

E. coli O157 cross-contamination caterers factsheet

Who is this for?

This factsheet is a handy guide containing the key consideration for those in the catering industry. It is not intended to replace the full [E. coli O157 Control of cross-contamination guidance](#).

Contaminated food can make your customers seriously ill and can even kill. This factsheet, if followed correctly, will help you control the risk of cross-contamination within your business. For further advice on anything in this factsheet, please refer to the corresponding section in the full guidance.

What is *E. coli* and cross-contamination?

E. coli O157 is a harmful bacterium that is particularly dangerous because it can cause infections in very low doses – less than 10 bacteria. It can survive refrigeration and freezing and has been shown to be tolerant of acid, salt and dry conditions.

If consumed, even at very low doses, contaminated products can lead to death or serious untreatable illness. Even after recovery from infection, some people are left with permanent kidney or brain damage. Whilst all people are liable to illness following the consumption of contaminated food products, special care should always be given to circumstances where vulnerable groups, such as young children or the elderly are the principal consumers of food within an establishment, for example, schools or residential / nursing care homes. The risk of cross-contamination with *E. coli* O157 must be considered and controlled in any food business where both raw and ready-to-eat food are handled.

Harmful bacteria such as *E. coli* O157, *Campylobacter* and *Salmonella* can easily spread to ready-to-eat food, such as salads and cooked food, through direct contact with raw food or indirectly by staff, equipment, contaminated surfaces or cleaning materials. This is called cross-contamination.

Avoid cross-contamination by making sure that there is:

- **separation** between raw and ready-to-eat food
- **effective cleaning** and **disinfection** practices
- **good personal hygiene**, particularly washing hands thoroughly and handling food hygienically
- **staff training** about the risks of cross-contamination and how to prevent it
- **effective management controls** should be in place to prevent cross-contamination

Separation

The design of all food businesses should permit good food hygiene practices, including protection against contamination with *E. coli* O157 and other harmful bacteria.

It should be assumed that raw food brought into a business will be contaminated with bacteria including *E. coli* O157 and may result in *E. coli* O157 being introduced into the food business. Food businesses are required to identify the controls required to prevent the bacteria from contaminating ready-to-eat food.

The most effective control to minimise the risk of contamination from *E. coli* O157 onto ready-to-eat food is the **complete separation** of staff, storage areas, preparation tables, utensils and equipment. This means there will be no contact between people handling ready-to-eat food and those involved in the preparation of food which may be contaminated with *E. coli* O157.

If this is not possible you must consider and put in place the following measures:

Work areas can be used for both raw food and ready-to-eat food, but only if separated by time (refer to the '**Separation areas decision tree – what is achievable?**'). Surfaces must be thoroughly cleaned and disinfected before being used for ready-to-eat food.

When using time separation, work surfaces must not be used as food contact surfaces. A suitable barrier, such as a chopping board or a container, should be used as the surface directly in contact with food.

Staff must not be a source of contamination. Staff need to be trained, instructed and supervised to ensure movement between the raw food area and the ready-to-eat food areas is managed in such a way that the risk of cross-contamination is minimised. Staff should:

- understand the risks of cross-contamination
- be trained in effective cleaning and disinfecting technique
- be trained in effective handwashing technique
- wear suitable, clean protective clothing

Staff can handle both raw food and ready-to-eat food, but only in a way where the risk of controlling cross-contamination is controlled.

Storage (for example same fridge / freezer) or display units can be used for raw and ready-to-eat food if the storage space is of sufficient size and the storage is planned in such a way that contamination is avoided.

Adequate separation within storage and display will often mean raw food must be stored below ready-to-eat food unless other measures are in place to ensure that cross-contamination can be avoided.

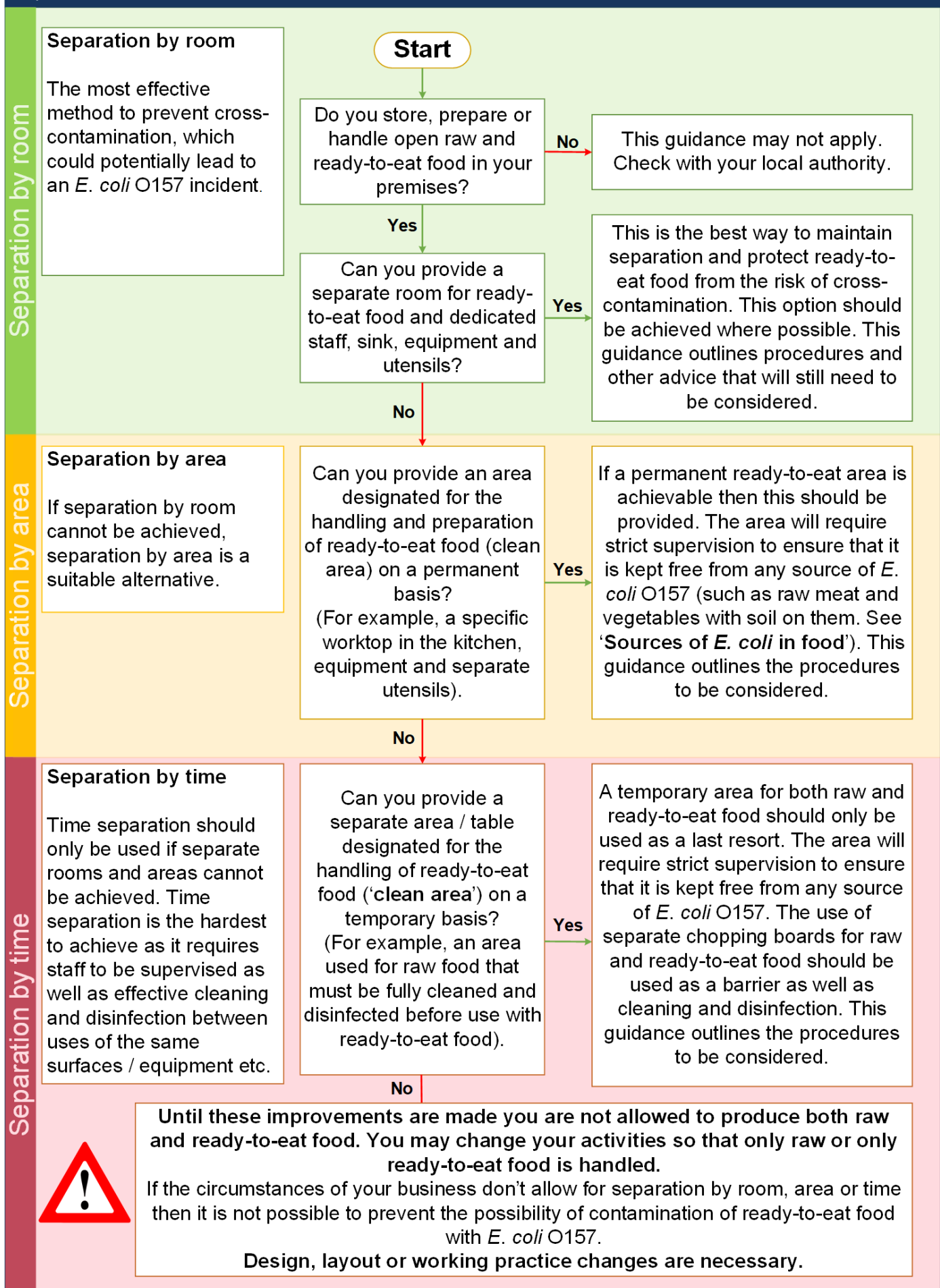
Utensils, if possible, due to the relatively low cost, should be separated (dedicated for either raw or ready-to-eat) and colour coded (or otherwise easily identified). This includes chopping boards, tongs, containers etc. Where this is not possible they should be put through a dishwasher (or otherwise heat disinfected) between uses. Make sure that dishwashers are properly maintained, loaded correctly, run on a full cycle and not interrupted once started.

Chopping boards that have deep scores from repeated use should be replaced as effective cleaning of these may no longer be possible.

Sinks, where possible these must be separate for raw and ready-to-eat food and equipment. If separate sinks are not possible, they can be shared if the sink, including the taps and any other fittings, are cleaned and disinfected between uses.

When the sink is shared for raw food and ready-to-eat food, the food must not come into direct contact with the sink. A dedicated container for either raw food or ready-to-eat food can be used to avoid direct contact.

Separation decision tree - what is achievable?



Complex equipment

Complex equipment is any piece of equipment that can be difficult to clean adequately between uses. This may be because it is hard to access all parts of the equipment or because they are made up of a number of small parts and surfaces, which may not be smooth or easy to clean. Examples of complex equipment includes slicers, mincers and vacuum packing machines.

There is a risk of cross-contamination where the same piece of complex equipment is used to process raw and ready-to-eat food, this is called 'dual use'.

Depending on the complexity of equipment the contamination may not be adequately removed during routine cleaning and disinfection process and can result in any ready-to-eat food subsequently processed becoming contaminated.

Food business operators must ensure that complex equipment **is not** dual used unless the equipment is fully dismantled and can be effectively cleaned and disinfected between uses. This is because there is a serious risk of cross-contamination which can occur throughout the internal components of the machines that cannot be adequately disinfected without a full dismantle.

In the case of vacuum packers, a full dismantle should only be undertaken by a competent engineer as the internal components need to be accessible, cleaned and disinfected.



It is unlikely that the re-commissioning process can be done effectively by usual kitchen staff or during the normal operations of a working day.

It **may** be possible to dual use other types of less complex equipment, such as temperature probes, mixers and weighing scales, the food business operator needs to determine whether it is safe to dual use during the normal operations of a working day. If you are unsure check with your local authority.

This will involve:

- determining how complex the equipment is
- how the equipment is used / dual used by the business (for example continuous use versus occasional)
- the activities of the business
- the required cleaning and disinfection to minimise the risk of cross-contamination

If equipment is designated as raw food only or ready-to-eat food only, it should be clearly identifiable as such to all staff and visitors.

Cleaning and disinfection

Cleaning is the removal of dirt, grease and other matter from surfaces. To do it effectively you will need to use an appropriate chemical detergent to dissolve and remove the grease, dirt and food.

Disinfection is the reduction of the levels of microorganisms (germs) on a surface. There are two main ways to kill *E. coli* O157 (and other harmful bacteria) to control cross-contamination. It is recommended to use heat or chemicals (disinfectant / sanitiser).

Effective cleaning and disinfection is critical in any food business. A dishwasher or a sterilising sink and a steam cleaner to clean and disinfect equipment and utensils are strongly recommended.

Chemical disinfection may be appropriate where a dishwasher or heat disinfection is not possible. For example, it may be appropriate to chemically clean a work surface that cannot be heat disinfected.

Disinfection will only be effective if carried out on visibly clean surfaces that are free from grease, film or solid matter. Chemical disinfection must always be carried out as a two-stage process.

Stage 1: General cleaning using a detergent

This involves the physical removal of visible grease, dirt and food particles from surfaces and equipment, followed by a thorough rinse to ensure the removal of all residues from the surface.

Stage 2: Disinfection

This involves the use of a disinfectant following the manufacturer's instructions for its dilution rate and contact time. Disinfectants will not be effective if used on dirty surfaces, or if applied at the incorrect dilution or for the insufficient contact time or the incorrect temperature.

A sanitiser is a two in one product that acts as a detergent and a disinfectant. When using a sanitiser, the two-stage cleaning process as described above is still required. Therefore, apply the sanitiser (or a detergent) first for general cleaning, rinse and then apply the sanitiser again for the disinfection stage.

Chemical disinfectants used as a control, must comply with **BS EN 1276:2009** or **BS EN 13697:2001** or an equivalent standard. If you don't know if the chemicals meet the required standard you should contact the manufacturer.

Disposable single-use cloths are recommended when cleaning. If this is not possible make sure you use separately designated cleaning equipment for raw and ready-to-eat areas, for example colour coded cloths.

Personal hygiene

It is essential that staff follow good personal hygiene practices. All staff must wash and dry their hands thoroughly using a recognised technique, such as the one in the [E. coli Cross contamination guidance](#) or the [FSA's handwashing video](#). To control cross-contamination, handwashing is required:

- prior to handling ready-to-eat food
- after touching raw food or its packaging (includes unwashed fruit and vegetables)
- after a break
- after going to the toilet
- after cleaning
- after removing waste
- after blowing your nose
- touching your face, hair, arms or other body parts

Washbasins must be located to prevent contamination of ready-to-eat food by splashing, and have an adequate supply of hot and cold, or appropriately mixed, running water, cleaning materials and hygienic means of drying hands.

For extra protection against harmful bacteria and contamination, it is recommended to use an anti-bacterial hand wash that has disinfectant properties conforming to the **BS EN 1499** standard.

Taps can be a source of contamination, and therefore it may not be appropriate for hands to come into contact with taps after they have been washed. For example, a disposable paper towel can be used to turn the taps off. Reusable towels are not recommended.

Hand sanitising gels do not remove visible dirt and are not to be used as a replacement for handwashing.

Gloves are not a substitute for effective handwashing. If gloves are used, they should be changed as often as you should wash hands as described above. Gloves should also be changed if they become damaged or torn. Hands should also be washed prior to putting gloves on and when necessary after taking them off (for example it may not be required when only ready-to-eat food is handled).

The use of separate identifiable or colour coded packs of disposable gloves for different activities located in designated areas might assist with avoiding cross-contamination.

All staff should wear clean clothes when working with food. Staff working with ready-to-eat food must always wear suitable clean clothing that does not present a risk of indirect cross-contamination. Ideally, they should change into clean work clothes before starting work and not wear these clothes outside food preparation areas. There is no specific recommended temperature at which uniforms are to be washed.

Protective clothing (such as aprons) must not present a cross-contamination risk. If contaminated, they need to be changed prior to handling ready-to-eat food. When the same staff handle raw and ready-to-eat food alternately (for example during cooking) there is no need to change protective clothing for different activities, but care must be taken to ensure that clothing does not become contaminated or pose a risk of cross-contamination. If clothing does become contaminated it will need to be changed.

Management controls

Effective food safety management controls are critical to control cross-contamination with *E. coli* O157.

Food hygiene legislation requires food business operators to put in place food safety management procedures based on the **HACCP** (Hazard Analysis and Critical Control Point) principles.

HACCP is a system that helps food business operators look at how they handle food and introduces procedures to make sure the food produced is safe to eat.

It is not the intention of this guidance to explain those requirements in full, however, some of these requirements are dealt with in this section. For more information about [HACCP see the FSA's HACCP page](#).



Safer food, better business is a food safety management pack based on HACCP principles that can help restaurants, cafés, takeaways and other small catering businesses comply with food hygiene regulations.

‘Search online for **‘FSA SFBB’**’

Food business operators must ensure that food handlers are trained, instructed and supervised fully to understand the importance of food hygiene matters. This training should be relevant and proportional to the work they do.

Training and instruction should cover the importance of:

- separation of raw and ready-to-eat food
- personal hygiene
- effective hand washing techniques
- the hazards associated with inadequate cleaning and disinfection
- dismantling equipment to be effectively cleaned (where appropriate)
- documentation and record keeping procedures

All staff involved in cleaning procedures need to be trained to ensure they are competent before being asked to undertake heat or chemical disinfection.

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