

ENGLISH VERSION



Istituto Superiore di Sanità

Rapporto ISS COVID-19 • n. 17/2020

Food hygiene during the SARS-CoV-2 epidemic. An interim guidance

Veterinary Public Health and Food Safety Group

Version of April 19, 2020

Food hygiene during the SARS-CoV-2 epidemic. An interim guidance

Version of April 19, 2020

ISS COVID-19 Veterinary Public Health and Food Safety Working Group

Umberto Agrimi, Luigi Bertinato, Antonio Menditto, Simona Di Pasquale,
Dario De Medici, Paolo Stacchini, Loredana Cozzi, Elisabetta Suffredini

in collaboratin with:

Lucia Bonadonna, Giuseppina La Rosa
(ISS Environment - Waste Working Group)

Paolo Fortunato D'Ancona
(Infection Control Working Group)

Pier David Malloni, Paola De Castro, Sandra Salinetti
(Communication Working Group)

Antonello Paparella
Università degli Studi di Teramo

Istituto Superiore di Sanità

Food hygiene during the SARS-CoV-2 epidemic. An interim guidance. Version of April 19, 2020.

ISS COVID-19 Veterinary Public Health and Food Safety Working Group

2020, ii, 17 p. Rapporto ISS COVID-19 n. 17/2020 – English version

The SARS-CoV-2 virus spreads by human-to-human infection and there is no evidence that it can be transmitted by food. In the European regulatory framework, food safety is guaranteed by a combined prevention and monitoring approach that embraces all agri-food supply chains “from farm to fork”. During the current COVID-19 epidemic, however, food hygiene requires additional actions in order to contain the risk related to the presence of potentially infected subjects in environments used for the production and sale of food products. This report provides guidance and specific recommendations in order to guarantee the hygiene of food products and food packaging during the production, sale and domestic consumption phases.

The original Italian version of ISS COVID-19 Reports are available at: <https://www.iss.it/rapporti-covid-19>

The reports translated in English are available from: <https://www.iss.it/rapporti-iss-covid-19-in-english>

For information: elisabetta.suffredini@iss.it

Cite this document as follows:

ISS COVID-19 Veterinary Public Health and Food Safety Working Group. *Food hygiene during the SARS-CoV-2 epidemic. An interim guidance. Version of April 19, 2020.* Rome: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 17/2020 – English version).

The responsibility for scientific and technical data lies with the authors, who declare that they do not have any conflict of interest.

Editing and graphics: ISS Scientific Communication Unit (Sandra Salinetti and Paola De Castro)

© Istituto Superiore di Sanità 2020
viale Regina Elena, 299 – 00161 Roma



Table of contents

Target of the report	ii
Acronyms	ii
Introduction	1
SARS-CoV-2 virus	2
Routes of transmission	2
Persistence on surfaces and effect of temperature	3
Food safety: a consistent approach from production through to consumption	4
Hygiene standards and precautionary measures for food production	6
Hygiene rules and precautionary measures for the sale of foods	7
General rules	8
Entry to the store or market	9
Activities inside stores and markets	9
Hygiene standards and precautionary measures from purchase to consumption	10
Purchase	10
At home	12
References	15
Annex. Guidance on food shopping and hygiene	17

Target of the report

This report is intended primarily for food business operators, the managers and staff of food stores, consumers and the national, regional and local health authorities responsible for promoting health and involved in the prevention and management of food-related risks.

Acronyms

COVID-19	Coronavirus Disease 2019
DPCM	Italian Prime Minister's Decree
ECDC	European Centre for Disease Control
FBO	Food business operator
FCM	Food contact materials
GHP	Good Hygiene Practices
HACCP	Hazard Analysis and Critical Control Points
MERS	Middle East Respiratory Syndrome
PPE	Personal Protective Equipment
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2 the coronavirus that causes COVID-19
WHO	World Health Organization

Introduction

The availability of safe food is a fundamental requirement for the promotion of human health and consumer protection. At European and national level, food safety is ensured by a global “from farm to fork” approach combining requirements regarding both the food and animal and plant health and welfare. The founding principles of current food safety legislation include the adoption of a systematic monitoring strategy across the entire food chain, the responsibility of the Food Business Operator (FBO) for the safety of food during its production, processing, importation, placing on the market or distribution, and the involvement of consumers as an active party to ensure food safety.

The purpose of this ISS COVID-19 report is to gather and provide guidance on the precautions to be adopted to ensure food safety in all phases of production, sale and consumption, throughout the SARS-CoV-2 epidemic.

SARS-CoV-2 virus

The Coronaviruses (CoV), a group of viruses that was first described in the 1930s in domestic poultry, are responsible for respiratory and intestinal infections in animals and humans (1). Until the appearance of the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) in China in 2002-2003 (2), the CoV were not considered to be highly pathogenic in humans, in that they primarily resulted in mild respiratory syndromes. Following the SARS epidemic, the coronaviruses' pathogenic potential for man was confirmed by the appearance in 2012 of Middle Eastern Respiratory Syndrome (MERS-CoV) (3), a high-mortality respiratory disease that spread throughout the Middle East and, more recently, with the onset in late 2019 of the SARS-CoV-2 virus and the corresponding Acute Respiratory Syndrome, otherwise known as COVID-19 (4).

Routes of transmission

SARS-CoV-2 is primarily transmitted by human-to-human contact through the inhalation of droplets with a diameter of 5 μm or more that are generated when an infected subject coughs or sneezes. These droplets are usually propagated over short distances and can come into direct contact with the nasal or oral mucosae or the conjunctivae of susceptible subjects in the immediate vicinity, or deposit on objects or surfaces. If the objects and surfaces are contaminated by respiratory secretions (saliva, nasal secretions, expectorate), the virus can be transmitted indirectly, when contaminated hands come into contact with an individual's mouth, nose or eyes. Airborne transmission (through droplets with dimensions $<5 \mu\text{m}$) may occur in healthcare settings, due to the generation of aerosols following specific procedures such as, for example, intubation or mechanical ventilation, for which the WHO recommends precautionary measures in order to contain airborne transmission (5).

It is important to stress that the COVID-19 incubation period, i.e. the period prior to the development of symptoms, can last up to 14 days and is, on average, 5-6 days long. Infected subjects can transmit the virus to other individuals 1-2 days before symptoms first appear (6). The initial symptoms are usually nonspecific and include fever, dry cough and fatigue; however, the disease may present with symptoms affecting a number of body systems, including the respiratory tract (cough, breathlessness, nasal congestion, sore throat, runny nose and chest pain), gastrointestinal tract (loss of appetite, diarrhoea, nausea and vomiting), musculoskeletal system (muscle pain), nervous system (headache, confusion and loss of taste and smell), and eyes (redness) (7). Following the onset of symptoms, the illness can evolve into a mild, moderate, severe or critical form, the latter being associated with symptoms such as acute respiratory distress syndrome (ARDS) and the impairment of various organs (renal system, cardiovascular system, liver).

As regards the involvement of the gastrointestinal system in particular, literature data indicate that approximately 2-18% of patients with COVID-19 present diarrhoea (8, 9) and various studies have detected viral genome in the stools of symptomatic and asymptomatic infected subjects (10-15). Other studies revealed the presence of infectious viral particles of SARS-CoV-2 in stool samples (16) and observed that the ACE2 (Angiotensin-Converting Enzyme 2) receptor proteins used by SARS-CoV-2 to enter the cell are expressed in large quantities in the epithelium of the gastrointestinal tract and that SARS-CoV-2 is able to penetrate into intestinal cells (17).

It is essential to remember that, so far, no cases associated with the orofecal transmission of SARS-CoV-2 have been reported and that, as highlighted in the assessments published by many national and international food safety agencies (EFSA, FDA, etc.), there is no evidence that it can be transmitted through food, or associated with food business operators or food packages (18-23).

Persistence on surfaces and effect of temperature

Available data on SARS-CoV-2 show that it survives for different lengths of time on different surfaces. In one study by Chin *et al.* (24), in controlled laboratory conditions (e.g. relative humidity of 65%), infectious virus was detected for periods of less than 3 hours on paper (printer paper and tissues), up to one day on wood and textiles, two days on glass, and for longer periods (4 days) on smooth surfaces such as steel and plastic, persisting for up to 7 days on the outer fabric of surgical facemasks. Similar results were reported by van Doremalen *et al.* (25) who, again under laboratory conditions, observed that infectious virus could be detected for up to 4 hours on copper, 24 hours on cardboard and 2-3 days on plastic and steel.

Significantly, SARS-CoV-2 was seen to be efficaciously deactivated after 5 minutes' exposure to the common disinfectants such as solutions containing 0.1% chlorine, 70% ethanol or other disinfectants such as 0.05% chlorhexidine and 0.1% benzalkonium chloride (24).

As far as external temperature conditions are concerned, SARS-CoV-2, like other coronaviruses (26) and most other viruses, is stable at refrigeration temperature (+4°C), with a total decrease in infectious virus of approximately 0.7 log in 14 days (24). At room temperature, on the other hand, SARS-CoV-2 is less stable and infectious virus can be detected for up to 7 days at 22°C or up to 1 day at 37°C (24). Lastly, at temperatures that are relevant for food preparation processes (cooking and storage temperatures used in restaurants), SARS-CoV-2 behaves in a similar way to the other Coronaviruses like SARS and MERS (26), as it is not possible to detect infectious virus after 30 minutes at 56°C and after 5 minutes at 70°C (24).

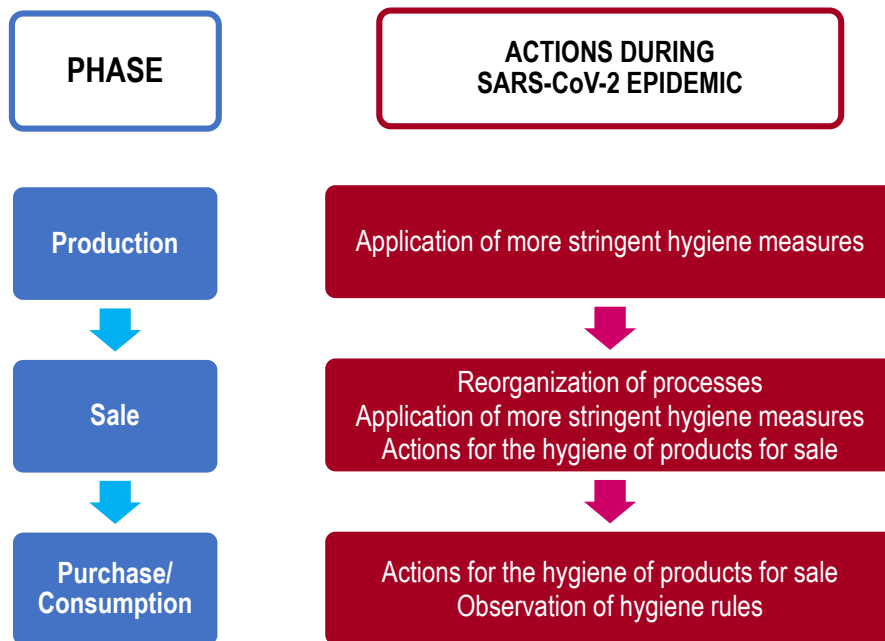
Food safety: a consistent approach from production through to consumption

According to the European regulatory framework, food safety is ensured by a combined prevention and monitoring approach that embraces all the agri-food supply chains “from farm to fork”.

These actions include: a) scrupulous hygiene during primary production as well as during the processing, sale and distribution of food (good farming practices and good hygiene practices); b) an approach based on the prevention – whenever possible – of potential hazards, including microbiological hazards, and on their systematic monitoring by food business operators (FBO); c) a system of official integrated controls by the competent authorities, planned in line with the risk profile of the various activities; d) a traceability system for the products and ingredients destined for use in food such as to allow the management of potentially hazardous situations; e) correct consumer information through appropriate product labelling and consumer involvement as an active party in ensuring food safety.

In normal conditions, this set of activities allows a correct management of food and makes it possible to guarantee its safety.

Despite the absence of evidence that the virus can be transmitted by food and the fact that the WHO considers that the likelihood of **contracting COVID-19 through food or food product packaging is highly unlikely** (27), during the SARS CoV-2 epidemic, the promotion of food hygiene calls for the need to limit as far as is possible, the risk introduced by the presence of potentially infected subjects in environments used to produce and sell food.



Specific measures for the SARS-COV-2 epidemic regarding the food production to consumption phases

As regards this aspect, it is necessary to consider that:

- Good Hygiene Practices (GHP) constitute a fundamental element for preventing the spread of SARS CoV-2 in environments used for the production, processing and sale of food. Scrupulous compliance with these practices must be stepped up (also through appropriate education and training initiatives) during the SARS-CoV-2 epidemic, in order to reduce the risk of contaminating surfaces, food and its packaging. For further details, see the “Hygiene standards and precautionary measures for the production of food” section.
- During the sale of food products, it is necessary to consider the criticalities posed: a) by the presence of potentially infected subjects in the areas used to display and distribute food products; b) by the simultaneous presence of multiple subjects, including potentially infected subjects, inside confined places.

It is important to bear in mind that, also according to the guidance issued by the WHO, infected subjects can transmit the virus to other individuals during the presymptomatic period (6). In this setting, according to the ECDC, the use of facemasks may help to reduce the spread of the virus by minimising the spread of respiratory droplets from subclinically-infected subjects (28). Therefore, without prejudice to the fact that this practice must not have detrimental implications for the availability of surgical facemasks for health sector professionals and that the availability of these devices in the medical sector must take priority, the use of facemasks in the population must be taken into consideration especially when entering crowded and confined places, such as grocery stores, shopping centres, public transport, etc. (28).

Similarly, the use of facemasks can be taken into consideration, provided it is in compliance with local authority regulations, inside environments where foodstuffs are displayed and sold, by minimising the diffusion of respiratory droplets from subclinically-infected individuals to food products and their packaging (for which, during purchasing operations, it is not technically possible to guarantee distancing between the buyer and the goods on display), constitutes an appropriate approach for the promotion of food hygiene, and allows food sector businesses to better fulfil regulatory requirements concerning the sale of products free from potential hazards for consumers.

It should be noted that the **use of facemasks** by the population, at the current time and provided it is in compliance with local authority provisions, **must not be considered an alternative, but a complement, to the other fundamental practices for the prevention** of the spread of the virus, including physical **distancing, hand hygiene** and the implementation of other hygiene practices summarised in this report and in other ISS COVID-19 reports (available at: <https://www.iss.it/rapporti-covid-19>).

More specifically, with regard to these requirements, it is necessary that in both the production and sale of food, staff working in grocery stores scrupulously comply with good hygiene practices, and that such practices are stricter than usual. It is also important to reorganise processes (management of cleaning/disinfecting, restricted access, distribution of hand sanitisers, etc.) and, if possible, also spaces (definition of compulsory pathways, floor signage for distancing, etc.) so as to allow consumers to enter, move around and act inside stores, in compliance with SARS-CoV-2 containment measures and the principles for the promotion of food safety. For further details, see the “Hygiene standards and precautionary measures for the sale of food products” section.

- Under the extraordinary conditions generated by the SARS-CoV-2 epidemic, consumers are called on to cooperate in the promotion of food hygiene during the sale phase by complying with the provisions set forth in the Italian Prime Minister’s Decree of 10 April 2020 (29), more specifically by not entering stores when they have symptoms compatible with COVID-19, by observing physical distancing and restricted access practices, using facemasks and gloves and observing hand hygiene

practices. At home, consumers must pay special attention to the hygiene of the environments, surfaces and utensils used to handle food, the washing of food intended for raw consumption and the cooking of products of animal origin. For further details, see the “Hygiene standards and precautions from purchase through to consumption” section.

Taking into consideration the contents of the WHO guidelines “COVID-19 and food safety: guidance for food businesses – Interim guidance 7 April 2020” (27), the ECDC technical report “Using face masks in the community – 8 April 2020” (28), and the Italian Prime Minister’s Decree of 10.04.2020 (*Official Gazette no. 97 of 11.04.2020*) (29), the following sections provide guidance on the precautionary measures for ensuring food safety throughout the production, sale and consumption phases, during the SARS CoV-2 epidemic.

Hygiene standards and precautionary measures for food production

European legislation on food safety – from Regulation (EC) 178/2002 through to the more recent Regulation (EU) 2017/625 – is extremely stringent in guaranteeing consumer health against foodborne diseases, including those caused by micro-organisms such as viruses and bacteria.

In order to guarantee food safety during the production phase, it is essential that the agri-food industry guarantees full and constant compliance with hygiene practices and cleaning/disinfection procedures, in compliance with regulations and as defined in good hygiene practices (GHP) manuals and corporate HACCP (Hazard Analysis and Critical Control Points) plans.

In a context such as the current COVID-19 epidemic, characterised by rapidly-evolving knowledge, it is necessary that, also in the food production phases, special attention is dedicated to the routes of transmission of the SARS-CoV-2 virus (release of droplets from infected individuals, their deposition on surfaces and consequent transfer of the virus by contact with contaminated hands) and how these routes can be limited or eliminated in the environments used for the production of food. More specifically, it is of fundamental importance that food business operators step up personal hygiene measures and hygiene-related training in order to reduce the risk of contaminating surfaces, including the surfaces of food products and their packages.

The main hygiene practices to be adopted to prevent food from becoming contaminated by micro-organisms that are harmful for human health when food is handled, prepared, processed, packaged and wrapped also represent an appropriate strategy with regard to the transmission of SARS-CoV-2. More specifically, these hygiene practices include:

- Thorough cleaning and sanitisation of surfaces, production lines, equipment and materials with suitable specific products;
- Hand washing for all staff (*see the **box***)
- Use of suitable clothing in production areas (specific work gear, gowns, hair caps, boot covers, etc.)
- Use of certified medical-grade facemasks and food-grade gloves during the handling, preparation and packaging of food; these devices, which are already commonly used in the food industry as a hygiene aid, are also suitable for reducing the possibility of the SARS-CoV-2 virus depositing on foodstuffs in the presence of unknowingly infected individuals.
- Compliance with personal hygiene rules (nail-cutting, removal of accessories and jewellery, keeping beards, moustaches and hair, etc. tidy)
- Compliance with segregation rules in areas used to store ingredients, finished products, packaging and packaging materials and materials other than those used for production;

Hand washing

In line with the guidance issued by the World Health Organization in order to reduce the exposure to and the transmission of the SARS-CoV-2 virus (27), staff from the food sector must wash their hands with single doses of soap and dry them in a hygienic manner using disposable towels:

- before starting work
- after each break and whenever they leave their workstation
- whenever they touch their nose, mouth, eyes, ears
- after blowing their nose, sneezing or coughing, facing away from other persons or on the inside of their elbow
- before handling cooked or ready-to-eat food
- after handling or eating raw foods
- after touching waste
- after cleaning operations
- after going to the toilet
- after eating, drinking or smoking
- after handling money



- Use of suitable storage procedures and appropriate operational instructions for staff performing handling (frequent hand washing, use of gloves, etc.)
- Depending on the type of product:
 - Food products intended for raw consumption must be produced in strict compliance with good hygiene practices, starting from primary production.
 - The thermal treatments that food are subject to during industrial production must be monitored in compliance with HACCP plans.
 - Cooked products and raw food should be kept separate during the various production phases.
- Strict application of the principle of refraining from working for staff presenting symptoms compatible with diseases that can be transmitted through food (Regulation (EC) 852/2004) (30) or, in compliance with provisions for managing the COVID-19 epidemic (the Italian Prime Minister's Decree of 10 April 2020) (29), symptoms compatible with respiratory tract infections and fever (temperature above 37.5°C) and reporting to the competent occupational health physician or general practitioner.

Hygiene rules and precautionary measures for the sale of foods

Food retailers are considered food business operators pursuant to Regulation (EC) 852/2004 on food hygiene. As such, they are under obligation to comply with regulations on food hygiene and safety, including the obligation to implement management and monitoring procedures based on HACCP principles, which are outlined for the production of food and are subject to monitoring by the health authorities.

Given the spread of the COVID-19 epidemic and the need to guarantee compliance with physical distancing measures in places where food products are sold, in order to avoid human-to-human contact, and ensure the best possible promotion of product hygiene, the usual practices for the management of food stores must be complemented by extraordinary measures.

A summary of the practices recommended to contain SARS-CoV-2 infection, to guarantee the hygiene of products placed on the market and to protect the most exposed workers is provided below.

General rules

- Strict application of the principle of refraining from working for staff presenting symptoms compatible with diseases that can be transmitted through food (Regulation (EC) 852/2004) (30) or, in compliance with provisions for managing the COVID-19 epidemic (Italian Prime Minister's Decree of 10 April 2020) (29), symptoms compatible with respiratory tract infections and fever (temperature above 37.5°C) and reporting to the competent occupational health physician or general practitioner.
- Environments used for the sale and storage of food, and utility rooms must be cleaned and sanitised, using appropriate cleaning products and disinfectants and with an appropriate frequency. Environmental cleaning and hygiene activities should be performed at least twice a day (Annex 5 to the Italian Prime Minister's Decree of 10.04.2020) (29).
- Adequate natural ventilation and air turnover must be guaranteed in enclosed spaces (Annex 5 to the Italian Prime Minister's Decree of 10.04.2020) (29). For further information regarding the management of indoor environments, see COVID-19 Report no. 5/2020 (31).
- Adequate amounts of single-dose soap and hygienic drying materials must be provided in order to guarantee frequent hand washing by all staff, at the timepoints indicated in the chapter on "Hygiene standards and precautionary measures for the production of food".
- All staff who prepare and distribute food, manage shelves and staff warehouses or cash desks must use gloves and facemasks in accordance with the risk assessment performed by an occupational health physician or in compliance with local authority provisions.
- Staff who directly handle food (e.g. bakery, delicatessen, butcher's shop, etc.) should be provided with hand sanitiser sprays/gels and adequate quantities of gloves for contact with food, and facemasks, in order to allow frequent replacement.
- Food handling and shelf-stacking/ refrigerator counter-stocking operations may be performed during opening hours, provided correct distancing between staff and customers is guaranteed. Extraordinary cleaning operations, on the other hand, must be performed once all customers have left the area of interest.
- The frequent disinfection of trolleys and baskets present in the store or market, especially their handles, must be guaranteed.
- Retailers must guarantee the frequent disinfection of the most frequently touched surfaces, such as the handles of refrigerator counters or cabinets, key pads and touch screens, scales, conveyor belts and the areas where products are deposited at the cash desk, the areas used to pack purchased goods in bags and card reader keypads.
- Retailers should encourage and constantly monitor correct customer behaviour inside the store or market (compliance with physical distancing practices, designated pathways, etc. see the "Hygiene standards and precautionary measures from purchase through to consumption" section).

- In order to reduce the number of individuals entering stores and retail areas, food business operators should consider encouraging online orders and/or mail order services with either home delivery or “click and collect” services with allocated time slots.
- When food business operators deliver products to the consumer’s home, both the staff who prepare the food products and those who deliver them are under obligation, where applicable, to comply with the food hygiene practices described in this report.

Entry to the store or market

- Retailers should provide a sign indicating that entry by individuals with flu-like symptoms or symptoms compatible with COVID-19 is prohibited, at the entrance to the store or market.
- Instructions regarding the rules customers must observe inside (see the “Hygiene standards and precautionary measures from purchase through to consumption” section), in accordance with individual organisational procedures or local provisions, should be provided at the entrance to the store or market.
- Insofar as is possible, for areas that do not pertain to store premises, provision must be made to ensure that queues for entry to the store or market comply with physical distancing practices.
- Entry to the store or market may only be granted to as many individuals as can be accommodated whilst ensuring correct physical distancing. For environments with a surface area of up to 40 m², entry may be granted to one person at a time (plus a maximum of two sales assistants); for larger premises, entry should be commensurate with the space available (Annex 5 to the Italian Prime Minister’s Decree of 10.04.2020) (29).
- Inflow should be managed so as to prevent the formation of queues at the cash desks.
- When the layout of the store or market permits, designated one-way routes should be provided in order to ensure orderly customer flows.
- Whenever possible, separate entry and exit routes should be provided.
- Hand sanitiser sprays or gels must be provided at the entrance to the store or market. In larger stores or markets, hand sanitiser dispensers should also be provided at strategic points throughout the store/market, especially those areas that are frequently touched by customers, such as scale and card reader keypads/touch screens, handles on refrigerator counters or cabinets, etc.
- At the entrance to the store or market, sanitiser sprays or gels and disposable wipes must be provided to allow customers to sanitise the parts of trolleys/baskets that come into contact with their hands.
- Checks should be performed that customers entering the store or market comply with rules regarding the use of facemasks and hand hygiene (see the “Hygiene standards and precautionary measures from purchase through to consumption” section).
- In line with the evolution of strategies and measures for the containment of COVID-19 implemented at national and local level, facilitate the possibility of preferential or priority entry for specific groups of the population (e.g. individuals with physical impairments, the elderly, those employed in services of public utility, such as the healthcare and public safety sectors, the civil protection department, etc.).

Activities inside stores and markets

- Customer compliance with physical distancing measures (between customers and with sales staff) should be facilitated using floor signage in the areas where customers tend to accumulate (cash desk area, delicatessen/ bakery counters, etc.).

- All areas in which loose food are sold (e.g. greengrocer and bakery departments) must be provided with adequate quantities of disposable gloves for use by customers (Annex 5 to the Italian Prime Minister's Decree of 10.04.2020) (29). Dedicated signage indicating the need to use disposable gloves must be provided in areas where products are displayed. As the gloves used to handle food must satisfy the specifications for food contact materials (FCM), these gloves must also be used by customers who enter the store/ market wearing their own gloves (the disposable gloves for use in green grocery/ bakery departments must be worn on top of the gloves the customer is already wearing).
- Whenever possible, sneeze guards should be installed to protect staff, in order to minimise contact with customers in those areas in which it is difficult to ensure strict compliance with distancing measures (e.g. cash desks).
- The use of contactless methods of payment should be encouraged whenever possible.

Hygiene standards and precautionary measures from purchase to consumption

Even in normal circumstances, food safety is an objective that requires proactive participation by customers, who are called on to comply with hygiene standards during the phases of food purchase, storage, preparation and consumption, through the implementation of actions such as the use of disposable gloves in greengrocery and bakery departments, storage temperature control, appropriate separation of raw and cooked foods, etc. For detailed guidance on food hygiene, see the WHO's "5 Keys to safer food"¹.

However, during the COVID-19 epidemic, grocery shopping constitutes one of those occasions characterised by the simultaneous presence of different individuals - some of whom may be vulnerable, such as elderly persons - in confined spaces, which may have implications regarding distancing practices and guaranteeing hygiene for the food products displayed. The current extraordinary situation therefore calls for the implementation of supplementary precautions by consumers in order to guarantee food safety, for themselves and for others.

Guidance and suggestions for consumers on the most appropriate way to behave from the purchase to the consumption of food are provided below.

Purchase

- Consumers with symptoms compatible with COVID-19 (respiratory infection and temperature above 37.5°C) should not enter grocery stores. When they need to buy groceries, home delivery services (commercial, social support or neighbourhood services, etc.) should be used.
- Before going shopping, consumers should make a detailed list of everything they need to buy; when shopping in a store or market they know, they should organise the list according to the route they will take (e.g. following the sequence of foodstuffs inside the supermarket or the stalls at the local market). Customers should limit the time spent in stores to that strictly necessary to do their shopping.

¹ WHO "5 Keys to safer food": poster, manual, video

Five keys to safer food



Keep clean

- ✓ Wash your hands before handling food and often during food preparation
- ✓ Wash your hands after going to the toilet
- ✓ Wash and sanitize all surfaces and equipment used for food preparation
- ✓ Protect kitchen areas and food from insects, pests and other animals

Why?

While most microorganisms do not cause disease, dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, wiping cloths and utensils, especially cutting boards and the slightest contact can transfer them to food and cause foodborne diseases.



Separate raw and cooked

- ✓ Separate raw meat, poultry and seafood from other foods
- ✓ Use separate equipment and utensils such as knives and cutting boards for handling raw foods
- ✓ Store food in containers to avoid contact between raw and prepared foods

Why?

Raw food, especially meat, poultry and seafood, and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.

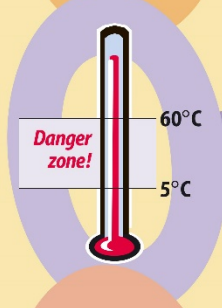


Cook thoroughly

- ✓ Cook food thoroughly, especially meat, poultry, eggs and seafood
- ✓ Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer
- ✓ Reheat cooked food thoroughly

Why?

Proper cooking kills almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70°C can help ensure it is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat and whole poultry.



Keep food at safe temperatures

- ✓ Do not leave cooked food at room temperature for more than 2 hours
- ✓ Refrigerate promptly all cooked and perishable food (preferably below 5°C)
- ✓ Keep cooked food piping hot (more than 60°C) prior to serving
- ✓ Do not store food too long even in the refrigerator
- ✓ Do not thaw frozen food at room temperature

Why?

Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C or above 60°C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5°C.



Use safe water and raw materials

- ✓ Use safe water or treat it to make it safe
- ✓ Select fresh and wholesome foods
- ✓ Choose foods processed for safety, such as pasteurized milk
- ✓ Wash fruits and vegetables, especially if eaten raw
- ✓ Do not use food beyond its expiry date

Why?

Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce the risk.

- Physical distancing practices must be observed when queuing to enter a store.
- Facemasks (preferably surgical-grade) should be used in grocery stores,² in compliance with local regulations. As the purpose of using facemasks in grocery stores is to reduce the transmission of SARS-CoV-2 by minimising the release of respiratory droplets by unknowingly infected individuals, customers should not use facemasks fitted with filters (FFP facemasks with filters), which are not specifically designed to provide a barrier for expiration, and are therefore not suitable for this purpose.³
- On entering a store, customers must use the sanitiser sprays/gels provided by the retailer to disinfect trolley/basket handles.
- On entering a store, customers should always use the hand sanitiser provided by the retailer. Customers should remember that, once they have sanitised their hands, it is important that they do not touch their mouth, face or eyes and that they should not touch other objects (mobile phone, handbag, etc.), in order to maintain the hygiene of their hands and belongings while grocery shopping.

N.B. As regards the use of disposable gloves when purchasing foodstuffs and beverages (29), this recommendation applies for displayed food products that are handled by customers. In order to guarantee product hygiene and safety, customers should only don disposable gloves on entering the grocery store (they should not use gloves with which they have touched objects and surfaces outside the store), they must not reuse disposable gloves when they are to have direct contact with loose food products (e.g. fruit and vegetables), and the gloves used must meet the standards for food contact materials (FCM). If these requirements are not satisfied, in order to protect food hygiene on display, customers must always sanitise their hands (even when wearing gloves) using the sanitiser gel provided by the retailer, and use disposable food-grade gloves in areas such as greengrocery and bakery departments, etc. where loose food may be present.

- Inside the grocery store or market, physical distancing from other customers and retail staff must be observed.
- When present, consumers should follow the designated routes defined by the retailer or market management.
- In departments where loose food are sold (e.g. greengrocery/bakery departments, etc.), customers should always use the disposable gloves provided by the retailer or, when present, ask sales staff to bag and weigh products. If they are already wearing gloves, customers must don disposable gloves on top of the ones they are already wearing.
- Customers should avoid touching products on display and should only touch and put in their trolley/basket the items they intend to purchase.
- At the cash desk, physical distancing from other customers and cash desk staff must be observed.

At home

- When returning home, consumers should take care not to rest shoppers or carrier bags used to carry groceries that have been placed in the bagging area or on the ground on surfaces that will come into

² It is important to remember that surgical facemasks are medical devices and that use by the general public must not be to the detriment of their availability for use by healthcare professionals, which must be considered a priority.

³ FFP facemasks with filters are personal protective equipment required in healthcare and hospital settings and their improper use in other settings will deplete the supplies available.

contact with food. Shoppers and bags should be washed regularly with water and soap or disinfectant solutions containing chlorine.

- Before and after putting their groceries away, consumers should wash their hands carefully with warm water and soap for 40-60 seconds, covering both the backs and palms of the hands and paying attention to the thumbs, fingertips and nails, making sure they rub well between their fingers. For illustrated guidance on correct hand hygiene, see the “How to wash hands with soap and water” poster (32).
- Putting groceries away: the guidance and suggestions provided above regarding hygiene for the food production, distribution and purchasing phases constitute a preventative strategy of paramount importance in relation to the possibility of the accidental contamination of food and their packaging with SARS-CoV-2. It is consequently not considered necessary to disinfect food packaging or to wash fruit and vegetables on returning home. It is important to remember that food should always be touched using clean hands and utensils and that it is therefore good hygiene practice to wash hands after touching food package and before touching food with hands.
- Food should be placed in the refrigerator in compliance with the principle that raw and cooked food should be stored separately and should always be protected from contamination inside sealed containers or with a suitable covering. A video providing guidance on the correct way to store food inside a domestic refrigerator is available by clicking [here](#).
- Food stuffs of animal origin (such as meat, fish and eggs) should not be consumed raw or undercooked. As mentioned previously, there is no evidence that SARS-CoV-2 is transmitted by food; this was also the case for the Coronaviruses that resulted in previous epidemics (SARS and MERS). However, raw food products of animal origin can act as vectors for a number of pathogens transmitted by food and care should always be taken regarding the way they are consumed. This is another reason why foodstuffs of animal origin are the only food product that, as a purely precautionary measure, the WHO recommends not eating raw or undercooked during the COVID-19.
- Hands must be washed thoroughly following the instructions provided previously before and after preparing food.
- Before and after preparing food, kitchen counters and other surfaces used should be cleaned using soap and water and subsequently sanitised, depending on the type of surface, using a 75% ethanol solution or a 0.1% sodium hypochlorite solution.⁴ For efficacious disinfection of surfaces, solutions should be left to act for one minute (33, 34). After cleaning and disinfection operations, surfaces destined to come into contact with foodstuffs (e.g. chopping boards, work tops, utensils) should be thoroughly rinsed with plentiful water, in order to remove all detergent/ disinfectant residues, and subsequently dried. Further information on surface disinfection operations are provided in ISS COVID-19 Report no. 5/2020 (31).

N.B. When using detergents/ disinfectants, attention should be paid to the risk statements present on product labels and care must be taken not to mix different types of detergents/ disinfectants.

- When cooking, it is necessary to make sure that the cooking temperature is homogeneous throughout the food, especially in most central parts.

⁴ Commercially-available bleach usually has a sodium hypochlorite concentration of ≈5%; a 0.1% solution of sodium hypochlorite for work top disinfection can be prepared by diluting 20 mL of bleach in a litre of water (N.B.: a tablespoon is equal to approximately 15 mL).

- Once food has been cooked, it must not be handled or stored using utensils or containers previously used for the same food before it was cooked or for other raw foodstuffs.
- Frozen and deep-frozen food should only be consumed after thorough cooking, even when the nature of the product suggests that it may be eaten raw (e.g. corn).
- Fruit and vegetables to be eaten raw must be carefully washed and rinsed thoroughly under running water before consumption. Where possible, the product should be soaked in a solution of food-grade disinfectant containing chlorine, following the indications provided regarding concentrations, duration of use and rinsing operations.

N.B. Food must not be disinfected using detergents or disinfectants not approved for use with food.

References

1. Masters PS, Perlman S. Coronaviridae. *Fields Virology* 2013;1:825-58.
2. Zhong N, *et al.* Epidemiology and cause of severe acute respiratory syndrome (SARS) in 346 Guangdong, People's Republic of China, in February, 2003. *The Lancet* 2003;362(9393):1353-8.
3. Zaki AM, *et al.* Isolation of a novel coronavirus from a man with pneumonia in Saudi Arabia. *N Engl J Med.* 2012;367(19):1814-20
4. Zhu N, *et al.* A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med.* 2020;382(8):727-33.
5. WHO. *Modes of transmission of virus causing COVID-19: implications for IPC precaution recommendations-Scientific Brief 29 March 2020.* Geneva: WHO; 2020. <https://www.who.int/news-room/commentaries/detail/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>
6. WHO. *Advice on the use of masks in the context of COVID-19 Interim guidance 6 April 2020.* Geneva: WHO; 2020. <https://apps.who.int/iris/handle/10665/331693>
7. Wu YC, *et al.* The outbreak of COVID-19: An overview. *J Chin Med Assoc.* 2020 Mar;83(3):217-220. doi: 10.1097/JCMA.0000000000000270.
8. Cheung KS, *et al.* Gastrointestinal Manifestations of SARS-CoV-2 Infection and Virus Load in Fecal Samples from the Hong Kong Cohort and Systematic Review and Meta-analysis. *Gastroenterology.* 2020;S0016-5085(20)30448-0. doi:10.1053/j.gastro.2020.03.065
9. WHO. *Water, sanitation, hygiene, and waste management for the COVID-19 virus Interim guidance 19 March 2020.* Geneva: WHO; 2020. <https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19>
10. Chen *et al.* The Presence of SARS-CoV-2 RNA in Feces of COVID-19 Patients. *J Med Virol.* 2020 Apr 3. doi: 10.1002/jmv.25825
11. Zhang T, *et al.* Detectable SARS-CoV-2 Viral RNA in Feces of Three Children during Recovery Period of COVID-19 Pneumonia. *J Med Virol.* 2020 Mar 29. doi: 10.1002/jmv.25795.
12. Nicastrì E, *et al.* Coronavirus disease (COVID-19) in a paucisymptomatic patient: epidemiological and clinical challenge in settings with limited community transmission, Italy, February 2020. *Euro Surveill.* 2020 Mar;25(11). doi: 10.2807/1560-7917.ES.2020.25.11.2000230.
13. Zhang J, *et al.* Fecal specimen diagnosis 2019 novel coronavirus-infected pneumonia. *J Med Virol.* 2020 Mar 3. doi: 10.1002/jmv.25742.
14. Zhang W, *et al.* Molecular and serological investigation of 2019-nCoV infected patients: implication of multiple shedding routes. *Emerg Microbes Infect.* 2020 Feb 17;9(1):386-389. doi: 10.1080/22221751.2020.1729071.
15. Ling Y, *et al.* Persistence and clearance of viral RNA in 2019 novel coronavirus disease rehabilitation patients. *Chin Med J (Engl).* 2020 Feb 28. doi: 10.1097/CM9.0000000000000774.
16. Zhang Y, Chen C, Zhu S, *et al.* [Isolation of 2019-nCoV from a stool specimen of a laboratory confirmed case of the coronavirus disease 2019 (COVID-19)]. *China CDC Weekly.* 2020;2(8):123-4. (In Chinese.)
17. Xiao F, *et al.* Evidence for gastrointestinal infection of SARS-CoV-2. *Gastroenterology* 3 March 2020 <https://doi.org/10.1053/j.gastro.2020.02.055>
18. <https://www.cdc.gov/coronavirus/2019-ncov/faq.html#Coronavirus-Disease-2019-Basics>
19. <https://www.fda.gov/food/food-safety-during-emergencies/food-safety-and-coronavirus-disease-2019-covid-19>
20. <https://www.usda.gov/coronavirus>
21. <https://www.efsa.europa.eu/it/news/coronavirus-no-evidence-food-source-or-transmission-route>

22. https://www.bfr.bund.de/en/can_the_new_type_of_coronavirus_be_transmitted_via_food_and_objects_-244090.html
23. <https://www.anses.fr/en/content/covid-19-cannot-be-transmitted-either-farm-animals-or-domestic-animals-0>
24. Chin AWH, *et al.* Stability of SARS-CoV-2 in different environmental conditions. *The Lancet Microbe* Published online April 2, 2020 [https://doi.org/10.1016/S2666-5247\(20\)30003-3](https://doi.org/10.1016/S2666-5247(20)30003-3)
25. van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, *et al.* Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. *New England Journal of Medicine*. 2020.
26. Kampf *et al.* Inactivation of coronaviruses by heat. *Journal of Hospital Infection*. Available online 31 March 2020. <https://doi.org/10.1016/j.jhin.2020.03.025>
27. WHO. *COVID-19 and food safety: guidance for food businesses Interim guidance 7 April 2020*. Geneva: WHO; 2020. https://apps.who.int/iris/bitstream/handle/10665/331705/WHO-2019-nCoV-Food_Safety-2020.1-eng.pdf
28. ECDC. *Using face masks in the community - Reducing COVID-19 transmission from potentially asymptomatic or pre-symptomatic people through the use of face masks – Technical report 08.04.2020* - <https://www.ecdc.europa.eu/en/publications-data/using-face-masks-community-reducing-covid-19-transmission>
29. Italia. Decreto del Presidente del Consiglio dei Ministri 10 aprile 2020. Ulteriori disposizioni attuative del decreto-legge 25 marzo 2020, n. 19, recante misure urgenti per fronteggiare l'emergenza epidemologica da COVID-19, applicabili sull'intero territorio nazionale. *Gazzetta Ufficiale Serie Generale* n.97, 11/4/2020. https://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2020-04-11&atto.codiceRedazionale=20A02179&elenco30giorni=false
30. Europa. Regulation (EC) 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs. *Official gazette of the European Union* L 139, 30/4/2004. <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:139:0001:0054:it:PDF>
31. *Indicazioni ad interim per la prevenzione e gestione degli ambienti indoor in relazione alla trasmissione dell'infezione da virus SARS-CoV-2. Version of 23 March 2020*. Rome: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 5/2020)
32. Ministero della Salute-CCM. *Come lavarsi le mani con acqua e sapone?* https://www.epicentro.iss.it/coronavirus/pdf/Poster-Come%20lavare%20le%20mani_A21.pdf
33. ECDC. *Disinfection of environments in healthcare and non-healthcare settings potentially contaminated with SARS-CoV-2 - Technical report 26 Mar 2020* <https://www.ecdc.europa.eu/en/publications-data/disinfection-environments-covid-19>
34. Kampf G, *et al.* Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. *J Hosp Infect*. 2020 Mar; 104(3): 246–251. doi: 10.1016/j.jhin.2020.01.022

Guidance on food shopping and hygiene



Guidance on food shopping and hygiene



Before going shopping

- If you have **COVID-19-compatible symptoms, stay at home**
- Do a **shopping list** to save time within stores
- Remember to bring the **facemask** with you



When doing your shopping

- **Keep a safe distance** from other customers when queuing to enter a store.
- **Put your facemask on**, before entering grocery stores,
- **Observe the rules set out by retailers** including, if any, the mandatory routes defined by them within the premises
- Use sanitiser sprays or gels provided to **disinfect the handle of your trolley/basket**
- Use always the sanitiser sprays or gels provided to **disinfect your hands**
- **Observe social distancing** from other customers and staff
- Use always **disposable gloves for loose foodstuffs** (fruits, vegetables, bakery, etc.)
- Do not handle the products on display; only take and put in the trolley/basket the items you want to buy

After shopping and until consumption of food

- Do not place **shopping bags** on surfaces that will come into contact with food; wash regularly reusable shopping bags
- **Before and after you have stowed your groceries, carefully wash your hands**
- Put food in the fridge in accordance with the principle of separation between raw and cooked products
- Before and after food preparation **clean work surfaces, sanitize them** (75% alcohol or chlorine-based solution 0.1%) **and rinse them thoroughly**
- **Before and after the preparation of food, wash your hands thoroughly**
- Take care that **food is correctly cooked** (up to the heart of the product); do not use tools or containers used for raw food for cooked products
- Before consumption, **carefully wash fruits and vegetables** intended to be eaten raw, and rinse it under running water



Edited by the ISS COVID-19 Group "Communication" • April, 23, 2020

Rapporti ISS COVID-19 (ISS COVID-19 Reports)

ISS COVID-19 Reports are mainly addressed to healthcare professionals to cope with different aspects of the COVID pandemic. They provide essential and urgent directions for emergency management and are subject to updates. All reports have an English abstract.

The complete list is available at <https://www.iss.it/rapporti-covid-19>.

Some reports (highlighted below) are also translated in English and are available at <https://www.iss.it/rapporti-iss-covid-19-in-english>

1. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim per l'effettuazione dell'isolamento e della assistenza sanitaria domiciliare nell'attuale contesto COVID-19*. Versione del 24 luglio 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 1/2020 Rev.)
2. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim per un utilizzo razionale delle protezioni per infezione da SARS-CoV-2 nelle attività sanitarie e sociosanitarie (assistenza a soggetti affetti da COVID-19) nell'attuale scenario emergenziale SARS-CoV-2*. Versione del 10 maggio 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 2/2020 Rev. 2)
3. Gruppo di lavoro ISS Ambiente e Gestione dei Rifiuti. *Indicazioni ad interim per la gestione dei rifiuti urbani in relazione alla trasmissione dell'infezione da virus SARS-CoV-2*. Versione del 31 maggio 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 3/2020 Rev. 2)
4. Gruppo di lavoro ISS Prevenzione e controllo delle Infezioni. *Indicazioni ad interim per la prevenzione e il controllo dell'infezione da SARS-CoV-2 in strutture residenziali sociosanitarie*. Versione del 17 aprile 2020. Roma: Istituto Superiore di Sanità; 2020 (Rapporto ISS COVID-19, n. 4/2020 Rev.) Available also in English.
5. Gruppo di lavoro ISS Ambiente e Qualità dell'aria indoor. *Indicazioni ad interim per la prevenzione e gestione degli ambienti indoor in relazione alla trasmissione dell'infezione da virus SARS-CoV-2*. Versione del 25 maggio 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 5/2020 Rev. 2).
6. Gruppo di lavoro ISS Cause di morte COVID-19. *Procedura per l'esecuzione di riscontri diagnostici in pazienti deceduti con infezione da SARS-CoV-2*. Versione del 23 marzo 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 6/2020).
7. Gruppo di lavoro ISS Biocidi COVID-19 e Gruppo di lavoro ISS Ambiente e Rifiuti COVID-19. *Raccomandazioni per la disinfezione di ambienti esterni e superfici stradali per la prevenzione della trasmissione dell'infezione da SARS-CoV-2*. Versione del 29 marzo 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 7/2020).
8. Osservatorio Nazionale Autismo ISS. *Indicazioni ad interim per un appropriato sostegno delle persone nello spettro autistico nell'attuale scenario emergenziale SARS-CoV-2*. Versione del 30 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 8/2020 Rev.).
9. Gruppo di Lavoro ISS Ambiente – Rifiuti COVID-19. *Indicazioni ad interim sulla gestione dei fanghi di depurazione per la prevenzione della diffusione del virus SARS-CoV-2*. Versione del 3 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 9/2020).
10. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni ad interim su acqua e servizi igienici in relazione alla diffusione del virus SARS-CoV-2*. Versione del 7 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 10/2020).
11. Gruppo di Lavoro ISS Diagnostica e sorveglianza microbiologica COVID-19: aspetti di analisi molecolare e sierologica *Raccomandazioni per il corretto prelievo, conservazione e analisi sul tampone oro/rino-faringeo per la diagnosi di COVID-19*. Versione del 17 aprile 2020. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 11/2020).

12. Gabrielli F, Bertinato L, De Filippis G, Bonomini M, Cipolla M. *Indicazioni ad interim per servizi assistenziali di telemedicina durante l'emergenza sanitaria COVID-19. Versione del 13 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 12/2020). Available also in English.
13. Gruppo di lavoro ISS Ricerca traslazionale COVID-19. *Raccomandazioni per raccolta, trasporto e conservazione di campioni biologici COVID-19. Versione del 15 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 13/2020). Available also in English.
14. Gruppo di lavoro ISS Malattie Rare COVID-19. *Indicazioni ad interim per un appropriato sostegno delle persone con enzimopenia G6PD (favismo) nell'attuale scenario emergenziale SARS-CoV-2. Versione del 14 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 14/2020). Available also in English.
15. Gruppo di lavoro ISS Farmaci COVID-19. *Indicazioni relative ai rischi di acquisto online di farmaci per la prevenzione e terapia dell'infezione COVID-19 e alla diffusione sui social network di informazioni false sulle terapie. Versione del 16 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 15/2020). Available also in English.
16. Gruppo di lavoro ISS Sanità Pubblica Veterinaria e Sicurezza Alimentare COVID-19. *Animali da compagnia e SARS-CoV-2: cosa occorre sapere, come occorre comportarsi. Versione del 19 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 16/2020). Available also in English.
17. Gruppo di lavoro ISS Sanità Pubblica Veterinaria e Sicurezza Alimentare COVID-19. *Indicazioni ad interim sull'igiene degli alimenti durante l'epidemia da virus SARS-CoV-2. Versione del 19 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 17/2020). Available also in English.
18. Gruppo di lavoro ISS Ricerca traslazionale COVID-19. *Raccomandazioni per la raccolta e analisi dei dati disaggregati per sesso relativi a incidenza, manifestazioni, risposta alle terapie e outcome dei pazienti COVID-19. Versione del 26 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 18/2020). Available also in English.
19. Gruppo di lavoro ISS Biocidi COVID-19. *Raccomandazioni ad interim sui disinfettanti nell'attuale emergenza COVID-19: presidi medico-chirurgici e biocidi. Versione del 25 aprile 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 19/2020).
20. Gruppo di Lavoro ISS Prevenzione e Controllo delle Infezioni. *Indicazioni ad interim per la sanificazione degli ambienti interni nel contesto sanitario e assistenziale per prevenire la trasmissione di SARS-CoV 2. Versione del 14 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 20/2020 Rev.).
21. Ricci ML, Rota MC, Scaturro M, Veschetti E, Lucentini L, Bonadonna L, La Mura S. *Guida per la prevenzione della contaminazione da Legionella negli impianti idrici di strutture turistico recettive e altri edifici ad uso civile e industriale, non utilizzati durante la pandemia COVID-19. Versione del 3 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 21/2020).
22. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19 *Indicazioni ad interim per un appropriato supporto degli operatori sanitari e sociosanitari durante lo scenario emergenziale SARS-CoV-2. Versione del 28 maggio*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 22/2020 Rev.) Available also in English.
23. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19 *Indicazioni di un programma di intervento dei Dipartimenti di Salute Mentale per la gestione dell'impatto dell'epidemia COVID-19 sulla salute mentale. Versione del 6 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 23/2020).
24. Gruppo di lavoro ISS Malattie Rare COVID-19. *Indicazioni ad interim per una appropriata gestione dell'iposurrenalismo in età pediatrica nell'attuale scenario emergenziale da infezione da SARS-CoV-2. Versione del 10 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 24/2020). Available also in English.
25. Gruppo di Lavoro ISS Biocidi COVID-19. *Raccomandazioni ad interim sulla sanificazione di strutture non sanitarie nell'attuale emergenza COVID-19: superfici, ambienti interni e abbigliamento. Versione del 15 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 25/2020)

26. Gruppo di Lavoro ISS Ambiente e Rifiuti. *Indicazioni ad interim sulla gestione e smaltimento di mascherine e guanti monouso provenienti da utilizzo domestico e non domestico. Versione del 18 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 26/2020)
27. Ricci ML, Rota MC, Scaturro M, Nardone M, Veschetti E, Lucentini L, Bonadonna L, La Mura S. *Indicazioni per la prevenzione del rischio Legionella nei riuniti odontoiatrici durante la pandemia da COVID-19. Versione del 17 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 27/2020).
28. Gruppo di Lavoro ISS Test Diagnostici COVID-19 e Gruppo di Lavoro ISS Dispositivi Medici COVID-19. *Dispositivi diagnostici in vitro per COVID-19. Parte 1: normativa e tipologie. Versione del 18 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 28/2020)
29. Gruppo di lavoro ISS Malattie Rare COVID-19. *Indicazioni ad interim su malattia di Kawasaki e sindrome infiammatoria acuta multisistemica in età pediatrica e adolescenziale nell'attuale scenario emergenziale da infezione da SARS-CoV-2. Versione 21 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 29/2020). Available also in English.
30. Gruppo di lavoro Salute mentale ed emergenza COVID-19. *Indicazioni sull'intervento telefonico di primo livello per l'informazione personalizzata e l'attivazione dell'empowerment della popolazione nell'emergenza COVID-19. Versione del 14 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 30/2020)
31. Gruppo di lavoro Salute mentale ed emergenza COVID-19. *Indicazioni ad interim per il supporto psicologico telefonico di secondo livello in ambito sanitario nello scenario emergenziale COVID-19. Versione del 26 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 31/2020)
32. Gruppo di lavoro ISS Sanità Pubblica Veterinaria e Sicurezza Alimentare COVID-19. *Indicazioni ad interim sul contenimento del contagio da SARS-CoV-2 e sull'igiene degli alimenti nell'ambito della ristorazione e somministrazione di alimenti. Versione del 27 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 32/2020).
33. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni sugli impianti di ventilazione/climatizzazione in strutture comunitarie non sanitarie e in ambienti domestici in relazione alla diffusione del virus SARS-CoV-2. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 33/2020).
34. Gruppo di Lavoro Bioetica COVID-19. *Sorveglianza territoriale e tutela della salute pubblica: alcuni aspetti etico-giuridici. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 34/2020). Available also in English.
35. Gruppo di Lavoro Bioetica COVID-19. *Il Medico di Medicina Generale e la pandemia di COVID-19: alcuni aspetti di etica e di organizzazione. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 35/2020)
36. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni sulle attività di balneazione, in relazione alla diffusione del virus SARS-CoV-2. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 36/2020).
37. Gruppo di Lavoro ISS Ambiente-Rifiuti COVID-19. *Indicazioni per le piscine, di cui all'Accordo 16/1/2003 tra il Ministro della salute, le Regioni e le Province Autonome di Trento e Bolzano, in relazione alla diffusione del virus SARS-CoV-2. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 37/2020).
38. Silano M, Bertinato L, Boirivant M, Pocchiari M, Taruscio D, Corazza GR, Troncone R *Indicazioni ad interim per un'adeguata gestione delle persone affette da celiachia nell'attuale scenario emergenziale SARS-CoV-2. Versione del 29 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 38/2020).
39. Gruppo di lavoro ISS Malattie Rare COVID-19 *Censimento dei bisogni (23 marzo - 5 aprile 2020) delle persone con malattie rare in corso di pandemia da SARS-CoV-2. Versione del 30 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 39/2020).
40. Gruppo di Lavoro Bioetica COVID-19. *Comunicazione in emergenza nei reparti COVID-19. Aspetti di etica. Versione del 25 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 40/2020).

41. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19. *Indicazioni per prendersi cura delle difficoltà e dei bisogni dei familiari di pazienti ricoverati in reparti ospedalieri COVID-19. Versione del 29 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 41/2020).
42. Gruppo di Lavoro ISS Bioetica COVID-19. *Protezione dei dati personali nell'emergenza COVID-19. Versione del 28 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 42/2020).
43. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19. *Indicazioni ad interim per un appropriato sostegno della salute mentale nei minori di età durante la pandemia COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 43/2020)
44. Gruppo di lavoro ISS Salute mentale ed emergenza COVID-19. *Indicazioni di un programma di intervento per la gestione dell'ansia e della depressione perinatale nell'emergenza e post emergenza COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 44/2020)
45. Giusti A, Zambri F, Marchetti F, Sampaolo L, Taruscio D, Salerno P, Chiantera A, Colacurci N, Davanzo R, Mosca F, Petrini F, Ramenghi L, Vicario M, Villani A, Viora E, Zanetto F, Donati S. *Indicazioni ad interim per gravidanza, parto, allattamento e cura dei piccolissimi 0-2 anni in risposta all'emergenza COVID-19. Versione 31 maggio 2020.* Roma: Istituto Suprire di Sanità; 2020 (Rapporto ISS COVID-19 n. 45/2020)
46. Gruppo di Lavoro ISS Test Diagnostici COVID-19 e Gruppo di Lavoro ISS Dispositivi Medici COVID-19. *Dispositivi diagnostici in vitro per COVID-19. Parte 2: evoluzione del mercato e informazioni per gli stakeholder. Versione del 23 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 46/2020)
47. Gruppo di Lavoro ISS Bioetica COVID-19. *Etica della ricerca durante la pandemia di COVID-19: studi osservazionali e in particolare epidemiologici. Versione del 29 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 47/2020), Available also in English.
48. Gruppo di Lavoro Immunologia COVID-19. *Strategie immunologiche ad interim per la terapia e prevenzione della COVID-19. Versione del 4 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 48/2020).
49. Gruppo di Lavoro ISS Cause di morte COVID-19, Gruppo di lavoro Sovrintendenza sanitaria centrale – INAIL, ISTAT. *COVID-19: rapporto ad interim su definizione, certificazione e classificazione delle cause di morte. Versione dell'8 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 49/2020)
50. Perilli R, Grigioni M, Porta M, Cruciani F, Bandello F, Mastropasqua L. *S Contributo dell'innovazione tecnologica alla sicurezza del paziente diabetico da sottoporre ad esame del fondo oculare in tempi di COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 50/2020).
51. Gruppo di Lavoro ISS Farmaci COVID-19. *Integratori alimentari o farmaci? Regolamentazione e raccomandazioni per un uso consapevole in tempo di COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 51/2020)
52. Gruppo di lavoro SISVet-ISS. *Protocollo di gestione dell'emergenza epidemiologica da SARS-CoV-2 nelle strutture veterinarie universitarie. Versione dell'11 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 52/2020)
53. Filia A, Urdiales AM, Rota MC. *Guida per la ricerca e gestione dei contatti (contact tracing) dei casi di COVID-19. Versione del 25 giugno 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19, n. 53/2020).
54. Giansanti D, D'Avenio G, Rossi M, Spurio A, Bertinato L, Grigioni M. *Tecnologie a supporto del rilevamento della prossimità: riflessioni per il cittadino, i professionisti e gli stakeholder in era COVID-19. Versione del 31 maggio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 54/2020).
55. Cisbani E, Dini V, Grande S, Palma A, Rosi A, Tabocchini MA, Gasparrini F, Oracchio A. *Stato dell'arte sull'impiego della diagnostica per immagini per COVID-19. Versione del 7 luglio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 55/2020)
56. Gruppo di lavoro ISS-INAIL. *Focus on: utilizzo professionale dell'ozono anche in riferimento al COVID-19. Versione del 21 luglio 2020.* Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 56/2020)

57. Gruppo di lavoro ISS Formazione COVID-19. *Formazione per la preparedness nell'emergenza COVID-19: il case report dell'Istituto Superiore di Sanità. Versione del 31 maggio 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 57/2020)
58. Gruppo di Lavoro ISS, Ministero della Salute, Ministero dell'Istruzione, INAIL, Fondazione Bruno Kessler, Regione Emilia-Romagna, Regione Veneto, R. *Indicazioni operative per la gestione di casi e focolai di SARS-CoV-2 nelle scuole e nei servizi educativi dell'infanzia. Versione del 28 agosto 2020*. Roma: Istituto Superiore di Sanità; 2020. (Rapporto ISS COVID-19 n. 58/2020 Rev.). Available also in English.