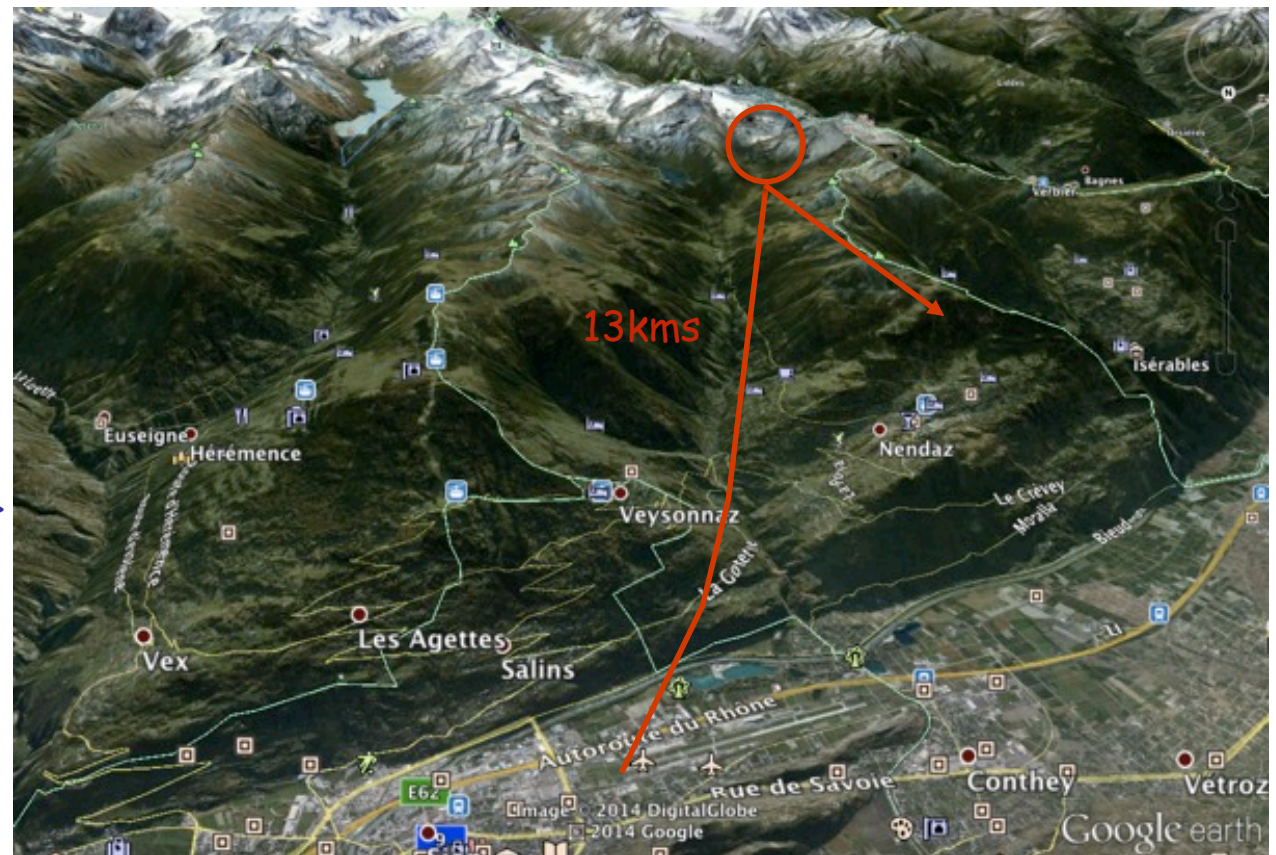
10h58 :
alarm rescue service

11h06 : take off

during flight :
« victim located »

« cardiac arrest in Nendaz »
(alarm during flight : **11h10**)

11h12 : on site



Cardiac Arrest in Nendaz = 2nd avalanche

11h10 : alarm during flight

11h18 : patient located

11h21 : 30m long line op

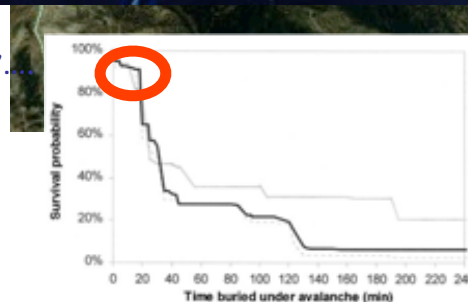
11h25 : on site
ongoing CPR...

11h25 -12h15 : « full ATLS »

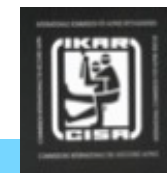
Cardiac Arrest
patent airways
polytrauma

Lucas, AED, intub, io, adre, thoracostomy...

12h15: NACA 7



02h56'



13h49 : 3rd avalanche

8

13h53

alarm rescue service

- transiever ?
- number of implicated ?

13h55 : take off

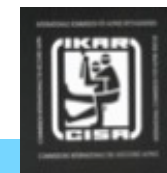
(2nd medical helicopter following)

14h00 : recon flight



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3rd avalanche 13h49

9

14h06 : drop off mountain guide
(hover exit at top of avalanche)

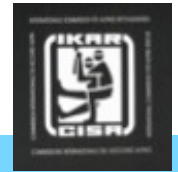
14h10 : 2nd guide
« human cargo sling »

14h18 :
patient brought to doctor
diagnostic: benign knee injury

14h25 : take off to hospital



03h50'



14h45 : setting of the rescue crews

10

1 x B3 with 1 doctor and 1 guide : already on a different mission

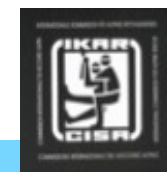
1 x B3 with 1 doctor : at H with patient of previous avalanche

1 x B3 with 1 guide : takes off from H to return to homebase



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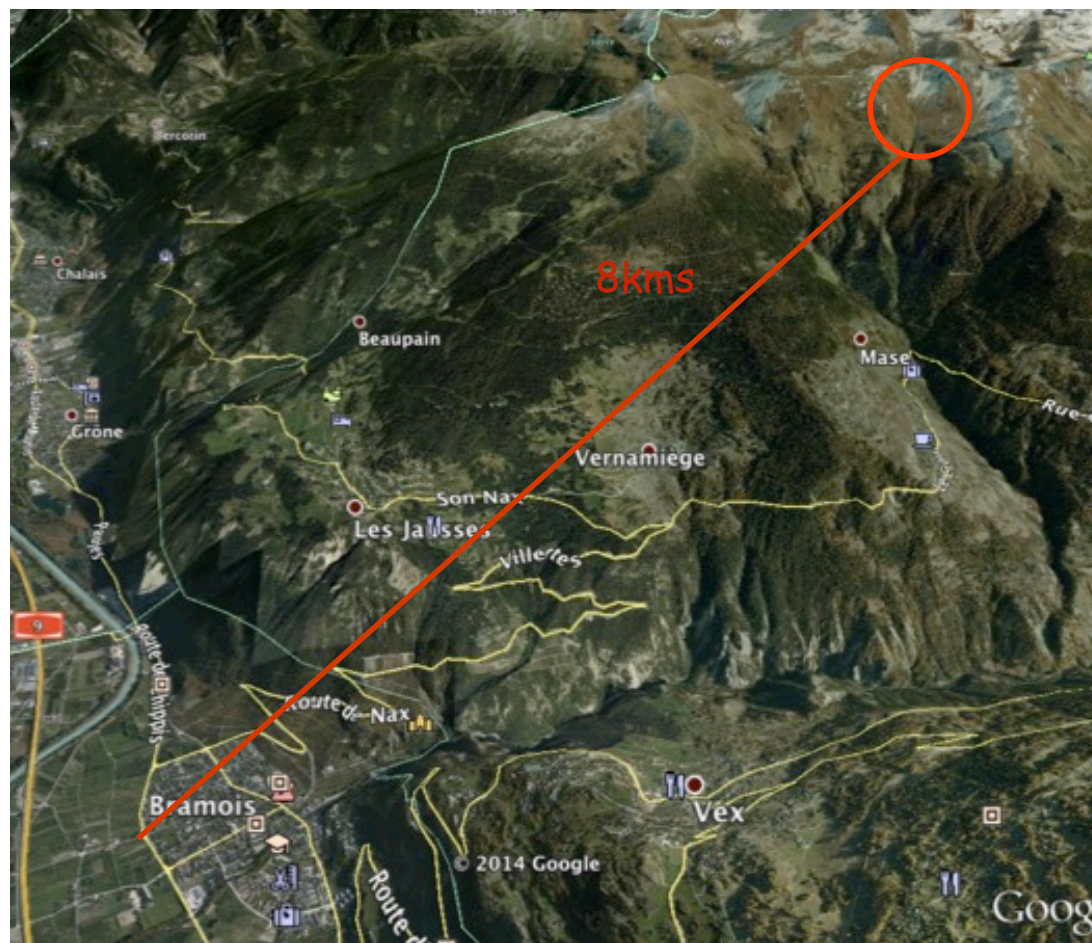
14h46 : 4th avalanche

11

14h48 : alarm rescue service

4 - 5 victims with transceivers

flight time :
3' to 4'



Setting up and thoughts during flight



4 - 5 burried transievers ?

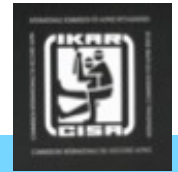


1. rescue procedures

2. availability supplemental rescuers

global management ??

03h57' / t 6'



recon flight

13

14h52..

Residual risks ?

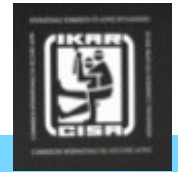
Entry track ?

Witness ?



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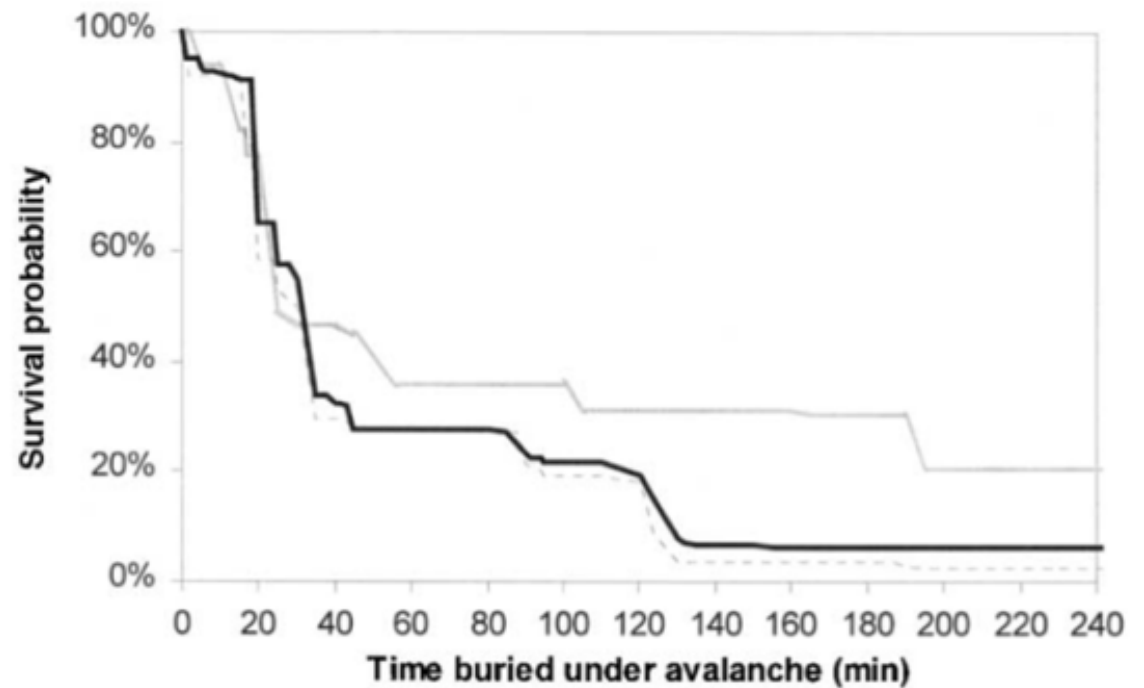
on site

hover exit :

14h52

(6 to 8' after alarm)

survival chances ?



03h59' / t 8'



witness :

14

- 1st victim located
- doubts about the remaining (4 or 5?)



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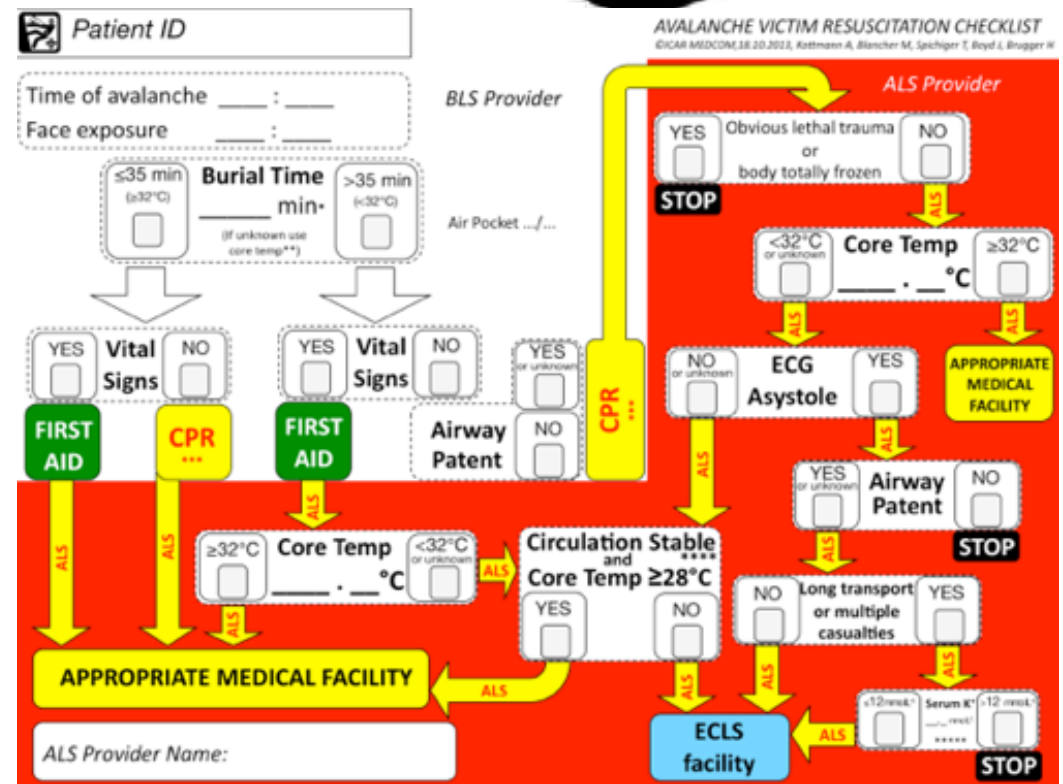
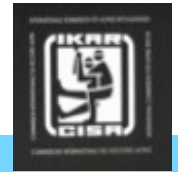


extrication of 1st victim : 12'

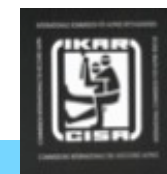
1st victim located:

- fine transiever search
- probing : touch at 80 cm
- direct acces to head

14h58 : cardiac arrest
patent airways

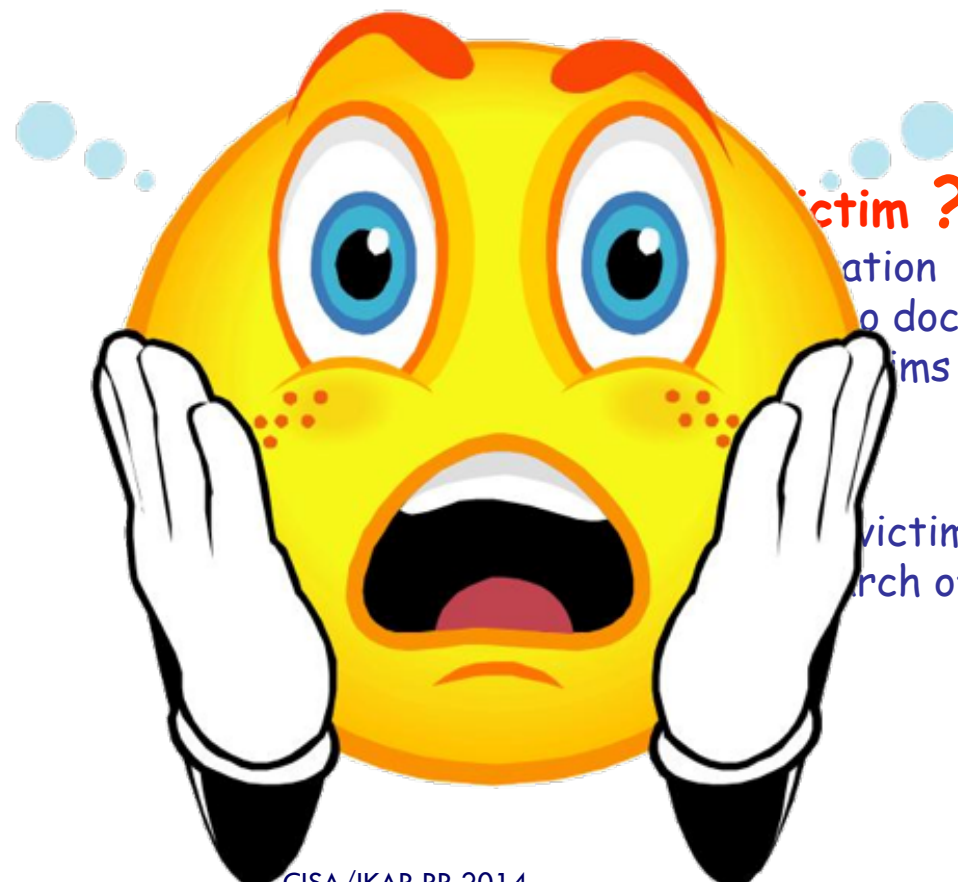


management of 1st and search of 2nd victim

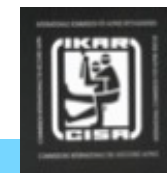


at the same time :

15H00 : rescuer transiever = low batteries ??
- helicopter deposit 1 doc 1 to the ground
- radio transmission of 1st victims state



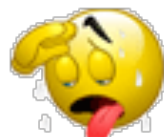
victim ?
ation
o doc present
ims (4)
victim
rch of 2nd



2nd victim and management

18

15h02 :



- change transiever batteries
- primary search of 2nd victim : **immidiate signal**

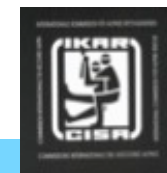
2nd guide on site =

search with transiever antenna from helicopter

at the same time :

- 3rd victim on transiever
- 1 helicopter with doctor approaching
- 1 helicopter with doctor detoured (Air-Zermatt)
- **1 helicopter manages other aircraft and technic**
- 4th helicopter : dogs ? probers? etc...?



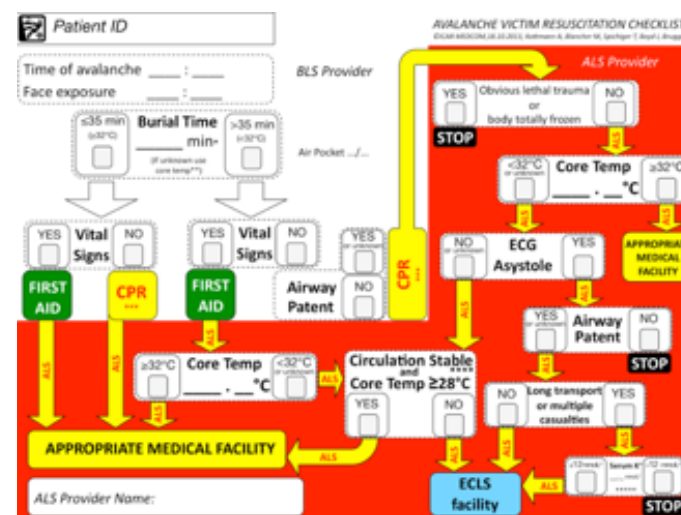
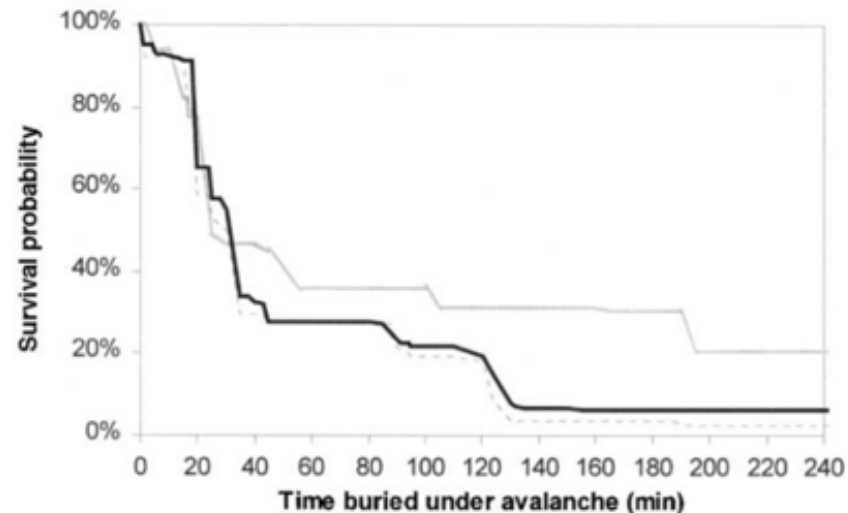


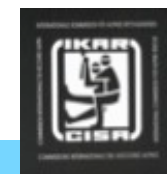
extrication of 2nd victim : 23'

15h05 :

- probing touch at 120cm
- transiever pin-point
- digging, direct acces to the head

15h09 : cardiac arrest patent airways





2' for thinking : 15h11

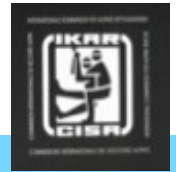
- 1 doctor : CPR on 1st victim
- 1 doctor-guide goes for the 2nd victim for CPR
- 1 guide confirms transiever search from helicopter :

2 signals on bottom of avalanche
2 signals on top of avalanche

- 1 guide arrives in 3rd helicopter
- 2 medical helicopters at drop zone waiting
- 4 ski-tourers : helping doctors
- 4 dogs in standby at drop zone

25'

3rd et 4th burried victim, global management



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15h11 :

- secondary search of 3rd victim
- guide 3 : search of 4th victim

Guide 2 takes over global management

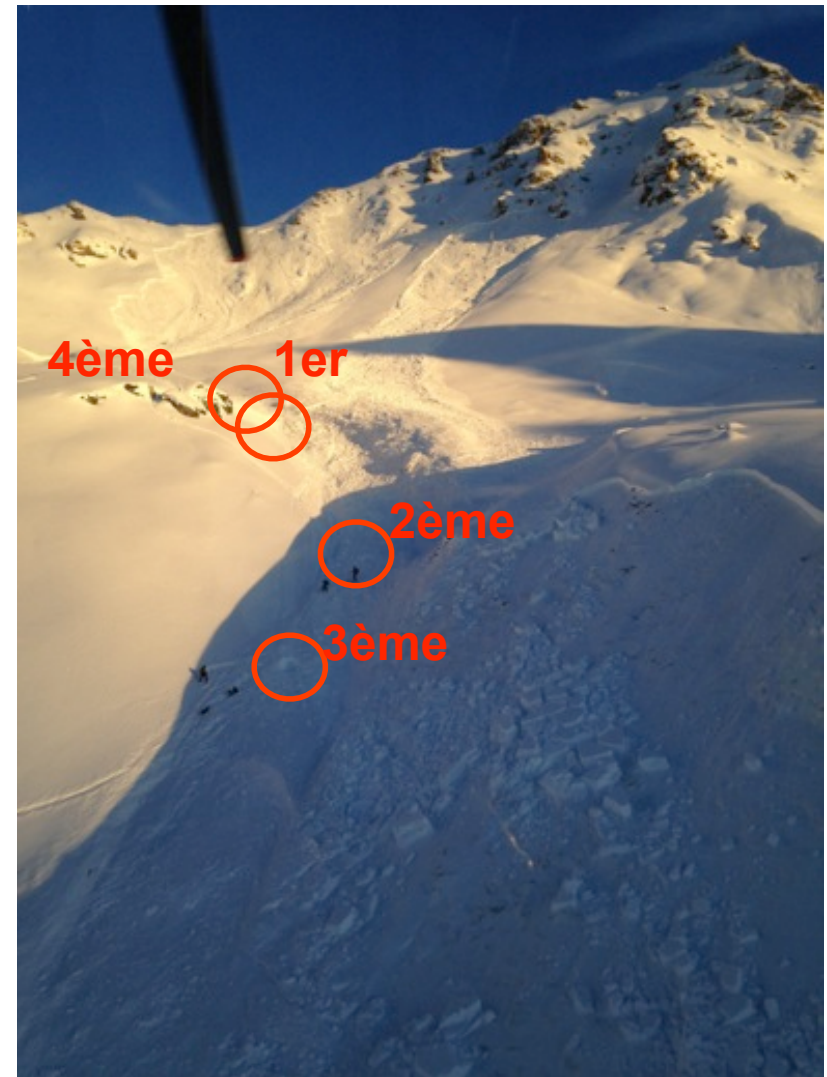
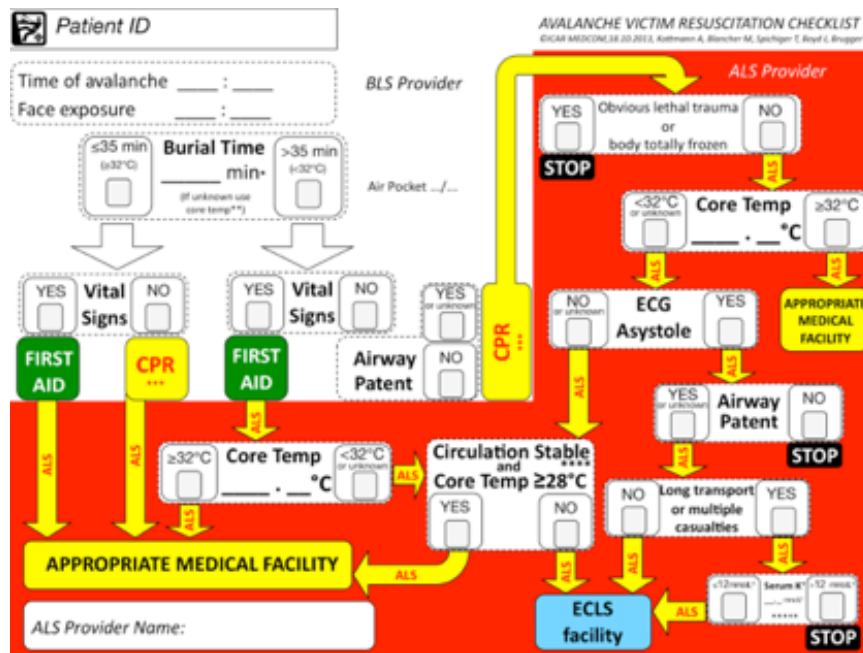
15h16 :

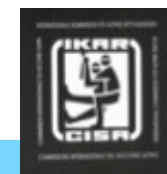
- marking of 3rd and 4 burried victims
 - 3rd : touch at 120cm, digging
 - 4th : 40cm under 1st victim



15h25 :

- evacuation 1st victim : CPR / cargo sling
- 3rd : cardiac arrest with patent airways
- 4ème : cardiac arrest with patent airways





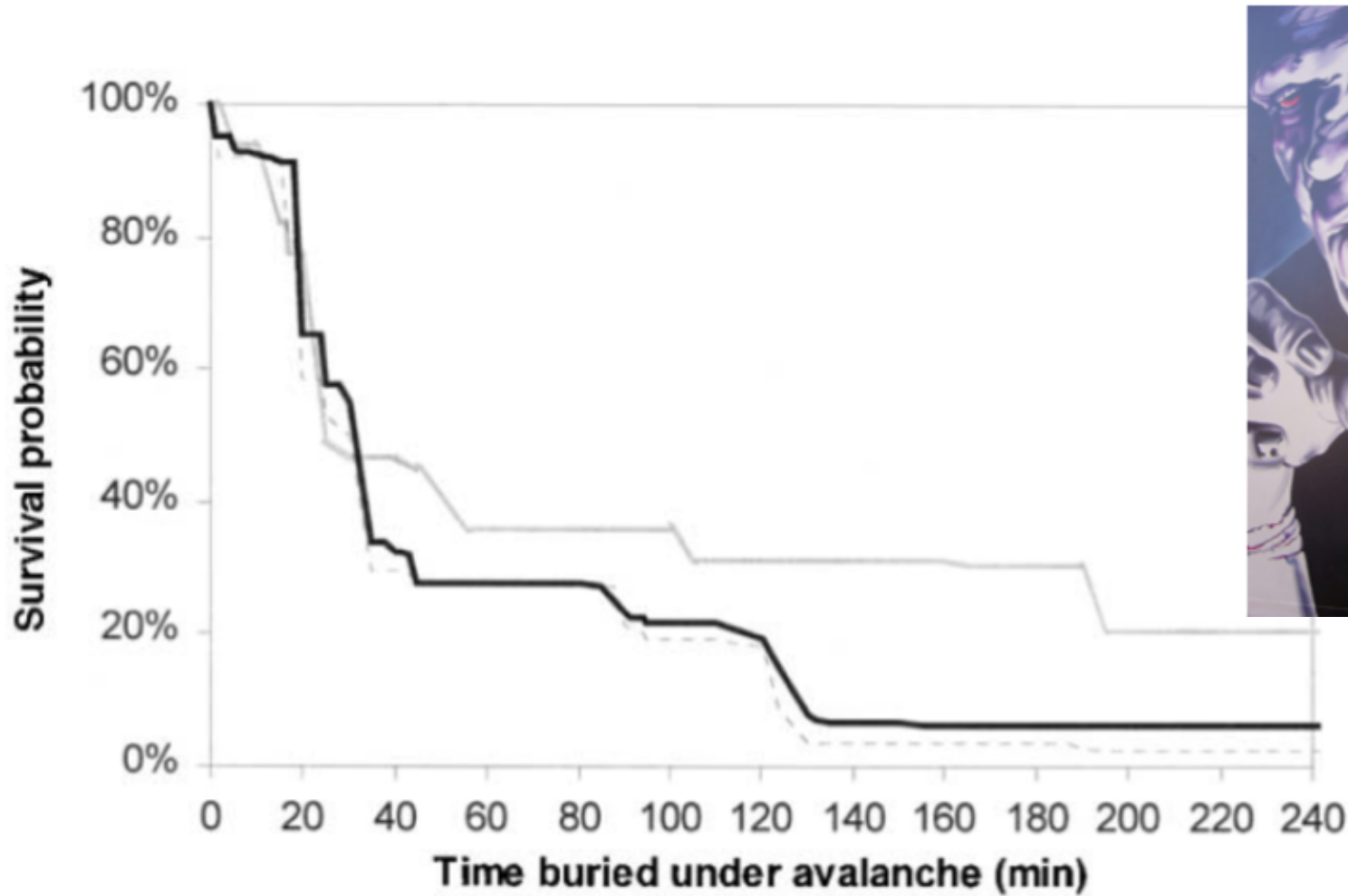
15h30 : 44' after alarm

22

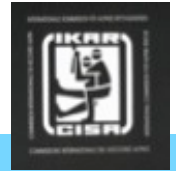
- terrestrial and helicopter transiever search done
- 4 victims extracted all under ongoing CPR
- local hospital informed : dispatch organised
- 7 doctors on site for patient management
- 4 avalanch dogs for check
- 5 helicopters on site

Do statistics and protocols influence rescuers ?

22



Questions?



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thanks for your attention



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