

FACTORS INFLUENCING THE ORGANIZATION OF MEDICAL ASSISTANCE IN SKI RESORTS



Dr Bernat Escoda Alegret
Centre Medic Pas de la Casa-Grau Roig
GRANDVALIRA SKI AREA ANDORRA
b_escoda@hotmail.com



INTRODUCTION

Along with the development of the ski, has appeared the need for adapted, specific healthcare to treat (but also study and prevent) snowsports related injuries.

In every place with ski resorts, physicians learned to understand and treat snowsports injuries.

Some factors influence the way each professional faces a similar challenge.



LOCATION

The geographical location, the distance between the ski resort and populated cities/regions will determine

- the number of potential skiers
- foreigners or nationals
- 1 or 2 day skiers / all week skiers
- can also determine the level of the average skier



WHERE IS THE NEAREST HOSPITAL?

1 HOSPITAL

- 30 to 50 mn from the ski resort medical centers
- equipped to attend the most common medical and surgical problems (general and orthopedic surgery, critical cares...)
- Cardiocirculatory surgery and neurosurgery is not available, in this cases patients must be transfered to Barcelona (200 km) or Toulouse (180 km) by road (>2 hours) or helicopter (45 mn) , depending on weather conditions
- the hospital emergency room sees about 12000 patients during the winter season of which 10% are snowsports injuries

SIZE OF SKI AREAS

Size of the ski resort, means of transportation, capacity of the local hospital will determine if a medical center is needed just at the bottom of the resort

12,000
injuries/season



Medical centers in the andorran ski areas

TWO MAIN SKING
AREAS:

GRANDVALIRA:

2 MEDICAL
CENTERS:

- Pas de la Casa-
Grau Roig (2 sites)
- Soldeu-El Tarter (3
sites)

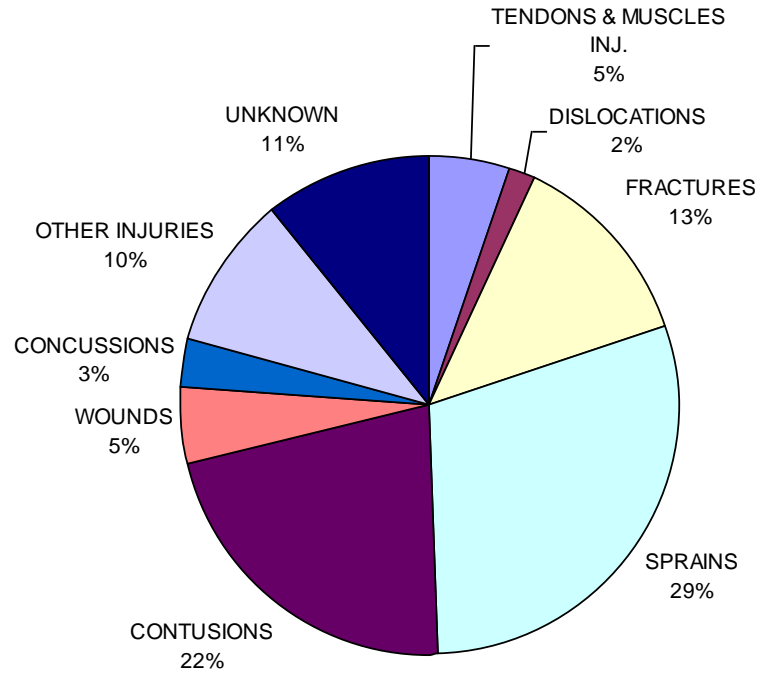
VALLNORD:

3 MEDICAL
CENTERS

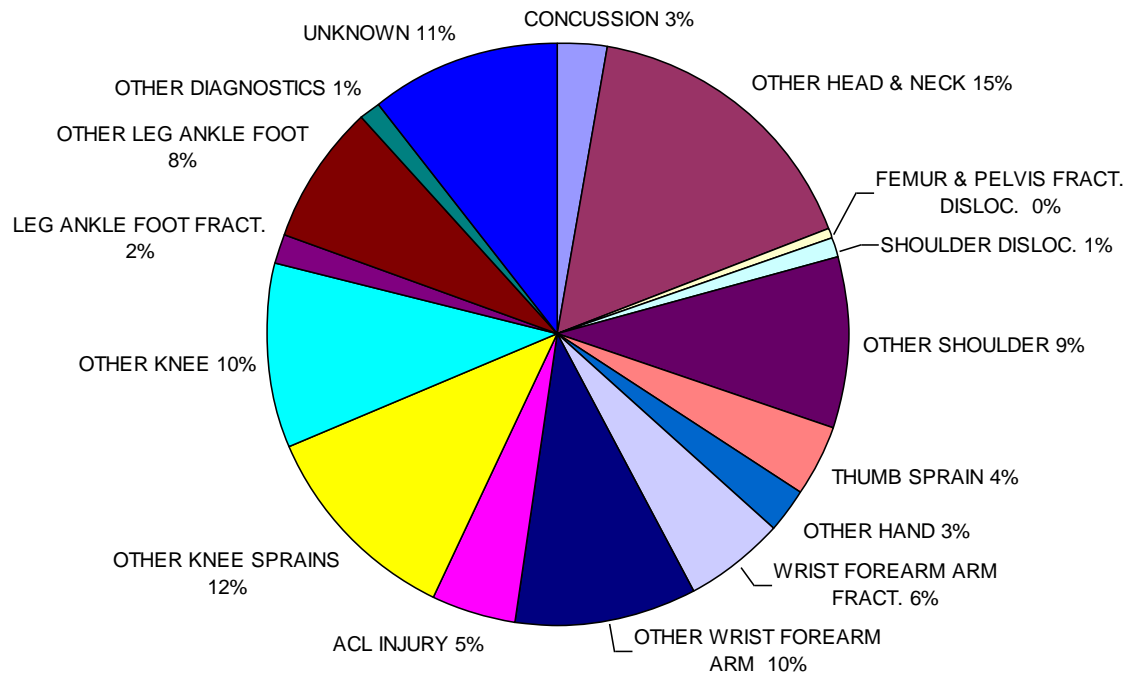
- Pal (1 site)
- Arinsal (1 site)
- Ordino-Arcalis (1
site)



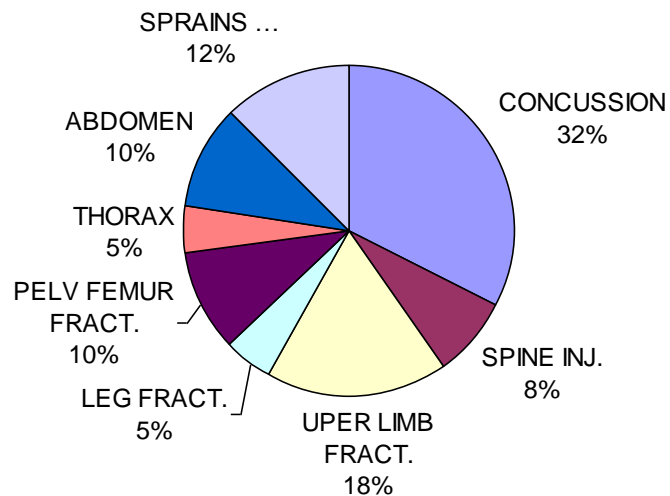
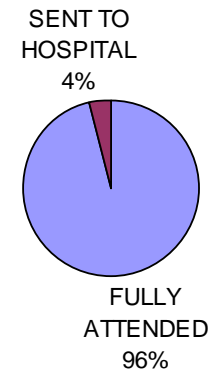
TYPE OF INJURY



INJURED REGION



NEED FOR TRANSPORTATION TO HOSPITAL



- monitoring (mainly concussions ...)
- complementary exams
- surgical treatment

SEVERE INJURIES

Fractures or dislocations with risk of vascular/nervous compromise

Quick reduction can be performed in the medical center in most of the cases, and then controlled by their own traumatologist



SEVERE INJURIES possibility of complications
and / or
need for further investigations (scan, blood analysis...)

**HEAD TRAUMA, ABDOMINAL TRAUMA
DISEASE**

→ HOSPITAL

SEVERE INJURIES need for surgical treatment



SEVERE INJURIES MANAGEMENT

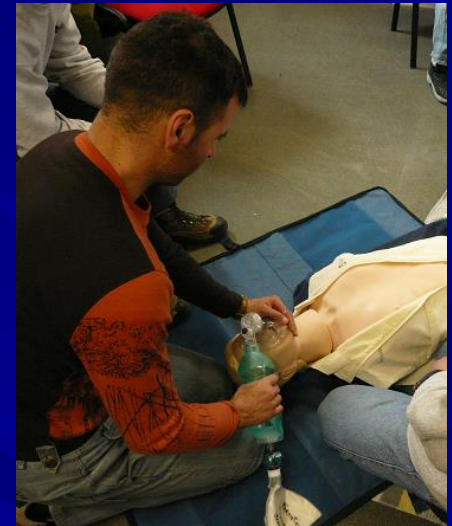
ski patrols

They are the first to attend the injured skier /snowboarder,

Their initial evaluation is essential for the correct management of each case

If necessary they are able to assume resuscitation manoeuvres, oxygenotherapy, AED

Easy radio communication with the medical center in order to transmit the information



SEVERE INJURIES MANAGEMENT medical center

TRAINED STAFF

in sports traumatology and emergency medicine) , can be transported until the patient by skidoo, transportable emergency bag (drugs, perfusion fluids, orotracheal intubation set ...), cardiac monitor / AED



SEVERE INJURIES

- THE PATIENT IS
CONDICIONED TO BE
TRANSPORTED
SAFELY UNTIL THE
MEDICAL CENTER
WHERE A COMPLETE
CHECK WILL BE MADE
- IF THE PATIENT
REQUIRES
TRANSPORTATION
UNTIL THE HOSPITAL
IT WILL BE DECIDED
THE BEST
TRANSPORTATION
MEAN



SEVERE INJURIES

MEDICAL CENTER EQUIPEMENT:

-drugs, perfusion fluids, orotracheal intubation, cardiac monitor / DF

-OXYGEN

-X RAY



SEVERE INJURIES

transport until the hospital

- USUALLY A **MEDICALIZED AMBULANCE** WILL BE USED IN THE MOST SEVERE CASES (PHYSICIAN + NURSE)
- A **MEDICAL HELICOPTER** CAN BE USED TOO BUT IT IS NOT PERMANENTLY BASED IN THE HOSPITAL SO IT CAN BE TOO LONG TO ACTIVATE
- IN CASES THAT DON'T NEED MEDICATION AND WITH NO IMMEDIATE RISK OF COMPLICATION A **NON MEDICAL AMBULANCE** CAN BE USED (PARAMEDICS)



SEVERE INJURIES

NEED OF A GOOD COORDINATION
BETWEEN ALL THE INTERVENANTS

RESORT MEDICAL CENTER – HOSPITAL

Phone coordination – exchange of
information / medical reports in order to
decide about the proper way to transport
the injured

CONCLUSIONS

A good knowledge of snowsports injuries defines the needs of a ski resort medical center:

- the staff must be familiar with the more common injuries
- but also the rare severe injuries that occur in a low percentage

CONCLUSIONS

- The equipment must be adapted to those requirements
- The ski resort physician must work in coordination with:
 - → the ski patrollers
 - → the EMS professionals that will transport severely injured to hospital
 - → the hospital professionals

Thank you!

Dr Bernat ESCODA
Centre Mèdic Pas de la Casa – Grau Roig
ANDORRA

www.cmpas.com / www.medisport.ad

b_escoda@hotmail.com