

The most important factor for safe handling of food and preventing food borne illness is keeping food out of the Danger Zone. Nearly 3/4 of all food-related illnesses are the result of poor temperature control. Following the simple rule “Keep hot foods hot and cold foods cold” can prevent many food borne illnesses from occurring.

What is the Temperature Danger Zone?

Bacteria that cause food borne illness multiply quickest between 4°C and 60°C (40°F - 140°F). The Danger Zone is this temperature range in which bacteria and spoilage bacteria grow quickest. Lower temperatures prevent the bacteria from growing to dangerous levels. Temperatures above 60°C will kill the bacteria. Foods that allow the growth of bacteria, causing food-borne illness are called “potentially hazardous foods” and should be kept out of the Danger Zone. These potentially hazardous food are:

- Meat, fish, or poultry, and foods containing these such as casseroles, deli meats, salads and sandwiches and plan ahead dinners.
- Eggs and other protein rich foods like soya bean products and foods containing them such as quiche, soya milk, salads and casseroles.
- Dairy products and foods containing dairy products such as custards, soft cheeses, cream filled baked goods and dairy desserts.
- Fresh cut or peeled fruit or vegetables such as cut melons, fruit salads
- Cooked vegetables, beans, rice and pasta dishes.
- Shellfish (alive or cooked) and seafood or foods containing seafood such as chowders, crab cakes.

- Sauces, gravy, and non-commercial garlic in oil mixtures.
- Sprouts such as alfalfa and bean sprouts.

Protecting Foods from the Danger Zone

The best way to protect food from the Danger Zone is to:

- Arrange shopping to get food home quickly and into the refrigerator.
- Keep food cold by storing in a refrigerator at 4°C (40°F) or below. Don't overload the refrigerator. If necessary remove foods such as soft drinks or pickles to make room for potentially hazardous foods.
- Keep food hot by maintaining it at 60°C (140°F) or higher using a stove or steam table.
- Thaw foods in the refrigerator or in cold water changing the water every 30 minutes. If using a microwave to thaw raw foods, cook immediately.
- When cooking large meats or volumes of food, do it in one uninterrupted step. Check the internal temperature with a thermometer.
- Foods that are not being used immediately must be cooled quickly. Reducing large volumes of food into smaller portions will help in reducing cooling times. Roasts, hams, or turkeys should be sliced while still hot and put in shallow pans, no more than two inches deep and then placed in the refrigerator to cool. Containers of hot food can be placed in a sink surrounded by ice or cold water for more rapid cooling. Do not fully cover the food until it has cooled to 4°C (40°F).
- Leftovers must be reheated to at least 74°C (165°F).

Is Food Left in the Danger Zone Safe to Eat?

If potentially hazardous foods are left in the danger zone for less than two hours, the food can be safely refrigerated or used immediately. If the time exceeds two hours in the danger zone, bacterial growth would be greater and the food could be unsafe. Therefore follow the two-hour rule and refrigerate, freeze or consume the food within two hours of purchase or preparation.

Measuring Food Temperatures

- Appearance and touch are not reliable indicators of safe temperatures. Taking the temperature of the food using a proper food thermometer is the only sure way of knowing that food is not in the Danger Zone. Check the temperature of food with either a metal stem probe or digital read type thermometer. For more information on using food thermometers see "Food Thermometers for Safe Cooking" at <http://novascotia.ca/nse/food-protection/docs/factsheet-therm.pdf>
- Checking the temperature of a refrigerator, can be done using a stick-on thermometer stuck to the inside wall of the unit or by hanging or placing a thermometer on a shelf. Thermometers should be located near the door which is the warmest area of the refrigerator.

Recommended Internal Cooking Temperatures

Pork, Veal, Lamb – 71°C (160°F)

Ground Meat – 71°C (160°F)

Whole chicken/turkey – 82°C (180°F)

Chicken/turkey Stuffing (inside temp.) – 74°C (165°F)

Chicken/turkey pieces – 77°C (170°F)

Ground Poultry – 74°C (165°F)

Beef steaks/roasts – 63°C (145°F) for medium rare,
71°C (160°F) for medium, or 77°C (170°F) for well done.

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There are four simple rules for food safety that will help ensure an enjoyable celebration:

- CLEAN:** wash hands, utensils and surfaces often to keep everything clean and free of bacteria
- SEPARATE:** keep foods separate to avoid cross contamination
- COOK:** cook to proper temperatures
- CHILL:** refrigerate foods promptly



For further information on food safety visit the Nova Scotia Environment website at <http://novascotia.ca/nse>