



SUSY SAFE

Surveillance System on Suffocation Injuries Due to Foreign Bodies in European Children  
Funded by the European Commission, DGSANCO, Consumer Affairs Directorate

## **The Susy Safe Project**

Surveillance System on Suffocation Injuries Due to Foreign Bodies in European Children

**Foreign bodies in children:**

# **Safer products for preventing choking and injuries**

**Results of the Joint Program Italy-Argentina  
MAE-MINCYT**

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UBSEPH

# Statistics / history

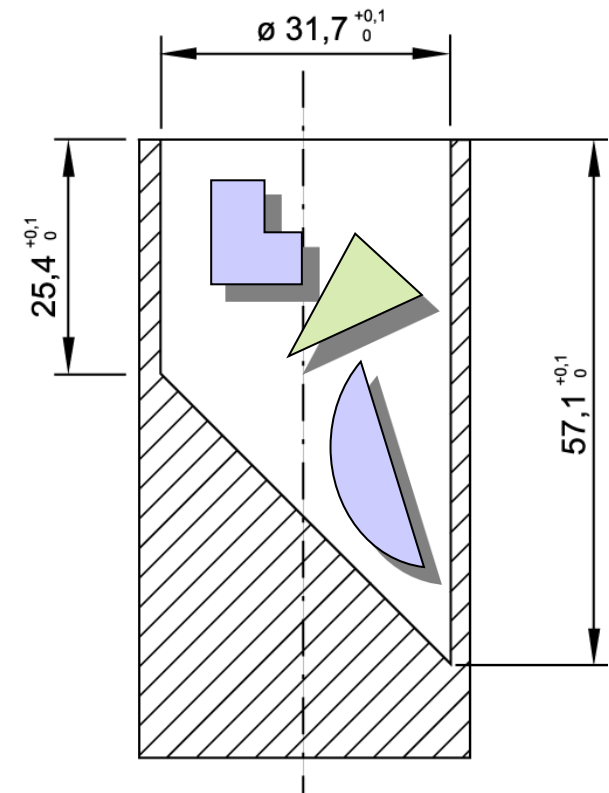
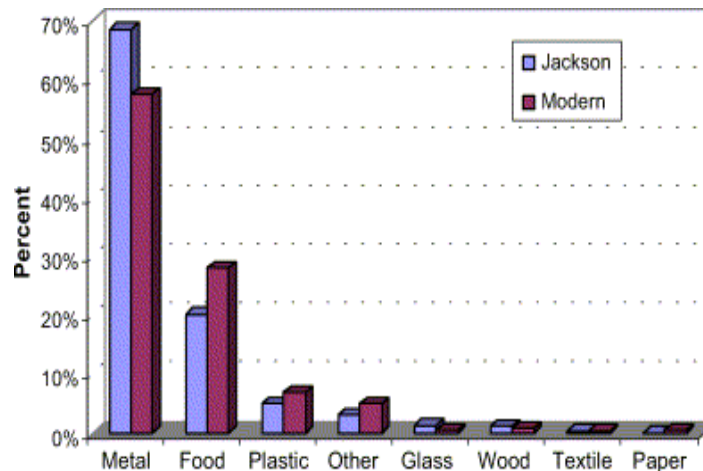
- Many attempts have been performed, to understand the relationship between shape and size of the object, obstruction location and injury severity.

- Chevalier Jackson (endoscopist) and colleagues removed 3200 objects between 1920 and 1932 (JC collection)

- Based on the JC collection, the **small part cylinder** was developed in the 1970s (by CPSC = Consumer

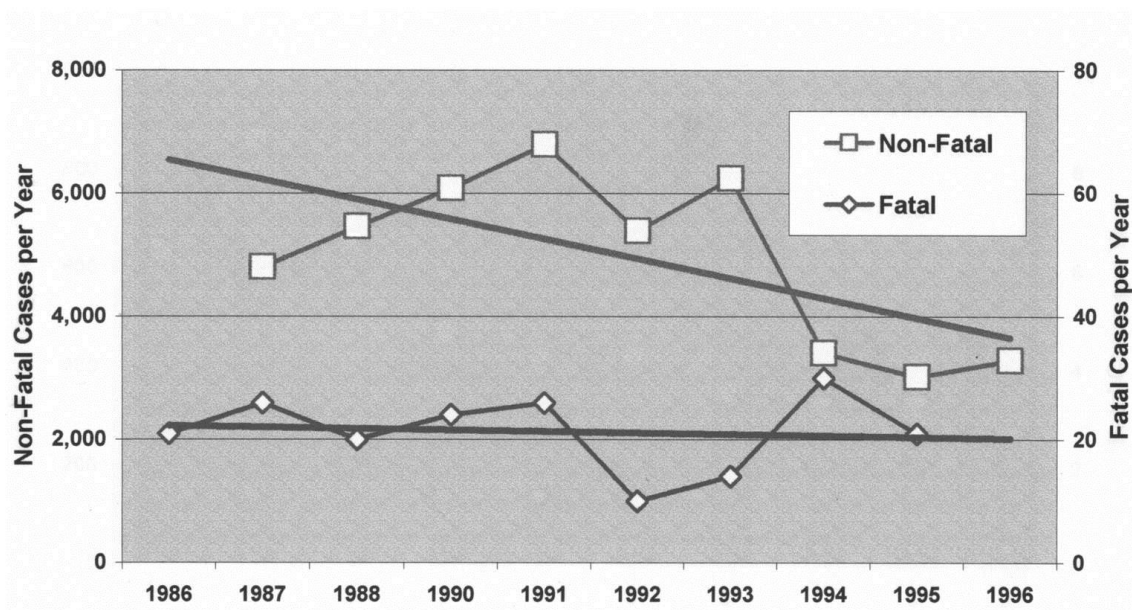
Product Safety Comm.,

**BPS** = Bureau of Product Safety)



# Epidemiological background

- Suffocation due to foreign bodies (FB) is a **leading cause of death in children aged 0-3** and it is common also in older ages, up to 14 years.
- Based on the RPA report (2003) the estimated number of incidents per year in children aged 0-14 is in EU of about **50.000**, **10% of which are fatal**
- In the RPA report (2003) About **10.000 accidents involve inorganic objects**, in general industrial products, mostly plastic and metal parts, coins, and toys. Out of the estimated **2.000 incidents per year involving toys**, the fatalities are 20.



# Foreign Bodies injuries: a multifactorial problem

The problem of choking risk from foreign bodies is a multifaceted problem since epidemiological, behavioural, medical, socioeconomic and legislative aspects are involved and only a joint effort of all these components can achieve a significant result




# Primary Endpoints of the project

- Aim of the project is to **establish a registry for injuries due to non-food foreign bodies ingestion**, gathering data on choking in all EU Countries and beyond, in order to:
  - provide a **risk-analysis profile for each of the products** causing the injury **in terms of its characteristics** with the aim at:
    - creating a **surveillance systems** for suffocation injuries caused to young consumers by inappropriate product design or packaging;
    - helping to **guarantee the safety of consumers**, indicating products whose risk profile is clearly not compatible with a safe fruition of the product itself;
    - providing the EU Commission with **comparative data on risk/benefit** of each of the products causing the injuries, in order to weight acceptable risks versus the foreseen economic impact of recalling the product involved from the market;



# Susy Safe

<p><b>ITALY</b> Ministero dello Sviluppo Economico - Direzione generale per l'Armonizzazione del Mercato e la Tutela del Consumatore, Ufficio D1 – Coordinamento Attività sicurezza e conformità dei prodotti <b>Antonella D'ALESSANDRO</b></p> <p>Department of Public Health and Microbiology, University of Torino <b>Dario GREGORI</b></p>	 
<p><b>AUSTRIA</b> Grosse schützen Kleine—Medical University of Graz <b>Paola ZAUPA</b></p>	
<p><b>CYPRUS</b> Ministry of Commerce, Industry and Tourism—Competition and Consumer protection service <b>Constantinos DEMETRIADES</b></p>	
<p><b>CZECH REPUBLIC</b> Masaryk University <b>Ivo SLAPAK</b></p>	
<p><b>FRANCE</b> Commission de la Sécurité des Consommateurs <b>Florence WEILL</b></p>	
<p><b>GREECE</b> Center for Research and Prevention of Injuries (CE.RE.PR.I.) - Medical school of University of Athens <b>Eleni PETRIDOU</b></p>	
<p><b>THE NETHERLANDS</b> Food and Consumer Product safety Authority <b>A.J. DE KONING</b></p>	

## SLOVAK REPUBLIC



- Children's University Hospital, Bratislava  
**Janka JAKUBIKOVA**

## PORTUGAL



- Hospital Sao Joao, Porto  
**Manuel Antonio Caldeira PAIS CLEMENTE**

## GERMANY:



- Charite Universitätmedizin Berlin  
**Klaue SIEGFRIED**

## FINLAND:



- Ministry of Trade and Industry of Finland  
**Kristian TAMMIVUORI**



# Participating Hospitals

## Medical Institutions involved in the project:

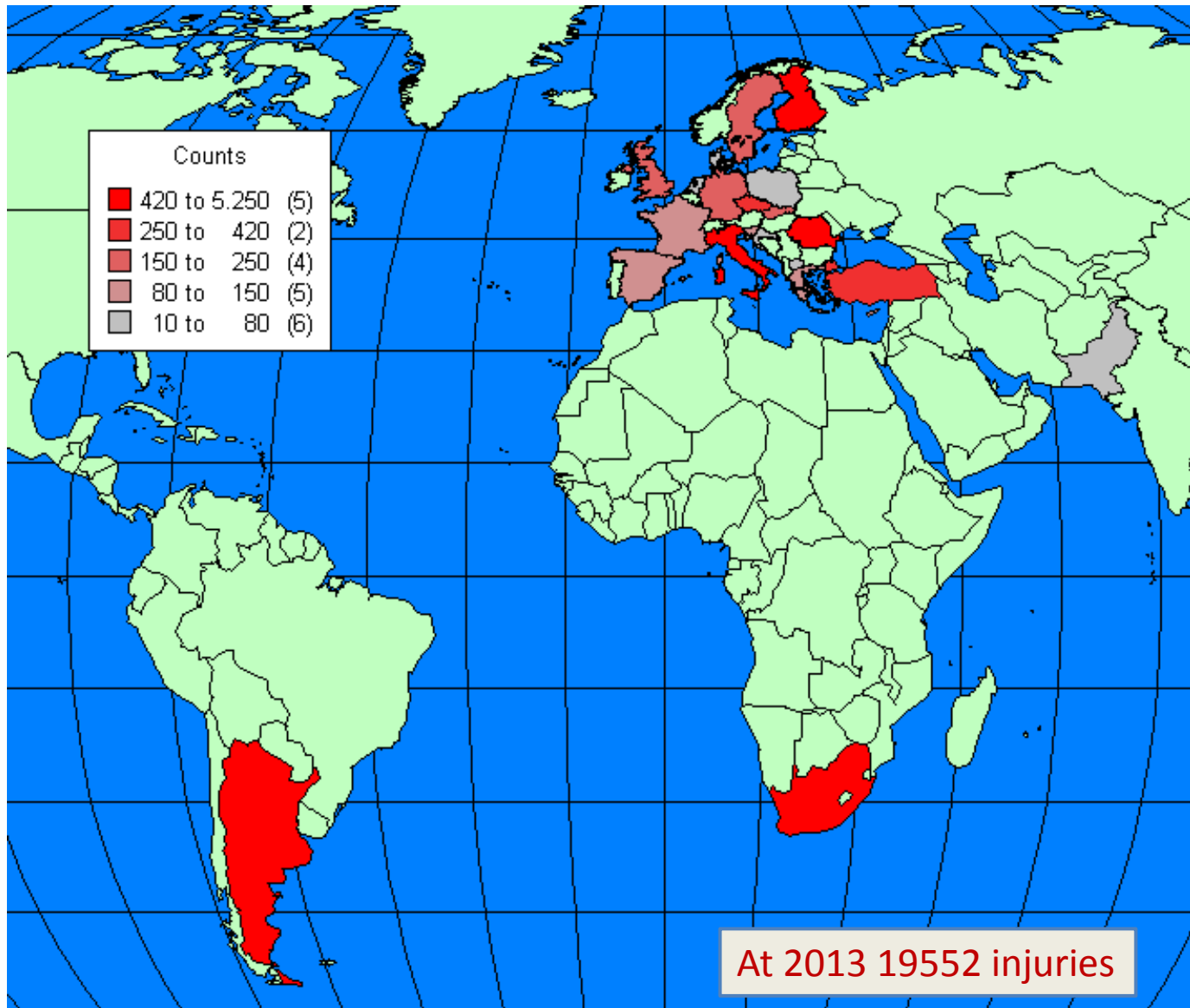
Institute for Respiratory Disaeses in Children	Skopje	Macedonia
Public health authority of the Slovak republic	Bratislava	Slovak Republic
Burlo - Garofolo	Trieste	Italy
VU Medical Center	Amsterdam	the Netherlands
Suez Canal University	Ismailia	Egypt
St. Joseph-Hospital	Berlin	Germany
Ramathibodi Hospital	Bangkok	Thailand
Helsinki University Central Hospital	Helsinki	Finland
Necker - Enfants Malades	Paris	France
Hopital Armand Trousseau	Paris	France
Basket University Ankara Hospital	Ankara	Turkey
CHU A Michallon	Grenoble	France
A.O.R.N. Santobono Pausilipon	Napoli	Italy
Aretaion Hospital	Nicosia	Cyprus
RNTNEH	London	UK
Azienda di Padova	Padova	Italy
Royal Manchester Children's Hospital	Manchester	UK
CHU Nancy	Vandoeuvre	France
Vall D'Hebron	Barcelona	Spain
Sf. Spiridon	Iasi	Romania
Grigore Alexandrescu	Bucharest	Romania
Service Hospital, Paediatric ward	Lahore	Pakistan
Institute for Respiratory Disaeses in Children	Skopje	Macedonia
Medical and Public Health Services, Ministry of Health	Nicosia	Cyprus
Azienda Ospedaliera G. Rummo	Benevento	Italy
Azienda Ospedaliera G. Rummo	Benevento	Italy
Ospedale Pediatrico Bambino Gesù	Passoscuro (Roma)	Italy
Charite Campus Virchow	Berlin	Germany
Hacettepe University	Ankara	Turkey
Childrens University Hospital	Brno	Czech Republic
Children's University Hospital	Bratislava	Slovak Republic
University Medical Centre Ljubljana	Ljubljana	Slovenia
Hopital S. Joao	Oporto	Portugal
The Medical University of Warsaw	Warsaw	Poland
Charité Campus Virchow	Berlin	Germany
Democritus University School of Medicine	Athens	Greece
Gentofte University Hospital of Copenhagen	Hellerup	Denmark
Hospital Ruber International	Madrid	Spain
Huddinge University Hospital	Stockholm	Sweden
University Hospital Salata - KBC	Zagreb	Croatia
Sf. Maria Hospital	Bucharest	Romania
Maria Sklodowska Curie	Bucharest	Romania
Praxis	Bergisch Gladbach	Germany
Sos Benjamin - Observatoire National d'Etudes des conduites à risques	Sens	France
Policlinico Universitario Le Scotte	Siena	Italy
Azienda Ospedaliera OIRM-Sant'Anna	Torino	Italy
Azienda Ospedaliera Complesso Ospedaliero San Giovanni - Addolorata	Roma	Italy
Deco Proteste	Lisboa	Portugal

**Overall 68 Institutions  
from 36 countries**

University clinical center	Tuzla	Bosnia And Herzegowina
Behcet Uz Children Hospital	Bornova Izmir	Turkey
General Hospital of Volos	Volos	Greece
Siriraj Hospital	Bangkok	Thailand
Menoufiya university hospital	Shibin Elkom	Egypt
Robert Debr Hospital	Paris	France
VU medisch centrum	Amsterdam	Netherlands
University of Ilorin Teaching Hospital	Ilorin	Nigeria
Santobono Hospital	Napoli	Italia



# The Susy Safe DataBase



<b>EU countries</b>	<b>8280</b>
Cyprus	99
Czech Republic	303
Denmark	70
Finland	421
France	122
Germany	157
Greece	88
Italy	5241
Poland	45
Romania	753
Slovak Republic	240
Slovenia	105
Spain	149
Sweden	236
Netherlands	77
United Kingdom	174
<b>Non EU Countries</b>	<b>7921</b>
Argentina	2336
Croatia	19
FYROM	63
Pakistan	13
South Africa	5240
Turkey	250
<b>Total</b>	<b>16201</b>

At 2013 19552 injuries



UBSEPH



# Susy Safe Data Base summary

Reference	Number of FB observed
<b>SUSY SAFE Total</b>	<b>16201</b>
<b>SUSY SAFE EU</b>	<b>8280</b>
Mikovic:2003	6953
Reilly:2003	5528
Ciftci:2003	563
Oguzkaya:1998	500
Black:1994	440
Emir:2001	403
Rothmann:1980	225
Black:1984	224
Blazer:1980	200
Jimenez:2000	189
Shinar:2003	182
Lau:2001	181
Karakoc:2002	174
Rimell:1995	165
Benjamin:1974	162
Cohen:1980	143
Brkic:2001	136
Tan:2000	135
Wolach:1994	127
WaiPak:2001	115

International Journal of Pediatric Otorhinolaryngology (2006) 70, 1663–1664



ELSEVIER

International Journal of  
**Pediatric**  
Otorhinolaryngology

www.elsevier.com/locate/ijport

## LETTER TO THE EDITOR

### The Susy Safe Project

A web-based registry of foreign bodies injuries in children

#### KEYWORDS

Foreign bodies;  
Choking;  
Children injuries;  
Removal techniques

cooperative effort with the Italian Ministry of Industry. The project is scientifically led by the Department of Public Health and Microbiology at the University of Torino, with the cooperation of the Competition and Consumers Protection Service, Ministry of Commerce, Industry and Tourism, Cyprus, the Charité Universitätmedizin, Berlin, Germany, the Ministry of Trade and Industry of Finland, jointly with the Helsinki University Central Hospital and the Commission de la Sécurité des Consommateurs, France.

## Situation at the end of Phase I

Prospective cases: **1010** (14%)

Retrospective cases: **6269** (76%)

## Situation at the end of Phase II

Prospective cases: **5041** (29.7%)

Retrospective cases: **11910** (70.01%)

## Data available from 1987



# SS Activities

## Research Activities

- SS maintenance and enlargement
- SS Risk Profiling System development
- Consumer data
- Unconventional data sources evaluation and implementation
- Literature review and synthesis

## Scientific Activities

- Scientific dissemination (papers & congresses)
- Institutional cooperation (CEN, DGSANCO, MAE, ...)
- International Societies Support
- Dissemination to public (PUBCHILD, I2C)
- Cooperation with other no-profit institutions (PROCHILD,SAFEKIDS)



# Publication & Privacy Policies

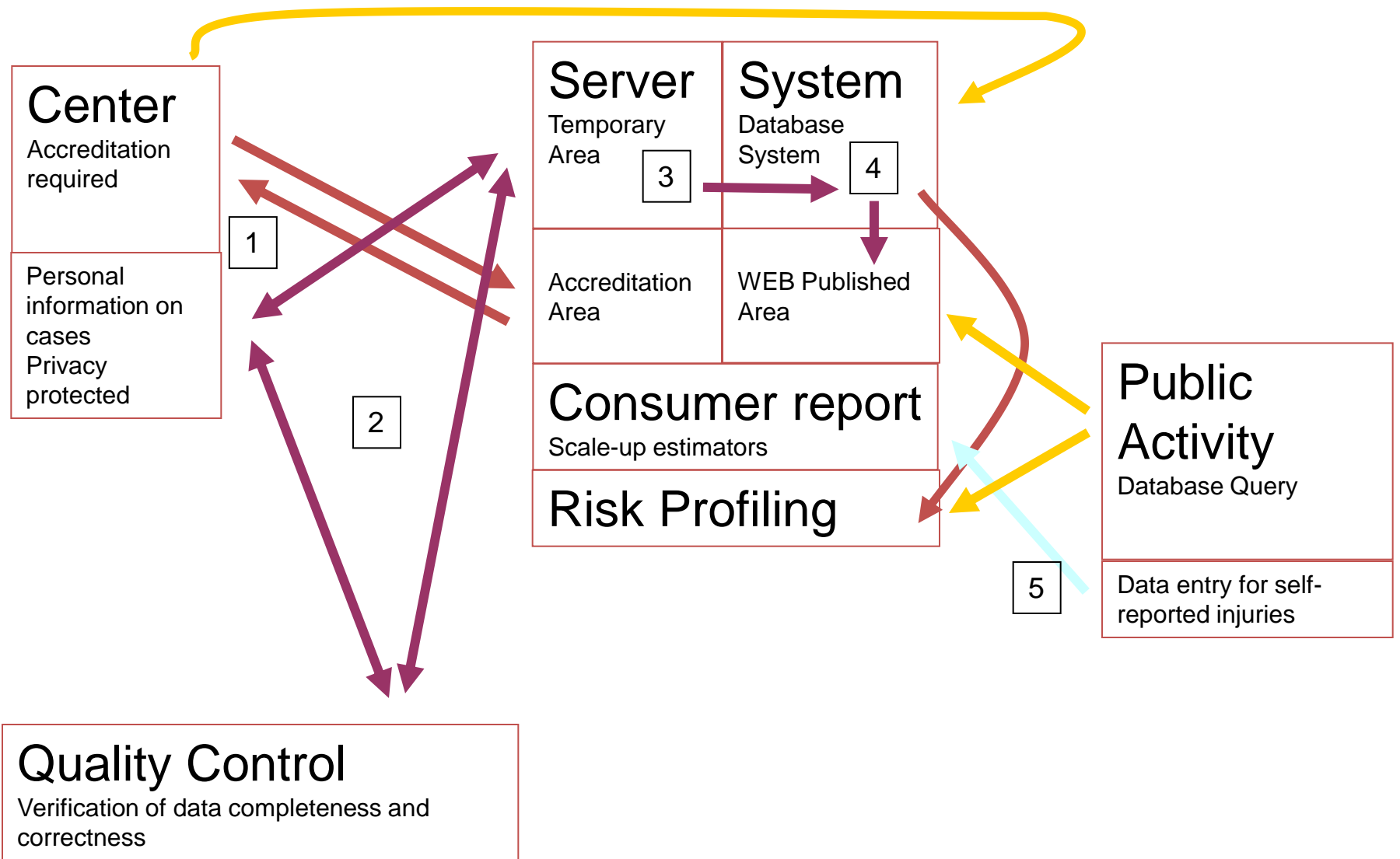
## •Publication:

•Main scientific papers using the overall data will be published using the formula “**The SUSY SAFE Investigators**”, with a list of all enrolling centres, recognizing in this way the contribution of each investigator as a co-author.



## Privacy:

All the cases will be anonymously reported, no personal information of the patients being send nor stored in the Susysafe Registry. All the personal information will be stored **exclusively** on the physician's computer.



# General details about the patient and the injury

**Susysafe Case Report**

File Backup Help

**Patient details**

Date of Birth: 1 1 1996 (dd mm yyyy) Gender: F

Date of Accident: 1 1 1997 (dd mm yyyy)

Date of arrival at the hospital: 1 1 2000 (dd mm yyyy)

**Location:**  
Foreign Body in the trachea, bronchi and lungs (ICD934)  
specify: Foreign body in the bronchi (ICD934.1)  
specify: left

**Were there complications?** Yes  
specify:

**How was the foreign body removed?** Other  
specify:

**Was the child suffering from a mental disorder or a handicap at the moment of the accident?** Yes  
specify:

**Did the child survive the accident?** No

Previous Save Next

Location (ICD9 code)  
Presence of complications  
Basic characteristics of the child

# Details about the extracted Foreign Body

Type  
Shape  
Consistency  
Axis' length (diameter)  
FB association  
with other objects

The screenshot shows a software window titled "Susysafe Case Report" with a menu bar containing "File", "Backup", and "Help". The main area is titled "Foreign Body Typology" and contains the following fields and controls:

- Type of foreign body:** A text input field.
- Brand of foreign body:** A text input field.
- Shape:** A dropdown menu with "3D (pen cap, toys, ...)" selected.
- dimension (mm):** Three separate text input fields for length, width, and height.
- Consistency:** A dropdown menu with "Conforming (balloon, elastic, ...)" selected.
- Was the foreign body purchased or a part of an object purchased?** A dropdown menu with "Yes" selected.
- If yes, when purchased, was the FB packed with another object(s)?** A dropdown menu with "Yes" selected.
- If yes, of what type?** A dropdown menu with "Toy" selected, followed by a text input field labeled "specify:".
- At the time of the accident was the FB associated with another object(s)?** A dropdown menu with "Yes" selected.
- If yes, of what type?** A dropdown menu with "Food" selected, followed by a text input field labeled "specify:".

At the bottom of the window are three buttons: "Previous", "Save", and "Next".



# Susysafe Case Report software (SCR)

## → circumstances of the accident

- Adult presence
- Child's activity at the moment of the accident

## → hospitalization details

- The department that initially look for the child
- Hospitalization period

## → FB physical details

- Picture of the FB
- Cylinder test data
- Actual volume of the FB

The screenshot shows the 'Susysafe Case Report' application window. The title bar reads 'Susysafe Case Report' and the menu bar includes 'File', 'Backup', and 'Help'. The main content area is divided into several sections:

- Circumstances of the accident:**
  - 'When the accident occurred was an adult present?' with a dropdown menu set to 'Yes'.
  - 'When the accident occurred the child was:' with a dropdown menu set to 'Other' and a text input field labeled 'specify:'.
- Hospitalization details:**
  - 'Who initially looked after the child?' with a dropdown menu set to 'Other' and a text input field labeled 'specify:'.
  - 'Was the child hospitalised?' with a dropdown menu set to 'Yes' and 'Lasting:' followed by a text input field and '(days)'.
- Foreign Body Tests:**
  - 'Did the FB passed the Cylinder test?' with a dropdown menu set to '----'.
- Upload the picture of the FB:** A text input field followed by a 'Browse' button.
- Comments:** A large text area with a vertical scrollbar.

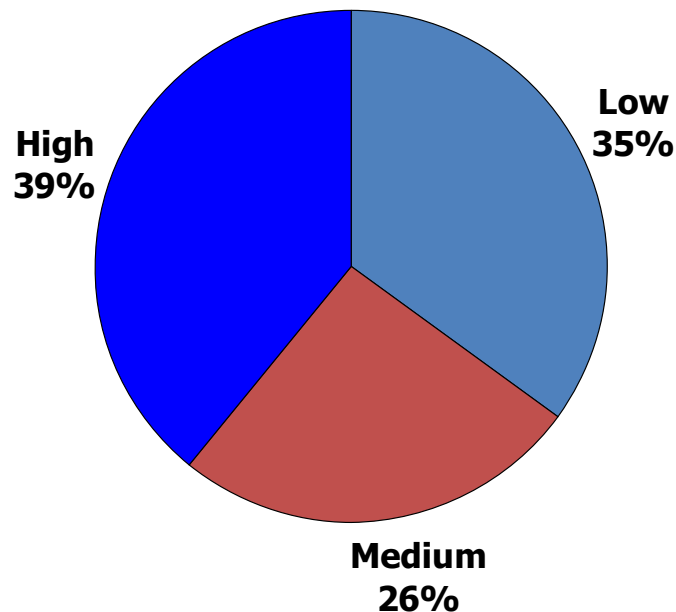
At the bottom of the window, there are three buttons: 'Previous', 'Save', and 'Submit'.



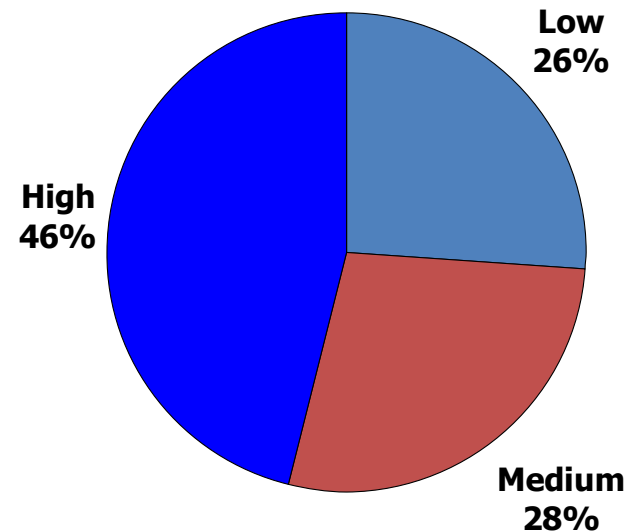
# Quality Control Procedure

- **Low Quality:** few basic data available (e.g.: gender, age, ...)
- **Medium quality:** basic data on FB characteristics and procedures are available (FB type, type of procedure, ...)
- **High quality:** detailed data on at least one FB characteristic are available (shape, size, circumstances of the accident, ...)

Retrospective Cases

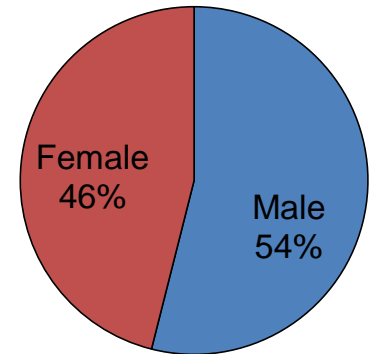
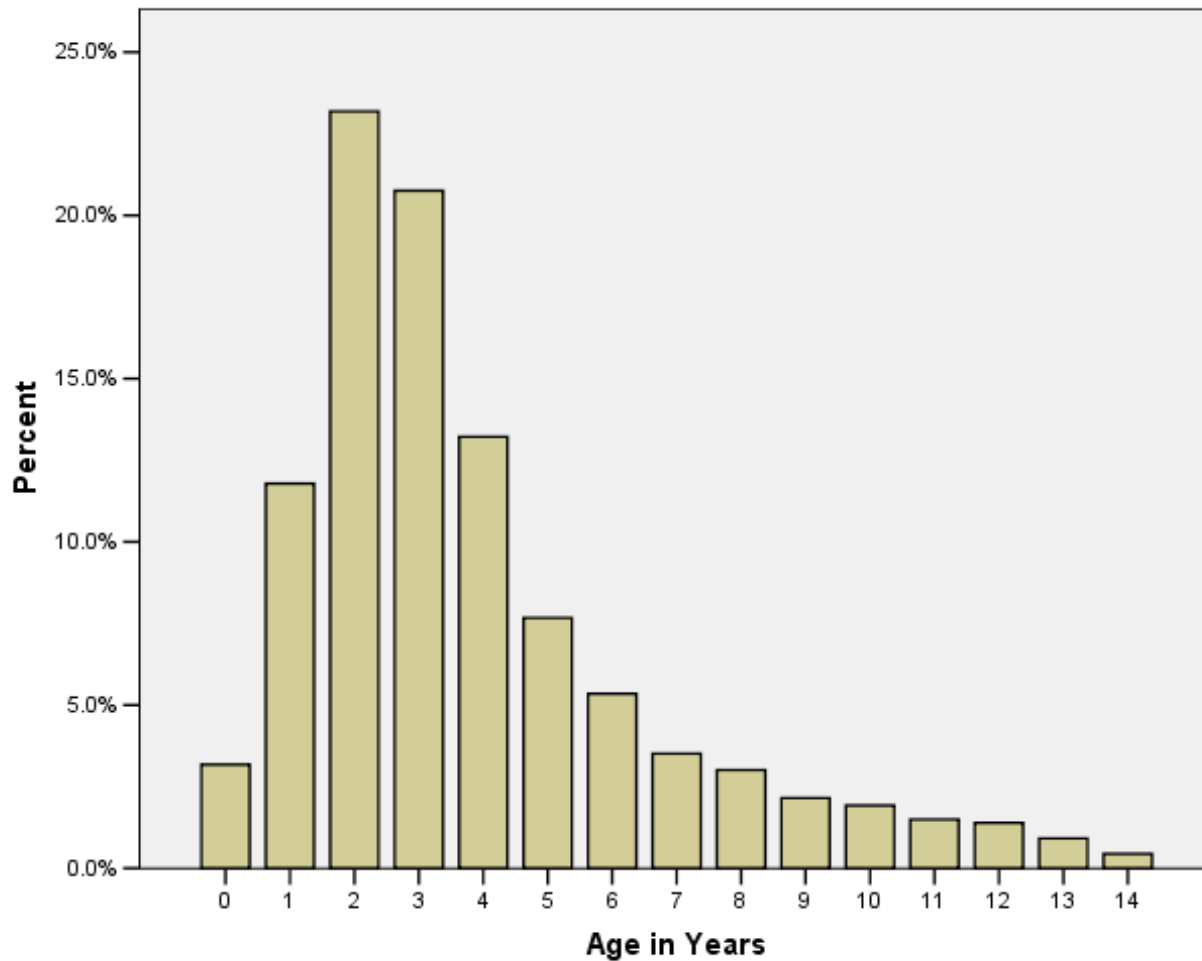


Prospective Cases



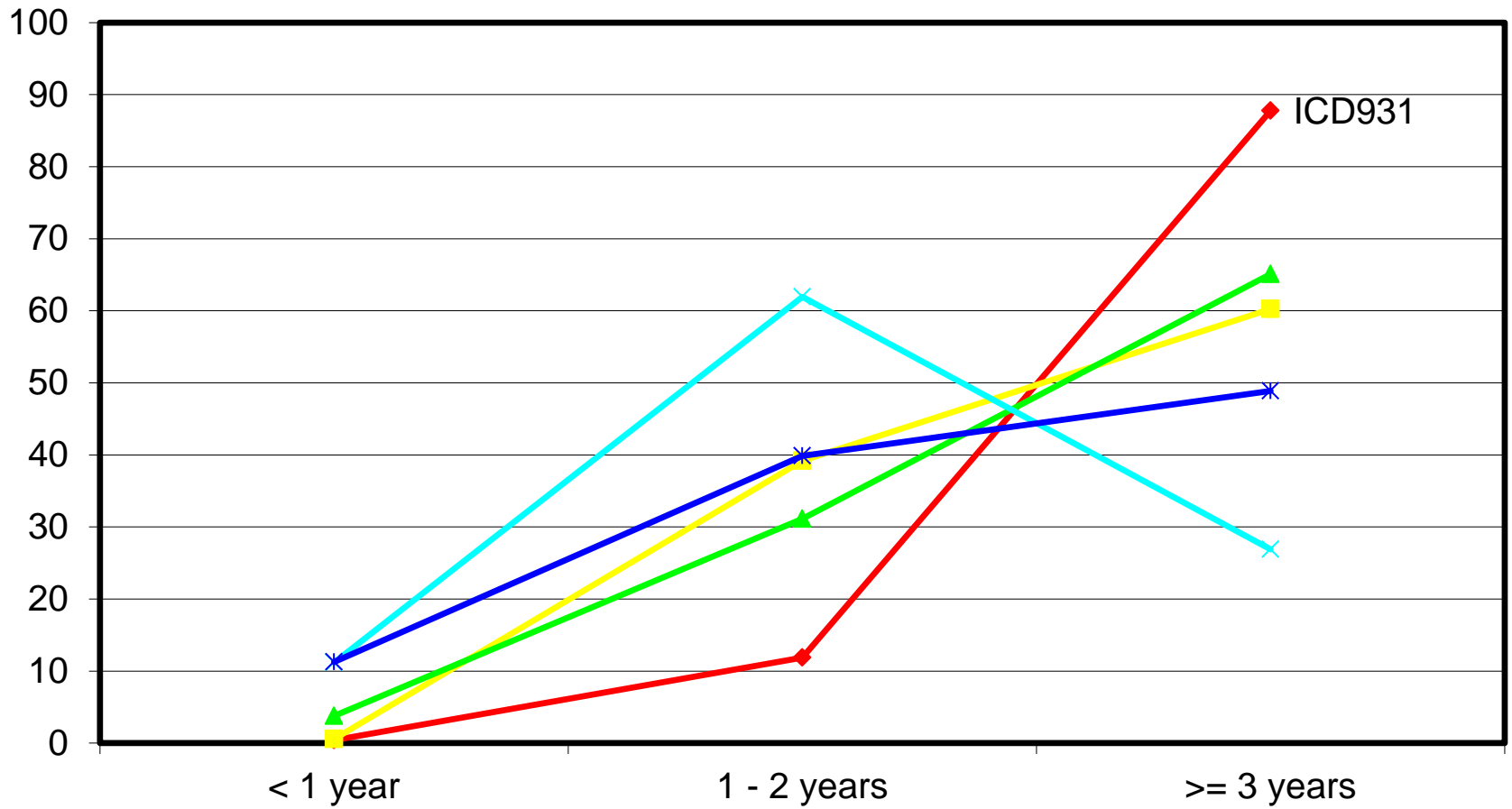


# The Injured Children

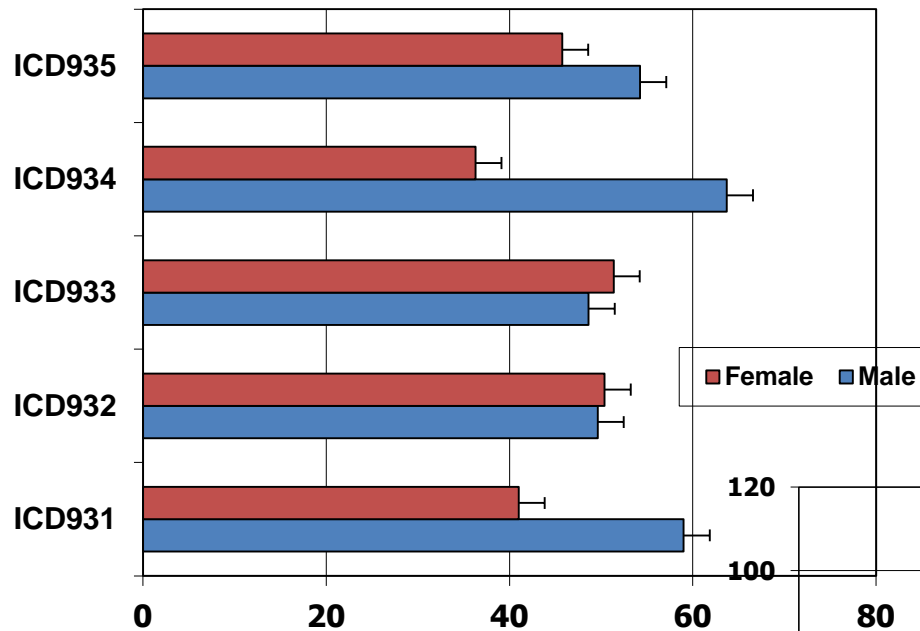


**12 children were disable**

# Location of Foreign Body

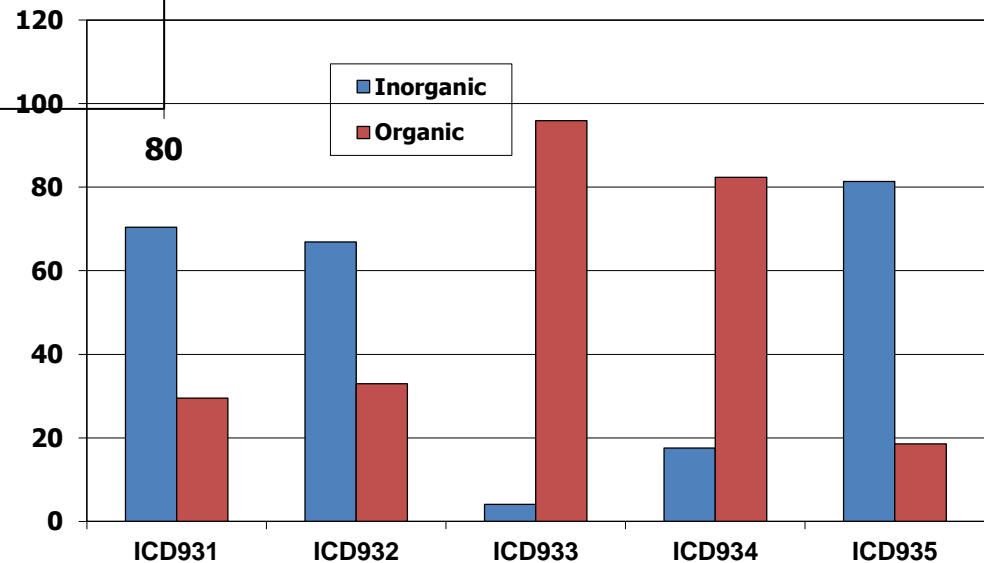


# Location, FB Type and Gender



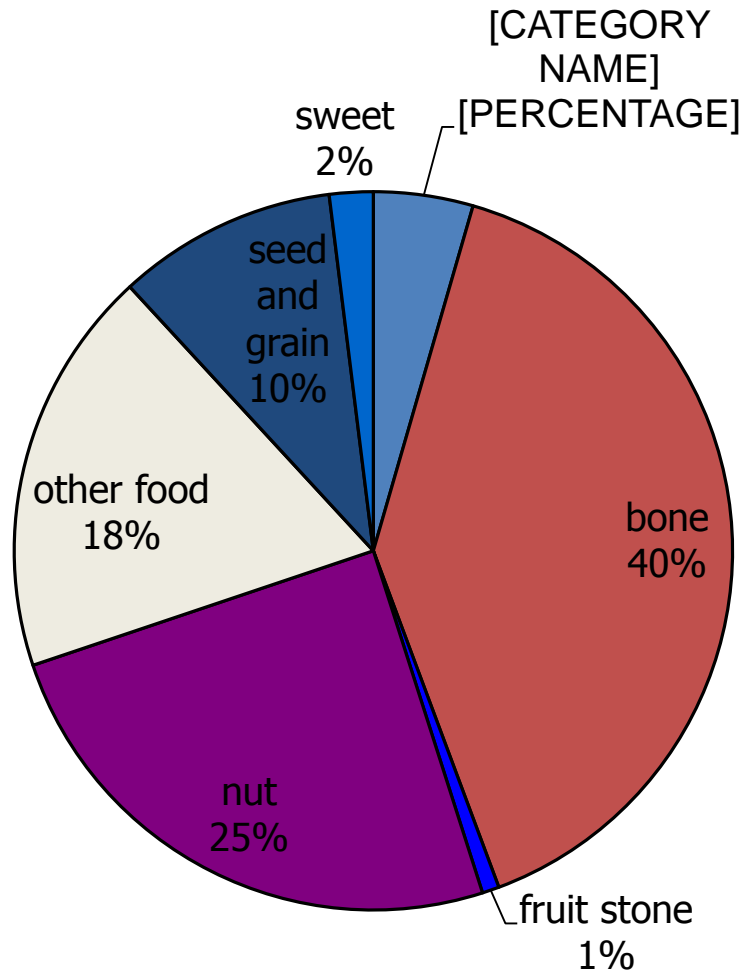
In case of disability, location was:  
 1 case ICD932  
 4 cases ICD934  
 7 cases ICD935

3 deaths in ICD934:  
 age <3 years  
 2 in Italy, 1 in Finland



# Food objects

•Food Objects 51.3%



# Non-food objects

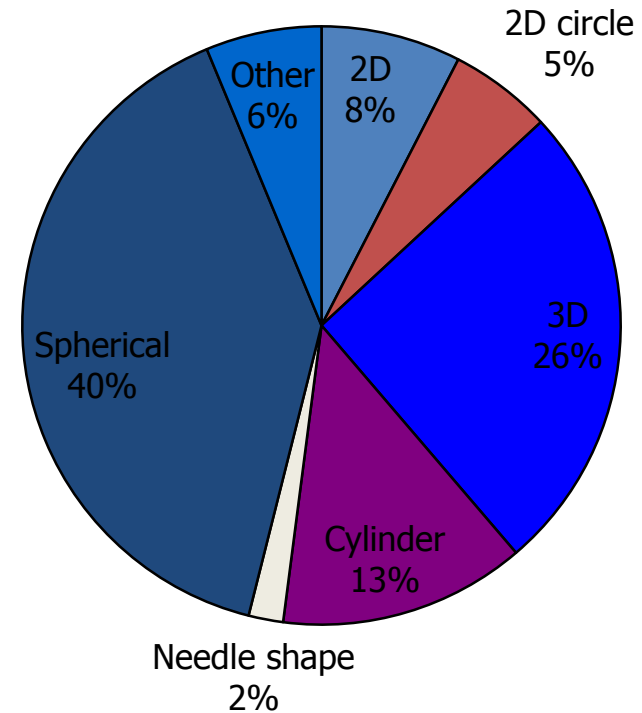
Non-food objects 48.7%

	%
accessorize	0.92
arthropod	1.60
battery	2.84
bone	0.06
button	2.34
cap	0.37
coin	10.97
cotton	2.10
earplug	0.92
FPCI	0.68
jewellery	3.02
metal	1.17
paper	4.13
pearl, ball and marble	29.78
pebble	7.89
pin and needle	4.56
plastic	4.69
polystyrene	1.91
sponge	0.62
stationery	5.98
other stationery	0.37
stick	0.74
tinfoil and cellophane	1.36
toy	10.97
other inorganics	4.81
other organics	0.80



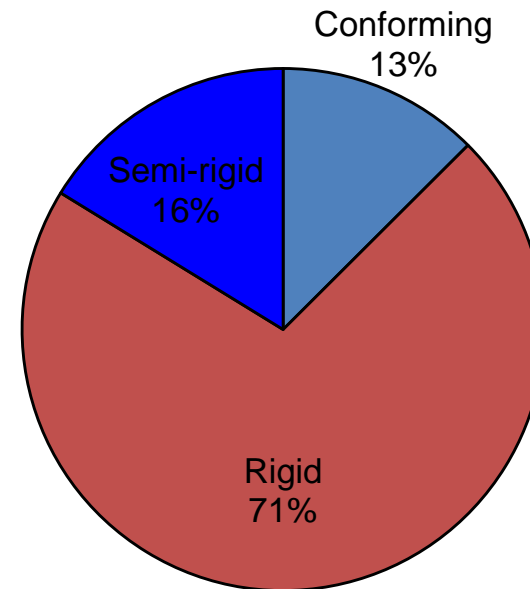
# Shape (non food objects)

	2D	3D+Cyl	Sphere
accessorize	25.0	58.3	0.0
arthropod	5.9	58.8	35.3
battery	0.0	97.1	0.0
button	0.0	71.4	21.4
cap	25.0	75.0	0.0
coin	0.0	100.0	0.0
cotton	22.2	29.6	37.0
earplug	0.0	18.2	81.8
FPCI	42.9	57.1	0.0
jewellery	19.0	31.0	40.5
metal	13.3	6.7	13.3
other inorganics	44.2	42.3	9.6
other organics	20.0	60.0	20.0
other stationery	20.0	60.0	0.0
paper	55.6	11.1	2.2
pearl, ball and marble	7.6	9.6	81.4
pebble	4.8	21.0	59.0
pin and needle	0.0	54.4	0.0
plastic	23.6	49.1	5.5
polystyrene	3.8	23.1	57.7
sponge	0.0	71.4	28.6
stationery	5.3	84.2	5.3
stick	20.0	50.0	0.0
tinfoil and cellophane	82.4	5.9	11.8
toy	24.6	42.0	31.2



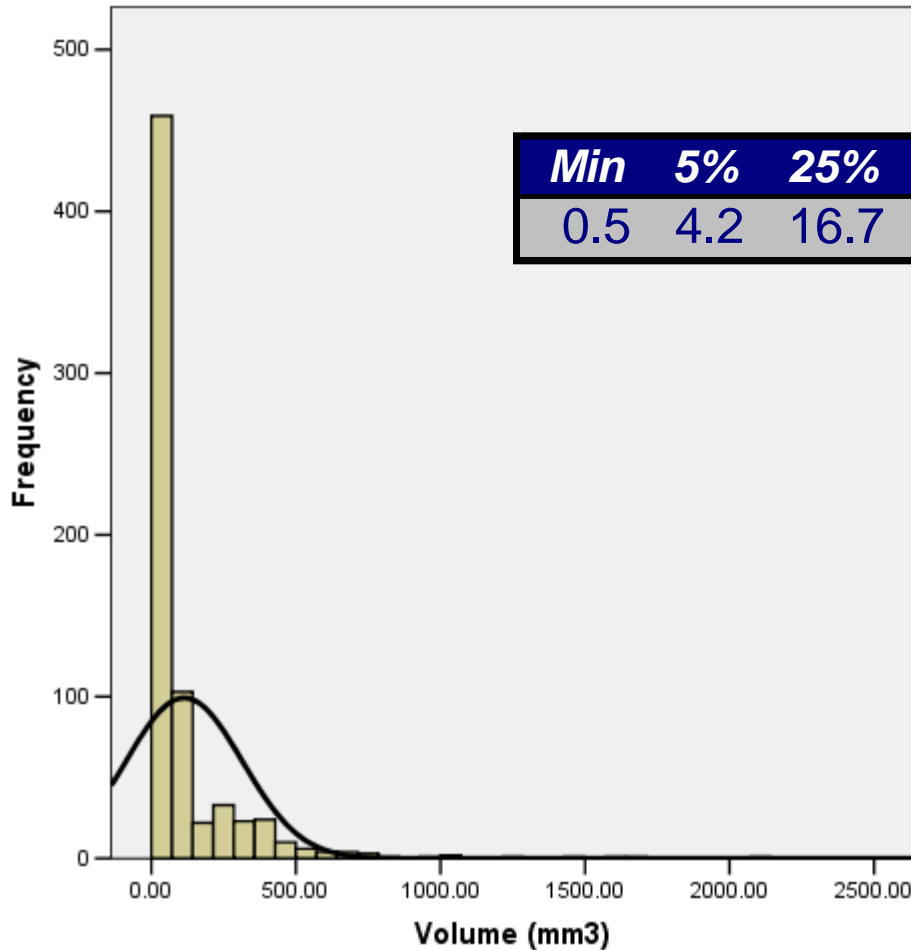
# Consistency (non food objects)

	<i>Conforming</i>	<i>Rigid</i>	<i>Semi-rigid</i>
accessorize	13.3	66.7	13.3
arthropod	19.2	0.0	42.3
battery	0.0	90.7	0.0
button	0.0	73.0	2.7
cap	0.0	66.7	0.0
coin	0.0	100.0	0.0
cotton	76.5	0.0	5.9
earplug	20.0	0.0	80.0
FPCI	11.1	33.3	22.2
jewellery	0.0	81.3	4.2
metal	0.0	94.7	0.0
other inorganics	27.3	40.9	15.2
other organics	23.1	30.8	38.5
other stationery	0.0	50.0	33.3
paper	50.7	4.5	10.4
pearl, ball and marble	6.0	71.9	11.9
pebble	1.6	90.6	1.6
pin and needle	2.9	89.9	0.0
plastic	15.1	43.8	26.0
polystyrene	41.9	0.0	41.9
sponge	60.0	0.0	10.0
stationery	4.3	46.8	34.0
stick	0.0	75.0	8.3
tinfoil and cellophane	40.9	4.5	40.9
toy	6.2	50.8	23.7



% of total cases

# Volume (non-food objects)



483 mm<sup>3</sup>



943 mm<sup>3</sup>

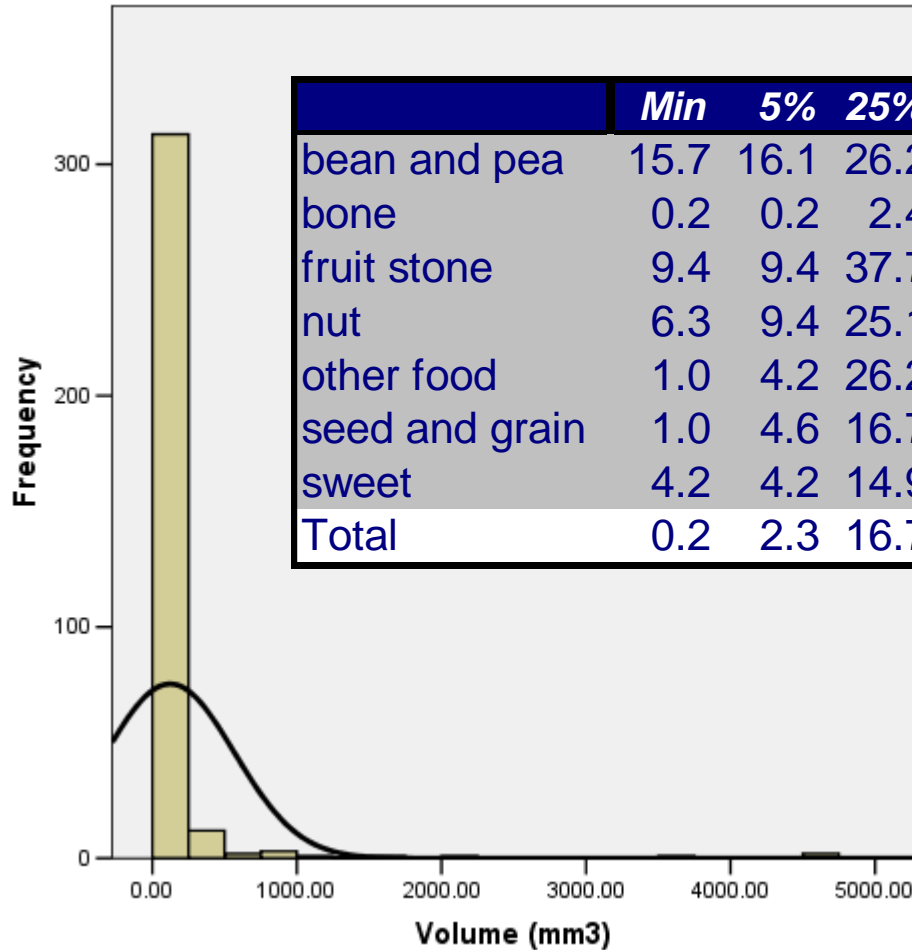


268 mm<sup>3</sup>





# Volumes (food objects)



483 mm<sup>3</sup>



943 mm<sup>3</sup>



268 mm<sup>3</sup>

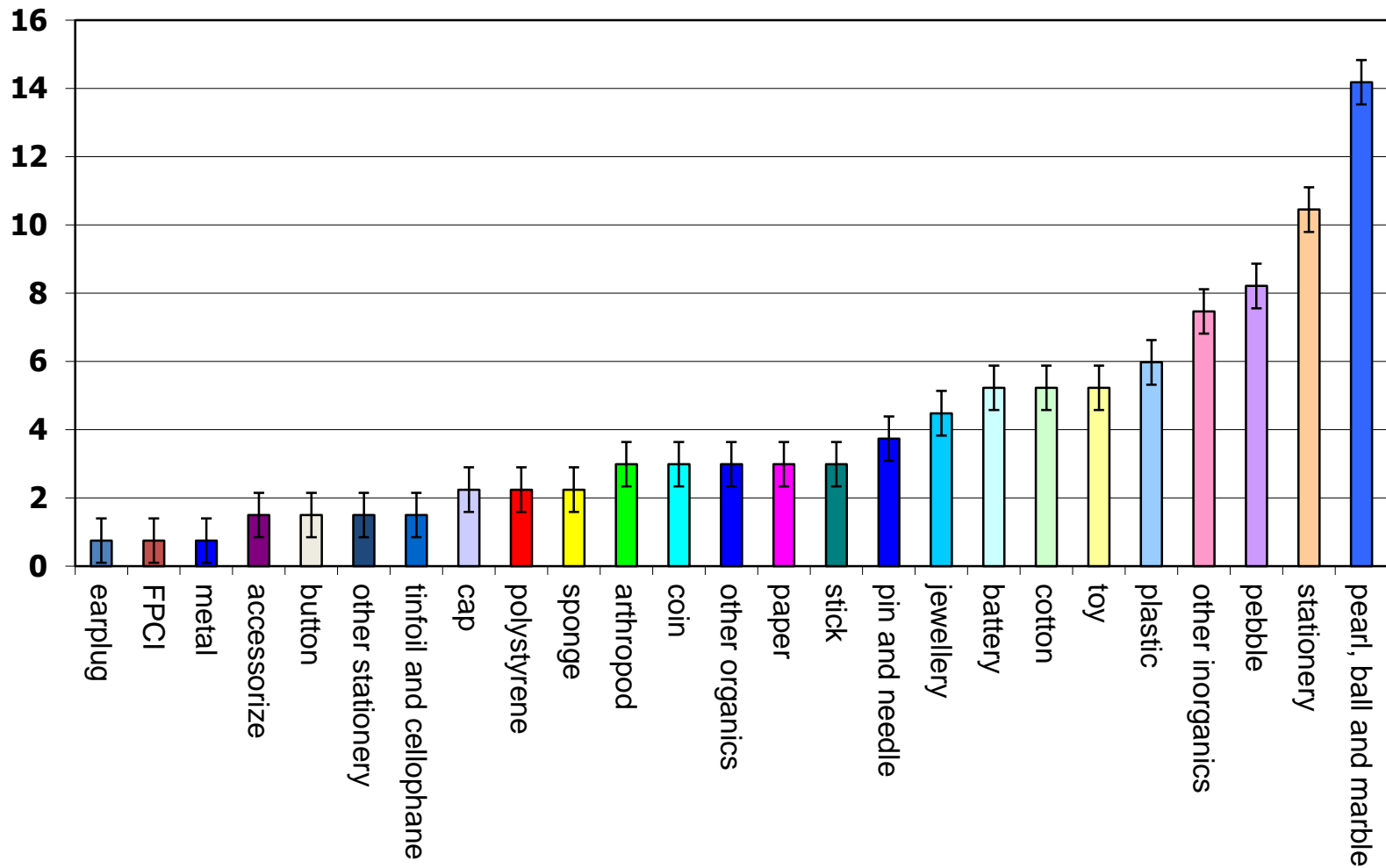


# Outcome definitions

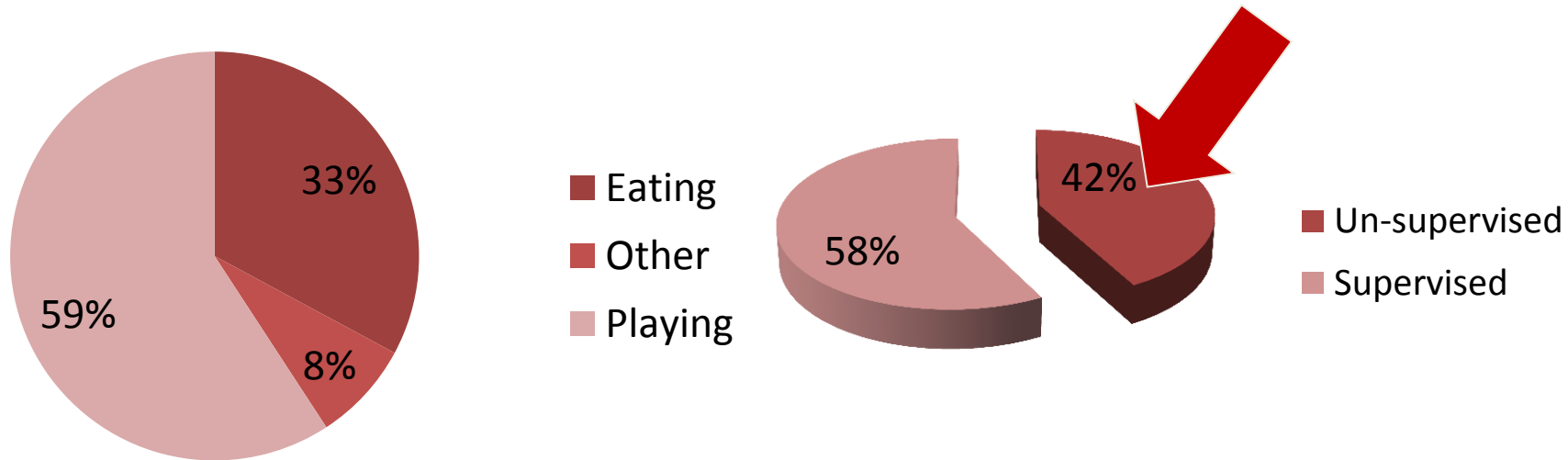
- **Severe injury:** FB injury requiring at least one day of hospitalization (DTI, 1999)
- **Complications:** occurrence of at least one complication, as reported by the physician, requiring or not hospitalization



# Incidence (%) of complications by FB type



# Activity and supervision



	Eating	Other	Playing
Un-supervised	14.10%	51.90%	56.40%
Supervised	<b>85.90%</b>	48.10%	43.60%

# The risk engine: Bayesian Model



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



Journal of Biomedical Informatics xxx (2008) xxx-xxxx

Journal of  
Biomedical  
Informatics

[www.elsevier.com/locate/ybjin](http://www.elsevier.com/locate/ybjin)

Web-based tool for injury risk assessment of foreign  
body injuries in children

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Received 11 April 2007

V = object characteristics  
(volume, shape, ...)

C = child characteristics (age,  
gender, ...)

$$P(I|V, C) = P(V|I_{SS}, C) \times P(I_{SS}|I, C) \times P(I|C) \times P(V)^{-1}$$

Susy Safe

Registration  
coverage

ICD  
records


...



# Estimating the risks (Risk Engine Web Interface)

The Susy Safe project

The Susy Safe project



**susy safe** project

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### Product Risk Estimation

Europe Country:  (Please choose)

Overall

Age Class:  (Please choose)

Gender:  (Please choose)

FB Type:  (Please choose)

Location:  (Please choose)

Shape:  (Please choose)

Volume:  (Please enter a value)  Average SS

Elipticity (Diameter Ratio):  (Please enter a value)  Average SS

Consistency:  (Please choose)



# Probability of injury in trachea, bronchi and lungs, due to 2D circle object < 39.47 mm<sup>3</sup> (approx coin)

**Credibility intervals**

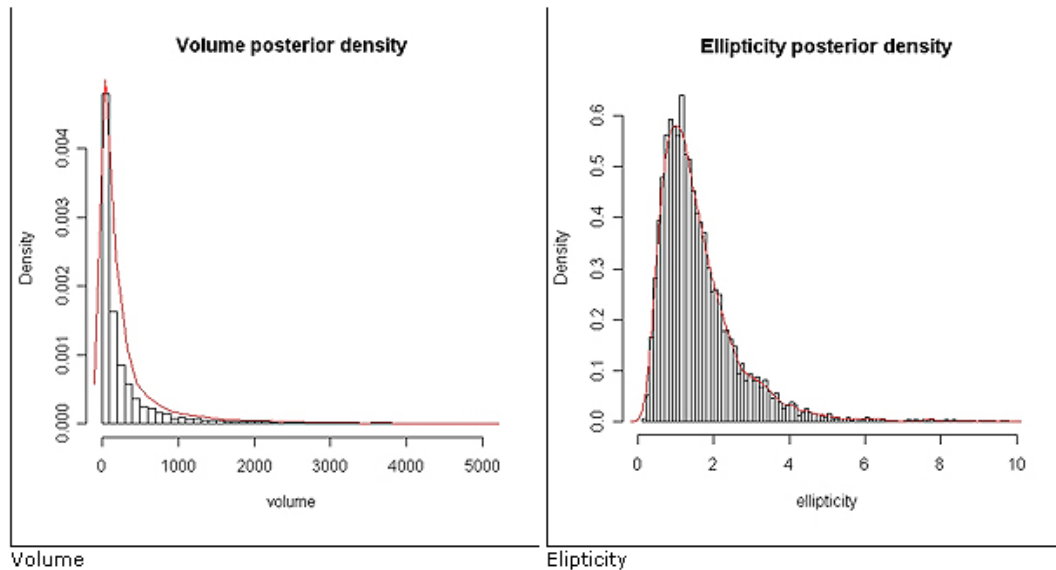
Risk of injury (E-04)	<input type="text" value="1.68"/>	80% →	1.657 - 1.714
		90% →	1.641 - 1.731
		95% →	1.626 - 1.743
		99% →	1.601 - 1.769

**Risk estimate<sup>1</sup> 0.000168**  
**Risk estimate<sup>2</sup> for Greece 0.000132**

**Credibility intervals**

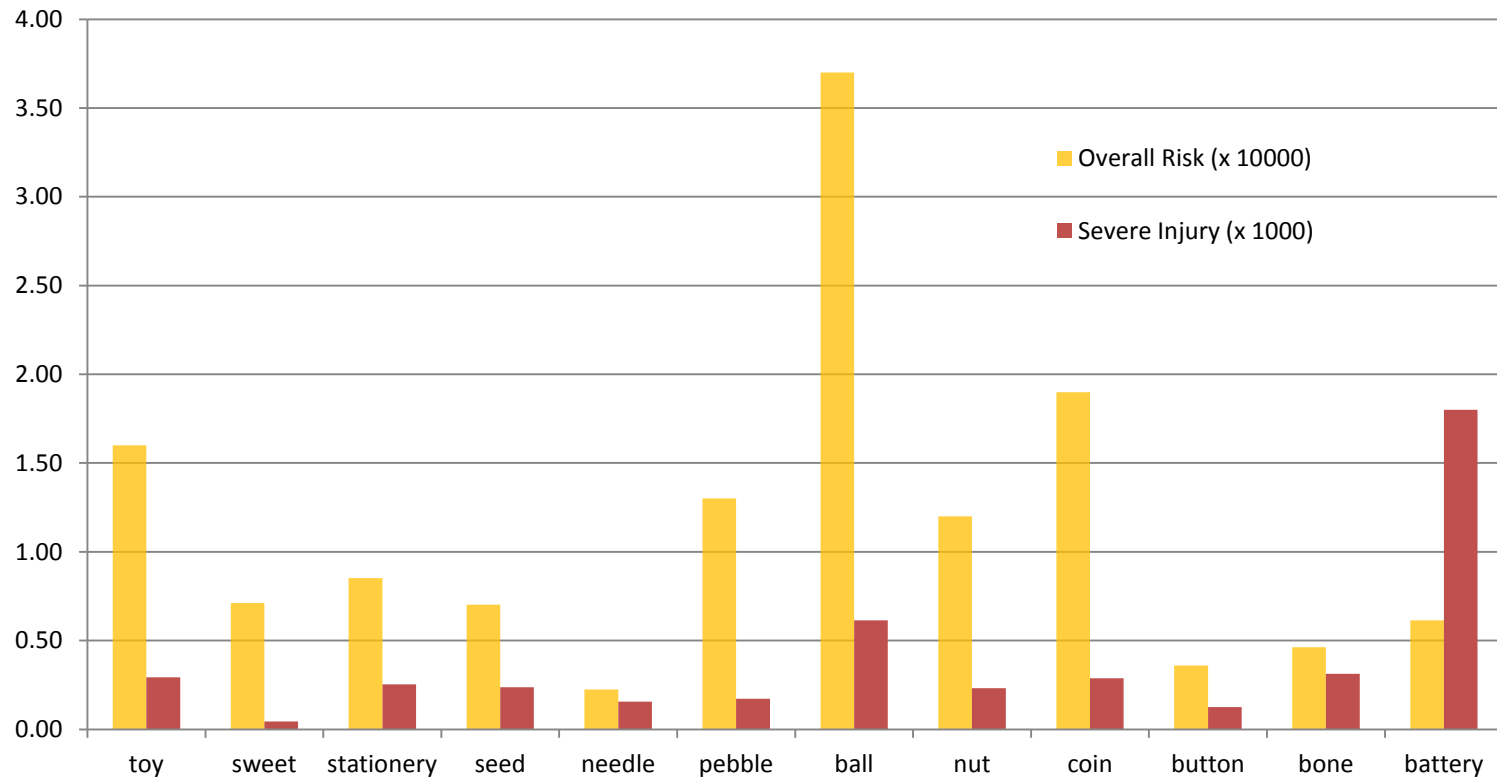
Conditional risk of severe injury (at list one day of hospitalization)	<input type="text" value="0.27"/>	80% →	0.266 - 0.275
		90% →	0.263 - 0.278
		95% →	0.261 - 0.280
		99% →	0.257 - 0.284

Conditional probability based on observed cases



<sup>1</sup>SS data  
<sup>2</sup>Papadopoulos 2004

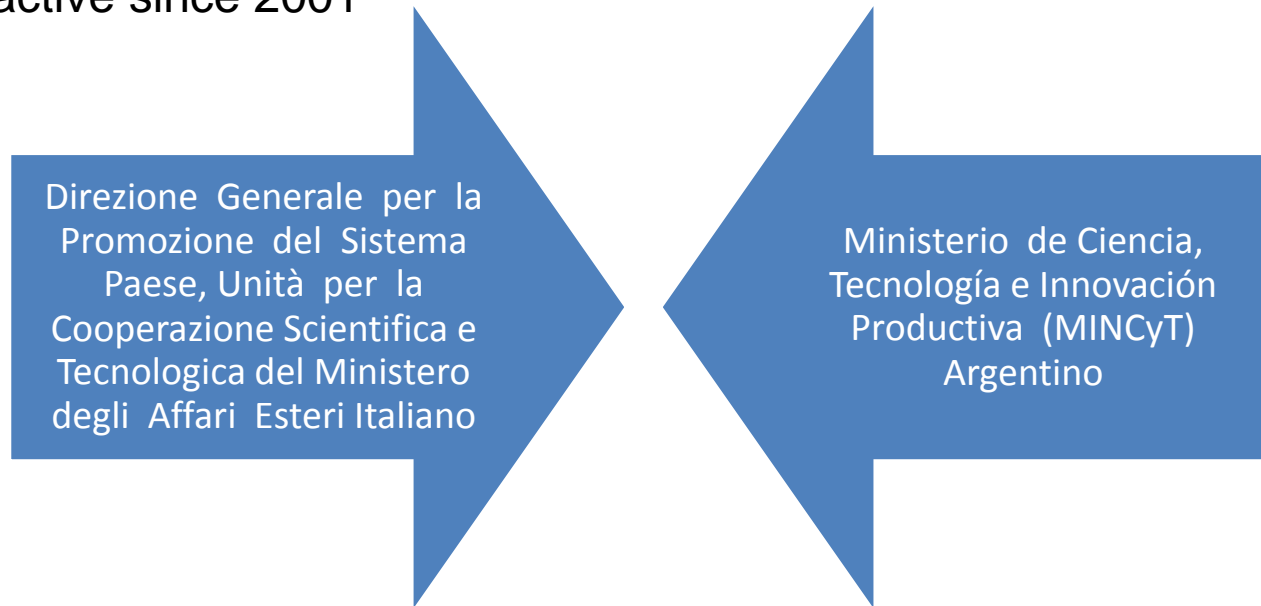
# Risk of Injury vs. Risk of Severe Injuries





# “Alta rilevanza Scientifica e Tecnologica Italia-Argentina” Projects

The projects starts with a framework agreement between the Italiand and Argentina Governments, signed in Bologna on the 3° of December 1977 and being active since 2001

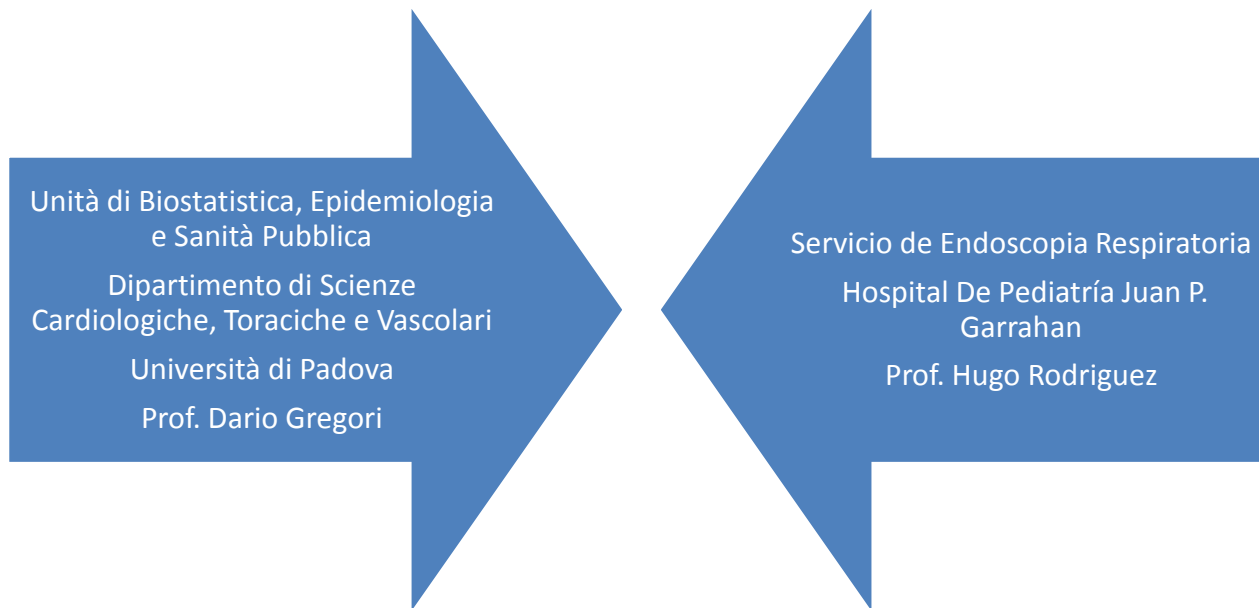


Goal of promoting High-Quality Scientific and research Cooperative Projects between highly qualified partners in both countries

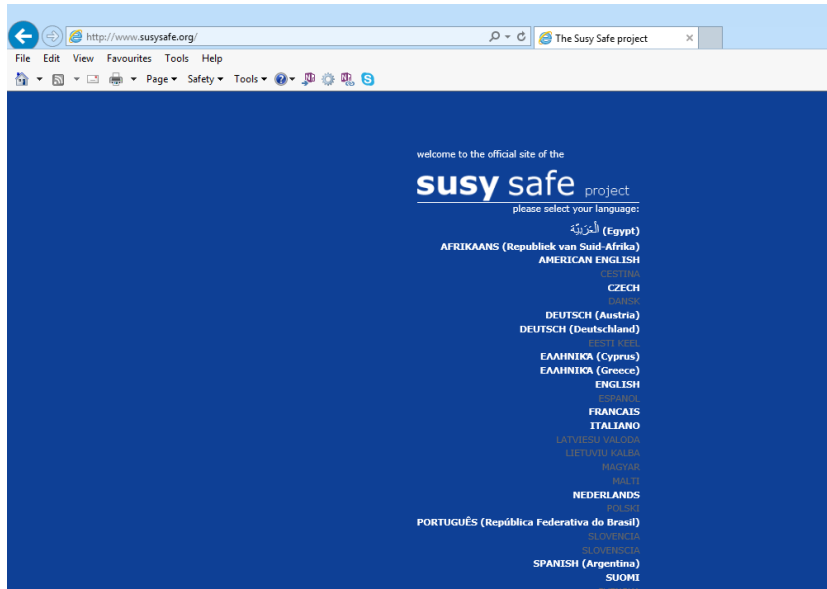


# The Italy-Argentina Project 2011-2013

Development of a common risk –assessment tool for Risk-  
Assessment of Foreign Bodies Injuries in children



# 3059 Injuries recorded in Argentina



A dedicated web server Italian/Spanish

<http://www.susysafe.org/granderilevanzaIT-AR/>

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## I Progetti di Grande Rilevanza MAE

I progetti di **ricerca scientifica e tecnologica bilaterale di "Grande Rilevanza"** nascono grazie all'accordo culturale tra il Governo della Repubblica Italiana ed il Governo Argentino, firmato a Bologna il 3 dicembre 1997, ed entrato in vigore il 13 aprile 2001.

La *Direzione Generale per la Promozione del Sistema Paese, Unità per la Cooperazione Scientifica e Tecnologica del Ministero degli Affari Esteri* italiano e il *Ministerio de Ciencia, Tecnologia e Innovación Productiva (MINCyT)* argentino hanno collaborato nella delineaazione di questo importante strumento il cui fine è quello di **incoraggiare la cooperazione scientifica e tecnologica** fra Italia e Argentina.

Il supporto offerto è destinato ai **progetti di mobilità dei ricercatori**, riguardanti collaborazioni di tipo Culturale, Scientifica e Tecnologica, che appartengono alle seguenti aree di ricerca: Ambiente ed energia; Nanotecnologie; Medicina e salute; Scienze di base (matematica, fisica, chimica, biologia e geologia); Tecnologia spaziale; Tecnologie applicate ai Beni Culturali.



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# 3-years Scientific Activity

**18 papers in international peer-reviewed journals**  
47 citations                      H-index 4



Contents lists available at SciVerse ScienceDirect

International Journal of Pediatric Otorhinolaryngology

journal homepage: [www.elsevier.com/locate/ijporl](http://www.elsevier.com/locate/ijporl)



Review Article

Management of foreign bodies in the airway and oesophagus

Hugo Rodríguez<sup>a</sup>, Giulio Cesare Passali<sup>b</sup>, Dario Gregori<sup>c,d</sup>, Alberto Chinski<sup>e,\*</sup>, Carlos Tiscornia<sup>a</sup>,  
Hugo Botto<sup>a</sup>, Mary Nieto<sup>a</sup>, Adrian Zanetta<sup>a</sup>, Desiderio Passali<sup>f</sup>, Giselle Cuestas<sup>a</sup>

<sup>a</sup>Endoscopy, Hospital de Pediatría Juan P. Garrahan, Buenos Aires, Argentina

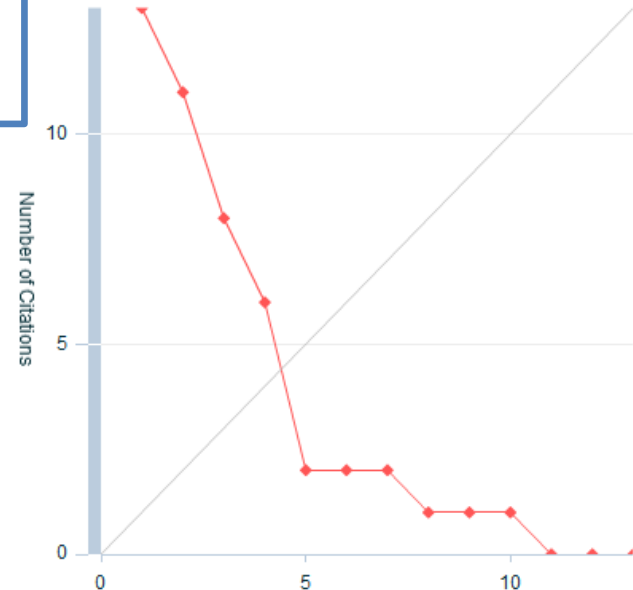
<sup>b</sup>Ear, Nose, and Throat Clinic, Policlinico "A. Gemelli", Catholic University of the Sacred Heart, Rome, Italy

<sup>c</sup>Labs of Epidemiological Methods and Biostatistics, Department of Environmental Medicine and Public Health, University of Padova, Italy

<sup>d</sup>The "Susy Safe Project", DG-SANCO-EU Initiative, Italy

<sup>e</sup>Faculty of Medicine, University of Buenos Aires, Buenos Aires, Argentina

<sup>f</sup>Ear, Nose, and Throat Clinic, Policlinico Le Scotte, University of Siena, Italy



Pediatric Pulmonology 48:344–351 (2013)

## Inhaled Foreign Bodies in Children: A Global Perspective on Their Epidemiological, Clinical, and Preventive Aspects

Francesca Foltran, MD, PhD,<sup>1</sup> Simonetta Ballali, BS,<sup>1</sup> Hugo Rodriguez, MD,<sup>2</sup>  
Arjan B. (Sebastian) van As, MD, PhD,<sup>3</sup> Desiderio Passali, MD,<sup>4</sup> Achal Gulati, MD,<sup>5</sup>  
and Dario Gregori, MA, PhD<sup>1\*</sup>



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## Editorial

# Preventing Foreign Bodies Injuries in Children: the Italy-Argentina Joint Research Programme 2011-2013

Ambassador Guido La Tella\*

*Ambasciata d' Italia in Buenos Aires, Capital Federal, Argentina*

Volume 6

Open Access

### Quality Control Techniques and Standards Implemented in the WEB-Based “Susy Safe” Registry

Paola Berchiulla<sup>1,8</sup>, Arber Haxhijaj<sup>2</sup>, Desiderio Passali<sup>3</sup>, Hugo Rodriguez<sup>4,8</sup> and Dario Gregori<sup>\*5,8</sup>

### Foreign Bodies Injuries in Children in Argentina: A Countrywide Program Connecting Evidence with Prevention

Hugo Rodriguez<sup>1,8</sup>, Giselle Cuestas<sup>1</sup>, Simonetta Ballali<sup>2</sup>, Graciela Sica<sup>3</sup>, Walter Widmann<sup>4</sup>, Silvina Carca<sup>4</sup>, Susana Tortosa<sup>4</sup> and Dario Gregori<sup>\*5,8</sup>

### Foreign Bodies in Non-Life Threatening Locations: A Risk Analysis of Nose and Ears Foreign Bodies in European Children

Dario Gregori<sup>\*1,8</sup>, Francesca Foltran<sup>1</sup>, Giselle Cuestas<sup>2</sup>, Hugo Rodriguez<sup>2,8</sup>, Desiderio Passali<sup>3</sup> and Paola Berchiulla<sup>4,8</sup>



## The Open Pediatric Medicine Journal

Preventing Foreign Bodies Injuries in Children:  
The Italy-Argentina Joint Research Programme  
2011-2013

Guest Editors: Dario Gregori, Hugo Rodriguez  
& Paola Berchiulla

The Open Pediatric Medicine Journal, 2010, 6, 15-37



# Public awareness campaign: >300 newspaper and TV clippings

## ...TRICK OR TREAT?

Child Injury Prevention: an overview of the 12 most frequent foreign bodies in 0-14 years old children

<b>NUTS &amp; SEEDS</b> Most frequent in 0-1 year old Incidents occur while eating Retained in aerodigestive system Presenting with cough, dyspnea, cyanosis Complicated in pneumonia, infection	<b>COINS</b> Most frequent in 1-14 yrs old Incidents occur while playing Retained in digestive system Presenting with cough, dyspnea and wheezing Complicated in stenosis, pneumonia	<b>PEARLS, BALLS AND MARBLE</b> Most frequent in 1-14 yrs old Incidents occur while playing Ductile location nose, ears and digestive system Presenting with pain, bleeding, inflammation Complicated in perforation, infection	<b>TEN &amp; NEEDLES</b> Most frequent in 1-14 yrs old Occur in everyday activities Distinct tracheal signs and digestive tract Presenting with pain, bleeding, cough Can lead to severe complications, like haemorrhage pneumonia and infections Immediate referral to the doctor
<b>TOYS</b> All ages interested Incidents occur while playing Retained in ears, nose, trachea and bronchi Presenting with cough, dyspnea, cyanosis bleeding, pain, bleeding Complicated in pneumonia, infection, haemorrhage	<b>PORRILE</b> Most frequent in 1-14 yrs old Incidents occur while playing, in dirt and mud or they can be ingested Presenting with pain, white purulent discharge Ten ends in infection and perforation	<b>STATUERY</b> Most frequent in 1-14 yrs old Incidents occur while playing Retained in ears, nose and tracheobronchial tree Presenting with cough, dyspnea, cyanosis Complicated in pneumonia, infection, perforation	<b>PLASTIC</b> Most frequent in 1-14 yrs old Incidents occur while playing and eating Retained in trachea, bronchi and digestive system Presenting with cough, dyspnea cyanosis Complicated in pneumonia, respiratory arrest, perforation and infection
<b>BONES</b> Most frequent in 1-14 yrs old Incidents occur while eating Ductile location pharynx and larynx Presenting with cough, pain, dyspnea Complicated in pneumonia, perforation	<b>PAPER</b> Most frequent in 1-14 yrs old Incidents occur while playing Retained in ears and nose, bronchi Free perforated upper aerodigestive tract Presenting with cough, pain, discharge, bleeding Ten ends in infection, perforation, pneumonia	<b>BATTERIES</b> Most frequent in 1-14 yrs old Retained in nose and ears, while playing Presenting with discharge, pain, bleeding Serious complications when ingested Lead to perforation, perforation and infection Immediate referral to the doctor	<b>JEWELLERY</b> Most frequent in 1-14 yrs old All locations extremely rarer Incidents happen while playing Presenting with pain, bleeding Complicated in perforation, stenosis, infection Immediate referral to the doctor

**INJURIES DUE TO FOREIGN BODIES CAN END IN FATALITIES,  
70% OF INCIDENTS HAPPEN WHILE THE CHILD IS WITH AN ADULT:  
ACTIVE SUPERVISION IS THE KEY TO PREVENTION**

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LA NACION | MARTES 4 DE SEPTIEMBRE DE 2012

## El 80% de las asfixias infantiles ocurre frente a adultos

**SALUD.** Estos ahogamientos ocurren cuando los chicos aspiran o tragan semillas de grasol, mant, tapas de birrome y piezas de juguetes; la consulta debe ser inmediata

**Fabiola Cortés**  
LA NACION

### Cuerpos extraños que ingieren los niños

Controla registró un porcentaje en niños de entre 1 y 3 años



Hay un segundo pero que un chico aspira o traga un objeto que puede provocar la asfixia o una lesión en la laringe o perforación de un órgano abdominal. Para evitarlo, los pediatras aconsejan tener a los chicos alejados de los objetos que son peligrosos para ellos que son el mundo que los rodea.

**20 MIN FAMILIA**

**FAMILIA**

**HÁGALE UN TOSTE POSAFUENTE CON CORCHOS**

**ATENCIÓN.** Apuntal a hacer una tarta postremente con tapas de corchos para apurar la pasta y la harina. Colocarse, apurar el aire material. Produce caídas dos veces de cada...

**BEBÉS**

# MÁS CONTROL A LA HORA DE COMER Y JUGAR

Tres de cada diez chicos sufren riesgo de muerte por atragantarse o aspirar objetos extraños. Claves para prevenir y actuar.



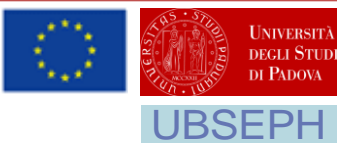
1 lunes 3 de septiembre de 2012

**CONCLUSIONES DEL CONGRESO ARGENTINO DE OTORRINOLARINGOLOGÍA**

## El 30% de los chicos, en peligro por la ingesta de cuerpos extraños

Los accidentes domésticos con botones, pilas y otros objetos son una de las principales causas de muerte en menores de 3 años. El 80% de los casos ocurre afortunadamente cuando hay un adulto presente.

**E**l 30% de los chicos en Argentina sufren por la ingesta o inhalación de cuerpos extraños, como botones, pilas o otros objetos pequeños que pueden generar riesgo a fracturas si se quedan en los conductos respiratorios. En su mayoría de las principales causas de muerte en menores de tres años, pero con un alto índice de supervivencia. En el congreso de los otolaringólogos se hizo un informe sobre la ingesta de cuerpos extraños al Congreso Argentino de Otorrinolaringología que se hizo...



# Beyond Argentina: Mexico and Ecuador



Contents lists available at ScienceDirect

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Epidemiology of foreign bodies injuries in Ecuador: A first look based on a single centre experience

Fernando Silva Chacon<sup>a</sup>, Simonetta Ballali<sup>b</sup>, Desiderio Passali<sup>c</sup>, Giselle Cuestas<sup>d</sup>, Gustavo Burbano<sup>a</sup>, Rodolfo Perez<sup>a</sup>, Mario Quintero<sup>a</sup>, Giulio Cesare Passali<sup>c</sup>, Francesco Maria Passali<sup>f</sup>, Francesca Foltran<sup>b</sup>, Luisa Bellussi<sup>c</sup>, Hugo Rodriguez<sup>d</sup>, Dario Gregori<sup>b,\*</sup>

<sup>a</sup>Francisco De Icaza Bustamante Children Hospital, Guayaquil, Ecuador

<sup>b</sup>Labs of Epidemiological Methods and Biostatistics, Department of Environmental Medicine and Public Health, University of Padova, Via Loredan 18 35131 Padova, Italy

<sup>c</sup>ENT Respiratory Endoscopy, Hospital Garrahan, CABA, Argentina

<sup>d</sup>ENT Department, Catholic University of Sacred Heart, Rome, Italy

<sup>e</sup>ENT Department, Medical school, University of Siena, Italy

<sup>f</sup>ENT Department, "Tor Vergata" University, Rome, Italy

## La prevención de eventos asfícticos por aspiración de cuerpos extraños en niños

Dr. Ricardo de Hoyos Parra\*

Dr. Dario Gregori, MA, PhD\*\*

Simonetta Ballali\*\*

Dr. Javier Dibildox M.\*\*\*

\* Otorrinolaringólogo Pediatra, Monterrey, NL.

\*\*Unidad de Bioestadística, Epidemiología y Salud Pública. Universidad de Padova, Italia.

\*\*\* Otorrinolaringólogo, San Luis Potosí, S.L.P.



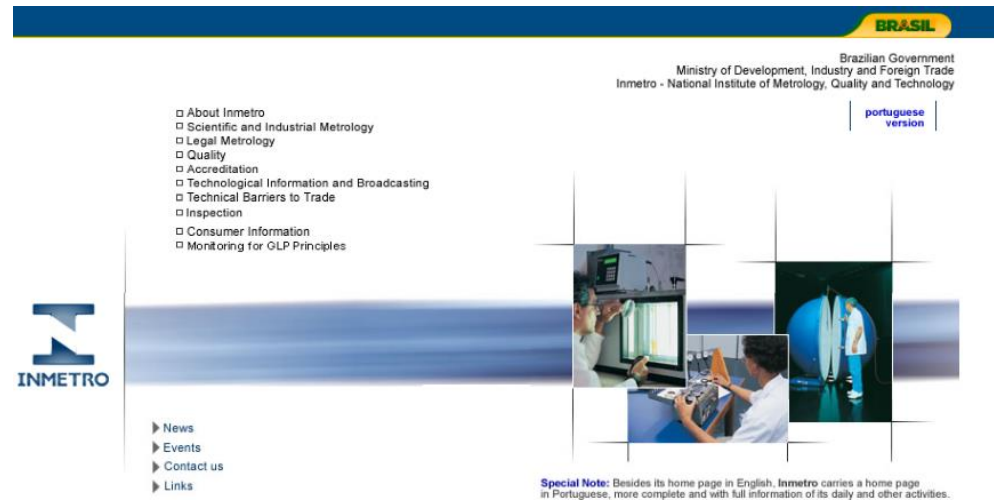
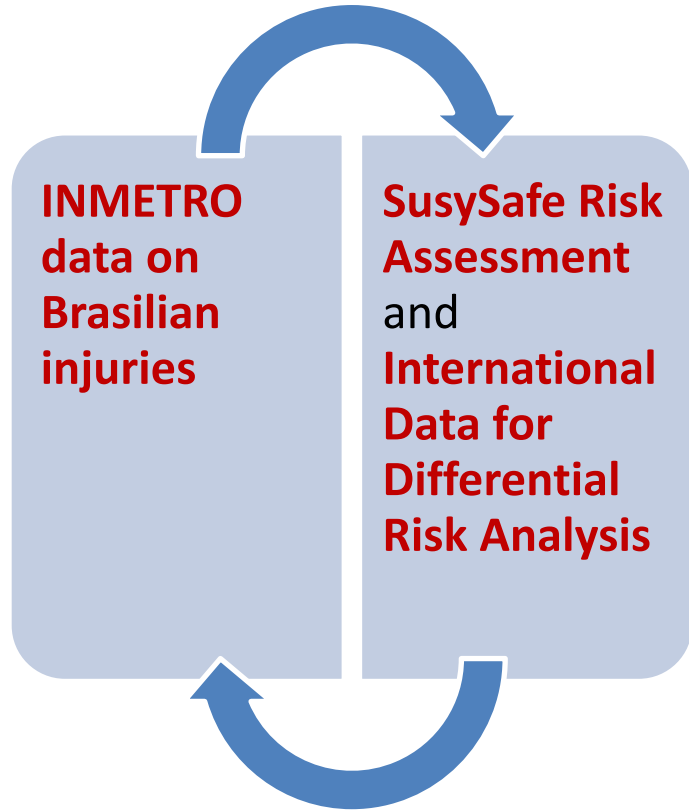
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# The SusySafe-INMETRO joint Agreement

On September 2013, a Memorandum of Understanding has been signed between INMETRO and SUSYSAFE



<http://www.inmetro.gov.br>





# Project plan proposal 2014-2016

## Progetti di Alta Rilevanza

### MAE (Italy) and MINCYT (Argentina)

*Addressing vulnerabilities in children: a pilot project for the development of a surveillance and prevention system*

Extending the notion of injuries to that of “vulnerability” of children, including “any situation exposing the child to future chronic or immediate acute illness or disability” like obesity, violence...

Establishing in selected Health Care facilities a common platform from data recording, alerting and information sharing, based on the experience of the susysafe web platform and risk assessment engine

Studying the relationships among adverse outcomes and their determinants (e.g.: obesity and injuries w.r.t. socio-economic status)



# the susy safe project

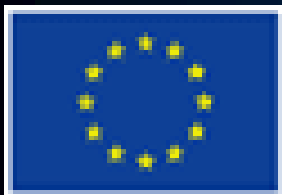
Aim of the project is to establish a surveillance registry for injuries due to non-food foreign bodies ingestion:

- ② provide a risk-analysis profile for each of the products causing the injury
- ② provide an evaluation of how socio-economic disparities among EU citizens may affect the likelihood of being injured by FB ingestion, with the aim of implementing specific educational activities on safe behavior and active parental guard with regards to the specific products causing the injury
- ② involve, as appropriate, Consumer Associations and/or National Market Surveillance Authorities in data collection and proper education of consumers



**Thanks for your attention!**

[www.susysafe.org](http://www.susysafe.org)



Funded by the European Commission, DG SANCO,  
Consumer Affairs Directorate

Permanently endorsed as a Key-Relevance project for  
European Union



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