



SUSY SAFE

Surveillance System on Suffocation Injuries Due to Foreign Bodies in European Children
Funded by the European Commission, DG SANCO, 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**

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Ministero delle Attività Produttive,
Direzione Generale per l'Armonizzazione del Mercato e la Tutela dei Consumatori
Ufficio D1 Coordinamento attività sicurezza e conformità prodotti.

University of Padova
Department of Environmental Medicine and
Public Health



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



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.
- The cost in terms of life loss has been estimated, for the EU community, as about 5 mil€ per year, only because of injuries due to industrial products (Zigon, 2006).



Probability of injury (meta-analysis based data)

		Pooled proportion (SE)	Confidence Interval (95%)	Q-Cochrane	Homogeneity p-value
Type	Organic	0.732 (0.045)	0.645-0.819	4168.24	< 0.001
	Inorganic	0.206 (0.033)	0.142- 0.271	2345.66	< 0.001
	Toys	0.041 (0.010)	0.021- 0.062	98.62	< 0.001
	Nuts	0.478 (0.048)	0.385- 0.571	1042.05	< 0.001
Gender	Male	0.597 (0.016)	0.566-0.628	199.12	< 0.001
Age	<=3 years	0.765 (0.014)	0.739- 0.792	90.58	< 0.001

Meta-analysis on published papers 1973-2003. Gregori et al. 2004



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03/09/2012

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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

ITALY

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
Antonella D'ALESSANDRO

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Dario GREGORI



AUSTRIA

Grosse schützen Kleine—Medical University of Graz
Paola ZAUPA



CYPRUS

Ministry of Commerce, Industry and Tourism—Competition and Consumer protection service
Constantinos DEMETRIADES



CZECH REPUBLIC

Masaryk University
Ivo SLAPAK



FRANCE

Commission de la Sécurité des Consommateurs
Florence WEILL



GREECE

Center for Research and Prevention of Injuries (CE.RE.PR.I.) - Medical school of University of Athens
Eleni PETRIDOU



THE NETHERLANDS

Food and Consumer Product safety Authority
A.J. DE KONING



Associated partners (from 2009)

•Argentina

Contact Person: Dr Hugo Rodriguez

•South Africa

Contact Person: Dr Sebastian van As

SLOVAK REPUBLIC



• Children's University Hospital, Bratislava
Janka JAKUBIKOVA

PORTUGAL



• Hospital Sao Joao, Porto
Manuel Antonio Caldeira PAIS CLEMENTE

GERMANY:



• Charité Universitätsmedizin 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
Baskent University Ankara Hospital	Ankara	Turkey
CHU A Michallon	Grenoble	France
A.O.R.N. Santobono Pausilipon	Napoli	Italy
Areteaion 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



Dissemination of the project

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



ELSEVIER

International Journal of
Pediatric
Otorhinolaryngology

www.elsevier.com/locate/ijporl

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.

→ news



Talk about SusySafe

2009-06-11

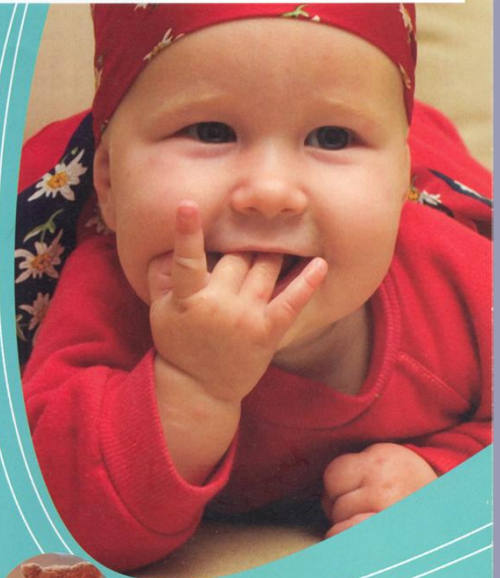
From Radiopetrov

Ivo Slapak at radioPetrov on June 11 2009

« back

Suffocation, inhalation, ingestion accidentelle

1^{ère} cause de décès chez les enfants de moins de 1 an
2^e cause de décès par accident de la vie courante



Conseils utiles et gestes qui sauvent



Commission de la Sécurité des Consommateurs



An international cooperation: the example of Argentina...

The Journal of International Medical Research
2010; 38: 655 – 660 [first published online as 38(2) 9]

Foreign Bodies Causing Asphyxiation in Children: the Experience of the Buenos Aires Paediatric ORL Clinic

A CHINSKI¹, F FOLTRAN², D GREGORI³, D PASSALI⁴ AND L BELLUSSI⁴

¹Faculty of Medicine, Univ
Surgery, University of P
Biostatistics, Departmen
Padova, Padova, I

Pediatr Int. 2010 May 25. [Epub ahead of print]

Nasal Foreign Bodies: The Experience of the Buenos Aires Paediatric ORL Clinic.

Chinski A, Foltran F, Gregori D, Passali D, Bellussi L.

Cartas al editor

Arch Argent Pediatr 2010;108(4):384 / 384

El proyecto Susy Safe: una iniciativa internacional encaminada a evitar lesiones asfícticas por cuerpos extraños en los niños. Una convocatoria a la participación

Sr. Editor:

La asfixia provocada por la aspiración de cuerpos extraños (CE) es una de las principales causas

países y más de 60 instituciones médicas del mundo.

El objetivo del Proyecto es crear un registro para controlar la ingestión y aspiración de cuerpos extraños. Ante la recopilación de datos de los países, con el fin de análisis de riesgo patológicos son: controlar los

*Dr. Hugo Rodríguez, Dr. Alberto Chinski,
Dr. Darío Gregori, Dr. Carlos Tiscornia,
Dra. Graciela Sica, Dr. Hugo Botto,
Dra. Mary Nieto, Dr. Adrián Zanetta,
Dr. Patricio Bellia Munzon,
Dra. Verónica Rodríguez y Dra. Giselle Cuestas*



... and Ecuador



Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

International Journal of Pediatric Otorhinolaryngology

journal homepage: www.elsevier.com/locate/ijporl



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

Fernando Silva Chacon^a, Simonetta Ballali^b, Desiderio Passali^c, Giselle Cuestas^d, Gustavo Burbano^a, Rodolfo Perez^a, Mario Quintero^a, Giulio Cesare Passali^e, Francesco Maria Passali^f, Francesca Foltran^b, Luisa Bellussi^c, Hugo Rodriguez^d, Dario Gregori^{b,*}

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^f ENT Department, "Tor Vergata" University, Rome, Italy



The Italy-Argentina Excellence Research Program

- Preventing Foreign Bodies Injuries in children
- Executive Programme for 2011-2013 of the Agreement of Cultural, Scientific and Technological Cooperation between Italy and Argentina, signed in 1997 by the General Directorate for Cultural Cooperation of the Italian Ministry of Foreign Affairs (MAE) and the Ministry of Science, Technology and Industrial Innovation of Argentina (Ministerio de Ciencia, Tecnología e Innovación Productiva MINCYT).
- The project, led by Prof. Dario Gregori of the University of Padua and Dr. Hugo Rodriguez, of the Hospital de Pediatría Juan P. Garrahan in Buenos Aires, is
 - to create a network of collaboration within the institutions of the two countries
 - to promote the development of a common protocol of prevention initiatives.



The Susy Safe Portal: www.susysafe.org

welcome to the official site of the

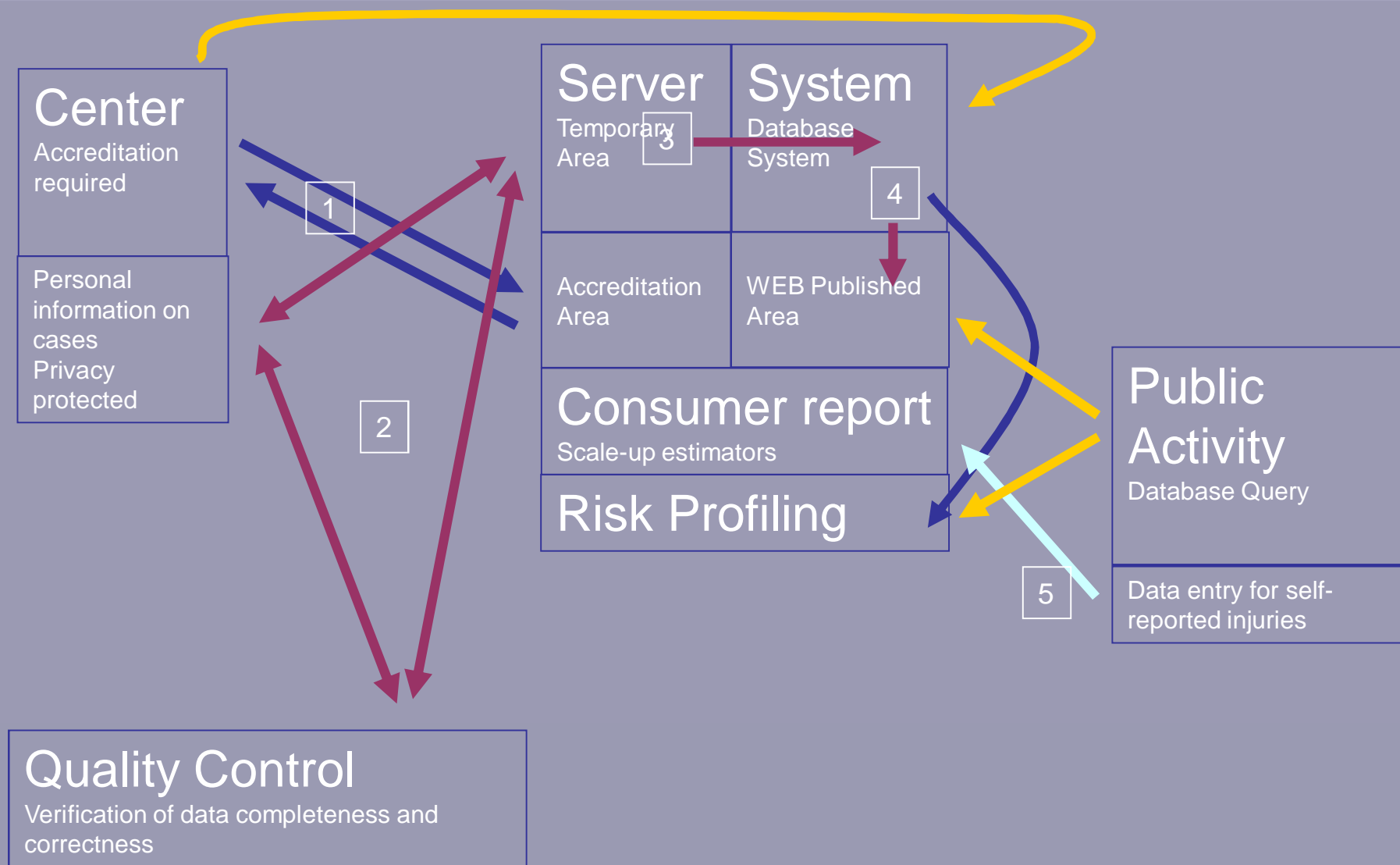
susy safe project

please select your language:

AFRIKAANS (Republiek van Suid-Afrika)
AMERICAN ENGLISH
CESTINA
CZECH
DANSK
DEUTSCH (Austria)
DEUTSCH (Deutschland)
EESTI KEEL
ΕΛΛΗΝΙΚΑ (Cyprus)
ΕΛΛΗΝΙΚΑ (Greece)
ENGLISH
ESPAÑOL
FRANÇAIS
ITALIANO
LATVIESU VALODA
LIETUVIŲ KALBA
MAGYAR
MALTI
NEDERLANDS
POLSKI
PORTUGUÊS (República Federativa do Brasil)
SLOVENČIA
SLOVENSCIA
SPANISH (Argentina)
SUOMI
SVENSKA
ROMANA



Project Structure



General details about the patient and the accident

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

Susysafe Case Report

File Backup Help

Foreign Body Typology

Type of foreign body:

Brand of foreign body:

Shape: dimension (mm):

Consistency:

Was the foreign body purchased or a part of an object purchased?

If yes, when purchased, was the FB packed with another object(s)?

If yes, of what type? specify:

At the time of the accident was the FB associated with another object(s)?

If yes, of what type? specify:



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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' window with a menu bar (File, Backup, Help) and three main sections: 'Circumstances of the accident', 'Hospitalization details', and 'Foreign Body Tests'. The 'Circumstances of the accident' section includes a dropdown for 'When the accident occurred was an adult present?' (set to 'Yes') and a dropdown for 'When the accident occurred the child was:' (set to 'Other') with a 'specify:' text box. The 'Hospitalization details' section includes a dropdown for 'Who initially looked after the child?' (set to 'Other') with a 'specify:' text box, and a 'Was the child hospitalised?' dropdown (set to 'Yes') followed by a 'Lasting:' text box and '(days)'. The 'Foreign Body Tests' section includes a dropdown for 'Did the FB passed the Cylinder test?' (set to '----'). At the bottom, there is an 'Upload the picture of the FB:' section with a text box and a 'Browse' button, and a 'Comments:' section with a large text area. Navigation buttons 'Previous', 'Save', and 'Submit' are at the bottom.

Susysafe Case Report

File Backup Help

Circumstances of the accident

When the accident occurred was an adult present? Yes

When the accident occurred the child was: Other specify:

Hospitalization details

Who initially looked after the child? Other specify:

Was the child hospitalised? Yes Lasting: (days)

Foreign Body Tests

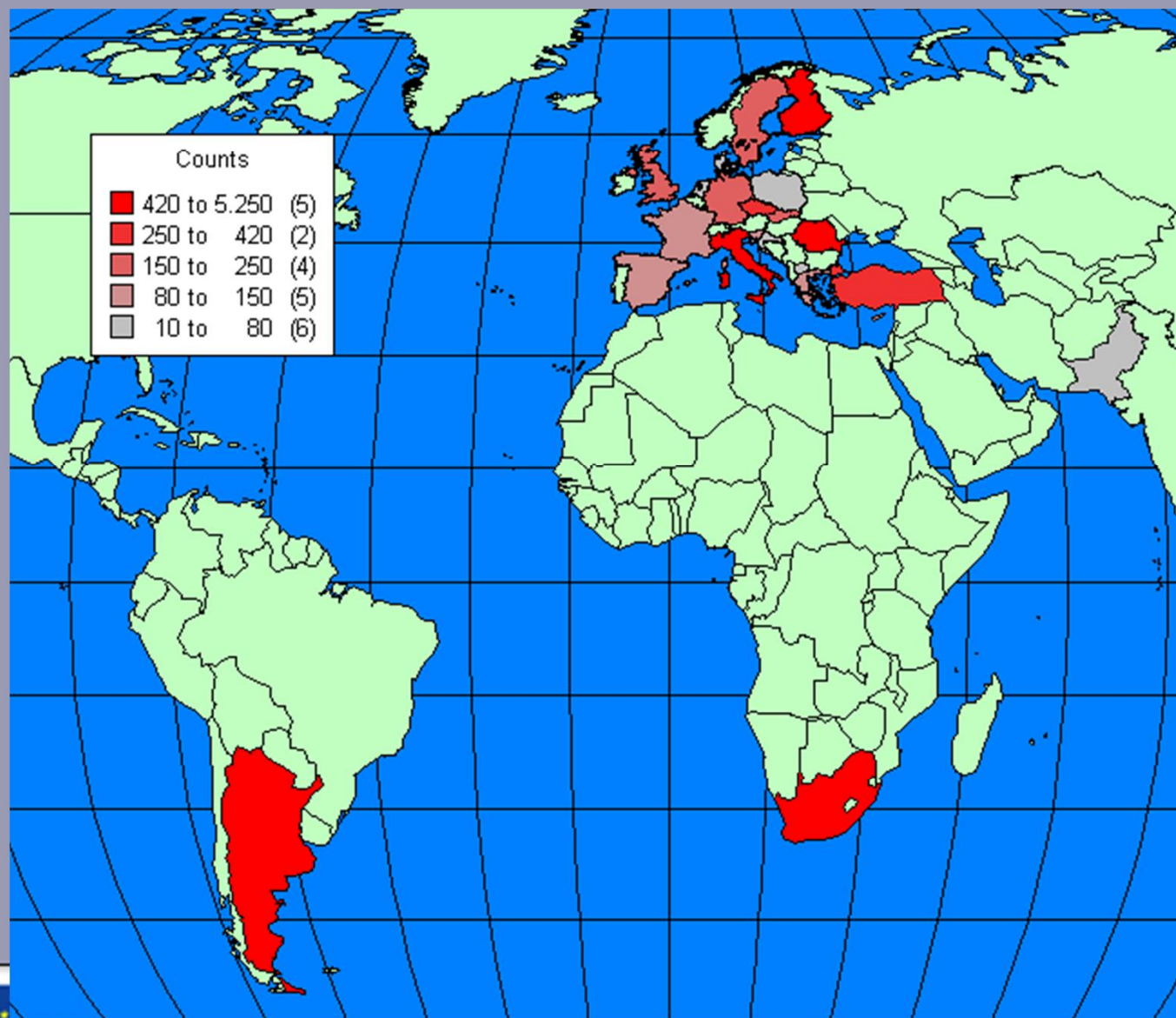
Did the FB passed the Cylinder test? ----

Upload the picture of the FB: Browse

Comments:

Previous Save Submit

The Susy Safe Data Collection



EU countries	8280
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
Non EU Countries	7921
Argentina	2336
Croatia	19
FYROM	63
Pakistan	13
South Africa	5240
Turkey	250
Total	16201



Susy Safe Data Base summary

<i>Reference</i>	<i>Number of FB observed</i>
SUSY SAFE Total	16201
SUSY SAFE EU	8280
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

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%)

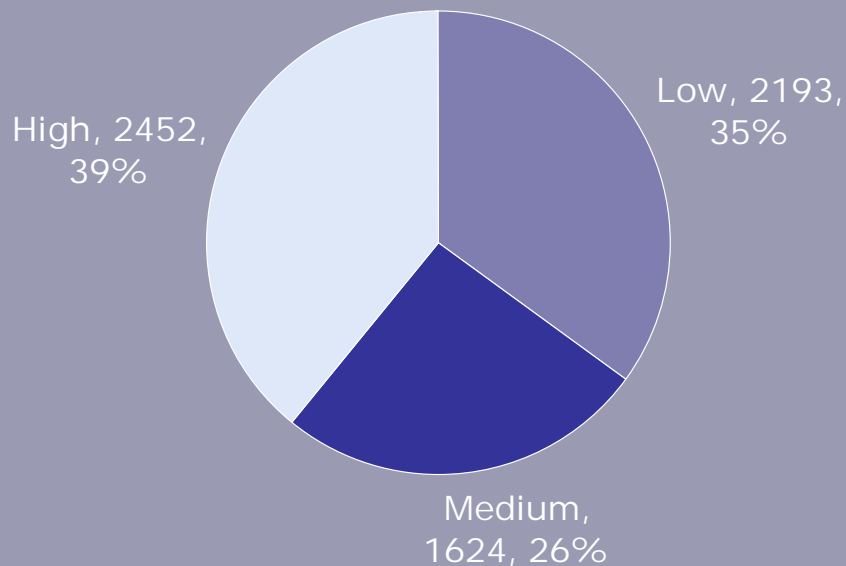
Data available from 1987



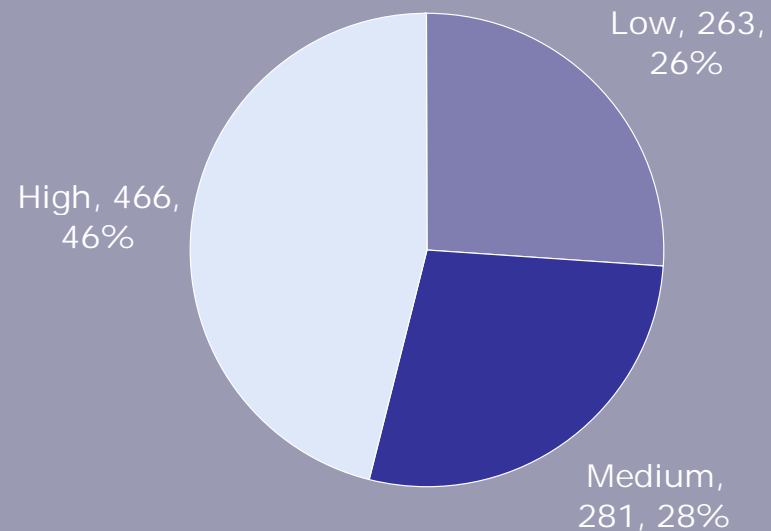
Quality Control Procedure

- 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, ...)

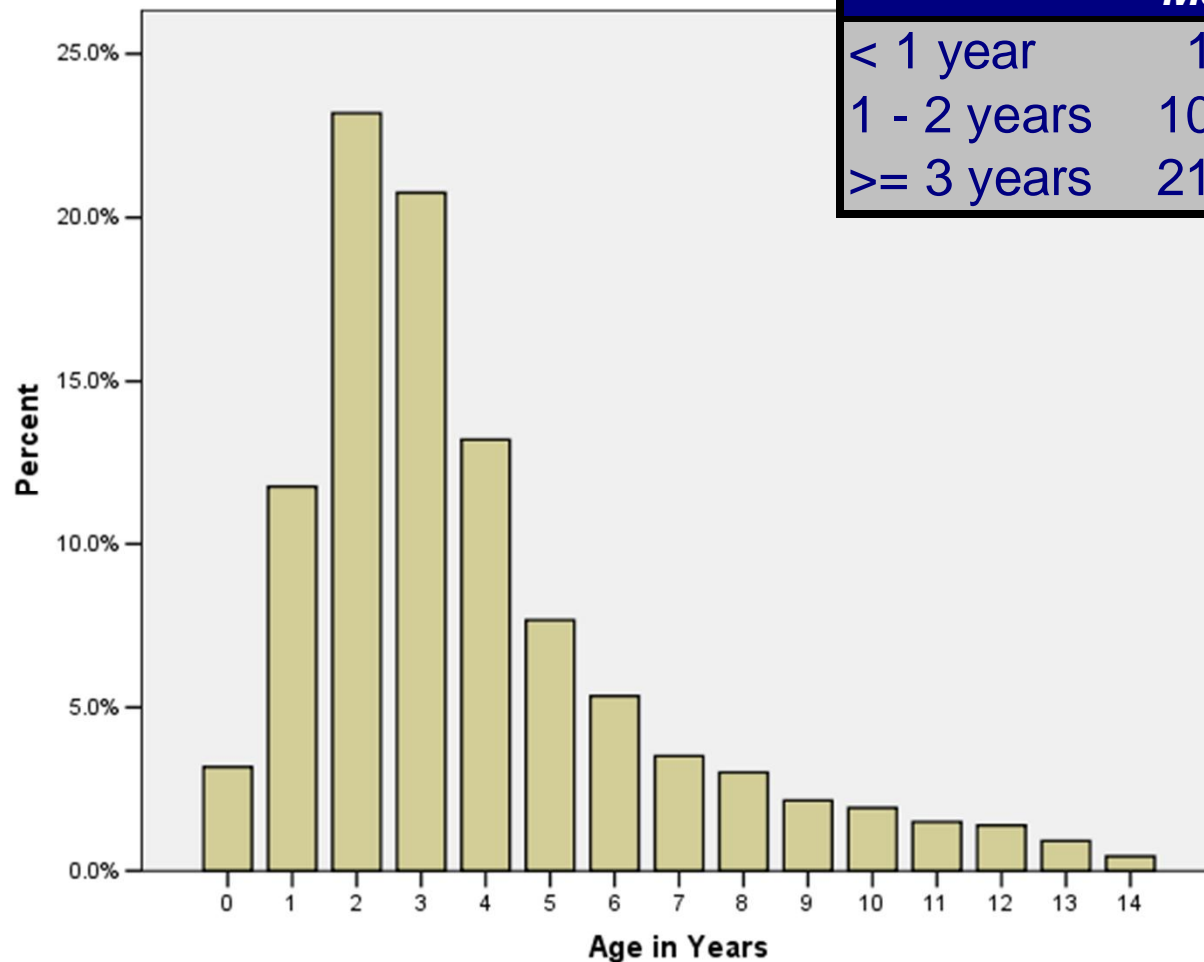
Retrospective Cases



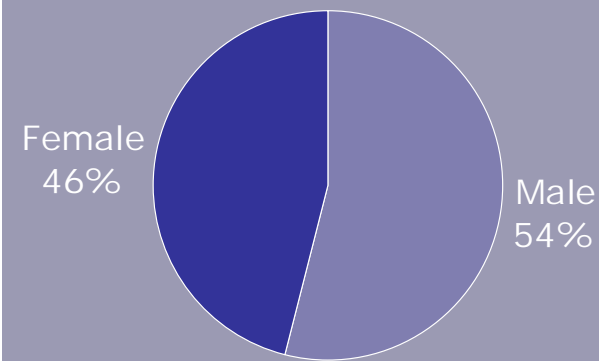
Prospective Cases



The Injured Children



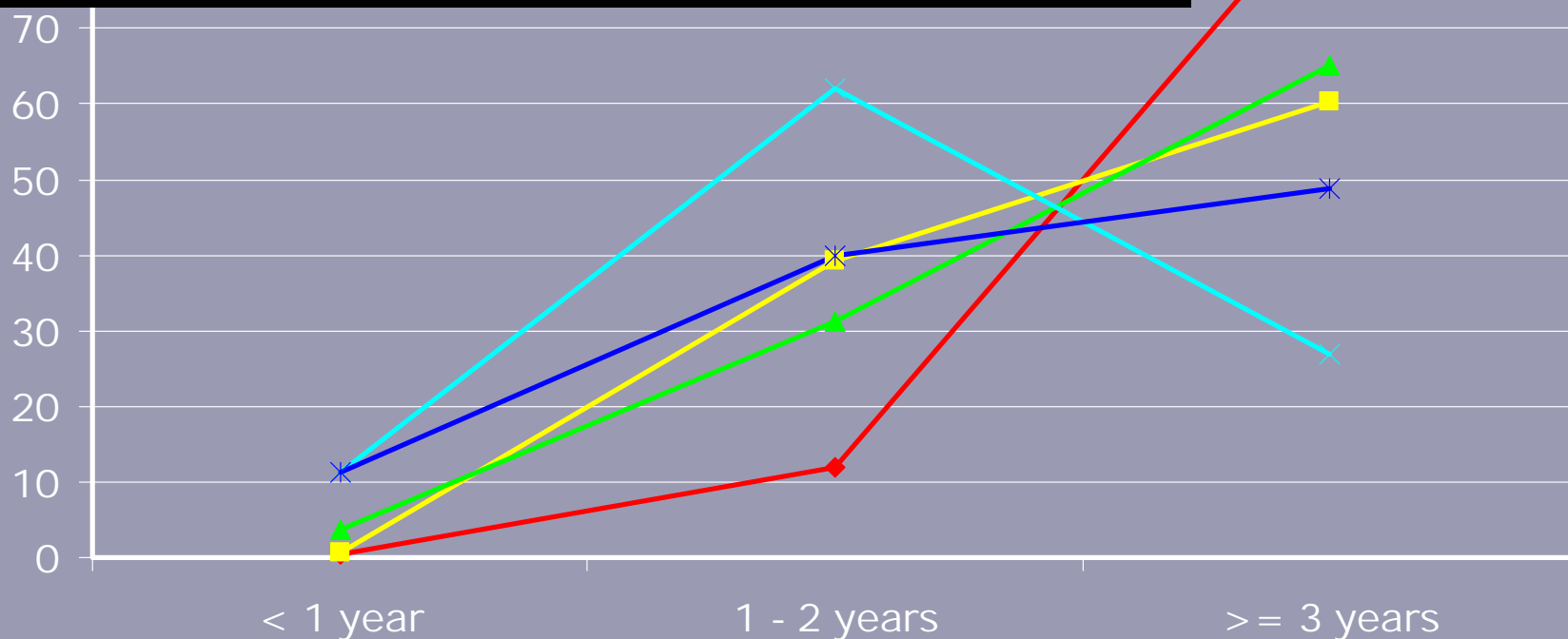
	Male	%	Female	%
< 1 year	119	3.6	87	3.0
1 - 2 years	1084	32.4	1095	38.3
>= 3 years	2143	64.0	1675	58.6



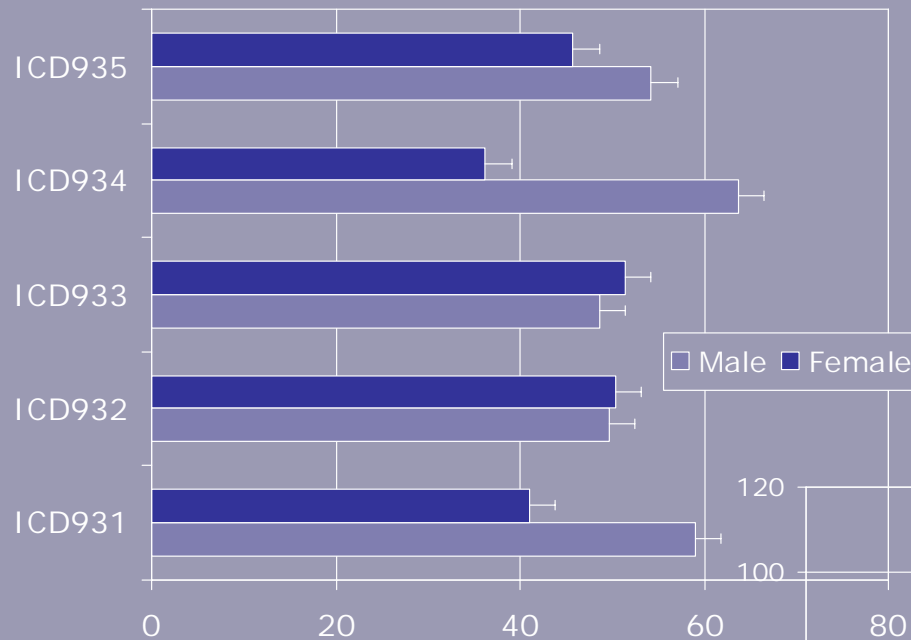
12 children were disable

Location of Foreign Body

	< 1 year		1 - 2 years		>= 3 years		Total
ICD931	6	2.9	177	7.7	1311	32.4	1494
ICD932	16	7.7	1084	47.4	1666	41.2	2766
ICD933	35	16.8	290	12.7	606	15.0	931
ICD934	96	46.2	532	23.3	231	5.7	859
ICD935	50	24.0	177	7.7	217	5.4	444

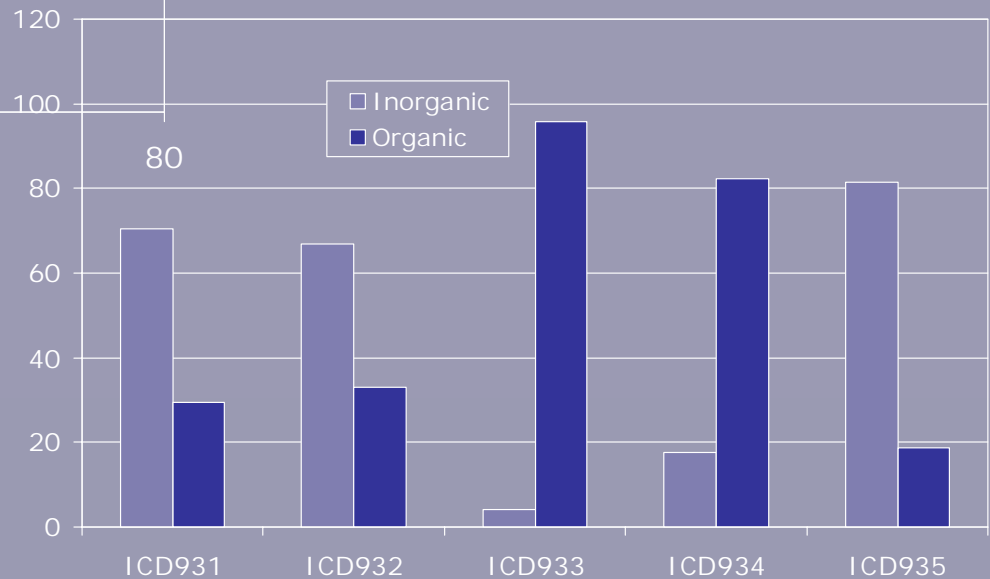


Location, FB Type and Gender



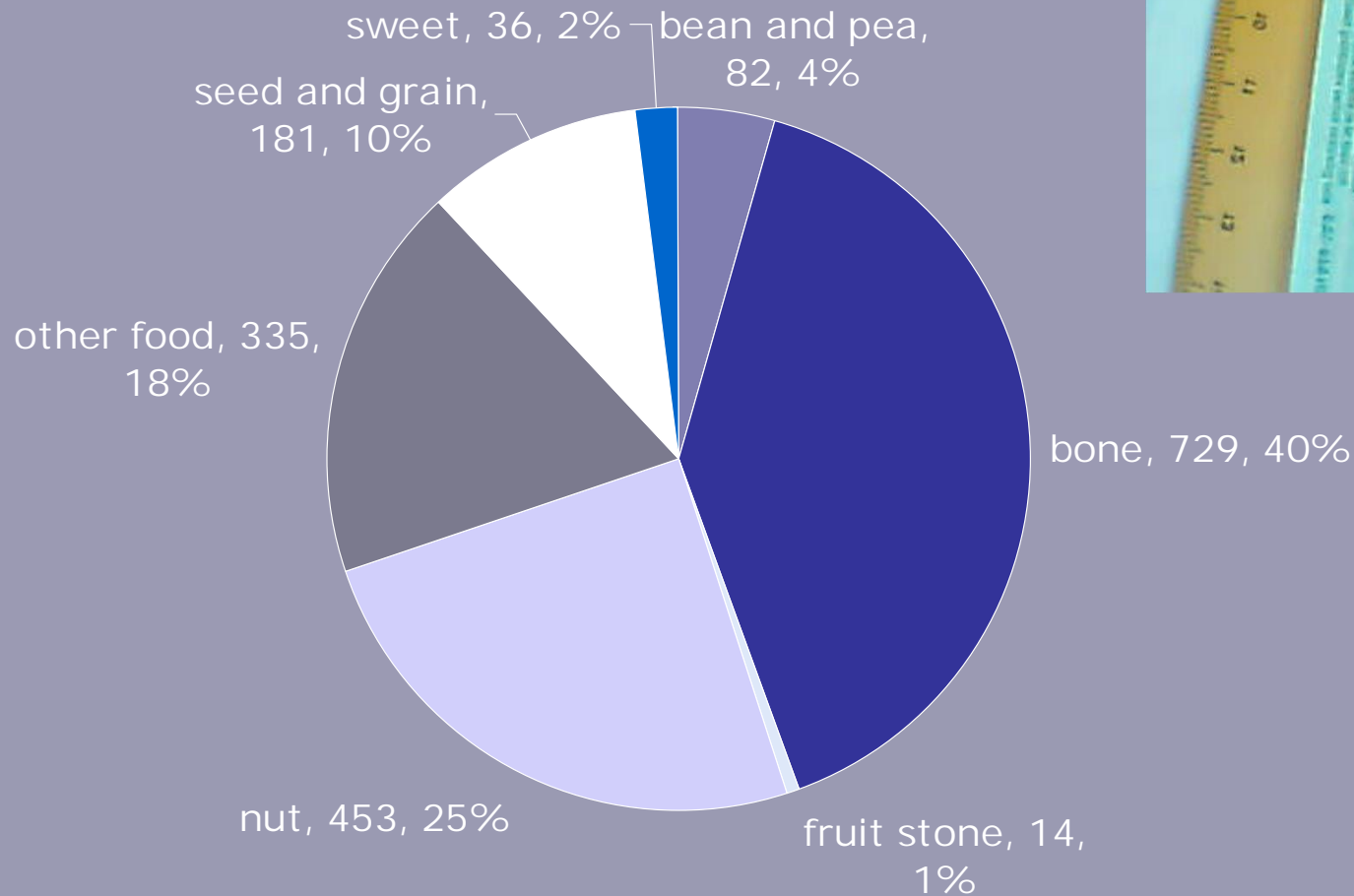
In case of disability, location was:
 1 case ICD932
 4 cases ICD934
 7 cases ICD935

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



Food objects

Food Objects 51.3%



Non-food objects

	N	%
accessorize	15	0.92
arthropod	26	1.60
battery	46	2.84
bone	1	0.06
button	38	2.34
cap	6	0.37
coin	178	10.97
cotton	34	2.10
earplug	15	0.92
FPCI	11	0.68
jewellery	49	3.02
metal	19	1.17
paper	67	4.13
pearl, ball and marble	483	29.78
pebble	128	7.89
pin and needle	74	4.56
plastic	76	4.69
polystyrene	31	1.91
sponge	10	0.62
stationery	97	5.98
other stationery	6	0.37
stick	12	0.74
tinfoil and cellophane	22	1.36
toy	178	10.97
other inorganics	78	4.81
other organics	13	0.80

Non-food objects 48.7%



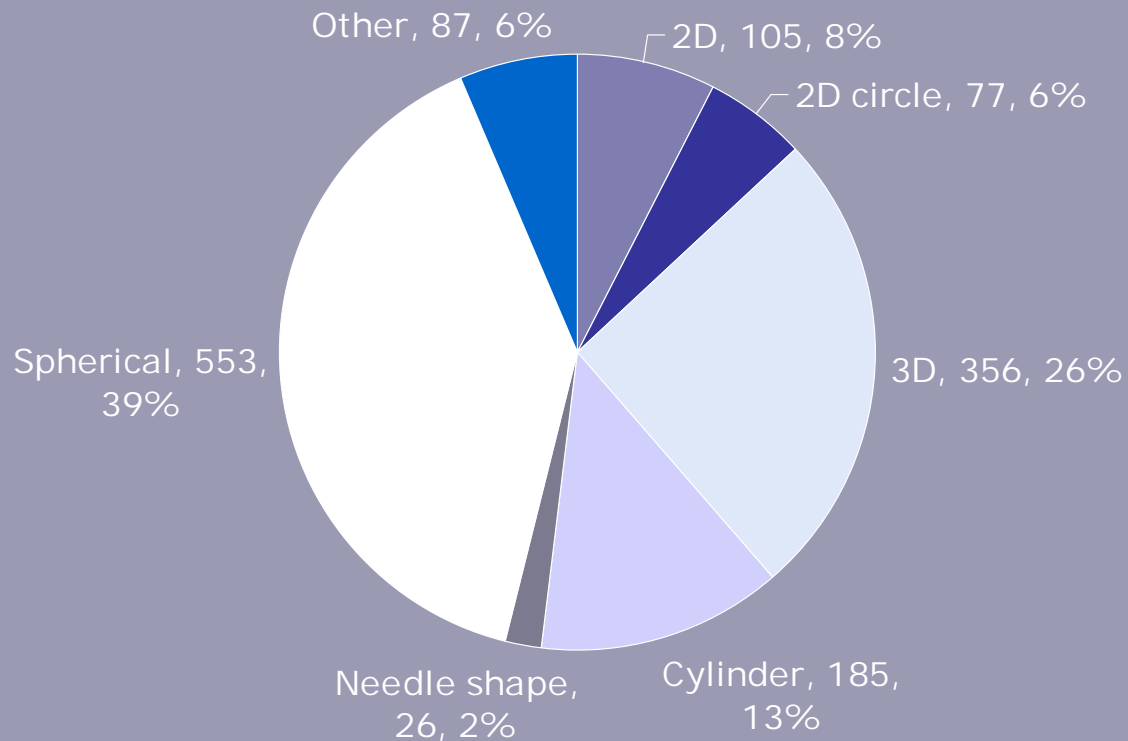
Romania

Macedonia

Romania

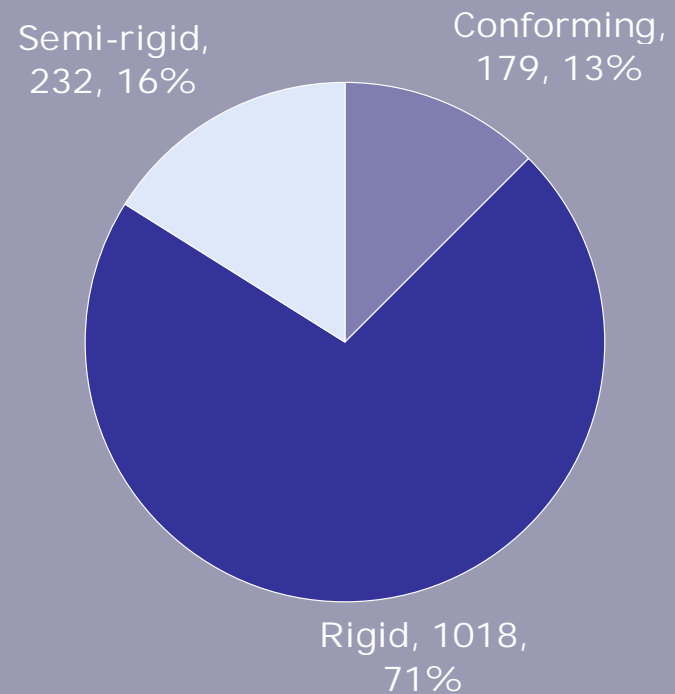
Shape (non food objects)

	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



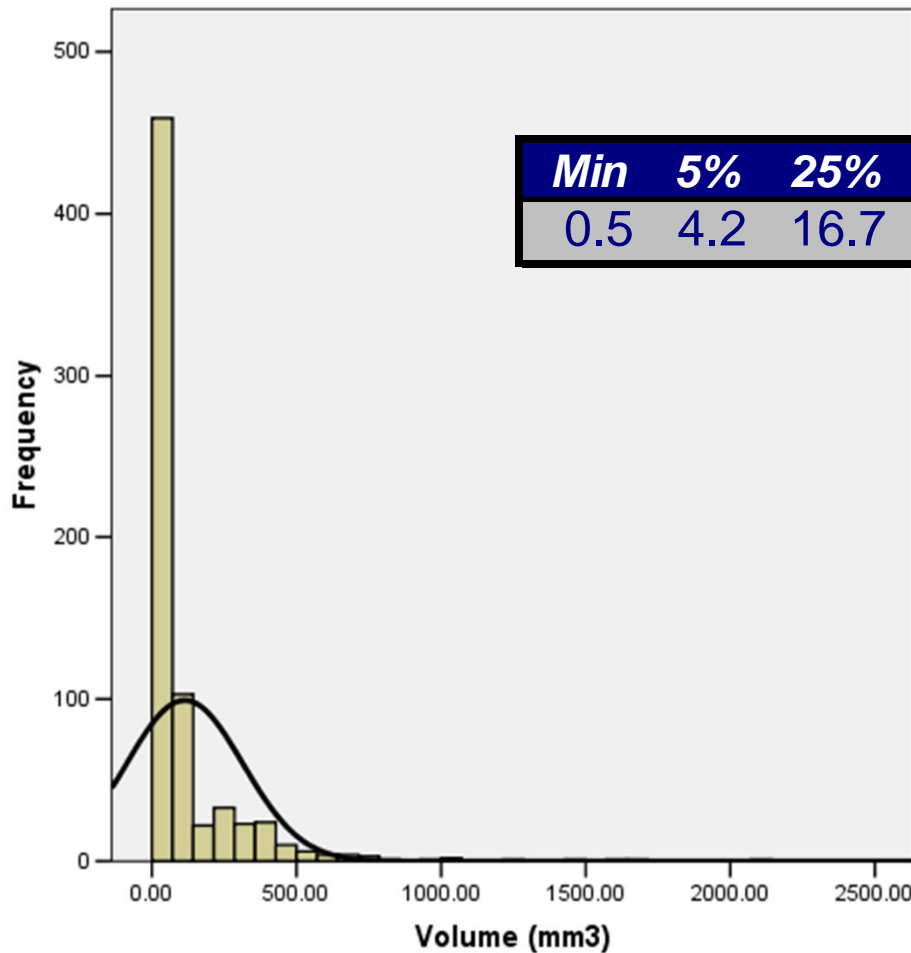
Consistency (non food objects)

	<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)



<i>Min</i>	<i>5%</i>	<i>25%</i>	<i>Median</i>	<i>75%</i>	<i>95%</i>	<i>99%</i>	<i>Max</i>
0.5	4.2	16.7	41.9	104.7	470.1	1045.6	2093.3



483 mm3



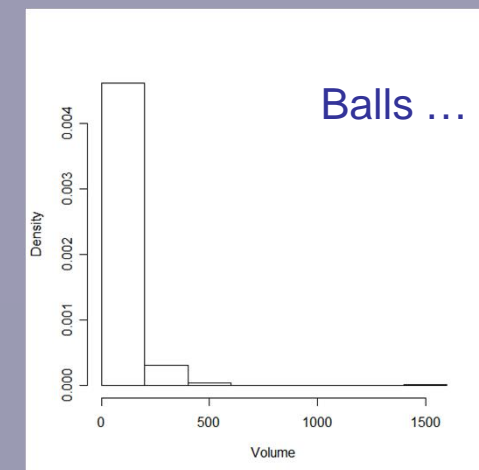
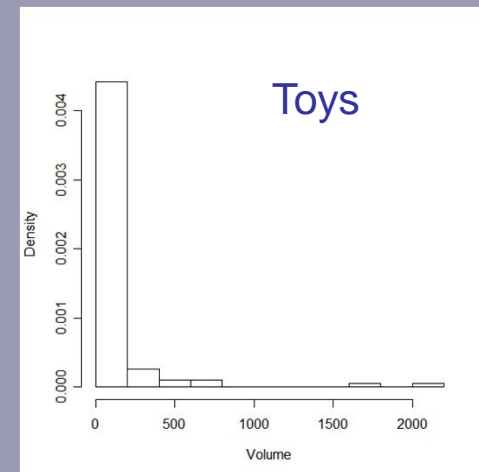
943 mm3



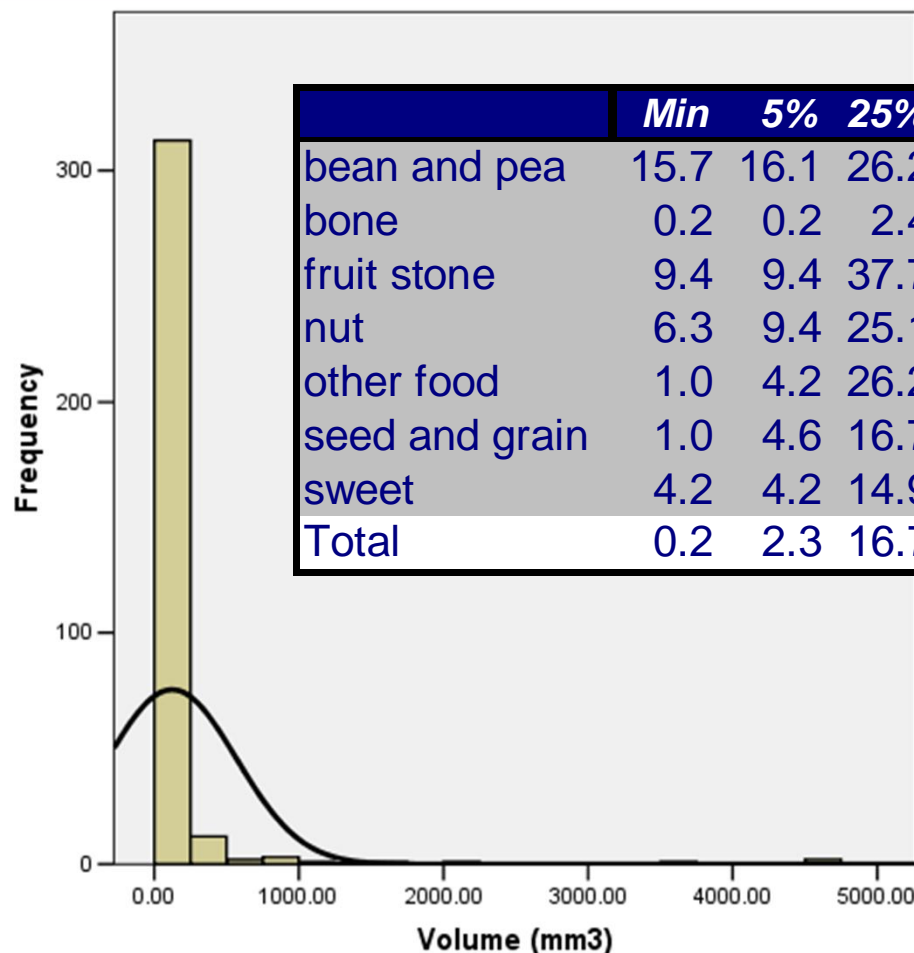
268 mm3

Volume by non-food object

	Min	5%	25%	Median	75%	95%	99%	Max
accessorize	20.9	20.9	26.4	244.7	1121.0	.	.	1657.9
arthropod	8.4	8.4	15.2	26.2	37.7	.	.	37.7
battery	3.1	5.0	19.6	38.5	78.5	277.6	.	283.4
button	7.1	7.1	19.6	67.0	176.6	.	.	314.0
cap	33.5	33.5	43.4	78.5	197.6	.	.	235.5
coin	3.1	78.5	78.5	314.0	415.3	706.5	.	1256.0
cotton	16.7	16.7	16.7	26.2	34.0	.	.	51.3
earplug	18.8	18.8	67.0	104.7	104.7	.	.	104.7
FPCI	37.7	37.7	47.9	72.7	461.2	.	.	588.8
jewellery	1.6	1.7	29.0	52.3	268.9	754.9	.	785.0
metal	1.0	1.0	13.6	41.9	78.5	.	.	104.7
other inorganics	1.6	2.7	9.4	34.0	302.2	1007.4	.	1046.7
other organics	6.3	6.3	8.9	21.5	41.9	.	.	47.1
other stationery	37.7	37.7	37.7	84.3	.	.	.	130.8
paper	14.1	14.1	14.1	33.5	.	.	.	94.2
pearl, ball and marble	0.5	4.2	9.4	26.2	67.0	235.5	480.9	1496.7
pebble	6.3	9.4	26.2	37.7	67.0	159.2	.	235.5
pin and needle	1.6	1.6	3.7	9.0	27.7	.	.	314.0
plastic	2.1	2.1	17.8	62.8	157.0	.	.	1046.7
polystyrene	1.0	1.0	4.2	13.1	30.6	.	.	837.3
sponge	4.2	4.2	19.9	85.8	141.6	.	.	153.9
stationery	1.6	5.1	29.4	64.9	107.9	300.9	.	418.7
stick	31.4	31.4	31.4	172.7	.	.	.	314.0
tin foil and cellophane	16.7	16.7	16.7	26.2	.	.	.	94.2
toy	1.0	6.1	26.2	67.0	94.2	505.0	.	2093.3



Volumes (food objects)



	<i>Min</i>	<i>5%</i>	<i>25%</i>	<i>Median</i>	<i>75%</i>	<i>95%</i>	<i>99%</i>	<i>Max</i>
bean and pea	15.7	16.1	26.2	37.7	83.7	384.3	.	452.2
bone	0.2	0.2	2.4	5.9	31.4	628.0	.	2110.1
fruit stone	9.4	9.4	37.7	68.0	201.0	.	.	795.5
nut	6.3	9.4	25.1	26.2	51.3	213.3	.	471.0
other food	1.0	4.2	26.2	37.7	104.7	1046.7	.	4710.0
seed and grain	1.0	4.6	16.7	36.6	101.8	306.0	.	418.7
sweet	4.2	4.2	14.9	33.0	134.2	.	.	937.8
Total	0.2	2.3	16.7	31.4	71.7	418.7	3006.2	4710.0



483 mm3



943 mm3



268 mm3

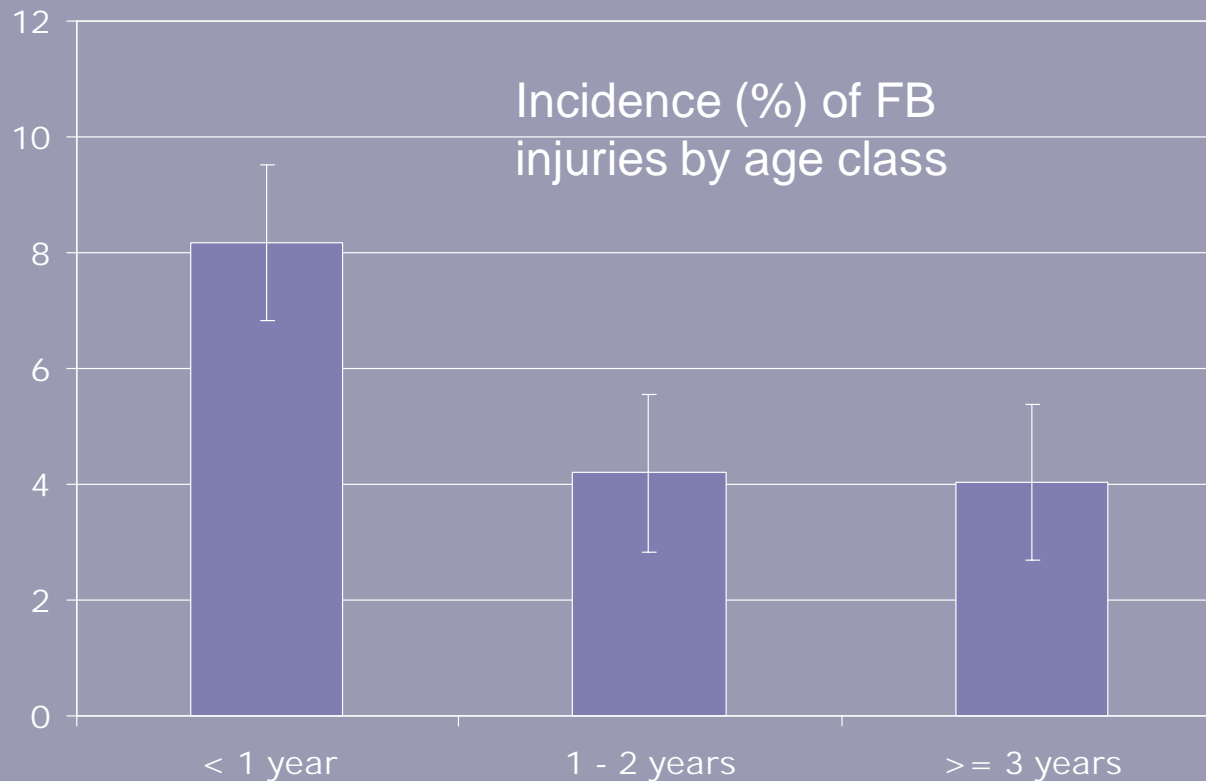
Outcome definitions

- 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

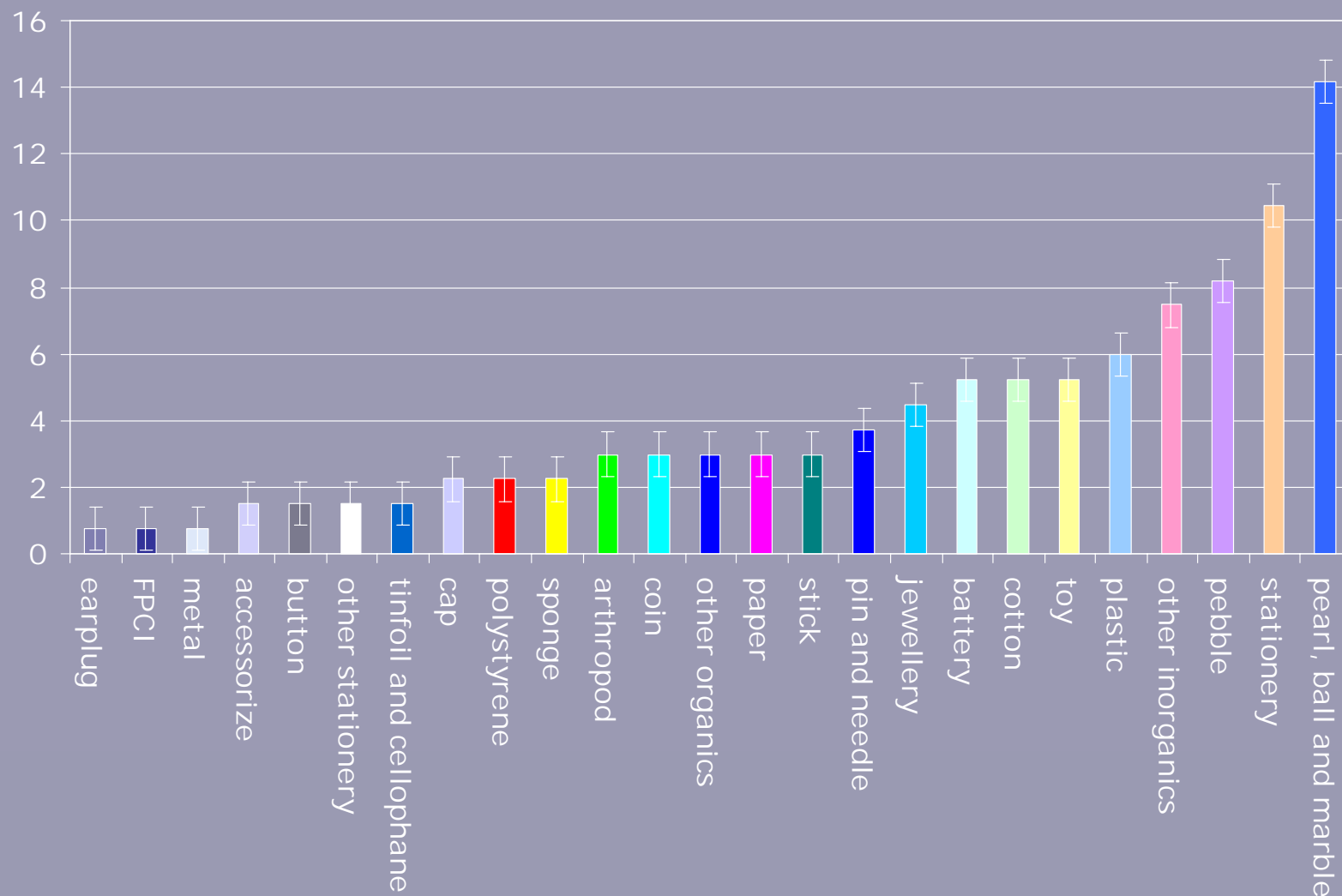


Complications

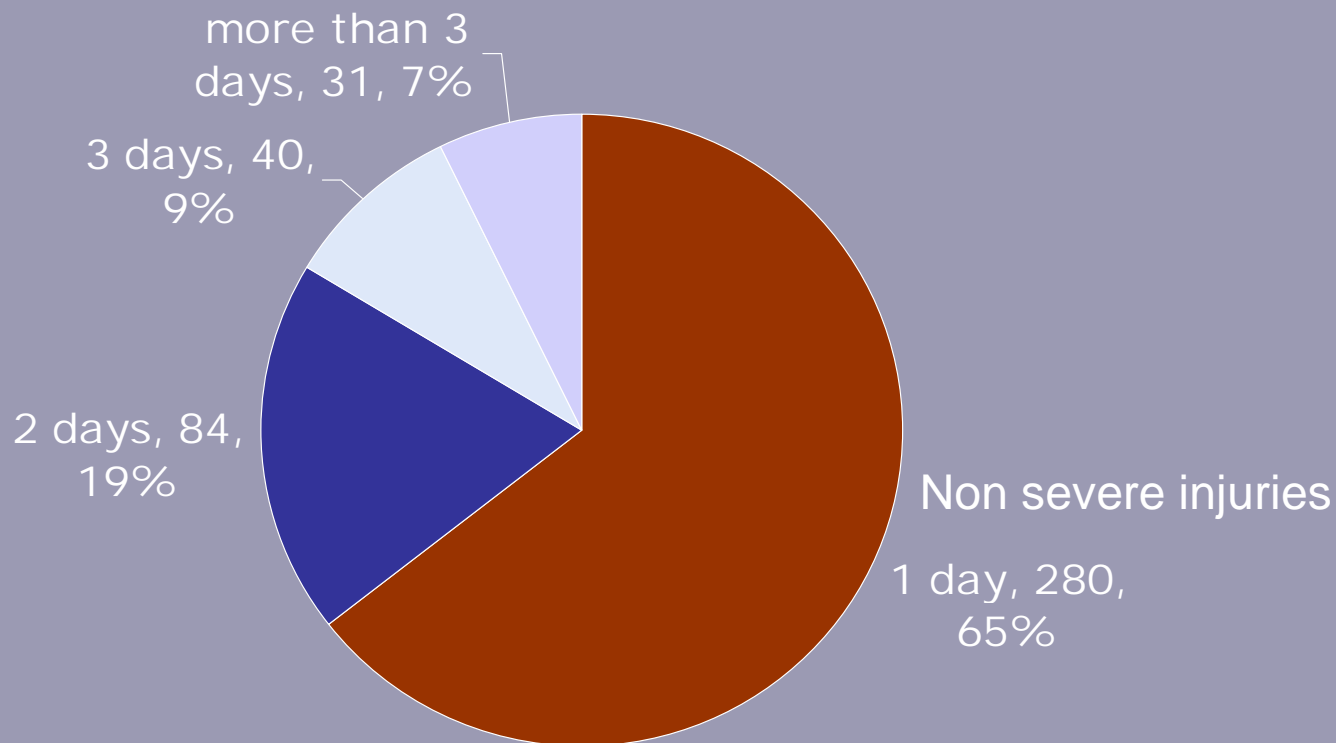
Most common complications (9% cases) were:
bleeding, asthma, hypoacusia, infections



Incidence (%) of complications by FB type



Length of Stay

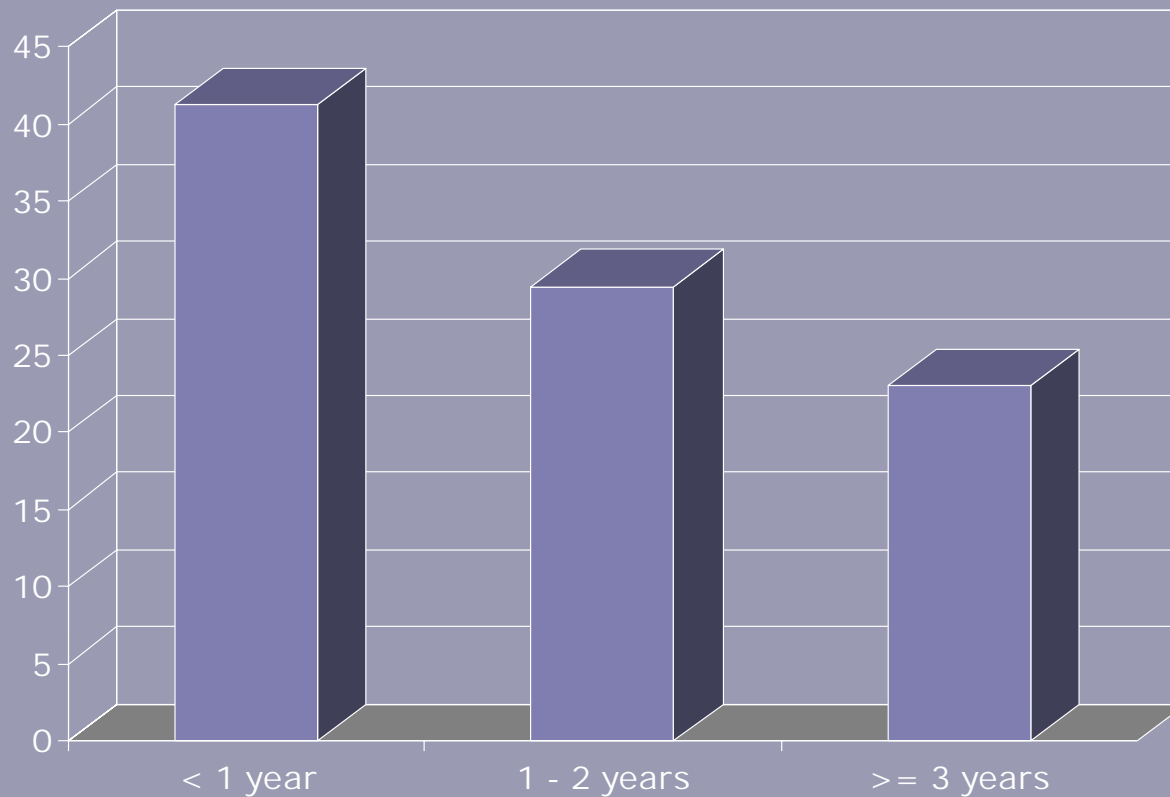


	1 day	2 days	3 days	more than 3 days
< 1 year	56.8	20.5	9.1	13.6
1 - 2 years	66.9	18.1	9.4	5.5
>= 3 years	64.4	19.7	9.1	6.8



Adult presence in occasion of the injury (non food products)

- **At the time of the accident, the adult was present in 25% of the cases.**
- In 87.9% of the case the child was playing.



A Simple query mechanism

Create Your Report

Select the foreign body type: Food

Select the stratification variable: None

Select the variables you want to see:

Rows: Gender Columns: Age

Select the output format: Web Page


Report Result

Foreign Body Type= No Food						
			adult_presence			
			NULL	DONT KNOW	NO	YES
gender & complications	NULL	NULL	0	4	1	0
		DONT KNOW	0	291	0	0
		NO	2	7	20	18
		YES	1	0	0	1
	Female	NULL	47	157	1	4
		DONT KNOW	1	1348	1	0
		NO	39	123	337	269
		YES	5	7	33	17
	Male	NULL	49	161	4	2
		DONT KNOW	1	1497	0	1
		NO	64	191	392	278
		YES	6	9	40	28

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)

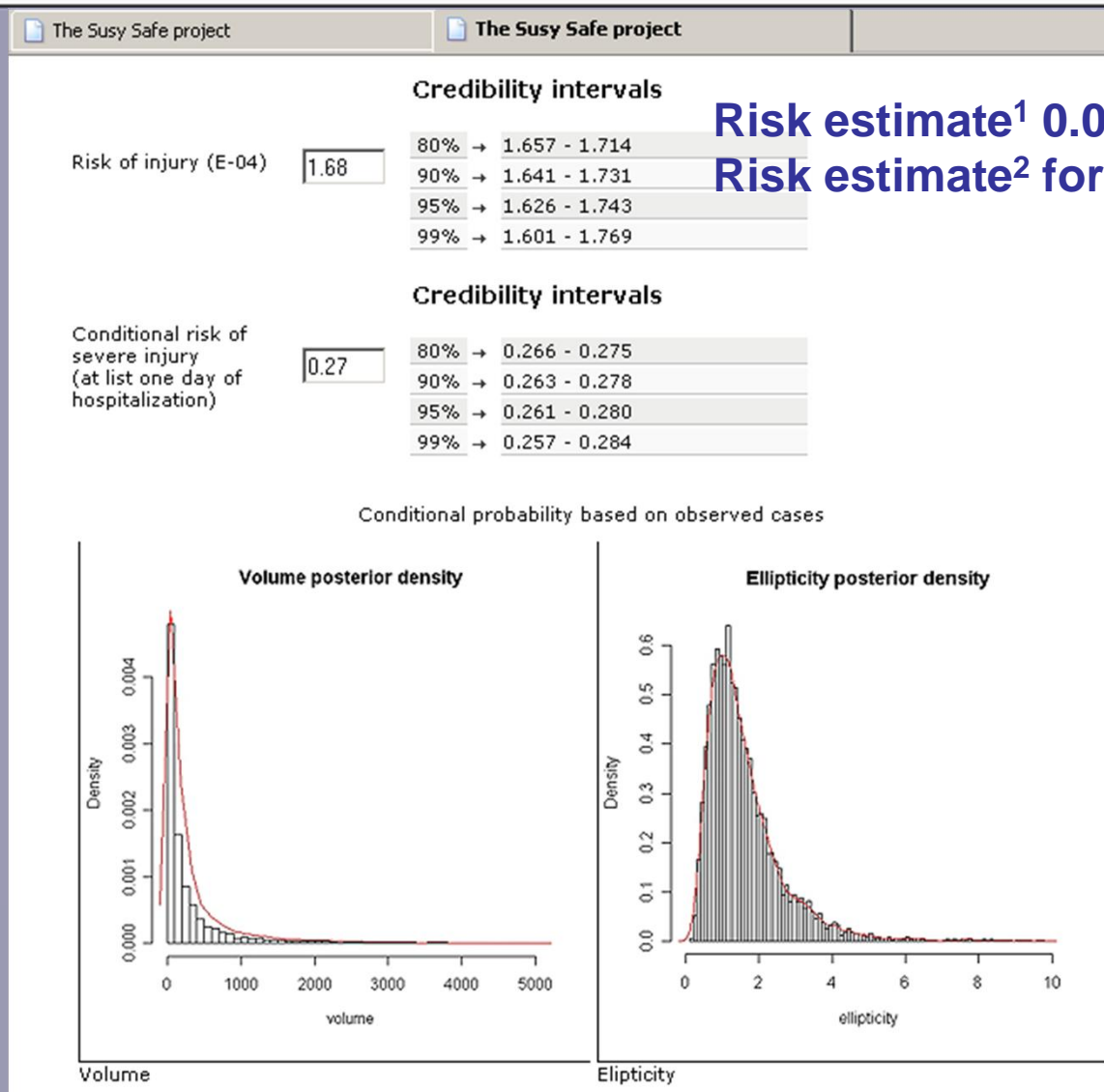
Volume: (Please enter a value) ☐ Average SS

Elpticity (Diameter Ratio): (Please enter a value) ☐ Average SS

Consistency: (Please choose)

Submit

Probability of injury in trachea, bronchi and lungs, due to 2D circle object < 39.47 mm³ (approx coin)



Risk estimate¹ 0.000168

Risk estimate² for Greece 0.000132

¹ESFBI data

²Papadopoulos 2004

A case history: ... new powerful toys to play with

After these first accidents there was a fairly long time interval before new, very powerful magnets were largely produced and introduced in toys or in fake jewellery



...often with spectacular market success



Magnetix was nominated for 2005
Activity Toy of the Year by
the Toy Industry Association, and was included
in the
Hot Dozen list for 2005
published by *Toy Wishes*



CASE REPORT

Multiple magnet ingestion and gastrointestinal morbidity

J A Cauchi, R N Shawis

Arch Dis Child 2002;**87**:539-540

SHORT REPORT

Children and mini-magnets: an almost fatal attraction

S McCormick, P Brennan, J Yassa, R Shawis

Emerg Med J 2002;**19**:71-73

Foreign body ingestion is common but multiple magnet ingestion is rare. When more than one magnet is ingested, gastrointestinal complications may occur. The magnets are attracted to each other across the bowel wall and this may lead to pressure necrosis, perforation, fistula formation, or intestinal obstruction. We report a case of perforation following the ingestion of 12 small magnets. Clinicians who care for children should be aware of this hazard.



... 2005 ...

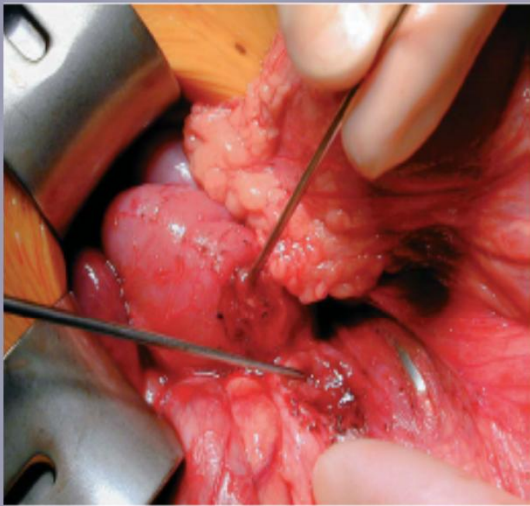
Journal of Pediatric Gastroenterology and Nutrition
41:670-672 © November 2005 Lippincott Williams & Wilkins, Philadelphia

Case Report

Magnetic Foreign Body Ingestions Leading to Duodenocolonic Fistula

*Steven Liu, *Catherine de Blacam, †Foong-Yen Lim, †Peter Mattei, and *Petar Mamula

**Division of Gastroenterology and Nutrition, Department of Pediatrics, and the †Division of General, Thoracic and Fetal Surgery, Department of Surgery, The Children's Hospital of Philadelphia, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania*



... awareness is increasing as well as case reports

Journal of Pediatric Surgery (2006) 41, 1037–1039



Journal of
Pediatric
Surgery

www.elsevier.com/locate/jpedisurg

Pediatric surgical images

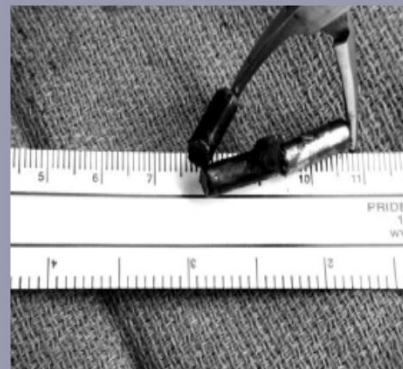
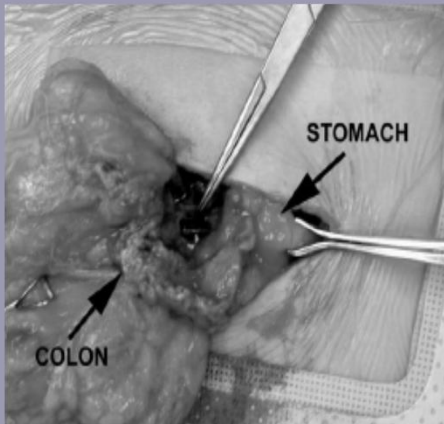
Magnets in the stomach

David A. Berg^a, McDara G. Tynan^b, Harsh Grewal^{c,*}

^aDepartment of Surgery, Temple University Hospital, Philadelphia, PA 19140, USA

^bDepartment of Pediatrics, Temple University School of Medicine, Philadelphia, PA 19140, USA

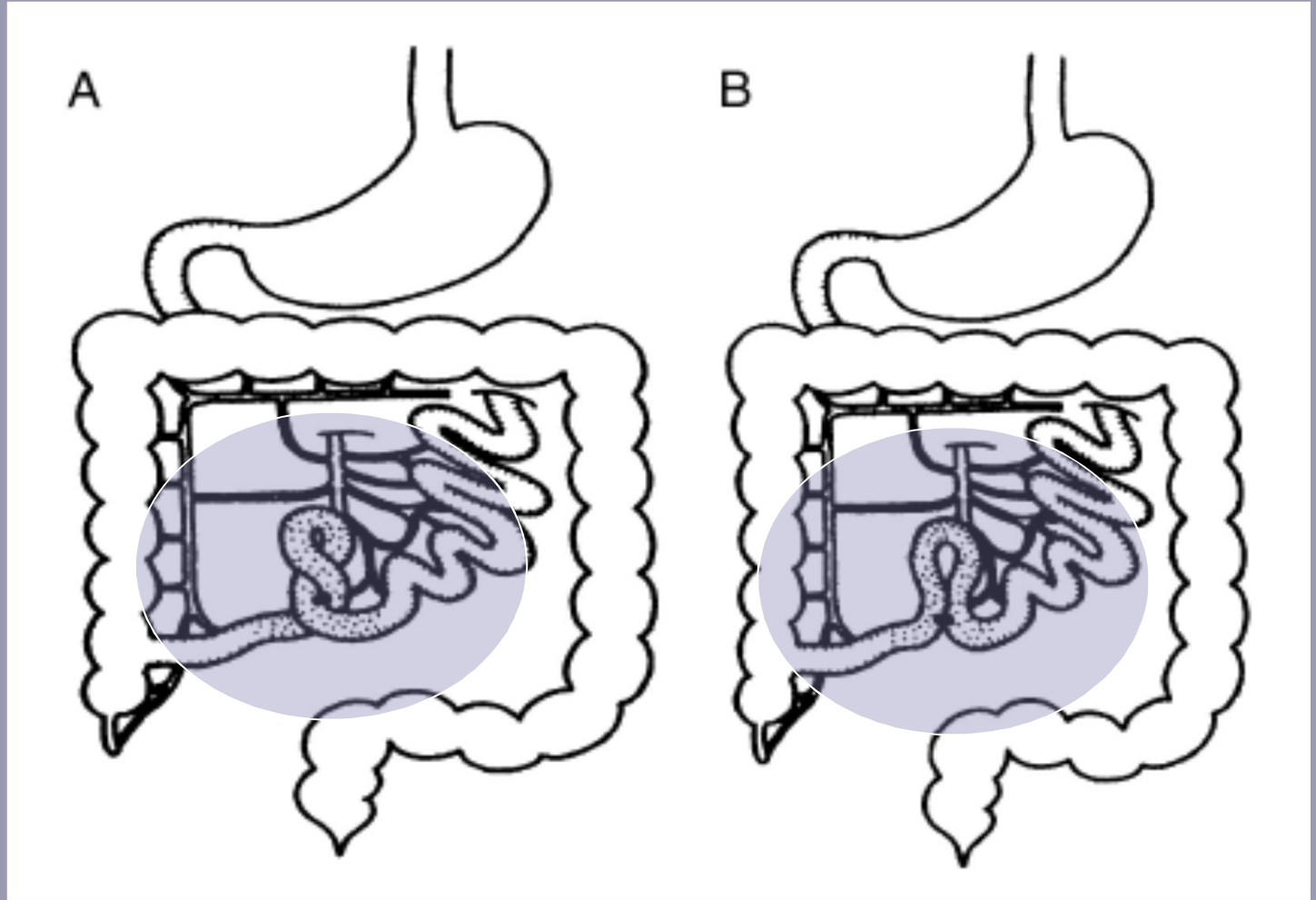
^cSection of Pediatric Surgery, Department of Surgery, Temple University School of Medicine and Temple University Children's Medical Center, Philadelphia, PA 19140, USA



Damage mechanisms

Two usual mechanisms of damage from magnetic bodies:

- 1) Volvulus
- 2) Fistula



Development of a evidence-based protocol

Aim: elaboration of guidelines. based on the data contained in the Susy Safe registry. which will be then used for prevention aims and market products' surveillance

Identification of objects requiring special attention

Identification of a set of procedures to finalize guidelines



Objects requiring attention

Objects. which emerged to be the most dangerous. are:

Nuts

Removable parts of objects

Packaging



Information campaign for consumers

...TRICK OR TREAT?

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

 <p>COINS Most frequent in 1-14 year old Incidents occur while playing Retrieved in digestive system Presenting with cough, dyspnea and wheezing Complicated in pneumonia, pneumonia</p>	 <p>NUTS & SEEDS Most frequent in 1-14 year old Incidents occur while eating Retrieved in aerodigestive system Presenting with cough, dyspnea, cyanosis Complicated in pneumonia, infection</p>	 <p>PEARLS, BALLS AND MARBLE Most frequent in 1-14 year old Incidents occur while playing Retrieved in trachea, nose, ears and digestive system Presenting with pain, bleeding, inflammation and dysphagia Complicated in perforation, infection</p>	 <p>PIN & NEEDLES Most frequent in 1-14 year old Occur in everyday activities Intricate trachea lungs and digestive tract Presenting with pain, bleeding, cough Can lead to severe complications, like lacerations, pneumonia and infection Immediate referral to the doctor</p>
 <p>TOYS All ages interested Incidents occur while playing Retrieved in ears, nose, trachea and bronchi Presenting with cough, dyspnea, cyanosis, bleeding, pain, bleeding Complicated in pneumonia, infection, lacerations</p>	 <p>STONES Most frequent in 1-14 year old Incidents occur while playing Retrieved in ears, nose and tracheobronchial tree Presenting with cough, dyspnea, cyanosis Complicated in pneumonia, infection, perforation</p>	 <p>PLASTIC Most frequent in 1-14 year old Incidents occur while playing and eating Retrieved in trachea, bronchi and digestive system Presenting with cough, dyspnea, cyanosis Complicated in pneumonia, respiratory arrest, perforation and laceration</p>	 <p>STATIONERY Most frequent in 1-14 year old Incidents occur while playing Retrieved in ears, nose and tracheobronchial tree Presenting with cough, dyspnea, cyanosis Complicated in pneumonia, infection, perforation</p>
 <p>PAPER Most frequent in 1-14 year old Incidents occur while playing Retrieved in ears, nose and trachea Fine-grained paper more dangerous Presenting with cough, pain, discharge, bleeding Can lead to infection, perforation, pneumonia</p>	 <p>BATTERIES Most frequent in 1-14 year old Introduced in nose and ears, while playing Presenting with discharge, pain, bleeding Severe consequences when ingested Lead to necrosis, perforation and infection Immediate referral to the doctor</p>	 <p>JEWELLERY Most frequent in 1-14 year old All locations extremely risky Incidents happen while playing Presenting with pain, bleeding Complicated in perforation, laceration, infection Immediate referral to the doctor</p>	 <p>BONES Most frequent in 1-14 year old Incidents occur while eating Retrieved in trachea, lungs and digestive tract Presenting with cough, pain, dysphagia Complicated in pneumonia, infection</p>

**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**

www.susysafe.org - info@susysafe.org


















Establish a Self Reporting System of injuries

Aim: Involve consumers in reporting injuries occurred to their children

Foreign body injury survey	Finding the missing puzzle
<p data-bbox="266 565 842 629">Please take part in our Consumer's survey on FB injuries</p> <p data-bbox="266 679 842 779">Your help is effective and gives back much more than the time it takes to fill in the form.</p>  <p data-bbox="266 1001 581 1065">» FAQs » Take the survey</p>	<p data-bbox="886 565 1329 594">Help us help our children!</p> <p data-bbox="886 644 1450 715">Help us to find out how many injuries actually occur in Europe</p> <p data-bbox="886 765 1441 829">What is the scale-up method and the way it works</p>  <p data-bbox="886 1051 1199 1115">» FAQs » Start the survey</p>

Final remarks: Susy Safe projects goals

- A broad spectrum of data collection, from consumers to doctors
- A tool for analyzing risks posed by products
- A solid scientific assessment of the findings
- A **network of excellence** in Foreign Bodies treatment and epidemiology
- A **global perspective** for the future



the susy safe project

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

- Ⓢ provide a risk-analysis profile for each of the products causing the injury
- Ⓢ 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
- Ⓢ involve, as appropriate, Consumer Associations and/or National Market Surveillance Authorities in data collection and proper education of consumers

www.susysafe.org

CALL for PARTICIPATION



Funded by the European Commission,
DGSANCO, Consumer Affairs Directorate



Ministero delle Attività Produttive, Direzione Generale per
l'Armonizzazione del Mercato e la Tutela dei Consumatori. Ufficio D1
Coordinamento attività sicurezza e conformità prodotti.



University of Torino
Department of Public Health and Microbiology
Department of Statistics and Applied Mathematics



SUSY SAFE

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

03/09/2012

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