

Severe injuries



PD Dr. med. Dominik
Heim, Switzerland





Axel Svindal, 26.01.2016



Daniel Albrecht 22.01.2009



Das Schumacher-Chalet



Klinikum in Grenoble



Unfall im Skigebiet Méribel



Michael Schumacher stürzt bei einer Abfahrt am Saulire-Massiv

Major trauma in winter sports: an international trauma database analysis

Weber CD, Horst K, Lefering R et al. Eur J Trauma Emerg Surg 2015. DOI 10.1007/s00068-015-0596-7

inclusion criteria:

- ISS (injury severity score) > 9
- direct admittance to intensive care unit (ICU)

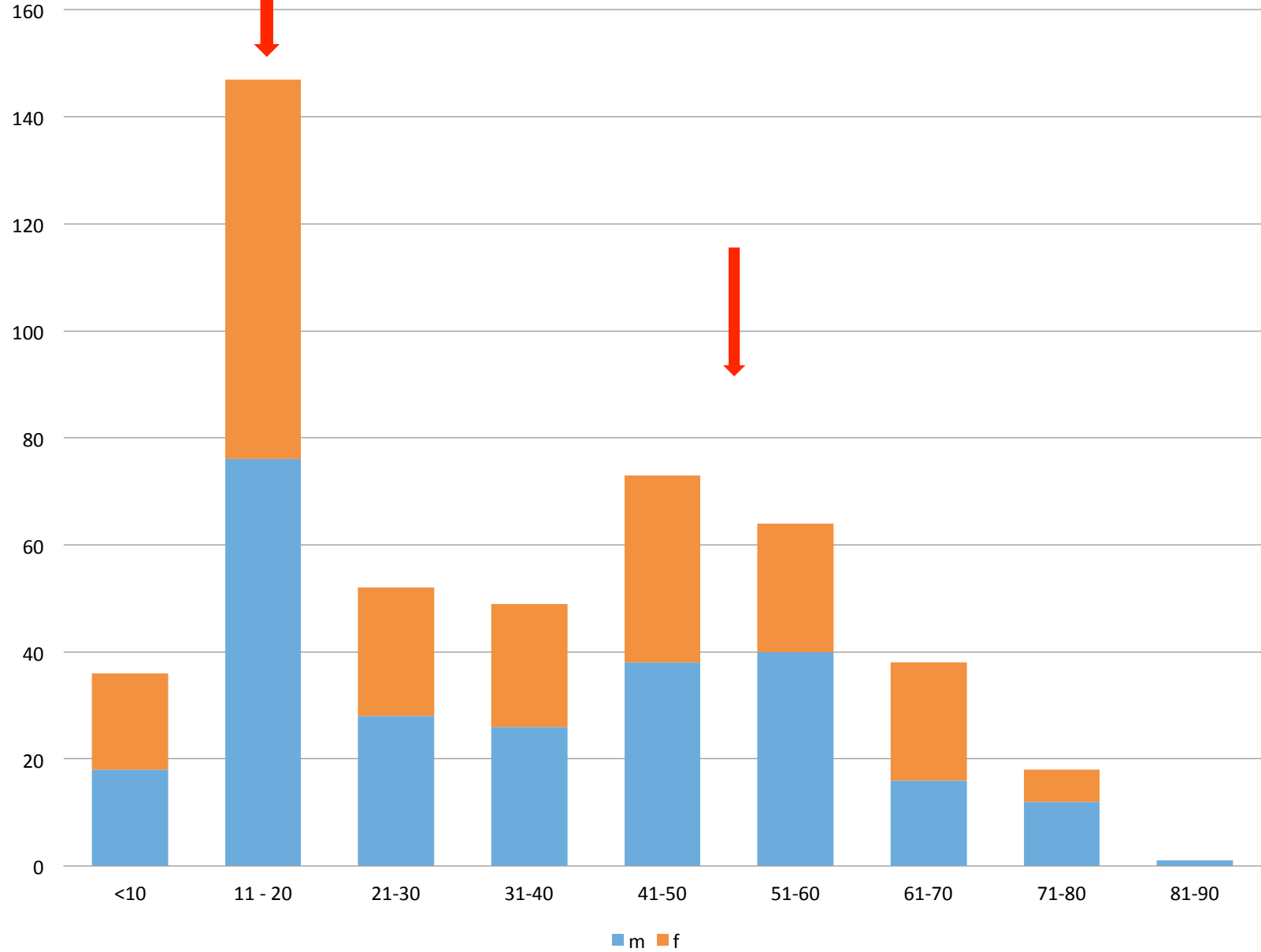
alpine ski/ snowboard/ sledding

predominantly male!

highest female

proportion in sledding

age and gender



statistics from
the hospital of
Frutigen,
Switzerland



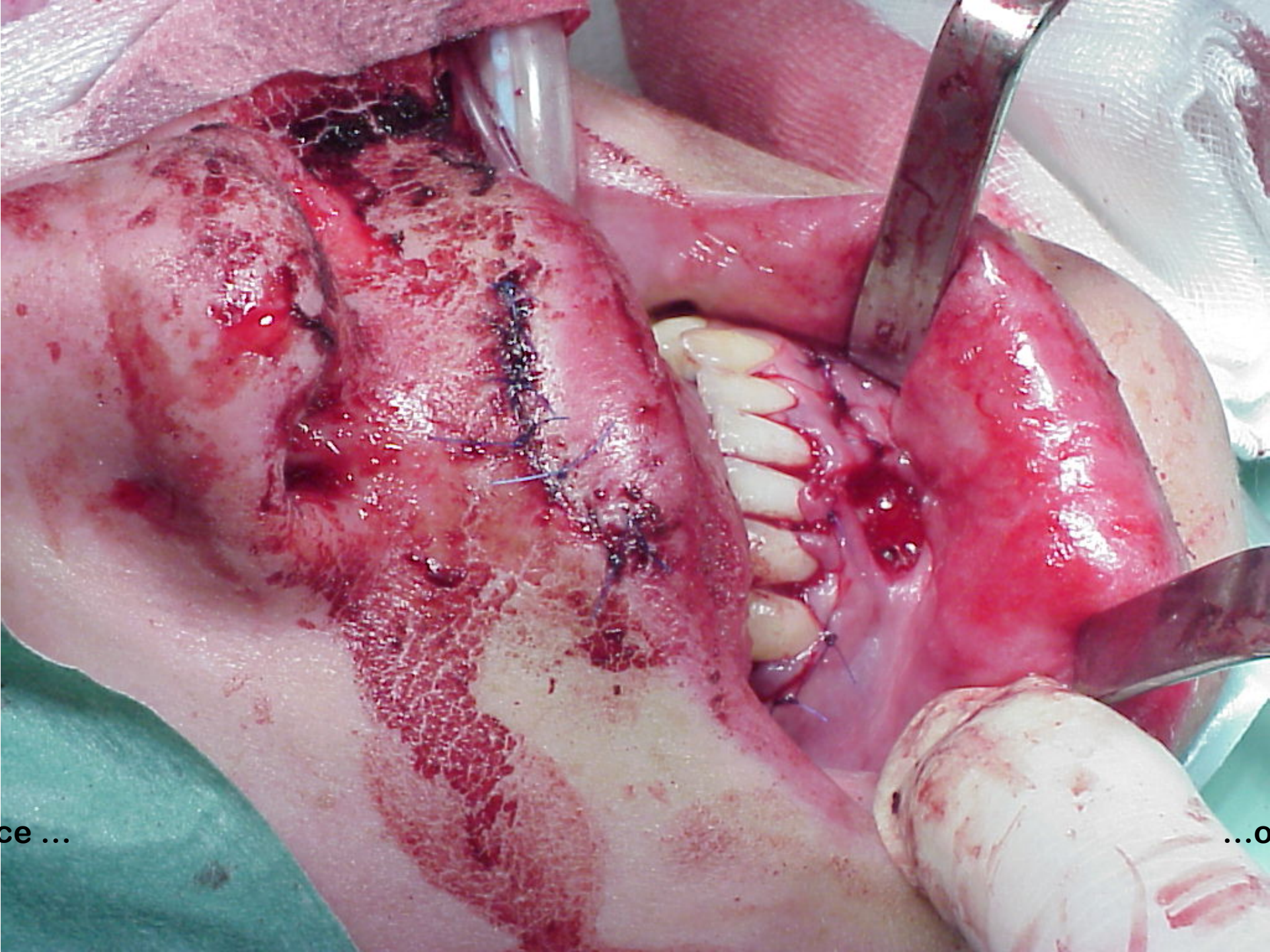


alpine skiing

- highest ISS (20.8)**
- highest risk of hemorrhagic shock at scene**
- highest overall mortality (6.4%)**

some figures: AIS (abbreviated injury score) > 2

| | alpine ski | snowboard | sledding |
|-------|------------|-----------|----------|
| head | 47% | 43% | 32% |
| face | 18% | 7% | 20% |
| chest | 70% | 31% | 20% |
| spine | 41% | 38% | 17% |



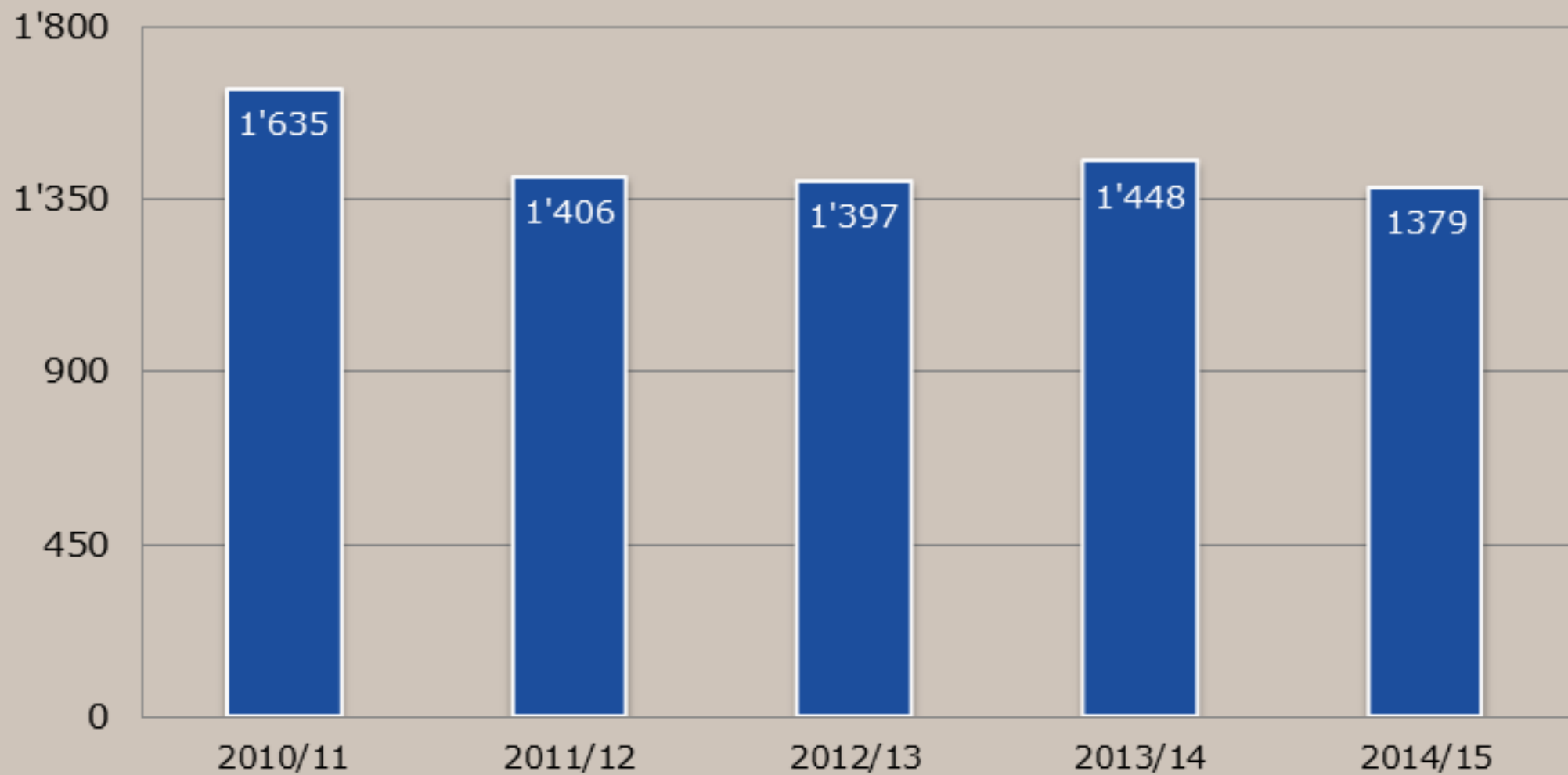
the ugly face ...

...of sledding



a few words
about air
rescue in
Switzerland

number of wintersport-patients transported by air per season



figures reported by Rega

| Pat. auf Primäreinsätzen | 2013 | 2014 | 2015 | 2015 in % |
|-------------------------------------|--------------|--------------|--------------|------------------|
| NACA 0 Unverletzt / Gesund | 28 4 | 5 | 0.3% | |
| NACA 1 Keine unm. Therapie nötig | 10 | 2 | 6 | 0.4% |
| NACA 2 Ambulante Behandlung möglich | 9 | 100 | 115 | 7.8% |
| NACA 3 Keine Vitalgef., Hosp. nötig | 1'014 | 961 | 1'041 | 70.7% |
| NACA 4 Vitalgefährdung möglich | 282 | 244 | 276 | 18.7% |
| NACA 5 Akute Lebensgefahr | 16 | 14 | 24 | 1.6% |
| NACA 6 Reanimation erfolgreich | 1 | 3 | 2 | 0.1% |
| NACA 7 Exitus letalis | 4 | 5 | 4 | 0.3% |
| Kein NACA-Score erfasst | 1 | 2 | 0 | 0.0% |
| Ergebnis | 1'445 | 1'335 | 1'473 | 100.0% |

figures reported by Rega

Injuries of the alpine skier

- thoracic spine fracture 13%
- multiple rib fractures 12%
- lumbar spine fracture 9%
- lung contusion 9%
- concussion 8%



Injuries of the snowboarder

- radius fracture 14%
- collarbone fracture 14%
- hemo-/pneumothorax 10%
- brain stem injury 10%
- pelvic ring injury 7%





Injuries of the sledder

- Concussion 28%
- Symphysis fracture 20%
- Basilar skull fracture 15%
- Orbital fracture 13%
- Skull fracture 8%

Severe and polytraumatic injuries among recreational skiers and snowboarders: South Tyrol

ISS > 16

-brain injury

-vertebral injury



BLACK SABBATH



A portrait of Ozzy Osbourne with long dark hair and sunglasses, looking directly at the camera. The background is a plain, light-colored wall.

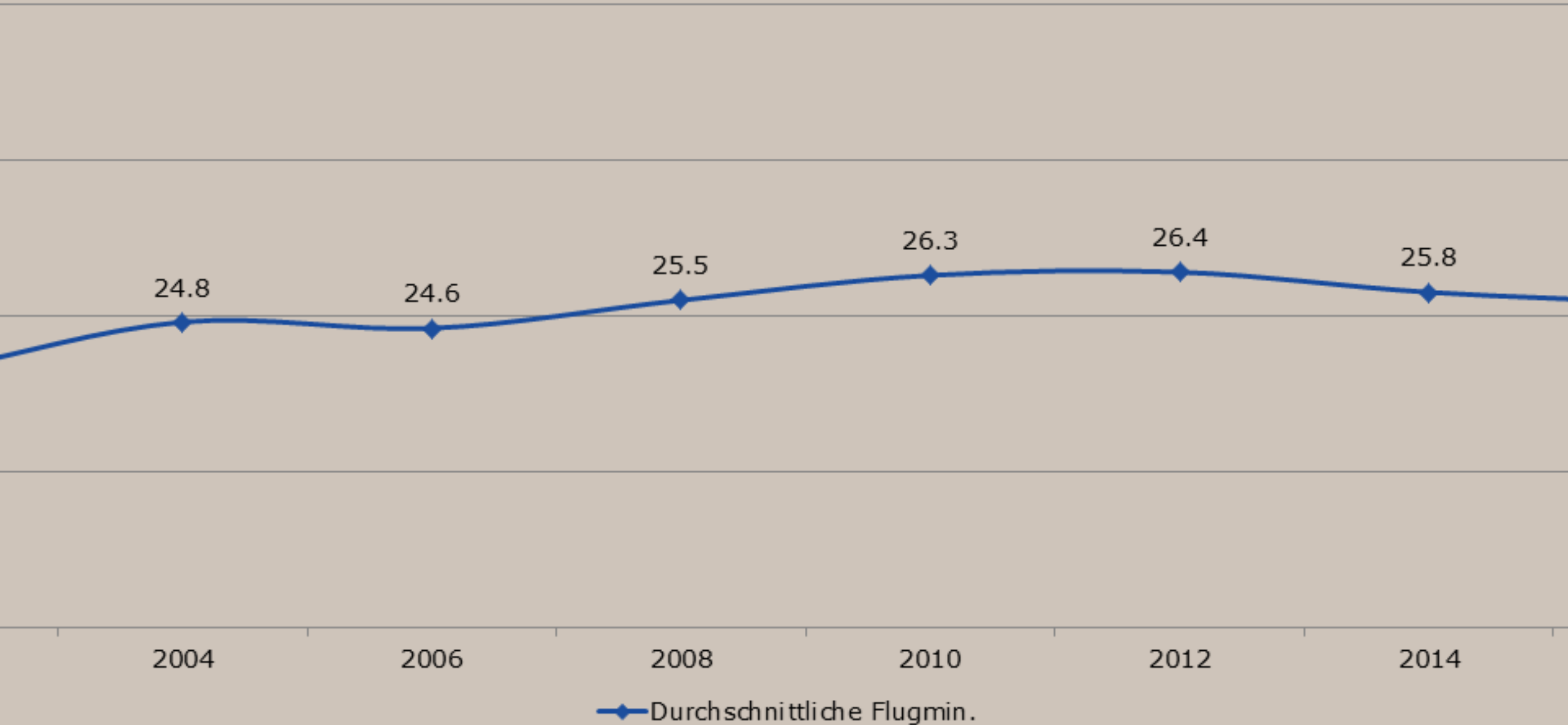
**“Of all the things
I've lost,
I miss
my mind
the
most.”**

OZZY OSBOURNE

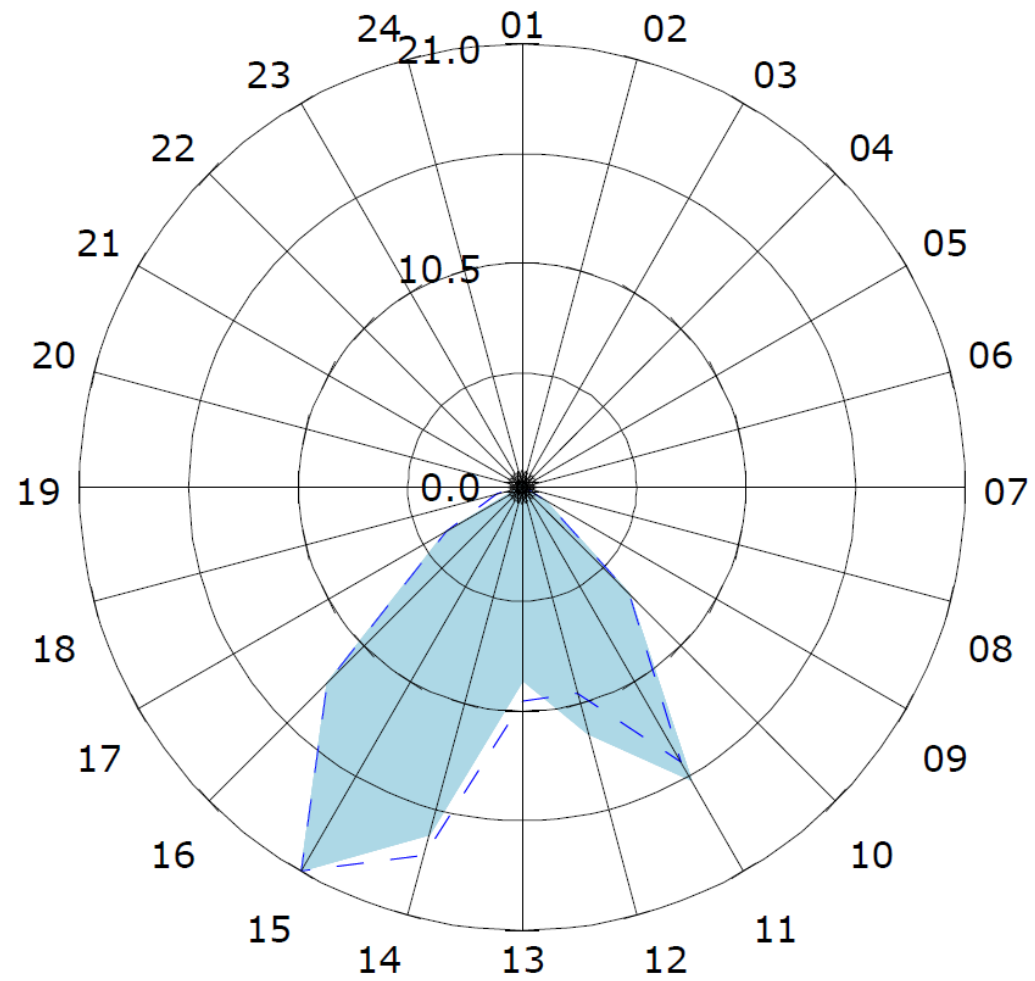


and still, „we“ are fast ...

flight time from the scene of accident to the hospital



**the majority of athletes
sustained injuries in the
afternoon between 14.00
and 18.59**



Kollektiv ■ NBUV Ski □ NBUV Snowboard

At 11 o'clock many accidents happen. Don't risk too much!

suvaliv
Sichere Freizeit



At 3 o'clock many accidents happen. Don't risk too much!

suvaliv

Sichere Freizeit

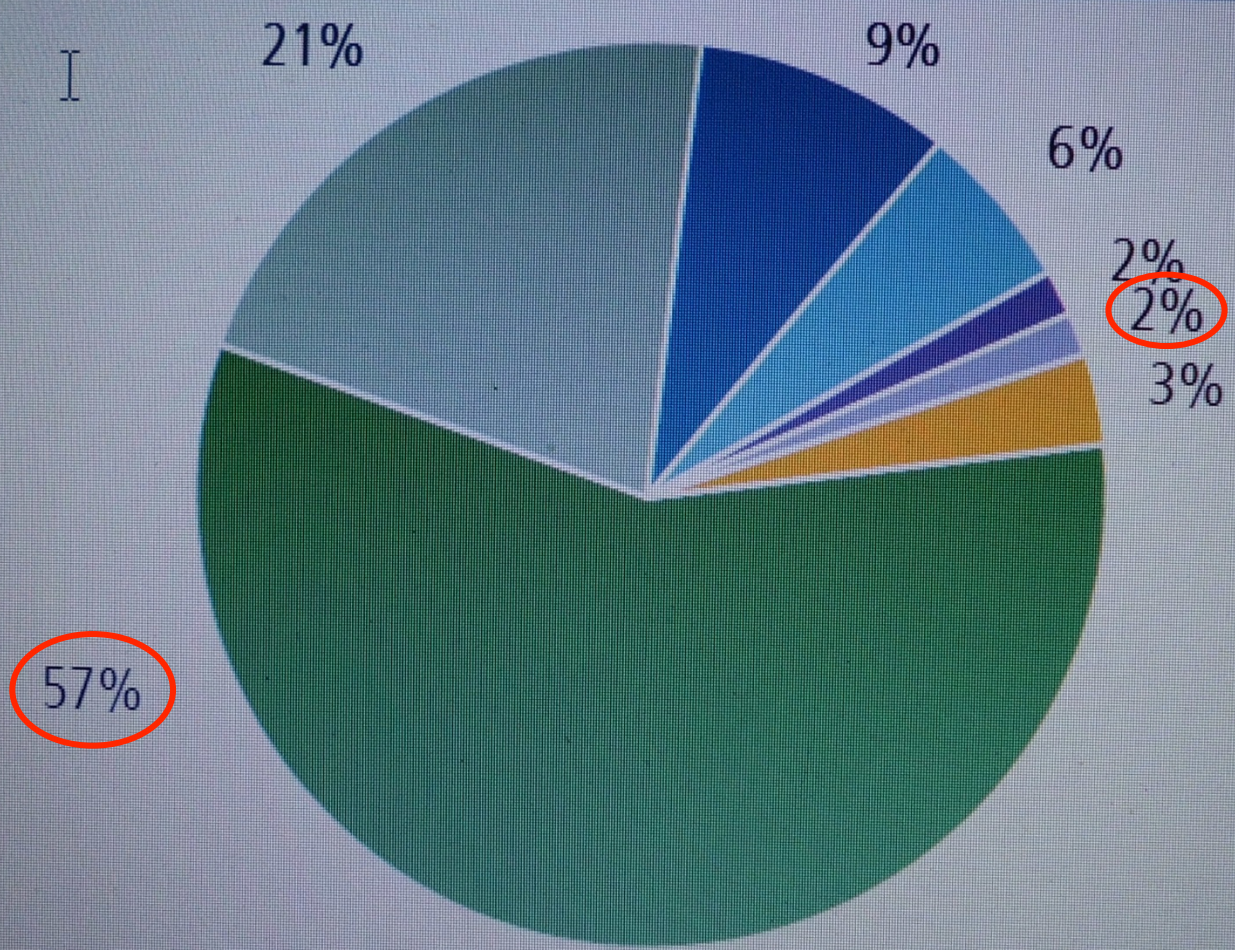


Conclusion: „our data suggest:

- Increased risk for chest and spinal injuries in alpine skiers**
- All three wintersports involve a risk for severe multiple trauma**
- The observed in-hospital mortality from winter sports remains low...“**

deaths in snowsports

(swiss numbers)

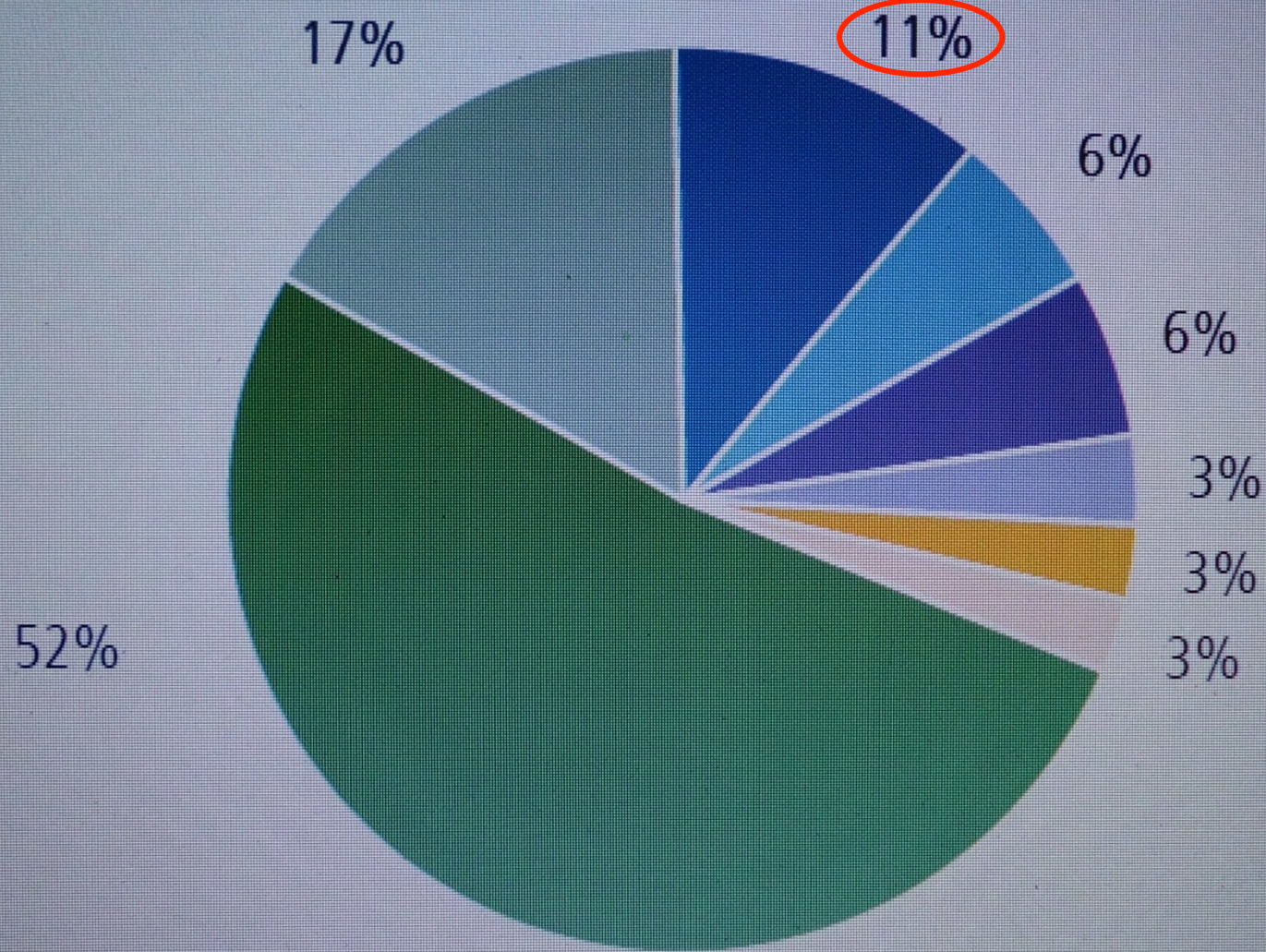


mechanism of accident:

- avalanche
- Sturz aus der Höhe
- Sturz auf gleicher Ebene
- Kollision mit Objekt
- Collision with person
- Andere
- Unbekannt

38 deaths/ year

Getötete Ø 2010–2014: 38 (Wohnort Schweiz und Ausland)



mountain ski tour

Varianten-Skifahren

alpine skiing

Schneeschuhlaufen

Varianten-Snowboardfahren

Schlitteln

Snowboardfahren

Anderer Wintersport

Deaths/
snow-
sport-
mode

What is new?

according to Weber D et al







"FIERCELY BRILLIANT"
- GUY LODGE, VARIETY

"ELECTRIFYING"
- ALONSO DURALDE, THE WRAP

"MIND-BLOWING"
- LEE MARSHALL, SCREENDAILY

★★★★★
- OWEN GLEIBERMAN, BBC

JANIS

LITTLE GIRL BLUE



tiff.40
Toronto International Film Festival
OFFICIAL SELECTION 2015

Written and Directed by Amy J. Berg



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2015

2015

2015

2015

JANIS JOPLIN MERCEDES BENZ



Get It While You Can

Janis Joplin





...superhighways



...parks for jumping



...specific
sledge runs

...extreme snowsports



wintersport loses its magic, if you risk too much



Wenn Sie aufmerksam fahren, erkennen Sie die Herausforderungen auf der Piste rechtzeitig. Passen Sie Ihre Fahrweise deshalb Ihrer Verfassung und dem Können an. Damit Unfälle schon bald Schnee von gestern sind. Für weitere Informationen: www.suva.ch

suvaliv
Sichere Freizeit

the end