

# Sports Injuries in the EU countries in View of the 2004 Olympics: Harvesting the Information from Existing Databases (Phase II)

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In this issue, a summary of key findings on free text description is provided

### Introduction

Information that not captured by the coding system is considered free text. Thus, free text could be a useful tool for providing additional details for identifying sports injury prevention risk factors. Utilization of free text data in correlation with coded data will provide additional and useful information concerning the prevention of sports injuries and will enhance the value of the currently used surveillance system.

### Method

Sports injuries data set that was retrieved from EHLASS database, for the year 1998 for **Denmark, France and Greece**, for the year 1999 for **Austria** and for 2000 for **Sweden**, was broken down by age groups (children 5-14 years old and adults 15+ years old) and by type of sport. A qualified examiner read the free text description of a random sample of cases and then coded the free text according to the categories in a separate coding system. In every instance, the free text was classified according to the information provided, and mainly to the primary factor that it was related to the injury.

### Results

The results are divided in those concerning extrinsic factors- environmental factors (field arena, personal equipment) and in those concerning intrinsic factors (psychological). It is difficult to provide a classification on product causality without assuming the risk of misclassification. Moreover, the possibility of bias from the interviewer should be taken into account. Several conclusions can be drawn regarding the current dataset. However, it should be noted that no specific instructions had been given to interviewers.

The free text analysis revealed three additional injury prevention risk factors, also recognized by the literature, that had not been identified in the coding system. These include: 1) environmental factors, 2) personal equipment and 3) psychological factors.

#### • Environmental factors

According to free text description it seems that **good maintenance of the field** is important in prevention of sports related injuries. For instance playground where stones, holes, woods or even broken glasses were found was reported in a number of cases. On the other hand many falls were attributed to **slippery playground** mainly due to weather conditions.

**Certain types of field** such as artificial piste in ski or tatami might also contribute to injury risk. The first can cause burns when the skier falls, while the second might contribute to injury risk when defective.

Regarding arena equipment it was found that **goalposts, baskets** in basketball and **volleyball net** might be dangerous. However, in the free text description no specific details of the structure of these equipment was provided. Stationary objects close to the arena such as **stairs** or **walls** can also contribute to injury risk.

#### • Personal equipment

Regarding personal equipment several points were identified, especially for ski injuries.

In particular **non-defective ski sticks, proper binding** in ski and **usage of sunglasses** are essential for avoidance of injuries.

**Proper glasses** (polycarbonate ones) are also essential in contact sports and especially in ball games. In all sports, **shoelaces not properly tied** were also reported in falls.

#### • Psychological factors

In adults, psychological factors such as **stress, in a hurry, not concentrating** were noted. In contact sports, **aggressive playing** was noted to be related with injury, especially among children.

## Recommendations on the structure of free text

### Free text should focus on:

#### 1. Circumstances

How did the injury occur? Explain as detailed as possible the circumstances under which the accident took place.

- *E.g. Biking on a wet road, startled by a car, braked with the front brakes and therefore skidded*
- *Beginning skier, skis crossed, fell, bindings did not release*

#### 2. Product involvement

Was there any product causing the injury or being involved in the injury event? Name or describe the product.

- *E.g. jogging shoes, ball, goalposts, ski sticks.*

Was the product-involved defect in any way? How?

Could you indicate in what degree the product involved in the accident?

- *E.g. sure, probably, etc.*

#### 3. Protective equipment

Did you use any personal protective equipment at the time of event? If yes what kind? If not worn, why?

- *E.g. helmet, life jacket, shin guards, ankle strips etc*

#### 4. Victim opinion

How do you think that the accident could have been prevented?

- *"Use of preventive measures"*
- *"If the road surface had been in good condition"*

### Key words

1. **circumstances** of injury: cause, environmental conditions
2. **human related** factors: fatigue, inattention, distracted, stressed, aggressive behavior, risky behavior
3. **product-related** factors: defective, maladapted use, lack of experience with product, inappropriate ground, slippery ground, inappropriate light, inappropriate footwear
4. **animal related** factors: type of animal
5. use of **preventive measures**: protective equipment, high level of awareness of surroundings

### Examples of good practice\*

- Fell 1.5 meter down from bars, hit wooden floor by the face and chest.
  - During football stepped down in a hole. Ankle was dislocated.
  - During football got a blow to the chest; fell backwards.
  - Mountain-biking, rode on a stone, braked too much with the front brakes and thus fell.
  - Biking on a wet road, startled by a car, braked with the front brakes and therefore skidded.
- (\*Proposed free text <120 characters)

## Future progress and activities

Each country could separately develop a structured questionnaire for the interviewers in order to cover the particular needs of each country and also include the best examples of free text description in its native language.

Automatic translation of the free text data is certainly one challenging perspective, as it would allow unhampered data interchange among countries that have access to EHLASS data. The Translation Service of the European Commission (SDT) that provides all European Institutions access to EC Systran could be used in the EHLASS free text fields. However several issues must be resolved first, in order the translated material be substantial and useful; for instance there are several abbreviations that are used in each country that could not be translated by the system, at least presently. Creating lists of the abbreviations most commonly used in free text description would be a step forward to the automatic translation.

Feedback search could be performed in each country separately for specific keywords, so that the interviewer performance could be assessed and retraining provided, if necessary.

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### Scientific publications and presentations

- ✓ Belechri M, Petridou E. Sports Injuries in the European Union member states: a "team sport" project. *Inj Prev.* 2001; 7: 165.
- ✓ Belechri M, Petridou E, Kedikoglou S, Trichopoulos D and the Sports Injuries European Union Group. Sports injuries among children in six European Union countries. *Eur J Epidemiol.* 2001; 17: 1005-1012. (Phase I)
- ✓ Petridou E, Kedikoglou S, Belechri M, Papadopoulos FC, Trichopoulos D and the Sports Injuries European Union Group. Sports injuries among adults in six European Union Countries. *Submitted for publication.* (Phase I)
- ✓ "Sports injuries among children in European Union Countries". Best poster award in the 6th World Conference for Injury Prevention and Control in Montreal on May 12-15, 2002.
- ✓ Papadopoulos FC, Petridou E, Trichopoulos D and the Sports Injuries European Union Group. Performance enhancing substances among young adults in six developed countries. *Submitted for publication.* (Phase II)

\* Countries that participated in the specific task of "free text description"

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