



RELEVANT HACCP CHARTS: Purchase, Storage, Preparation, Cooling

CROSS CONTAMINATION PREVENTION HOUSE RULES

What is Cross Contamination?

Cross contamination occurs when harmful bacteria are transferred from contaminated food to uncontaminated food.

How does Cross Contamination occur?

- **By Direct Cross Contamination** – contact between raw food and ready-to-eat food during transport, storage or preparation
- **By Indirect Cross Contamination** – spread of bacteria from raw food to ready-to-eat food via food handlers, equipment or surfaces. For example, indirect cross contamination can occur via refrigerator door handles, knives, chopping boards, work surfaces, chefs' cloths or cleaning cloths.

Why is it important to prevent Cross Contamination?

Cross contamination has frequently been found to be the cause of food poisoning outbreaks. Bacteria in contaminated food are not visible to the naked eye and do not cause noticeable food spoilage or affect taste, smell or texture.

Importantly, ready-to-eat food must be protected from cross contamination at all times. This is because there are no further controls to protect your customers from the risk of food poisoning, once contamination has taken place.

The risk of *E. coli* 0157 cross contamination must be considered and controlled in any food business where both raw foods and ready-to-eat foods are handled. Major *E. coli* 0157 outbreaks occurred in Scotland in 1996 and Wales in 2005 and were attributed to poor food handling practices which led to cross contamination.

E. coli 0157 is a particularly dangerous organism because:

- it can lead to serious untreatable illness and even death
- it is reported to have a very low infective dose (less than 100 bacteria can cause illness)
- it has the ability to survive refrigeration, freezing and environments which have a low pH or reduced water activity.

These Cook**Safe** procedures will also help control cross contamination risks from other food poisoning bacteria such as *Campylobacter* and *Salmonella*.

Which foods provide the main sources of Cross Contamination?

The following raw foods or ingredients present a potential source of cross contamination and should be handled with care:

- **Raw meat** such as beef, pork, lamb, chicken, turkey and game
- **Other raw foods** such as fish, shellfish and eggs
- **Vegetables and fruit** that have **not** been labelled as ready-to-eat and especially vegetables that are visibly dirty. Please see the table below for further information on fruit and vegetables.

In addition, water supplied to food businesses must be fit for human consumption.

Fruit and vegetables Not Ready-to-Eat	Fruit and vegetables Ready-to-Eat
<p>Examples:</p> <p>Visibly dirty vegetables: e.g. potatoes, leeks, carrots, some types of cabbage and lettuce.</p> <p>Fruit, vegetables and salad <u>not labelled</u> as ready-to-eat: e.g. apples, tomatoes, lettuce, white cabbage, herbs, spinach and watercress.</p>	<p>Examples:</p> <p>Pre-packed fruit, vegetables and salad which are labelled as ready-to-eat.</p> <p>Fruit, vegetables and salad which have been washed and prepared on the premises.</p>
<p>Risk</p> <p>Visibly dirty vegetables present a likely source of <i>E. coli</i> 0157 contamination.</p> <p>Fruit and vegetables not labelled ready-to-eat. It must be assumed from the way these foods are grown or handled after harvest, that <i>E. coli</i> 0157 may be present, even if there is no visible evidence of contamination by dirt.</p>	<p>Risk</p> <p>Pre-packed fruit, vegetables and salad labelled as ready-to-eat have been subjected to controlled procedures and do not present a risk to health.</p> <p>Fruit, vegetables and salad which have been prepared on the premises need to be protected from contamination – especially if they are to be eaten raw.</p>
<p>Washing</p> <p>These foods must be washed in running water (and if necessary peeled) prior to consumption or further processing. If these foods are to be eaten raw, after they are washed (and if necessary peeled) treat them as ready-to-eat.</p>	<p>Washing</p> <p>These foods require no further washing.</p>
<p>Storage</p> <p>Store separate from ready-to-eat fruit and vegetables.</p>	<p>Storage</p> <p>Store as ready-to-eat.</p>

You should decide if certain foods are to be treated as raw or ready-to-eat, this will be dependent on the final use.

How can I prevent Cross Contamination from occurring in my business?

Think **SAFE**. Use the acronym **SAFE** to help you think about how you can separate raw and ready-to-eat foods and prevent cross contamination. **SAFE** stands for **S**taff, **A**reas, **F**ood and **E**quipment and should be considered at each step in your process. Further information is available in the BEST PRACTICE table, found later in this sub section.

Staff	<ul style="list-style-type: none"> Consider having separate staff for different tasks. If this is not possible, restrict staff movement between raw and ready-to-eat areas. Ensure Personal Hygiene House Rules are followed at all times.
Areas	<ul style="list-style-type: none"> Introduce Physical Separation by setting up a Raw Food Area with its own identifiable equipment and utensils (preferably colour coded).
Food	<ul style="list-style-type: none"> Always keep raw food separate from ready-to-eat food.
Equipment	<ul style="list-style-type: none"> Always use separate equipment and utensils for raw foods. It is particularly dangerous to use complex equipment, such as vacuum packing machines, slicers or mincers for both raw and ready-to-eat foods (dual use of equipment).

How can I apply SAFE thinking to my business?

Stage 1 – Think about the **raw** food coming into your business.

- Who handles it?
- Where is it received?
- Where is it stored?
- Where is it prepared?
- Is it kept separate from ready-to-eat food?
- What equipment and utensils does it come into contact with?

Stage 2 – Introduce **Permanent Physical Separation**

Staff	Limit raw food handling to specific staff members.
Areas	Designate a Permanent Raw Food Area where only raw food is handled.
Food	Always keep raw food separate from ready-to-eat food.
Equipment	Ensure that the equipment and utensils designated for the raw food area are identifiable. Colour coding is the most effective way to achieve this.

Stage 3 – Train all staff to think **SAFE**

What if I can't manage to introduce Permanent Physical Separation in my business?

Permanent Physical Separation of **Staff**, **Areas**, **Food** and **Equipment** is the safest way of preventing cross contamination. However, if you are unable to fully implement **Permanent Separation**, you should consider **Temporary Separation** measures. These measures may be applied to **Staff** or **Areas**, singly or in combination, but will not be appropriate for **Food** and **Equipment**. For example you may allow staff to handle raw and then ready-to-eat foods with controls, but still have a **Permanent Raw Food Area**.

Staff	Restrict raw food handling to specific staff at specific times and make sure that the Personal Hygiene House Rules are followed at all times.
Areas	Identify a Temporary Raw Food Area for preparing raw food. The Temporary Raw Food Area should only be used for raw food at pre-arranged times. Never allow any food to come into direct contact with the work surfaces in your Temporary Raw Food Area – e.g. always use chopping boards. This area may then be used for handling ready-to-eat foods – but only after careful cleaning and disinfection (refer to the Cleaning House Rules for further information).
Food	Always keep raw food separate from ready-to-eat food.
Equipment	The dual use of equipment for both raw food and then for ready-to-eat food is dangerous. Separate equipment is the only safe option.

IMPORTANT

The safety of **Temporary Separation** measures can only be relied upon if cleaning and disinfection practices and regular, rigorous hand-washing are strictly adhered to at all times. If you find it difficult to introduce either Permanent or Temporary Separation to your operation you should consider the following options:

- Check to see if additional space can be found elsewhere in the premises or consider changing your existing layout to improve **Physical Separation**
- Reduce raw food handling by ordering prepared meats such as sliced steaks, diced meats, boneless chicken and prepared vegetables
- Reduce raw food handling by purchasing pre-cooked meats and pre-washed ready-to-use vegetables
- Review your menu in order to reduce the raw foods being brought into your premises
- Simplify your menu to reduce raw food handling at peak times
- Scale down your operation in order to enable safe handling of foods.

Contact your Enforcement Officer for advice and guidance

The table on the next page looks at each process step and shows you how to introduce Physical Separation in the BEST PRACTICE column. If you are unable to do this the GOOD PRACTICE column gives you alternative options. **Try to have the majority of your procedures following BEST PRACTICE.**

GUIDANCE ON INTRODUCING CROSS CONTAMINATION CONTROLS

(Think SAFE. TRY TO HAVE MOST OF YOUR PROCEDURES FOLLOWING BEST PRACTICE)

Process Step	BEST PRACTICE	GOOD PRACTICE where Best Practice is not feasible
Delivery	<ul style="list-style-type: none"> • Arrange for raw foods to be delivered separately from ready-to-eat foods • Where possible, use the delivery vehicle thermograph to monitor temperatures • Designate a member of staff to handle raw foods only • Identify a Permanent Raw Food Area to receive and, where necessary, unwrap raw foods. Then take raw food directly to the raw food storage and dispose of wrapping materials safely. 	<ul style="list-style-type: none"> • Ensure raw foods are adequately wrapped, packaged and stored separately from ready-to-eat foods in the vehicle • Where raw meat is being temperature probed on delivery, use a colour coded raw food probe • Designate certain staff to handle raw food deliveries and ensure they adhere to Personal Hygiene House Rules before handling ready-to-eat food • Identify a Temporary Raw Food Area where raw foods will be taken on arrival and, where necessary, unwrapped. Clean and disinfect the area thoroughly before being used again for ready-to-eat foods. <p>Remember: Raw and ready-to-eat foods must never be in direct contact with temporary work areas including worktops. Cutting boards and/or containers must be used.</p>

Process Step	BEST PRACTICE	GOOD PRACTICE where Best Practice is not feasible
<p>Storage</p>	<ul style="list-style-type: none"> • Designate a separate raw meat refrigerator/ chill, freezer and use separate colour coded or otherwise identifiable lidded containers • Designate separate ready-to-eat food refrigerator/chill • Designate a separate storage area for unwashed, raw vegetables and fruit, which is away from visibly dirty vegetables, e.g. do not store salad foods with dirty potatoes. 	<ul style="list-style-type: none"> • If a refrigerator/chill or freezer is of a sufficient size, it can be used to store raw meat and ready-to-eat food at the same time. The raw meat must be placed in a designated permanent, identifiable and physically separate area. <p>Remember: In shared storage, raw foods must be stored on the bottom shelves and always below ready-to-eat foods</p> <ul style="list-style-type: none"> • In shared storage unwashed raw vegetables and fruit must be stored separately from ready-to-eat foods. <p>Remember: When using shared storage there will be a greater requirement for hand washing and cleaning/disinfection to prevent cross contamination between raw and ready-to-eat foods</p> <ul style="list-style-type: none"> • The outside surfaces of food containers must be disinfected before being placed in shared storage. Always use separate colour-coded (or otherwise identifiable) lidded containers for raw foods. <p>Remember: It is not acceptable to use a container for raw food and then re-use it for ready-to-eat food.</p>
<p>Note 1: Once vegetables are washed (and if necessary peeled) they can be stored as ready-to-eat.</p>		
<p>Note 2: Unless the label states that the product is ready-to-eat, you must assume that it will require to be washed (and if necessary peeled) prior to consumption.</p>		

Process Step	BEST PRACTICE	GOOD PRACTICE where Best Practice is not feasible
Preparation	<ul style="list-style-type: none"> • Designate a Permanent Raw Food Area within your kitchen: <ul style="list-style-type: none"> – All raw food must be handled in this area – Only raw food must be handled in this area – Defrost raw food in the raw food refrigerator – Designate separate staff for handling raw food only <p>Note: Unless the label states that the product is ready-to-eat, you must assume that it will require to be washed (and if necessary peeled) prior to consumption.</p> <ul style="list-style-type: none"> • Designate a permanent sink for raw food preparation • Use separate colour coded/easily identifiable equipment and utensils for handling raw foods, e.g. knives, tongs, chopping boards, spoons, storage containers and cling film. 	<ul style="list-style-type: none"> • Identify a Temporary Raw Food Area and ensure that the area is cleaned and disinfected before being used for ready-to-eat foods. <p>Remember: No food can be in direct contact with temporary work areas including worktops at any time. Cutting boards and/or containers must be used.</p> <ul style="list-style-type: none"> • Restrict raw food-handling to certain staff at certain times of day. Arrange the workflow to minimise staff alternating between raw and ready-to-eat food handling. Ensure strict hand washing procedures are in place. (refer to your Personal Hygiene House Rules) • When using the same sink for food preparation and cleaning and disinfection, ensure the sink is cleaned and disinfected between each use. • It is not acceptable to have any equipment, utensils, containers or chopping boards used for both raw and ready-to-eat foods. <p>Remember robust measures must be in place to prevent accidental use of equipment used for raw foods being subsequently used for ready-to-eat food.</p>
<p>Note: Bean sprouts not labelled ready-to-eat will require thorough cooking before consumption.</p>		

Additional Guidance on Cooking and Cooling

- Organise staff, workspace and flow of foods to ensure total separation between raw and ready-to-eat foods during cooking and cooling
- **Never** cool food in the raw food area
- Utensils used for handling raw food at the start of the cooking process e.g. ladles, spoons, and spatulas should be used in such a way that there is no risk of cross contamination between raw food and ready-to-eat food
- A probe thermometer used for monitoring cooking temperatures must be identifiable for use for ready-to-eat food only.

WHAT YOU NEED TO DO NOW

To effectively manage the Cross Contamination Prevention part of your HACCP based system and using the information for guidance, go to the end of this sub section and write a list of House Rules covering Cross Contamination Prevention.

Here is an example of how you could write your House Rules:

Describe:	<ul style="list-style-type: none"> Control Measures and Critical Limits (where applicable) Monitoring including frequency
Storage	<p><u>Refrigerated Storage</u> Raw meat is always stored in dedicated containers with red lids in the separate raw food refrigerator.</p> <p>Ready-to-eat food is always stored in the separate ready-to-eat refrigerator.</p> <p>Fruit and vegetables not labelled as ready-to-eat are stored on the bottom shelf of the ready-to-eat refrigerator in separate identifiable boxes. These foods will be washed (and if necessary peeled) before being treated as ready-to eat.</p> <p>Visibly dirty potatoes stored in a container in the dry goods store away from all other foods.</p> <p><u>Shared Frozen Storage</u> Ready-to-eat food is stored on the top shelf.</p> <p>Raw meat is stored in containers with red lids, below the ready-to eat shelf.</p>

Monitoring

Research evidence has shown that cross contamination is very difficult to control in a catering environment. The easiest and most reliable way to prevent cross contamination is through **Physical Separation**. Much of the monitoring of cross contamination prevention will rely on visual checking. This can be made easier by using colour coded/identifiable equipment and disposable plastic aprons for raw food handling. Once you have completed your House Rules for Cross Contamination Prevention, you must then monitor their use. Keep a record of the monitoring using the **Weekly Record**.

Corrective Action

You must ensure that cross contamination controls are implemented at all times. If for example you see that ready-to-eat food is being prepared in the **Permanent Raw Food Area**, it is considered a serious incident and your corrective action would be to dispose of the food; clean and disinfect the surfaces and equipment; retrain staff; record the problem and action taken to ensure it is not repeated in the **Weekly Record and Training House Rules**.

All records of monitoring and corrective action taken should be kept for an appropriate period of time to demonstrate that your system is working effectively.

Action Plan

Once you have completed all your House Rules, remember to update your Action Plan.

The Cross Contamination Prevention House Rules are an essential component of your HACCP based system and must be kept up to date at all times. Your House Rules need to be written to accurately reflect how you run your business and be readily understood by all of your food handling employees.

CROSS CONTAMINATION PREVENTION HOUSE RULES

Think SAFE Enter a statement of your **Cross Contamination Prevention House Rules** in the table below:

Describe: <ul style="list-style-type: none"> Control Measures and Critical Limits (where applicable) Monitoring including frequency 	
Delivery	
Storage <i>Including where any defrosting is carried out</i>	
Preparation	
Cooking/Cooling	
Monitoring/checking and any other appropriate records used by your business	

Signed Position in the business Date

The Cross Contamination Prevention House Rules are an essential component of your HACCP based system and must be kept up to date at all times.