

# Cold Chain

## **Maintaining the Food Cold Chain**

### **Introduction**

Under “cold chain” is understood the whole sequence of a temperature-controlled supply chain, comprising preparation, packaging, storage, distribution, retail holding, display, purchase and home storage till use. This applies to chilled or frozen food from raw material to final consumption. There should be no weak link in the chain and the motto at every link should be “Don’t re-cool – KEEP cool”. Once a prescribed low temperature has been reached, this should be strictly maintained as far as possible, with minimum temperature fluctuations until used. The specific temperatures needed are dictated by the product type in the case of both chilled and frozen products.

### **Purpose**

The main purpose of chilling or freezing food, is to prolong shelf life and to maintain the fresh appearance of the food. There is however, another very important reason: safety, at higher temperatures there is a rapid growth of bacteria, which can result in food poisoning if the particular food is eaten. Chilling or freezing will not kill bacteria, but will retard their growth. Everyone is aware of the unpleasant symptoms of food poisoning, but it is important to remember that it can be fatal, especially in the case of “risk groups”: babies and infants under 2 years, pregnant women, the elderly, the immuno compromised and those already suffering from illness or convalescents.

### **Occurrence**

Statistical evidence shows that food poisoning incidents are on the increase and the vast majority of cases can be prevented. The consumer has a vital role to play in preventing it in the home. Many cases of food poisoning occur when food is prepared and served to a large number of people - at meetings, community functions, picnics and sports events.

Food manufacturers and retailers are more aware than ever of the need to handle food in a safe and hygienic manner. Appropriate legislation has contributed to this. But after food is bought by caterers and consumers, it is their responsibility to handle it safely up to the point of eating. It is of little use if manufacturers and retailers appoint very necessary qualified food scientists, microbiologists and other food safety experts to implement and monitor quality and safety measures and run training programmes for their staff if food is abused by consumers, caterers and restaurateurs after purchasing it.

Consumers are generally concerned about and also aware of food poisoning but don’t always know the basic principles to be applied to prevent it. Maintaining the cold chain is one **very** important aspect.

The following guidelines are given and when applied, should help in the prevention of food poisoning and **maintaining the cold chain**:

#### **\* In The Store**

The consumer must feel comfortable with the retail outlet, where he/she buys food. “Care” and “responsibility” in the store must be evident.

Check whether fridges and freezers/display cabinets are equipped with thermometers.

Check that store freezers and chill display cabinets are not overloaded, i.e. packed above the air grilles or restricting chilled air circulation in cabinet.

Different types of products should be stored in different sections of cabinets.(i.e. fresh meat separate from prepared or cooked meats)

Check meat for discolouration and excessive drip.

When a product is being promoted in the store, it should be kept in the cold cabinet and not taken out to make it more visible.

Frozen food packs should be undamaged.

Check for signs of freeze/thaw, for example, water marks or stains on the boxes. Do not buy if boxes or packets are soft and the product has thawed.

Chilled foods must be marked with a "use-by" date. Check if it is present Don't use food beyond this date. If there is a possibility that food will not be used before this date, rather freeze the product if marked "suitable for home freezing". Mark the item with date purchased and use within the guide period for frozen.

When shopping, leave the selection of frozen and chilled foods to the last. Preferably pack them in an insulated bag and get them home soonest

Tell the store manager if you are not satisfied with the conditions in the store.

#### **\* After Buying**

Get the food home as soon as possible and put it into the refrigerator. Ideally frozen or chilled food should be transported in insulated containers or, even better, cool boxes. Don't leave in the car boot or hatch for a long time, which will allow the food to defrost or heat to ambient temperature.

Don't let raw food come into contact with cooked or ready-to-eat foods during transportation to the home, for example, packing fresh fruit and vegetables into the same container as meat, fish, or chicken.

Store uncooked foods on the lower shelf of your refrigerator.

Cover all foods at all times.

Check your refrigerator. Ideally the temperature should be below 5°C with a maximum of 8°C. The freezer section should be less than -15 Centigrade and preferably at -18 Centigrade.

Follow thawing and cooking instructions on frozen foods. Frozen foods must be totally thawed (preferably in the refrigerator) before cooking.

Do not re-freeze foods once thawed unless they have been thoroughly cooked. Treat thawed food as chilled food.

Avoid any cross contamination: food to food, working surfaces to food and utensils to food. Do not use the same cutting boards for fresh and cooked foods.

Observe personal hygiene at all times while handling food. Wash hands regularly and especially between handling raw and cooked foods.

Serve perishable and chilled foods shortly before consumption and do not allow unconsumed food to be uncovered and stand around for long periods at room temperature.

*Reviewed for FACS by NSt (2019)*