

# The Italian Guidelines on choking prevention in children

**Marco Silano<sup>1</sup>, Giulia Lorenzoni<sup>2</sup>**

<sup>1</sup>Operative Unit of Human Nutrition of Health,  
Department of Food Security, Nutrition and Veterinary Public Health  
Istituto Superiore di Sanità, Roma, Italy  
[marco.silano@iss.it](mailto:marco.silano@iss.it)

<sup>2</sup>Unit of Biostatistics, Epidemiology and Public Health,  
Department of Cardiac, Thoracic, Vascular Sciences and Public Health  
University of Padova, Padova, Italy  
[giulia.lorenzoni@unipd.it](mailto:giulia.lorenzoni@unipd.it)



The guidelines are the result of the work by a Technical Working Group established in 2017 at the Directorate General for Food Hygiene, Food Safety and Nutrition at the Italian Ministry of Health, in collaboration with:

- the Italian Ministry of Education, Universities and Research,
- health professionals (e.g., pediatricians),
- representatives of the relevant trade associations,
- academic researchers



# Guidelines development: methodology

A review was done to provide an overview of the current recommendations for the prevention of food choking in children.

Inclusion criteria:

- guidelines published by professional membership organizations and national governments
- in English language



# Information sources

- PubMed (entry terms: food, choking injuries, suffocation, inhalation, aspiration, prevention)
- Government websites
- Grey literature:
  - Trials Register of Promoting Health Interventions (TRoPHI)
  - Trip Medical Database
  - OpenGrey
  - Google Scholar



# Results

| Institution's Guideline   | Nation          | Year   |
|---|-----------------|--|
| Ministry of Health  | New Zealand     | Published in 2008, partially revised in 2012 |
| U.S. Department of Agriculture and U.S. Department of Health and Human Services (Nutrition and Wellness Tips for Young Children: Provider Handbook for the Child and Adult Care Food Program) | US              | 2012   |
| American Academy of Pediatrics (AAP)*   | US              | 2010   |
| Canadian pediatric society*   | Canada          | 2012   |
| U.S. Department of Agriculture (Building Blocks for Fun and Healthy Meals: A Meal Planner for the CACFP)  | US              | 2000   |
| U.S. Department of Agriculture (Feeding Infants: A Guide for Use in the Child Nutrition Programs)   | US              | 2001   |
| U.S. Department of Agriculture (Infant nutrition and feeding. A guide for use in the WIC and CSF programs)  | US              | Revised: 2009                                |
| Department of Health  | South Australia | 2011   |

Eight recommendations were retrieved that were published between 2000 and 2012



Recommendations are addressed to:

- parents (families)
- child care providers
- nutritional counselors

The policy statements of the AAP and the Canadian Pediatric Society are aimed also to:

- food manufacturers
- authorities in charge of food safety (e.g., Food and Drug Administration (FDA))
- policy makers



# Guidelines contents

All guidelines provide recommendations, to minimize the risk of choking, on:

- identification of hazardous foods
- rules for food preparation and chopping
- behavioral rules at mealtimes

The policy statements of the AAP and the Canadian Pediatric Society provide also health planning recommendations



# Italian Ministry of Health guidelines

Based on the literature review and on epidemiological data in the field, they have been organized in two parts:

- the recommendations on the food dimensions and preparation recommended to children of various ages and
- a set of indications on best-practices targeted to industry, public bodies and the general public

Regarding the first part, simple indication, derived from the review of scientific literature and of – sparse – existing guidelines, have been provided.

The second part is innovative, in introducing some novel concepts with respect to the existing guidelines

[http://www.salute.gov.it/portale/news/p3\\_2\\_1\\_1\\_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=3001](http://www.salute.gov.it/portale/news/p3_2_1_1_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=3001)





# Food preparation

| Dangerous food items (main categories)  | Minimum age recommended (years) | Recommended preparation  |
|---|---------------------------------|--|
| Round-shaped food items (e.g., grapes, cherries, cherry tomatoes, olives, meatballs, mozzarella cherry) |                                 | Cut into small pieces (of about 5mm), remove stones and pits.                        |
| Cylindrical food items (e.g., hot dogs, sausages, carrots)  |                                 | Cut lengthwise and then into small pieces (of about 5 mm). Remove skins.             |
| Peanuts, nuts and seeds   | 4/5 years                       | Cut finely or grind.   |
| Cereal grains(e.g., barley, corn)   |                                 | Cut finely or grind.   |
| Dried fruit (e.g., raisins)   |                                 | Soak and cut finely  |
| Food items that break into hard pieces (e.g., crackers)   |                                 | Crumble or grind   |
| Peanut butter and other food items with a sticky texture  |                                 | Thinly spread onto bread.  |
| Pieces of raw fruits and vegetables with an hard or fibrous texture                                     |                                 | Cook until tender or grate. Remove skins, fibers and stones.                         |
| Leafy vegetables  |                                 | Cook until soft and cut finely. If not cooked, cut finely. Remove fibers             |
| Fish and meat   |                                 | Cook until tender and then cut into small pieces. Remove bones, fibres, and gristle. |
| Salami  |                                 | Cut in small pieces and give them one by one   |
| Legumes (e.g., beans and peas)  |                                 | Cook until tender and then mash with a fork.   |
| Steamed stretched cheese  |                                 | Cut finely   |
| Food items (e.g., bread, biscuits) with nuts, dried fruit, cereal grains                                |                                 | Cut finely or grind.   |
| Candies, jellies, marshmallows, bubble gum, popcorn, chips  | 4/5 years                       |  |



# Behavioral rules

| Behavioral rules  | Behaviors to be avoided   |
|---|---|
| Make sure the child is eating at the table and seating upright                    | Do not feed children in moving vehicles (e.g. car) or while they are playing or running                         |
| Make sure the child is relaxed  | Do not give food to children while they are crying or laughing, avoid distractions                              |
| Actively supervise children while they are eating                                 | Never leave children alone while they are eating  |
| Eat slowly, give small servings, make sure the child chews well before swallowing | Don't force children to eat   |
| Give food that is appropriate to child's developmental stage                      | Do not give difficult-to-chew food items to small children and food items that are not appropriate to their age |



# Beyond food preparation (1)

In the second part, Italian guidelines are innovative in introducing some novel concepts with respect to the existing guidelines

## **Food manufacturer and Food-chain suppliers**

- Warning labels on dangerous food products
- to adopt all technological approaches available to limit, starting from the “food design” phase, the products characteristics which may be associated with an increased risk of choking
- Mandatory training courses on primary prevention of food choking

## **General population, families, child care providers**

- Training courses on primary and secondary prevention of food choking injuries



# Beyond food preparation (2)

## Health professionals and researchers

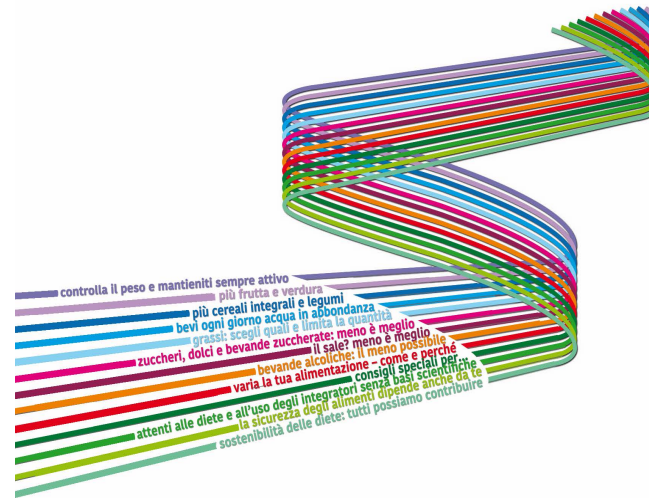
- Epidemiological surveillance of the phenomenon and identification of a national centre for choking injuries monitor (= SusySafe registry)
- Health professionals involvement in sensitizing families on choking injuries prevention

## Public Health Authorities

- Public health campaigns to sensitize the population on choking injuries prevention
- Public health campaigns to sensitize health professional on notifying choking cases to the national centre for choking injuries monitor



# Linee guida per una sana alimentazione



Revisione 2018

# Implications for public health

- From a public health perspective, our work stressed the importance of developing primary prevention policies to regulate dangerous food products in the market and to sensitize adult supervisors
- Such health planning interventions have already proven to be highly effective in preventing injuries in the pediatric age group (e.g., for toy safety)
- Disappointingly, no such strong and coordinated interventions have yet been undertaken with respect to food choking injuries



# Final remarks

- The Italian guidelines are the first holistic approach to address, by regulations, the choking injuries in children due to food;
- This should serve also to stimulate the debate and the adoption of similar regulations in European Union and worldwide.



# THANKS!

